



**Australian Government**  
Department of Education, Employment  
and Workplace Relations



# **ICP05 Printing and Graphic Arts Training Package**

## **Volume 2 of 6**

**Version Number: 2**  
**Review Date: 31 August 2008**



# **ICP05 Printing and Graphic Arts Training Package**

Support and Pre-press Units of Competency

This document contains part of the endorsed components of the Training Package. It should not be used in isolation but must be used in the context of the whole endorsed Training Package.

## **Volume 2 of 6 Printing and Graphic Arts Training Package (Volume 2 - Support and Pre-press Units of Competency)**

Vol 1 of 6 Introduction, Assessment Guidelines and Qualifications

Vol 3 of 6 Multimedia and Printing Units of Competency

Vol 4 of 6 Converting, Binding and Finishing Units of Competency

Vol 5 of 6 Screen Printing, Ink Manufacture and Holistic Knowledge Units of Competency

Vol 6 of 6 Imported Units of Competency

To be reviewed by 31 August 2008

Endorsed 22 July 2005

## ICP05 - Printing and Graphic Arts Training Package

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Published by: Innovation and Business Industry Skills Council Building B, Level 2 192 Burwood Road Hawthorn, 3122, VIC ABN: 74 109 600 302 Phone: (03) 9815 7000 Fax: (03) 9815 7001 Email: Website: <a href="http://www.ibsa.org.au">http://www.ibsa.org.au</a>	First published:	1 August 2005
	Stock Code Number:	
	ISBN:	0 642 80376 5
	Printed by:	Document Printing Australia Pty Ltd
	AEShareNet Code:	P
	Print Version No:	2
	Release Date:	21 September 2007
	Review Date:	31 August 2008

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## Version Modification History

The version details of this endorsed Training Package are in the table below. The latest information is at the top of the table.

Version	Release Date	Comments
2	To be provided	<p>The following has been changed in 274 units:</p> <ul style="list-style-type: none"><li>• Employability skills (ES) mandatory statement inserted; Key Competencies information removed. Code changed to reflect mandatory ES changes.</li><li>• Unit reformatted into latest template requirements; Skills and Knowledge improved.</li></ul> <p>Category 1 changes made throughout the Training Package to correct typographical, grammatical and minor formatting errors.</p>
1	30/09/2005	<p>Primary release. ICP05 Printing and Graphic Arts Training Package replaces ICP99 Printing and Graphic Arts Training Package.</p>

# Qualifications Framework

## The Australian Qualifications Framework

### What is the Australian Qualifications Framework?

A brief overview of the Australian Qualifications Framework (AQF) follows. For a full explanation of the AQF, see the *AQF Implementation Handbook*. The 2007 version of the *AQF Implementation Handbook* is expected to be available on the Australian Qualifications Framework Advisory Board (AQFAB) website [www.aqf.edu.au](http://www.aqf.edu.au) during September 2007, and in print in October 2007 (obtain the hard copy by contacting AQFAB on phone 03 9639 1606 or email at [aqfab@curriculum.edu.au](mailto:aqfab@curriculum.edu.au)).

The AQF provides a comprehensive, nationally consistent framework for all qualifications in post-compulsory education and training in Australia. In the vocational education and training (VET) sector it assists national consistency for all trainees, learners, employers and providers by enabling national recognition of qualifications and Statements of Attainment.

Training Package qualifications in the VET sector must comply with the titles and guidelines of the AQF. Endorsed Training Packages provide a unique title for each AQF qualification which must always be reproduced accurately.

### Qualifications

Training Packages can incorporate the following eight AQF qualifications.

- Certificate I in ...
- Certificate II in ...
- Certificate III in ...
- Certificate IV in ...
- Diploma of ...
- Advanced Diploma of ...
- Vocational Graduate Certificate of ...
- Vocational Graduate Diploma of ...

On completion of the requirements defined in the Training Package, a Registered Training Organisation (RTO) may issue a nationally recognised AQF qualification. Issuance of AQF qualifications must comply with the advice provided in the *AQF Implementation Handbook* and the AQTF 2007 *Essential Standards for Registration*.

### Statement of Attainment

A Statement of Attainment is issued by a Registered Training Organisation when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). Issuance of Statements of Attainment must comply with the advice provided in the current *AQF Implementation Handbook* and the AQTF 2007 *Essential Standards for Registration*.

Under the AQTF 2007, RTOs must recognise the achievement of competencies as recorded on a qualification or Statement of Attainment issued by other RTOs. Given this, recognised competencies can progressively build towards a full AQF qualification.

### AQF Guidelines and Learning Outcomes

The *AQF Implementation Handbook* provides a comprehensive guideline for each AQF qualification. A summary of the learning outcome characteristics and their distinguishing features for each VET related AQF qualification is provided below.

## Certificate I



### *Characteristics of Learning Outcomes*

Breadth, depth and complexity of knowledge and skills would prepare a person to perform a defined range of activities most of which may be routine and predictable.

Applications may include a variety of employment related skills including preparatory access and participation skills, broad-based induction skills and/or specific workplace skills. They may also include participation in a team or work group.

### *Distinguishing Features of Learning Outcomes*

Do the competencies enable an individual with this qualification to:

- demonstrate knowledge by recall in a narrow range of areas;
- demonstrate basic practical skills, such as the use of relevant tools;
- perform a sequence of routine tasks given clear direction
- receive and pass on messages/information.

## **Certificate II**

### *Characteristics of Learning Outcomes*

Breadth, depth and complexity of knowledge and skills would prepare a person to perform in a range of varied activities or knowledge application where there is a clearly defined range of contexts in which the choice of actions required is usually clear and there is limited complexity in the range of operations to be applied.

Performance of a prescribed range of functions involving known routines and procedures and some accountability for the quality of outcomes.

Applications may include some complex or non-routine activities involving individual responsibility or autonomy and/or collaboration with others as part of a group or team.

### *Distinguishing Features of Learning Outcomes*

Do the competencies enable an individual with this qualification to:

- demonstrate basic operational knowledge in a moderate range of areas;
- apply a defined range of skills;
- apply known solutions to a limited range of predictable problems;
- perform a range of tasks where choice between a limited range of options is required;
- assess and record information from varied sources;
- take limited responsibility for own outputs in work and learning.

## **Certificate III**

### *Characteristics of Learning Outcomes*

Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.

Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints.

Applications may involve some responsibility for others. Participation in teams including

group or team co-ordination may be involved.

#### *Distinguishing Features of Learning Outcomes*

Do the competencies enable an individual with this qualification to:

- demonstrate some relevant theoretical knowledge
- apply a range of well-developed skills
- apply known solutions to a variety of predictable problems
- perform processes that require a range of well-developed skills where some discretion and judgement is required
- interpret available information, using discretion and judgement
- take responsibility for own outputs in work and learning
- take limited responsibility for the output of others.

### **Certificate IV**

#### *Characteristics of Learning Outcomes*

Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.

Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills. Applications involve responsibility for, and limited organisation of, others.

#### *Distinguishing Features of Learning Outcomes*

Do the competencies enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
- apply solutions to a defined range of unpredictable problems
- identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas
- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others.

### **Diploma**

#### *Characteristics of Learning Outcomes*

Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and co-ordination.

The self directed application of knowledge and skills, with substantial depth in some areas where judgment is required in planning and selecting appropriate equipment, services and techniques for self and others.

Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation

functions. Group or team co-ordination may be involved.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

#### *Distinguishing Features of Learning Outcomes*

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas
- analyse and plan approaches to technical problems or management requirements
- transfer and apply theoretical concepts and/or technical or creative skills to a range of situations
- evaluate information, using it to forecast for planning or research purposes
- take responsibility for own outputs in relation to broad quantity and quality parameters
- take some responsibility for the achievement of group outcomes.

## **Advanced Diploma**

#### *Characteristics of Learning Outcomes*

Breadth, depth and complexity involving analysis, design, planning, execution and evaluation across a range of technical and/or management functions including development of new criteria or applications or knowledge or procedures.

The application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for self and others in achieving the outcomes is involved.

Applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

#### *Distinguishing Features of Learning Outcomes*

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of specialised knowledge with depth in some areas
- analyse, diagnose, design and execute judgements across a broad range of technical or management functions
- generate ideas through the analysis of information and concepts at an abstract level
- demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
- demonstrate accountability for personal outputs within broad parameters
- demonstrate accountability for personal and group outcomes within broad parameters.

## **Vocational Graduate Certificate**

#### *Characteristics of competencies or learning outcomes*

- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Substantial breadth and complexity involving the initiation, analysis, design, planning, execution and evaluation of technical and management functions in highly varied and

highly specialised contexts.

- Applications involve making significant, high-level, independent judgements in major broad or planning, design, operational, technical and management functions in highly varied and specialised contexts. They may include responsibility and broad-ranging accountability for the structure, management and output of the work or functions of others.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

#### *Distinguishing features of learning outcomes*

- Demonstrate the self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Initiate, analyse, design, plan, execute and evaluate major broad or technical and management functions in highly varied and highly specialised contexts.
- Generate and evaluate ideas through the analysis of information and concepts at an abstract level.
- Demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills in complex contexts.
- Demonstrate responsibility and broad-ranging accountability for the structure, management and output of the work or functions of others.

## **Vocational Graduate Diploma**

#### *Characteristics of competencies or learning outcomes*

- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Substantial breadth, depth and complexity involving the initiation, analysis, design, planning, execution and evaluation of major functions, both broad and highly specialised, in highly varied and highly specialised contexts.
- Further specialisation within a systematic and coherent body of knowledge.
- Applications involve making high-level, fully independent, complex judgements in broad planning, design, operational, technical and management functions in highly varied and highly specialised contexts. They may include full responsibility and accountability for all aspects of work and functions of others, including planning, budgeting and strategy development.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

#### *Distinguishing features of learning outcomes*

- Demonstrate the self-directed development and achievement of broad and highly specialised areas of knowledge and skills, building on prior knowledge and skills.
- Initiate, analyse, design, plan, execute and evaluate major functions, both broad and within highly varied and highly specialised contexts.
- Generate and evaluate complex ideas through the analysis of information and concepts at an abstract level.
- Demonstrate an expert command of wide-ranging, highly specialised, technical, creative or conceptual skills in complex and highly specialised or varied contexts.
- Demonstrate full responsibility and accountability for personal outputs.
- Demonstrate full responsibility and accountability for all aspects of the work or functions of others, including planning, budgeting and strategy.

## **Qualification Pathways**

The following pathways charts are provided to show the types of pathways into and from qualifications that are possible with this Training Package. For more information about qualifications and pathways contact Innovation and Business Industry Skills Council ( <http://www.ibsa.org.au> ).

## **Skill Sets**

### **Definition**

Skill sets are defined as single units of competency, or combinations of units of competency from an endorsed Training Package, which link to a licence or regulatory requirement, or defined industry need.

### **Wording on Statements of Attainment**

Skill sets are a way of publicly identifying logical groupings of units of competency which meet an identified need or industry outcome. Skill sets are not qualifications.

Where skill sets are identified in a Training Package, the Statement of Attainment can set out the competencies a person has achieved in a way that is consistent and clear for employers and others. This is done by including the wording "these competencies meet [insert skill set title or identified industry area] need" on the Statement of Attainment. This wording applies only to skill sets that are formally identified as such in the endorsed Training Package. See the 2007 edition of the AQF Implementation Handbook for advice on wording on Statements of Attainmentthe updated version is expected to be available on the AQFAB website [www.aqf.edu.au](http://www.aqf.edu.au) during September 2007 and in print in October 2007.

## **Skill Sets in this Training Package**

Where this section is blank, nationally recognised skill sets have yet to be identified in this industry.

## Assessment Guidelines

### Introduction

These Assessment Guidelines provide the endorsed framework for assessment of units of competency in this Training Package. They are designed to ensure that assessment is consistent with the AQTF 2007. Assessments against the units of competency in this Training Package must be carried out in accordance with these Assessment Guidelines.

### Assessment System Overview

This section provides an overview of the requirements for assessment when using this Training Package, including a summary of the AQTF 2007 requirements; licensing/registration requirements; and assessment pathways.

### Benchmarks for Assessment

Assessment within the National Skills Framework is the process of collecting evidence and making judgments about whether competency has been achieved to confirm whether an individual can perform to the standards expected in the workplace, as expressed in the relevant endorsed unit of competency.

In the areas of work covered by this Training Package, the endorsed units of competency are the benchmarks for assessment. As such, they provide the basis for nationally recognised Australian Qualifications Framework (AQF) qualifications and Statements of Attainment issued by Registered Training Organisations (RTOs).

### Australian Quality Training Framework Assessment Requirements

Assessment leading to nationally recognised AQF qualifications and Statements of Attainment in the vocational education and training sector must meet the requirements of the AQTF as expressed in the AQTF 2007 *Essential Standards for Registration*.

The AQTF 2007 *Essential Standards for Registration* can be downloaded from <[www.training.com.au/aqtf2007](http://www.training.com.au/aqtf2007)>. The following points summarise assessment requirements.

#### Registration of Training Organisations

Assessment must be conducted by, or on behalf of, an RTO formally registered by a State or Territory Registering/Course Accrediting Body in accordance with the AQTF 2007 *Essential Standards for Registration*. The RTO must have the specific units of competency and/or AQF qualifications on its scope of registration.

#### Quality Training and Assessment

Each RTO must provide quality training and assessment across all its operations. See the AQTF 2007 *Essential Standards for Registration*, Standard 1.

#### Assessor Competency Requirements

Each person involved in training, assessment or client service must be competent for the functions they perform. See the AQTF 2007 *Essential Standards for Registration*, Standard 1, for assessor (and trainer) competency requirements.

#### Assessment Requirements

The RTOs assessments, including RPL, must meet the requirements of the relevant endorsed Training Package. See the AQTF 2007 *Essential Standards for Registration*, Standard 1.

#### Assessment Strategies

Each RTO must have strategies for training and assessment that meet the requirements of the relevant Training Package or accredited course and are developed in consultation with industry stakeholders. See the AQTF 2007 *Essential Standards for Registration*, Standard 1.

### **National Recognition**

Each RTO must recognise the AQF qualifications and Statements of Attainment issued by any other RTO. See the AQTF 2007 *Essential Standards for Registration*, Condition of Registration 7: Recognition of qualifications issued by other RTOs.

### **Access and Equity and Client Outcomes**

Each RTO must adhere to the principles of access and equity and maximise outcomes for its clients. See the AQTF 2007 *Essential Standards for Registration*, Standard 2.

### **Monitoring Assessments**

Training and/or assessment provided on behalf of the RTO must be monitored to ensure that it is in accordance with all aspects of the Essential Standards for Registration. See the AQTF 2007 *Essential Standards for Registration*, Standard 3.

### **Recording Assessment Outcomes**

Each RTO must manage records to ensure their accuracy and integrity. See the AQTF 2007 *Essential Standards for Registration*, Standard 3.

### **Issuing AQF Qualifications and Statements of Attainment**

Each RTO must issue AQF qualifications and Statements of Attainment that meet the requirements of the current AQF Implementation Handbook and the endorsed Training Packages within the scope of its registration. An AQF qualification is issued once the full requirements for a qualification, as specified in the nationally endorsed Training Package are met. A Statement of Attainment is issued when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). See the AQTF 2007 and the 2007 edition of the AQF Implementation Handbook-available on the AQFAB website < [www.aqf.edu.au](http://www.aqf.edu.au)>.

### **Licensing/Registration Requirements**

The developers of this Training Package, and DEST, consider that no licensing or registration requirements apply to RTOs, assessors or candidates with respect to this Training Package. Contact the relevant State or Territory Department(s) to check if there are any licensing or registration requirements with which you must comply. For further information on this topic contact:

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Hawthorn Victoria 3122

Telephone: (03) 9815 7000

Facsimile: (03) 9815 7001

Web: <http://www.ibsa.org.au>

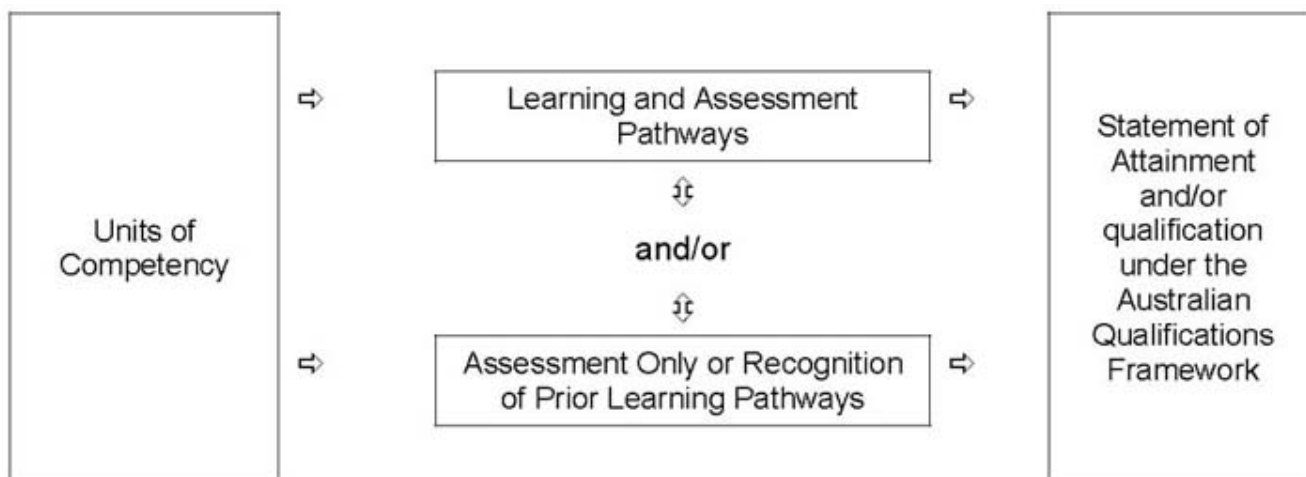
Email: [virtual@ibsa.org.au](mailto:virtual@ibsa.org.au)

### **Pathways**

The competencies in this Training Package may be attained in a number of ways including through:

- formal or informal education and training
- experiences in the workplace
- general life experience, and/or
- any combination of the above.

Assessment under this Training Package leading to an AQF qualification or Statement of Attainment may follow a learning and assessment pathway, an assessment-only or recognition pathway, or a combination of the two as illustrated in the following diagram.



Each of these assessment pathways leads to full recognition of competencies held - the critical issue is that the candidate is competent, not how the competency was acquired.

Assessment, by any pathway, must comply with the assessment requirements set out in the Assessment Guidelines of the Training Package and the AQTF 2007.

### Learning and Assessment Pathways

Usually, learning and assessment are integrated, with assessment evidence being collected and feedback provided to the candidate at anytime throughout the learning and assessment process.

Learning and assessment pathways may include structured programs in a variety of contexts using a range of strategies to meet different learner needs. Structured learning and assessment programs could be: group-based, work-based, project-based, self-paced, action learning-based; conducted by distance or e-learning; and/or involve practice and experience in the workplace.

Learning and assessment pathways to suit Australian Apprenticeships have a mix of formal structured training and structured workplace experience with formative assessment activities through which candidates can acquire and demonstrate skills and knowledge from the relevant units of competency.

### Assessment-Only or Recognition of Prior Learning Pathway

Competencies already held by individuals can be formally assessed against the units of competency in this Training Package, and should be recognised regardless of how, when or where they were achieved.

In an assessment-only or Recognition of Prior Learning (RPL) pathway, the candidate provides current, quality evidence of their competency against the relevant unit of competency. This process may be directed by the candidate and verified by the assessor, such as in the compilation of portfolios; or directed by the assessor, such as through observation of workplace performance and skills application, and oral and/or written assessment. Where the outcomes of this process indicate that the candidate is competent,



structured training is not required. The RPL requirements of the AQTF 2007 must be met (Standard 1).

As with all assessment, the assessor must be confident that the evidence indicates that the candidate is currently competent against the endorsed unit of competency. This evidence may take a variety of forms and might include certification, references from past employers, testimonials from clients, and work samples. The onus is on candidates to provide sufficient evidence to satisfy assessors that they currently hold the relevant competencies. In judging evidence, the assessor must ensure that the evidence of prior learning is:

- authentic (the candidate's own work)
- valid (directly related to the current version of the relevant endorsed unit of competency)
- reliable (shows that the candidate consistently meets the endorsed unit of competency)
- current (reflects the candidate's current capacity to perform the aspect of the work covered by the endorsed unit of competency), and
- sufficient (covers the full range of elements in the relevant unit of competency and addresses the four dimensions of competency, namely task skills, task management skills, contingency management skills, and job/role environment skills).

The assessment only or recognition of prior learning pathway is likely to be most appropriate in the following scenarios:

- candidates enrolling in qualifications who want recognition for prior learning or current competencies
- existing workers
- individuals with overseas qualifications
- recent migrants with established work histories
- people returning to the workplace, and
- people with disabilities or injuries requiring a change in career.

### Combination of Pathways

Where candidates for assessment have gained competencies through work and life experience and gaps in their competence are identified, or where they require training in new areas, a combination of pathways may be appropriate.

In such situations, the candidate may undertake an initial assessment to determine their current competency. Once current competency is identified, a structured learning and assessment program ensures that the candidate acquires the required additional competencies identified as gaps.

### Assessor Requirements

This section identifies the mandatory competencies for assessors, and clarifies how others may contribute to the assessment process where one person alone does not hold all the required competencies.

### Assessor Competencies

The AQTF 2007 specifies mandatory competency requirements for assessors. For information, Standard 1, Element 1.4 from the AQTF 2007 *Essential Standards for Registration* follows:

1.4		<i>Training and assessment is delivered by trainers and assessors who:</i>
	a)	<i>have the necessary training and assessment competencies as determined by the National Quality Council or its successors</i>
	b)	<i>have the relevant vocational competencies at least to the level being delivered or</i>

		<i>assessed</i>
	c)	<i>continue developing their vocational and training and assessment competencies to support continuous improvements in the delivery of the RTO"s services.</i>

## Designing Assessment Tools

This section provides an overview on the use and development of assessment tools.

### Use of Assessment Tools

Assessment tools provide a means of collecting the evidence that assessors use in making judgments about whether candidates have achieved competency.

There is no set format or process for the design, production or development of assessment tools. Assessors may use prepared assessment tools, such as those specifically developed to support this Training Package, or they may develop their own.

### Using Prepared Assessment Tools

If using prepared assessment tools, assessors should ensure these are benchmarked, or mapped, against the current version of the relevant unit of competency. This can be done by checking that the materials are listed on the National Training Information Service < [www.ntis.gov.au](http://www.ntis.gov.au)>. Materials on the list have been noted by the National Quality Council as meeting their quality criteria for Training Package support materials.

### Developing Assessment Tools

When developing assessment tools, assessors must ensure that they:

- are benchmarked against the relevant unit or units of competency
- are reviewed as part of the continuous improvement of assessment strategies as required under Standard 1 of the AQTF 2007
- meet the assessment requirements expressed in Standard 1 of the AQTF 2007.

A key reference for assessors developing assessment tools is TAA04 Training and Assessment Training Package and the unit of competency TAAASS403A *Develop assessment tools*. There is no set format or process for the design, production or development of assessment materials.

## Conducting Assessment

This section details the mandatory assessment requirements and provides information on equity in assessment including reasonable adjustment.

### Assessment Requirements

Assessments must meet the criteria set out in the AQTF 2007 Essential Standards for Registration.

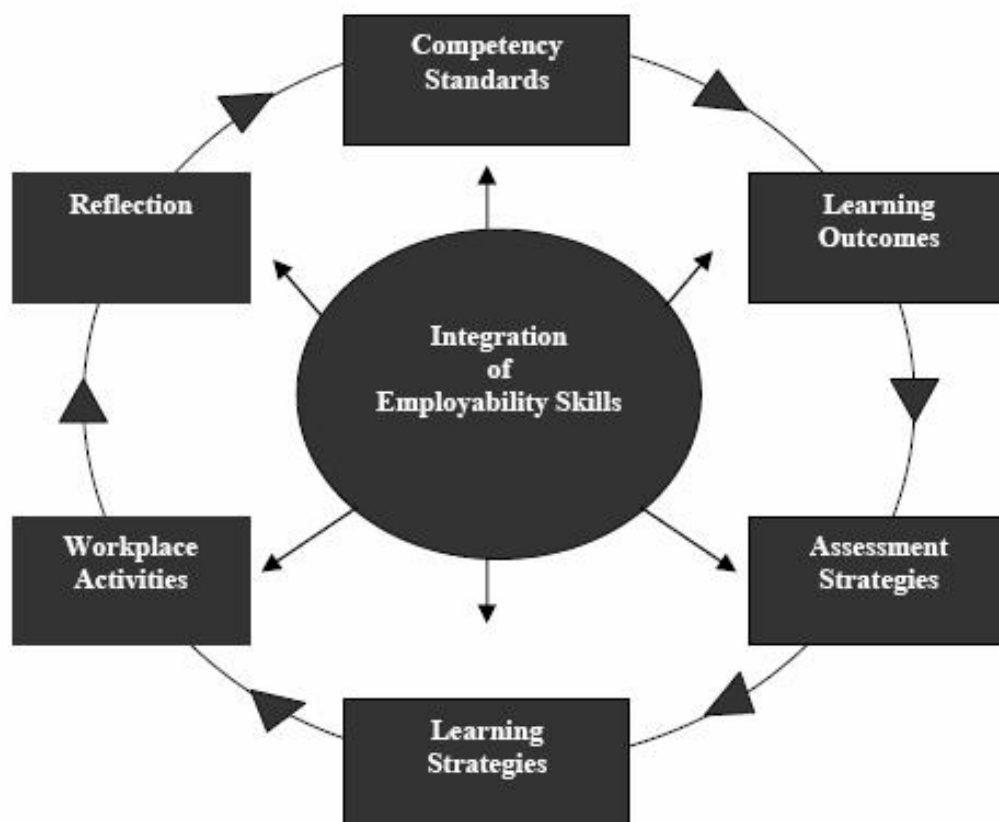
For information, the mandatory assessment requirements from Standard 1 from the AQTF 2007 *Essential Standards for Registration* are as follows:

1.5		<i>Assessment, including Recognition of Prior Learning:</i>
	a)	<i>meets the requirements of the relevant Training Package or accredited course,</i>

b)	<i>is conducted in accordance with the principles of assessment and the rules of evidence, and</i>
c)	<i>meets workplace and, where relevant, regulatory requirements.</i>

### Assessment of Employability Skills

Employability Skills are integral to workplace competency. As such they must be considered in the design, customisation, delivery and assessment of vocational education and training programs in an integrated and holistic way, as represented diagrammatically below.



Employability Skills are embedded and explicit within each unit of competency. Training providers must use Employability Skills information in order to design valid and reliable training and assessment strategies. This analysis could include:

- reviewing units of competency to locate relevant Employability Skills and determine how they are applied within the unit
- analysing the Employability Skills Summary for the qualification in which the unit or units are packaged to help clarify relevant industry and workplace contexts and the application of Employability Skills at that qualification outcome
- designing training and assessment to address Employability Skills requirements.

For more information on Employability Skills in Innovation and Business Industry Skills Council Training Packages go to the Innovation and Business Industry Skills Council website at <http://www.ibsa.org.au>.

### Access and Equity

An individual's access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment beyond the requirements

specified in this Training Package: training and assessment must be bias-free.

Under the rules for their development, Training Packages must reflect and cater for the increasing diversity of Australia's VET clients and Australia's current and future workforce. The flexibilities offered by Training Packages should enhance opportunities and potential outcomes for all people so that we can all benefit from a wider national skills base and a shared contribution to Australia's economic development and social and cultural life.

### **Reasonable adjustments**

It is important that education providers take meaningful, transparent and reasonable steps to consult, consider and implement reasonable adjustments for students with disability.

Under the *Disability Standards for Education 2005*, education providers must make reasonable adjustments for people with disability to the maximum extent that those adjustments do not cause that provider unjustifiable hardship. While "reasonable adjustment" and "unjustifiable hardship" are different concepts and involve different considerations, they both seek to strike a balance between the interests of education providers and the interests of students with and without disability.

An adjustment is any measure or action that a student requires because of their disability, and which has the effect of assisting the student to access and participate in education and training on the same basis as students without a disability. An adjustment is reasonable if it achieves this purpose while taking into account factors such as the nature of the student's disability, the views of the student, the potential effect of the adjustment on the student and others who might be affected, and the costs and benefits of making the adjustment.

An education provider is also entitled to maintain the academic integrity of a course or program and to consider the requirements or components that are inherent or essential to its nature when assessing whether an adjustment is reasonable. There may be more than one adjustment that is reasonable in a given set of circumstances; education providers are required to make adjustments that are reasonable and that do not cause them unjustifiable hardship.

See Part 4, Chapter 2 of the *Training Package Development Handbook* (DEST, September 2007) for more information on reasonable adjustment, including examples of adjustments.

### **Further Sources of Information**

The section provides a listing of useful contacts and resources to assist assessors in planning, designing, conducting and reviewing of assessments against this Training Package.

#### **Contacts**

Technical and Vocational Education and Training (TVET) Australia Limited

Level 21, 390 St Kilda Road, Melbourne VIC 3150

PO Box 12211, A"Beckett Street Post Office

MELBOURNE VICTORIA 8006

Ph: +61 3 9832 8100

Fax: +61 3 9832 8198

Email: [sales@tvetaustralia.com.au](mailto:sales@tvetaustralia.com.au)

Web: [www.tvetaustralia.com.au](http://www.tvetaustralia.com.au)

**For information on the TAA04 Training and Assessment Training Package contact:**

Innovation & Business Skills Australia  
Level 2, Building B, 192 Burwood Road  
HAWTHORN VIC 3122  
Telephone: (03) 9815 7000  
Facsimile: (03) 9815 7001  
Web: [www.ibsa.org.au](http://www.ibsa.org.au)  
Email: [virtual@ibsa.org.au](mailto:virtual@ibsa.org.au)

## General Resources

Refer to <http://antapubs.dest.gov.au/publications/search.asp> to locate the following ANTA publications.

*AQF Implementation Handbook, third Edition*. Australian Qualifications Framework Advisory Board, 2002, [aqf.edu.au](http://aqf.edu.au)

Australian Quality Training Framework 2007 (AQTF 2007) - for information and resources go to < [www.training.com.au/aqtf2007](http://www.training.com.au/aqtf2007)>

*AQTF 2007 Essential Standards for Registration*. Training organisations must meet these standards in order to deliver and assess nationally recognised training and issue nationally recognised qualifications. They include three standards, a requirement for registered training organisations to gather information on their performance against three quality indicators, and nine conditions of registration

*AQTF 2007 User's Guide to the Essential Standards for Registration*. A Users' Guide for training organisations who must meet these standards in order to deliver and assess nationally recognised training and issue nationally recognised qualifications.

*AQTF 2007 Standards for Accredited Courses*. State and Territory accrediting bodies are responsible for accrediting courses. This standard provides a national operating framework and template for the accreditation of courses.

*TAA04 Training and Assessment Training Package*. This is available from the Innovation and Innovation & Business Skills Australia (IBSA) Industry Skills Council and can be viewed, and components downloaded, from the National Training Information Service (NTIS).

National Training Information Service, an electronic database providing comprehensive information about RTOs, Training Packages and accredited courses - [www.ntis.gov.au](http://www.ntis.gov.au)

*Training Package Development Handbook* (DEST, August 2007). Can be downloaded from [www.dest.gov.au](http://www.dest.gov.au)

## Assessment Resources

*Training Package Assessment Guides* - a range of resources to assist RTOs in developing Training Package assessment materials (originally developed by ANTA with funding from the Department of Education, Training and Youth Affairs) and made up of 10 separate titles, as described at the publications page of [www.dest.gov.au](http://www.dest.gov.au). Go to [www.resourcegenerator.gov.au/loadpage.asp?TPAG.htm](http://www.resourcegenerator.gov.au/loadpage.asp?TPAG.htm)

Printed and/or CD ROM versions of the Guides can be purchased from Technical and Vocational Education and Training (TVET) Australia Limited. The resource includes the following guides:

- Training Package Assessment Materials Kit

- Assessing Competencies in Higher Qualifications
- Recognition Resource
- Kit to Support Assessor Training
- Candidates Kit: Guide to Assessment in New Apprenticeships
- Assessment Approaches for Small Workplaces
- Assessment Using Partnership Arrangements
- Strategies for ensuring Consistency in Assessment
- Networking for Assessors
- Quality Assurance Guide for Assessment

An additional guide "Delivery and Assessment Strategies" has been developed to complement these resources.

## **Assessment Tool Design and Conducting Assessment**

VETASSESS & Western Australian Department of Training and Employment 2000, *Designing Tests - Guidelines for designing knowledge based tests for Training Packages*.

Vocational Education and Assessment Centre 1997, *Designing Workplace Assessment Tools, A self-directed learning program*, NSW TAFE.

Manufacturing Learning Australia 2000, *Assessment Solutions*, Australian Training Products, Melbourne.

Rumsey, David 1994, *Assessment practical guide*, Australian Government Publishing Service, Canberra.

## **Assessor Training**

Australian Committee on Training Curriculum (ACTRAC) 1994, *Assessor training program - learning materials*, Australian Training Products, Melbourne.

Australian National Training Authority, *A Guide for Professional Development*, ANTA, Brisbane.

Australian Training Products Ltd *Assessment and Workplace Training, Training Package - Toolbox*, ATPL Melbourne (available from TVET).

Green, M, et al. 1997, *Key competencies professional development Package*, Department for Education and Children's Services, South Australia.

Victorian TAFE Association 2000, *The professional development CD: A learning tool*, VTA, Melbourne.

## **Assessment System Design and Management**

Office of Training and Further Education 1998, *Demonstrating best practice in VET project - assessment systems and processes*, OTFE (now OTTE) Victoria.

Toop, L., Gibb, J. & Worsnop, P. *Assessment system designs*, Australian Government Publishing Service, Canberra.

**ICPPP485B****Unit Descriptor****Employability Skills****Prerequisite Unit(s)****Application of the Unit****Develop a digital data template**

This unit describes the performance outcomes, skills and knowledge required to document content and structure for digital print equipment.

This unit contains employability skills.

ICPPP385B Operate a database for digital printing

This unit requires the individual to identify data requirements, content and structure of a digital template for variable digital printing.

**Unit Sector**

Multimedia

**ELEMENT****PERFORMANCE CRITERIA**

- |                                   |   |
|-----------------------------------|---|
| 1. Identify content requirements  | <ul style="list-style-type: none"> <li>1.1 Data purpose is identified from job requirements and clarified with client</li> <li>1.2 Data file format and type of database are identified</li> <li>1.3 Layout is determined from job requirements and confirmed with client</li> <li>1.4 Static and variable areas are identified according to job specifications</li> <li>1.5 Accuracy of data is confirmed and signed off as such by client</li> <li>1.6 The requirement for additional software integration is determined such as postal software</li> </ul>   |
| 2. Develop the template           | <ul style="list-style-type: none"> <li>2.1 Fields are created and named consistently to reduce errors</li> <li>2.2 Copy holes and data are marked-up to match the job specifications</li> <li>2.3 A report for the printer is developed which identifies the relevant data assigned to each copy hole according to job specifications and business rules</li> <li>2.4 Copy holes are assigned and related information documented for the printer to understand the connection to the data</li> <li>2.5 The correct number of fields is available for the job</li> <li>2.6 Template is signed off as suitable by client</li> </ul> |
| 3. Finalise and test the template | <ul style="list-style-type: none"> <li>3.1 Business rules are tested and if possible a soft proof is reviewed</li> <li>3.2 The final document is viewed with a markup language parser</li> <li>3.3 An extensible style sheet is linked to the template, if required</li> <li>3.4 The template is well-formed, free of errors and meets the needs of the client</li> <li>3.5 The template is extensible to meet future client needs</li> <li>3.6 Template is finalised and made ready to send to the press</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by clarifying purpose and layout of the data through consultation with clients
- Collecting, analysing and organising information by developing a report for the printer which identifies the relevant data assigned to each copy hole according to job requirements and business rules
- Planning and organising activities by identifying the content requirements before developing the template
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by ensuring that the correct number of fields are available for the job
- Problem-solving skills by testing business rules and reviewing a soft proof
- Use of technology by using relevant hardware and software to develop a digital data template

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### SGML

- What is the Standard Generalised Markup Language and why is it important?
- How does SGML relate to XML and PPML?
- What is the difference between SGML, PPML and XML and when would you use SGML over XML?

#### XSL

- How do Cascading Style Sheets (CSS) and XSL differ?
- What is the intended purpose of XSL?

#### HTML

- When would you use an extensible markup language over HTML and why?
- In what ways could you use both with the one set of data?

#### Meta data and PRISM

- What purposes does meta data serve within markup language documents?
- Why is PRISM important for content publishing?

#### PPML

- How does Personalised Print Markup Language relate to XML?



## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                 |  |
|-----------------|--|
| Data purpose    | • Target audience, type of product             |
| Variable fields | • Text, images, layout with flexible placement |
| Markup          | • PPML / VDX, XML                              |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Identifying correct data requirements and developing and marking up the structure of a digital template for variable digital printing
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- A digital template for variable data printing that is error free in the soft proof
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- relevant hardware and software

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP494B****Unit Descriptor****Develop document content and structure**

This unit describes the performance outcomes, skills and knowledge required to develop the content meaning and document structure for markup for web page or electronic publishing purposes.

**Employability Skills**

This unit contains employability skills.

**Prerequisite Unit(s)**

ICPPP328B Generate high-end PDF files

**Application of the Unit**

This unit requires the individual to create documents that have structure, content, readability and design appropriate for an online or print audience.

Electronic publishing here refers to the creation and delivery of a document / information to the reader as electronic output or for print format.

**Unit Sector**

Multimedia

**ELEMENT****PERFORMANCE CRITERIA**

- |                                     |   |
|-------------------------------------|---|
| 1. Identify document requirements   | <ul style="list-style-type: none"> <li>1.1 Content meaning and information structure are developed based on the document intent, final media and intended audiences</li> <li>1.2 Information is identified and grouped according to the job brief</li> <li>1.3 Target audience requirements and expectations are determined according to the brief</li> </ul>   |
| 2. Plan content structure           | <ul style="list-style-type: none"> <li>2.1 Information is arranged in related topics and a logical sequence</li> <li>2.2 Content meaning is tested by simulating the generation of new coherent documents based on the original content</li> <li>2.3 A hierarchy of information is developed with data checked to confirm the hierarchy sequence</li> </ul>   |
| 3. Develop information architecture | <ul style="list-style-type: none"> <li>3.1 An information hierarchy is prepared catering for the physical storage of the files</li> <li>3.2 Search and retrieval mechanisms are prepared for content discovery</li> <li>3.3 An information hierarchy is designed catering for navigation and access between files or groups of content</li> </ul>   |
| 4. Develop navigation system        | <ul style="list-style-type: none"> <li>4.1 High level, local and document navigational systems are built based on information architecture</li> <li>4.2 The design is consistent, intuitive and has a logical labelling system to provide access to various levels and type of content</li> <li>4.3 Labels and indexes are clear, consistent, coherent and relatively intuitive to enable target audience access</li> </ul> |
| 5. Design information layout        | <ul style="list-style-type: none"> <li>5.1 Templates for textual and graphic elements are developed to facilitate consistent and uniform layout and visual design</li> <li>5.2 An extensible template is linked to the document</li> </ul>  |

- |                      |   |
|----------------------|---|
| 6. Test the document | 6.1 A suite of prototypes for all document levels is developed                                    |
|                      | 6.2 The rigour of the information architecture at all levels is tested                            |
|                      | 6.3 Correct functioning and intuitive use of the navigational features are tested for all levels  |
|                      | 6.4 Visual design and layout are tested at all levels against standard onscreen design principles |
|                      | 6.5 Levels of accessibility for people with disabilities are acceptable                           |

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by developing an intuitive, easy to use navigation system that provides different ways of searching for information
- Collecting, analysing and organising information by developing a consistent and logical labelling system
- Planning and organising activities by planning the content structure before determining the navigation system
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by developing labels and indexes
- Problem-solving skills by testing the information structure to identify any gaps or problems with navigation
- Use of technology by using relevant software to develop document content structure and navigation system

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

- The difference between a data store document and a document layout application
- Meta languages for multiple audiences
- Metadata and in particular PRISM
- Principles of document navigation
- Content conversion and content management
- Data mapping and content models

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Markup language	<ul style="list-style-type: none"> <li>• New markup languages are becoming available regularly and examples include XML and PPML. This unit does not cover HTML which is covered by another unit ICAB4135B Create a simple mark-up language document to specification</li> </ul>
PPML	<ul style="list-style-type: none"> <li>• Personalised Print Markup Language</li> </ul>
Document purpose	<ul style="list-style-type: none"> <li>• Electronic publishing, e-commerce, web services, interchange of data amongst different applications, software configuration files</li> </ul>
Accessibility	<ul style="list-style-type: none"> <li>• Includes "content discoverability" as well as content availability with regard to people with disabilities</li> </ul>
Data	<ul style="list-style-type: none"> <li>• Includes mixed data and dynamic data</li> </ul>
Electronic publishing	<ul style="list-style-type: none"> <li>• Electronic publishing in this context does not mean the use of page layout applications but rather the development of content to meet the needs of different audiences and different output devices</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Developing information structures for markup, web pages or long document assembly. The document is intuitive for target audience navigation
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- TWO different documents are created and successfully tested
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPMM492B Create an extensible style sheet
- ICPPP485B Develop a digital data template.

**ICPPP211B****Unit Descriptor****Develop a basic design concept**

This unit describes the performance outcomes, skills and knowledge required to undertake graphic design to produce roughs and finished art.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to demonstrate a set range of design skills while working in consultation with others to ensure production and final user requirements have been met.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                   |  |
|-----------------------------------|--|
| 1. Assess brief requirements      | <ul style="list-style-type: none"> <li>1.1 The printing requirements of the layout brief are determined to align pre-press processes with printing feasibility</li> <li>1.2 The brief is broken down into stages of production in order to determine a plan of procedure</li> <li>1.3 A plan of action is determined to meet the time requirements of each stage so that deadlines are identified and adhered to</li> <li>1.4 Correct design and typographic terms are used to facilitate communication according to industry standards</li> </ul>   |
| 2. Assemble layout                | <ul style="list-style-type: none"> <li>2.1 Client copy and images are assembled to conform to the brief requirements</li> <li>2.2 Library files are accessed for relevant data to conform to the brief requirements</li> <li>2.3 Appropriate equipment and materials to complete the layout are assembled to enable the brief to be undertaken efficiently</li> <li>2.4 The design area is cleaned and prepared ready for use</li> </ul>   |
| 3. Render a simple graphic design | <ul style="list-style-type: none"> <li>3.1 The client requirements are checked to ensure a design concept matches the brief</li> <li>3.2 Preliminary graphic design ideas are constructed according to the brief</li> <li>3.3 A simple graphic design concept is rendered electronically to conform to the client brief</li> <li>3.4 The rendered graphic design is checked for conformance with the requirements of the brief</li> </ul>  |
| 4. Produce finished artwork       | <ul style="list-style-type: none"> <li>4.1 A layout grid is created to meet the specifications of the client brief</li> <li>4.2 Type is selected for readability style and fitted into the grid space allocated to conform to brief requirements</li> <li>4.3 Photographs and illustrations are selected, scaled and cropped appropriately to fit the grid space allocated</li> <li>4.4 Overlays / colour roughs are created to conform to brief specifications</li> <li>4.5 The components of the layout are positioned accurately using keylines to conform to the grid framework</li> </ul> |

- 5. Check for suitability
  - 5.1 The layout is checked to eliminate omissions and errors
  - 5.2 The layout design is checked against the requirements of the brief to conform to the critical requirements of the proposed medium
  - 5.3 The layout is rendered ready to present to the client
  
- 6. Tidy materials and store data
  - 6.1 Equipment and materials are returned to storage according to enterprise procedures
  - 6.2 Design data and materials are saved and / or filed ready for future retrieval according to enterprise procedures
  - 6.3 The design area is cleaned according to enterprise procedures ready for re-use



## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by determining exactly what client wants from brief and subsequent discussion
- Collecting, analysing and organising information by balancing and matching client demands with requirements for reproduction and costs
- Planning and organising activities by coordinating job sequence so that as materials arrive they are processed and can be checked efficiently
- Teamwork when ensuring that designers, printers and clients all know what they need to do and when
- Mathematical ideas and techniques by calculating costs and enlargement / reduction factors
- Problem-solving skills by coping with discrepancies between brief and what is possible
- Use of technology by using appropriate software to create design and ensuring files are saved in required format

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Technical requirements for preparing art for printing or electronic output

- For what purpose is this artwork being prepared?
- What are the number and the specific colours of the job?
- What scale is this artwork to the finished job?
- Describe the difference between reflective and transparent originals.
- What are three essential elements to consider when preparing art for printing / publication?
- Describe the different requirements for TWO different printing or electronic output processes.

#### Preparing rough layout and colour rough

- Why have you used manual / computer techniques to prepare this colour rough?

#### Reproduction characteristics of halftones

- Describe the various types of halftone dot structures and the maximum and minimum tonal ranges that could be used to reproduce this artwork.

#### Preparing finished art photographically or by computer

- What OHS concerns are there when using cameras or computers?
- What is the colour sequence and overlap for transparent / opaque colours?
- Why are you preparing the finished artwork at this size or scale?
- Why have you chosen these specific type faces?
- What effect (influence) does the selection of different type faces have on a job?

#### Evaluating finished art

- What method have you used for registration and trim marks?
- Why must you evaluate artwork for density, definition and resolution, and how can this

be corrected?

- What are the characteristics of properly prepared line artwork?
- How have you determined that finished art complies with job specifications and approved colour rough?

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Complexity of process	• Artwork may contain simple line work or a combination of line and tone
Layout brief	• Describes and specifies the work to be completed, identifies all requirements for the job
Errors	• Spelling, grammatical, style and placement
Degree of autonomy	• Working in consultation with others to ensure production requirements are met
Enterprise procedures	• Range of enterprise procedures within defined work area
Quality standards	• Should meet client requirements and enterprise and industry standards

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The rendered design meets the requirements of the design brief. The design conforms to commercial design standards and meets reproduction final use requirements
- The underlying skill of designing a basic layout to conform to brief specifications should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare TWO sets of colour roughs and artwork containing line and tone work according to specifications of the client brief and the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages will be used where appropriate

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP221B****Unit Descriptor****Select and apply type**

This unit describes the performance outcomes, skills and knowledge required to undertake basic typesetting skills.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires an individual to select the required fonts and to fit and proof the type. The individual will be supervised and the choice of actions required will be clear.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Identify fonts                                 | <ul style="list-style-type: none"> <li>1.1 A range of fonts is identified to meet diverse client requirements and final output media</li> <li>1.2 Point sizes and leading of type are identified to meet diverse client requirements and final output media</li> </ul>   |
| 2. Select, fit and produce type for a basic brief | <ul style="list-style-type: none"> <li>2.1 Appropriate type is selected to meet the specifications of the brief</li> <li>2.2 Type is fitted into the copy space allocated according to the design layout</li> <li>2.3 Type is set and produced using rules and boxes according to the design layout</li> </ul> |
| 3. Proof read and correct type                    | <ul style="list-style-type: none"> <li>3.1 Type is checked for accuracy, omissions and errors according to job specifications</li> <li>3.2 Proofs are marked up with correct proof reading marks</li> <li>3.3 Type is corrected to accord with job specifications</li> </ul>                                   |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting job brief to ensure that the job is done appropriately
- Collecting, analysing and organising information by matching characteristics of fonts, sizes and layouts with requirements of the job brief
- Planning and organising activities by selecting and fitting appropriate type
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating fit and point sizes
- Problem-solving skills by fitting type in the allocated copy space
- Use of technology by selecting and applying type using software applications

### Required knowledge:

The following knowledge must be assessed as part of this unit:

### Relevant printing processes and electronic media

- How do different printing processes or electronic media affect type selection and design?

### Interpretation of brief

- State THREE aspects of typography that influence the design of the brief.

### Type selection

- What limitations are there with type reproduction in the printing processes?
- Classify nominated typefaces into serif and sans serif categories.

### Type arrangement

- What is meant by type atmosphere?
- What are the elements of a dynamic arrangement?

### Type modification and proof reading

- Identify and explain the meaning of SIX pairs of text and margin proof reader marks.
- Recognise and correct THREE each of the nominated faults with grammar, punctuation and the apostrophe.

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Complexity	<ul style="list-style-type: none"><li>• Simple briefs that do not involve problem solving or complex layouts or designs</li><li>• Includes stock of varying qualities and proportions</li></ul>
Brief	<ul style="list-style-type: none"><li>• Specifications for the job that may include instructions which include samples of the product</li></ul>
Input	<ul style="list-style-type: none"><li>• Interpretation of brief</li></ul>
Capture	<ul style="list-style-type: none"><li>• Manual typesetting; proprietary or computer equipment</li></ul>
Manipulation / edit	<ul style="list-style-type: none"><li>• Software and / or hardware function</li></ul>
Output	<ul style="list-style-type: none"><li>• Type proof, screen display and mono chromatic PS laser image</li></ul>
Quality standards	<ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul>
Degree of autonomy	<ul style="list-style-type: none"><li>• Supervised and assisted</li></ul>

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Selecting and fitting appropriate fonts to meet the job specifications. Proofing the type for errors and correcting
- The underlying skills of selecting and applying type should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competency be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Use manual or electronic equipment and suitable software to select, set, arrange and modify type in TWO different jobs according to the listed Performance Criteria

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP222B****Unit Descriptor****Scan a line image**

This unit describes the performance outcomes, skills and knowledge required to scan line images.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to prepare a line copy or original for scanning, set up the scanner and ensure the quality of the scanned image meets the technical specifications of the job and final media requirements. A line image is a higher contrast line art work.

The individual will work under limited supervision and with defined procedures.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Prepare the line image for scanning | 1.1 The line image for scanning is scaled to conform to production specifications<br>1.2 The quality of the line image for scanning is assessed to determine scanner settings<br>1.3 The line image is cleaned and mounted ready for scanning   |
| 2. Prepare the scanner                 | 2.1 The scanner is set correctly for the line images to be scanned<br>2.2 Appropriate software is selected for scanning and processing line images  |
| 3. Scan and check the image            | 3.1 The original line image is scanned for reproduction according to the design specifications<br>3.2 The quality of the scanned image is checked against the job specifications and the printing or reproduction requirements<br>3.3 Appropriate software is applied to scan and process line images |



## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by matching reproduction requirements, resolution factors and the job brief
- Planning and organising activities by preparing the line image for scanning
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating enlargement / reduction factors and resolution
- Problem-solving skills by scaling the line image to conform to production specifications
- Use of technology by using appropriate software and hardware correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes and electronic media

- How do scanning requirements vary with different printing processes or electronic media?

#### Evaluation of line original

- What are the characteristics of a line original?

#### Establishing hardware and software needs

- What OHS concerns are there when operating a scanner?
- What factors determine line scanning resolution?
- What controls exist within the software for line scanning?
- What are the essential hardware specifications for line scanning?
- Identify the software requirements for line scanning.
- What specific software requirements are there to process and output the image?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input

- A variety of high contrast line artwork or copy

Capture	<ul style="list-style-type: none"> <li>• Flat-bed or drum scanner</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>• Appropriate software relative to image input quality and output device</li> </ul>
Output	<ul style="list-style-type: none"> <li>• Laser printers, film, disk, proof</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Under limited supervision to defined procedures</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- The quality of the scanned image meets specified quality standards and final media requirements
- The underlying skill of scanning images should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the scanned image be suitable for the identified printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Use a desktop flat-bed scanner and reproduce THREE line originals according to the listed Performance Criteria

### Context of and specific resources for assessment

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP223B****Unit Descriptor****Photograph a line image**

This unit describes the performance outcomes, skills and knowledge required to undertake graphic arts camera work.

The skill is used in the industry but is becoming obsolete and should probably not be part of entry level training.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to prepare a camera and equipment to photograph a line image. It requires the individual to photograph a line image that meets design and production quality standards.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                    |  |
|------------------------------------|--|
| 1. Prepare the camera              | 1.1 The camera is prepared to ensure the appropriate size and focus for the job<br>1.2 The correct exposure for line reproduction is established according to the manufacturer's specifications  |
| 2. Prepare and operate a processor | 2.1 The processor is prepared to ensure correct chemical balance, temperature and maintenance<br>2.2 The processor is operated in line with established procedures   |
| 3. Operate a camera                | 3.1 Appropriate photographic material and processing chemical combination is selected for the line image<br>3.2 Line images are photographed using the correct camera settings<br>3.3 The quality of the photographic output is evaluated to ensure suitability for design purpose and final media or reproduction process |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by matching requirements of the job brief with production requirements and constraints
- Planning and organising activities by preparing and operating the processor
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating enlargement / reduction factors and exposures
- Problem-solving skills by ensuring the correct balance of chemicals and temperature
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes

- How do different printing processes affect line images required?

#### Establishing base exposure data

- How do you calculate an enlargement factor?
- Describe how you would determine base exposure data.
- What factors cause base exposure to change?

#### Establishing basic processing data

- How do you identify a correctly processed image?
- What factors control the quality of output through the processor?

#### Evaluation and exposure of copy

- What are the copy characteristics that require a change to base exposure?
- Explain the relationship between magnification and exposure.

#### Evaluation and interpretation of results

- What are the characteristics of a correctly exposed line negative?
- Detail the image requirements for the various printing processes.

#### Processor maintenance

- What OHS concerns are there when operating a processor?
- How do you maintain consistent output from the processor?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>• A variety of high contrast line artwork</li> </ul>
Capture	<ul style="list-style-type: none"> <li>• A variety of graphic arts cameras</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>• Spotting, mask cutting</li> </ul>
Output	<ul style="list-style-type: none"> <li>• Diffusion transfer, rapid access</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Under limited supervision to defined procedures</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Evaluating the quality of the photographic output to ensure suitability for design purpose and final media or reproduction process
- The underlying skill of photographic images should be transferable across different camera designs and processing systems. It is important that the substrate for reproduction is identified and that the quality of the photographic image be suitable for the identified printing process
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare, set up and use a graphic arts camera to photograph and process TWO different line originals according to the listed Performance Criteria

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- mechanical and / or electronic equipment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP224B****Produce pages using a page layout application****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to compose pages based on a client brief using a high-end application.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to arrange basic elements on a page, finalise the artwork and check the quality.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                             |   |
|-----------------------------|---|
| 1. Arrange elements on page | <ul style="list-style-type: none"> <li>1.1 Client copy and images are assembled to conform to the design brief</li> <li>1.2 Text is prepared and required fonts and font size are used</li> <li>1.3 Basic elements are created and arranged on page to conform to the design brief</li> <li>1.4 Elements are copied and pasted according to the design brief</li> <li>1.5 The help function is accessed if required and solution to queries found</li> <li>1.6 Document set up is completed to conform to the design brief</li> </ul>   |
| 2. Finalise artwork         | <ul style="list-style-type: none"> <li>2.1 Pages and combined elements are composed correctly to suit specified page size</li> <li>2.2 Margins and borders incorporate a bleed allowance</li> </ul>   |
| 3. Check quality            | <ul style="list-style-type: none"> <li>3.1 Text is reviewed for possible errors and omissions and errors are discussed with client or supervisor</li> <li>3.2 Arrangement of the basic elements maintains overall balance of the layout and correct tonal quality</li> <li>3.3 A hard copy proof is printed and rechecked for errors, omissions and the overall balance of the layout</li> <li>3.4 Trim marks and margins are correctly placed</li> <li>3.5 Necessary changes are made and reviewed on screen and reproofed as required</li> <li>3.6 The job is saved according to enterprise procedures</li> <li>3.7 A proof or PDF is created to present to client</li> </ul> |



## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by clarifying information with client or supervisor
- Collecting, analysing and organising information by arranging elements on a page
- Planning and organising activities by identifying basic elements to be used
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by organising basic elements on the page
- Problem-solving skills by imposing pages and combined elements to correctly suit specified sheet size
- Use of technology by using hardware and software applications

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Relevant print processes and electronic media**

- Why is it important to give consideration to the printing process during the design phase?
- What kinds of problems can occur if the printing process isn't considered during the design stage?

#### **Imposition**

- Why does the substrate size need to be considered during imposition?
- Why do you need to plan for multiple colours and graphics during imposition?

#### **Keyboarding**

- What considerations are given to ensuring your health and safety when using a keyboard?

#### **Basic computer operation**

- Why is it important to save documents in particular areas of a computer or network?
- How would you find a document on a computer or network?

#### **Templates**

- How can templates be changed and saved?

#### **Style guides and style sheets**

- What are the value of style guides and style sheet?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                            |  |
|----------------------------|--|
| High-end page layout tools | • May include QuarkXPress, INDesign, PageMaker or others   |
| Basic elements             | • Simple filled or unfilled boxes, frames, and rules (lines) or bullets used as accents or to divide a page into sections                |
| Document set up            | • Margins, page size, page orientation, number of pages, arrangement of pages  |
| Enterprise procedures      | • Enterprise procedures for saving a document may include the preferred format, naming preferences and the location the file is saved to |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Producing a page layout that meets the client's design brief and is print ready
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare TWO different sets of page layouts according to the listed Performance Criteria
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- page layout applications such as QuarkXPress, INDesign, PageMaker or others will be required for assessment of this unit of competency. New software applications and new versions of existing products enter the market regularly and therefore this example group will change

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPP211B Develop a basic design concept

**ICPPP225B****Produce graphics using a graphics application****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to develop computer-generated graphics based on a client brief using a high-end application.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to develop computer-generated graphics based on a client brief using a high-end application.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                 |  |
|---------------------------------|--|
| 1. Prepare the work environment | <ul style="list-style-type: none"> <li>1.1 Details of the brief are reviewed to identify preference setting requirements</li> <li>1.2 Monitor is calibrated using an ICC profile to ensure closest possible colour match</li> <li>1.3 Palettes are arranged to suit job and personal preferences</li> <li>1.4 View magnification is set for ease of working with the graphics</li> </ul>   |
| 2. Produce objects              | <ul style="list-style-type: none"> <li>2.1 Ruler units are set and grid is displayed to ensure artwork meets design specifications</li> <li>2.2 Tools are used to produce objects and required attributes are entered and shapes manipulated, continuing until graphic framework is finalised</li> <li>2.3 Lines and curves are adjusted and edited to fit design specifications</li> <li>2.4 Objects are painted, transposed and strokes and effects are scaled according to the design brief</li> <li>2.5 Colours are created, edited and saved to the colour palette and saturation of colour is adjusted</li> <li>2.6 Colour and appearance attributes are selected and copied as required</li> <li>2.7 Gradients fills, mesh and patterns are used to paint and blend as required by the layout and design brief</li> </ul> |
| 3. Alter objects                | <ul style="list-style-type: none"> <li>3.1 Objects are grouped or individually selected, moved, scaled or rotated using a variety of methods</li> <li>3.2 Objects are reflected, sheared and distorted according to the design brief</li> <li>3.3 Three dimensional objects are formed and edited and gradient colour added to create depth</li> <li>3.4 The perspective of the objects is adjusted as required</li> <li>3.5 Transformations are repeated according to the design brief</li> <li>3.6 Smooth colour blends are created between objects and blends are modified as required to meet the design brief</li> </ul>  |

- 4. Add type as a graphic element
  - 4.1 Required type is added to type containers and type attributes and formatting are set to reflect the design brief
  - 4.2 Type is wrapped or placed along a path to complement the graphic
  - 4.3 Type is converted to type outlines or letterforms and shapes are modified
- 5. Set appearance attributes and styles
  - 5.1 The properties of the graphic are set and meet the design brief
  - 5.2 Effects are added to a graphic and edited to make the appearance more suitable according to the design brief
  - 5.3 Appearances required for further use are saved as styles
- 6. Set up layers
  - 6.1 Objects are organised in layers and stacking order is controlled
  - 6.2 Layers are locked and / or nested and grouped according to the design brief
  - 6.3 Styles are added or removed from layers when layer consistency is or is not required
- 7. Finalise document
  - 7.1 The appropriate format for saving the graphic is identified given the various elements in the graphic
  - 7.2 The resolution for effects and any filters are set based on image quality
  - 7.3 Document is checked to ensure correct layout file and that there are no non-printable elements
  - 7.4 PDF or other export options are fixed to the best settings for the final media and the file is then exported and saved

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by producing graphics using a graphics application
- Collecting, analysing and organising information by reviewing the brief to identify preference setting arrangements
- Planning and organising activities by preparing the work environment before producing objects
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by setting the view magnification to maximise ease of viewing
- Problem-solving skills by creating smooth colour blends between objects
- Use of technology by fixing export options to suit the final media

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Image formats (SWF, SVG, GIF, JPEG, PNG, Bitmap and others)
- Correct application selection
- Manipulation of graphics
- Colour models
- Attributes of appearance
- Effects
- Filters
- Text and formatting
- Interpreting a brief

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

High-end application	• Adobe Illustrator, Adobe Photoshop, CorelDRAW, Freehand, InDesign, QuarkExpress
Manipulated	• Shapes are rotated, position and sizes changed, shapes sent to back or forward, scaled and copied
Colours	• CMYK colours, Spot colours, Registration colours, PMS
Edited	• Transparency, gradients, strokes, custom colours using CMYK sliders

Objects	<ul style="list-style-type: none"> <li>• Predefined shapes, drawn objects, curved segments, lines</li> </ul>
Formatting	<ul style="list-style-type: none"> <li>• Font, leading, paragraph alignment, character size, columns of type, text flow</li> </ul>
Appearance attributes	<ul style="list-style-type: none"> <li>• Fills, strokes, effects, blending modes, transparency</li> </ul>
Properties	<ul style="list-style-type: none"> <li>• Are appearance attributes such as above</li> </ul>
Effects	<ul style="list-style-type: none"> <li>• Glows, textures, opacity, blur and others</li> </ul>
Elements	<ul style="list-style-type: none"> <li>• Layers, fine lines, blending, feathering</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Developing graphics based on client brief using a high-end application
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- industry standard computer type and current software application should be used

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPPP224B Produce pages using a page layout application



**ICPPP226B****Unit Descriptor****Produce interactive PDF files**

This unit describes the performance outcomes, skills and knowledge required to produce interactive PDF files.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to produce interactive PDF files.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                            |  |
|----------------------------|--|
| 1. Prepare the environment | <ul style="list-style-type: none"> <li>1.1 Details of the brief are reviewed to identify preference setting requirements, plug-ins, PostScript drivers and other customisation requirements for the work environment</li> <li>1.2 Preferences, document summaries and search indexes options are set according to specifications of the brief</li> <li>1.3 All required plug-ins are loaded and available for the job</li> <li>1.4 PostScript drivers are installed and functional</li> </ul>  |
| 2. Check file              | <ul style="list-style-type: none"> <li>2.1 Document is checked to ensure correct layout file and that there are no non-printable elements</li> <li>2.2 The file format is checked and converted to PDF, if required</li> <li>2.3 Images requiring cropping and compression are edited in a image editing environment to maintain quality of image</li> <li>2.4 Unnecessary elements and blank pages are deleted, if not required</li> <li>2.5 A bleed allowance is incorporated in margins and borders</li> </ul>  |
| 3. Prepare the file        | <ul style="list-style-type: none"> <li>3.1 The final media of the file is identified and the correct Distiller preset job options and colour management settings are chosen</li> <li>3.2 Document is opened and printed to PDF Write or Distiller</li> <li>3.3 Bookmarks are added and named and magnification included where required</li> <li>3.4 Correct destination is set and action is assigned to sidebars and work area bookmarks</li> <li>3.5 Links are added internally within the document and to multiple documents as required</li> </ul>   |
| 4. Edit the file           | <ul style="list-style-type: none"> <li>4.1 Text is edited using text touch-up tool and attributes are reset</li> <li>4.2 Images are edited using the touch-up object tool according to document and final media requirements</li> <li>4.3 Pages are rotated, cropped, deleted and inserted according to requirements of the brief</li> <li>4.4 Pages are moved both individually and as a group according to document requirements</li> <li>4.5 Separate files are inserted into the document, bookmark destinations are reset and pages are renumbered</li> <li>4.6 Links or bookmarks with actions are added according to requirements of the brief</li> </ul> |

- |                            |  |
|----------------------------|--|
| 5. Prepare for final media | 5.1 Final media are identified from the brief  |
|                            | 5.2 Changes required in paper size and format are chosen from predefined settings  |
|                            | 5.3 Different fonts are selected according to media requirements   |
|                            | 5.4 Text is reformatted and article threads are added as required for final media  |
| 6. Format file             | 6.1 Re-use requirements of the file contents are identified  |
|                            | 6.2 Different elements of the file are extracted, if required, and are saved to correct folders in the file format required for re-use |
|                            | 6.3 Predefined security levels are chosen according to requirements of the brief   |
|                            | 6.4 File is saved to the correct folder  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by reformatting text and adding article threads as required for final media
- Collecting, analysing and organising information by setting preferences, document summaries and search index options according to the requirements of the brief
- Planning and organising activities by preparing the file before editing the file
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by choosing settings for paper size and format
- Problem-solving skills by rotating, deleting and inserting pages as required by the brief
- Use of technology by producing interactive PDF files

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### PDF printer driver options

- Why is PDF writer not suitable for high-end printing?

#### True Base 13 fonts

- What are the True Base 13 fonts?

#### Design differences between online and print documents

- Why do page sizes and formats need to be different according to whether the document is intended for online use or print?
- Why would you consider using different fonts in an online document?
- Why would you reformat text in an online document?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Electronic font modification	<ul style="list-style-type: none"> <li>• Bold, italic, shadowed, contoured.</li> <li>• Select fonts like Times-Bold, Times-Italic</li> </ul>
File format	<ul style="list-style-type: none"> <li>• TIFF, EPS, JPEG, RTF, PNG</li> </ul>
Final media	<ul style="list-style-type: none"> <li>• Includes e-books, websites, hard copy, online documents</li> </ul>
Actions	<ul style="list-style-type: none"> <li>• Movies, sound clips, menu commands</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Producing interactive PDF files
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- relevant hardware and software

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPPP227B Produce online PDF files

**ICPPP227B****Produce online PDF files****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to produce online PDF files.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to produce online PDF files.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                      |  |
|----------------------|--|
| 1. Prepare the file  | <ul style="list-style-type: none"> <li>1.1 Use of document is identified according to specifications of the brief</li> <li>1.2 Purpose and audience are established and any cultural, equity or gender requirements ascertained from the brief or client</li> <li>1.3 Spelling is checked electronically</li> <li>1.4 Changes required in paper size and paper format are chosen from predefined settings</li> <li>1.5 The best fonts for online readability are selected</li> <li>1.6 Text is formatted, chunked and article threads added as required for online ease of reading</li> <li>1.7 The best predefined viewing option is chosen according to requirements of the brief</li> <li>1.8 Meta-tags containing metadata about the document are developed if required</li> </ul> |
| 2. Create navigation | <ul style="list-style-type: none"> <li>2.1 A high level table of contents and introductory information is prepared</li> <li>2.2 Section menus are created for major themes and buttons and graphics are consistently placed</li> <li>2.3 Introductory content templates are developed for each section for content overview appraisal</li> <li>2.4 Traceable navigation headings are developed to ensure users can identify their location and main menu and section menu links are provided on all screens</li> <li>2.5 Users are given more than one navigational option for moving through the document</li> <li>2.6 All links within and external to the document are consistently highlighted</li> </ul>  |
| 3. Include forms     | <ul style="list-style-type: none"> <li>3.1 Form fields are created, duplicated and text fields are formatted according to need</li> <li>3.2 Combo boxes are added and form fields are validated to ensure correct information is entered</li> <li>3.3 Check boxes, radio buttons and export values are set according to information needs</li> <li>3.4 Predefined calculations are specified according to information requirements</li> <li>3.5 Signature fields are added and all fields are locked to stop changes to values</li> <li>3.6 CGI scripts required for online data collection are available from ISP or person responsible for IT in the organisation</li> </ul>   |

- |    |                       |     |   |
|----|-----------------------|-----|---|
| 4. | Finalise the document | 4.1 | All links, bookmark, actions, forms and indexes are tested to ensure correct operation                          |
|    |                       | 4.2 | Navigation is tested to ensure intuitive use of document  |
|    |                       | 4.3 | All fonts and graphics are embedded for smoother download   |
|    |                       | 4.4 | All unused objects are removed and space is optimised to reduce size  |
|    |                       | 4.5 | Correct job options are set for onscreen documents  |
|    |                       | 4.6 | Elements are tested in an online environment and across different platforms and hardware to test the appearance |
|    |                       | 4.7 | File names are compatible across platforms  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by highlighting all internal and external links
- Collecting, analysing and organising information by ascertaining the purpose and audience of the intended files
- Planning and organising activities by creating navigation before including forms
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by specifying predetermined calculations according to information requirements
- Problem-solving skills by formatting text and adding article thread required for online ease of reading
- Use of technology by producing online PDF files

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Design differences between online and print documents

- Why do page sizes and formats need to be different according to whether the document is intended for online use or print?
- Why would you consider using different fonts in an online document?
- Why would you reformat text in an online document?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Use

- Stand alone document, incorporated into other software, e-book reading device, handheld device

- |             |   |
|-------------|---|
| Highlighted | <ul style="list-style-type: none"><li>• Colour, size of font, underlying font</li></ul>                             |
| Elements    | <ul style="list-style-type: none"><li>• Images, tables and other non text items</li><li>• File management</li></ul> |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Producing online PDF files
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- PDF software

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPP226B Produce interactive PDF files

**ICPPP231B****Manually combine spot colour and basic four-colour images****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to manually combine images.

**Employability Skills**

The skill is used in the printing industry but is becoming obsolete.

**Application of the Unit**

This unit contains employability skills.

This unit requires the individual to prepare images and film and to combine elements and prepare registration and artwork for the next production stage.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                       |   |
|---------------------------------------|---|
| 1. Evaluate images for combining      | <ul style="list-style-type: none"> <li>1.1 Screen rulings are checked according to job specifications and enterprise procedures</li> <li>1.2 Dot percentages are checked according to job specifications and enterprise procedure</li> <li>1.3 Image orientation is checked according to job specifications</li> </ul>  |
| 2. Contact film                       | <ul style="list-style-type: none"> <li>2.1 The frame is prepared for contacting according to enterprise procedures</li> <li>2.2 Film is contacted using a vacuum frame and using predetermined exposures according to job specifications</li> </ul>   |
| 3. Combine film manually              | <ul style="list-style-type: none"> <li>3.1 A range of basic combining techniques is identified to meet diverse client requirements and film substrates</li> <li>3.2 Film is combined employing brush skills to achieve opaquing according to job specifications</li> <li>3.3 Film is combined adding masks according to design specifications</li> <li>3.4 Film is combined adding tints and stipples according to design specifications</li> </ul>   |
| 4. Combine paste-up elements manually | <ul style="list-style-type: none"> <li>4.1 Film is combined adding tints and stipples according to design specifications</li> <li>4.2 Screen, line and type images are combined on the base sheet according to job specifications</li> <li>4.3 Masks are produced and positioned on the base sheet for the purpose of adding tints, stipples and colour according to design specifications</li> <li>4.4 Rules, keylines and cut marks are drawn according to job specifications</li> <li>4.5 The assembled paste-up is checked for squareness, accuracy in the positioning of elements and cleanliness of work</li> </ul> |



- 5. Maintain the register of combined images
  - 5.1 Punch register systems are applied to combine images
  - 5.2 The registration of combined images is accurately placed to ensure alignment of film
  - 5.3 The registration of combined images is accurately secured to ensure the alignment of all components
  
- 6. Prepare finished film and artwork for the next production stage
  - 6.1 Finished film and artwork are laid-down and spaced according to specified paper size identified in job specifications
  - 6.2 Pages and film are pasted up to suit the given imposition

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting requirements of the brief or layout
- Collecting, analysing and organising information by matching requirements for reproduction with the brief or layout
- Planning and organising activities by determining sequence of processes and organising necessary materials
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating enlargement / reduction factors, positioning of elements, exposure
- Problem-solving skills by resolving issues of positioning and overlap of elements
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes

- How do different printing processes affect the requirements for combining?

#### Contacting films

- What are the appropriate films to use for contacting and for duplicating?

#### Establishing exposure data

- Describe a procedure for establishing basic exposure data for contact emulsions.

#### Mask preparation

- How are spreading and choking requirements determined for the preparation of a mask?
- What techniques are used to control the degree of spread and choke?

#### Pin registration systems

- What are the requirements of an effective pin registration system?
- List the main types of pin register systems and their applications.

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>• A variety of screen and line images for contacting and assembly</li> </ul>
Capture	<ul style="list-style-type: none"> <li>• A variety of contacting equipment including darkroom and daylight handling</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>• Hand and photographic techniques</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Under supervision to defined procedures</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Finished film and artwork are laid-down and spaced according to printers imposition identified in job specifications and registration of combined images is accurately secured
- The underlying skill of combining should be transferable across safelight and roomlight environments using various light sensitive materials, exposure and processing systems
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare and assemble TWO designated layouts, using a variety of selected image elements, following the job brief and according to the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP232B****Unit Descriptor****Electronically combine and assemble data**

This unit describes the performance outcomes, skills and knowledge required to electronically combine and assemble data.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to produce a page layout by electronically combining existing elements.

In a pre-press environment many individuals are required to be competent in the use of more than one page layout application.

If this unit is to be used to assess competency with page layout applications, it should be used as a secondary unit to ICPPPP224B Produce pages using a page layout application. It should be used when an additional page layout application is being assessed or taught.

It is not be used to assess an individual on the same page layout application as ICPPPP224B Produce pages using a page layout application. In other words the individual should not receive the two units of competency for the one page layout application.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                              |  |
|------------------------------|--|
| 1. Plan and prepare the work | <ul style="list-style-type: none"> <li>1.1 Computer functions are undertaken to access the required data from electronic files</li> <li>1.2 Required data is checked to ensure correct format for software application and output</li> <li>1.3 The system is checked for the required fonts to fulfil job specifications</li> <li>1.4 The storage capacity of the system is checked for sufficiency</li> </ul> |
| 2. Combine data              | <ul style="list-style-type: none"> <li>2.1 Pages are composed according to job specifications</li> <li>2.2 Elements are placed in the page according to job specifications</li> <li>2.3 Trapping is applied according to job specifications</li> <li>2.4 The image output is prepared and appropriate colour profiles are applied according to media output</li> </ul>   |
| 3. Create multiple images    | <ul style="list-style-type: none"> <li>3.1 Basic step and repeat layout is prepared according to job specifications</li> <li>3.2 The appropriate software for step and repeat is accessed according to job specifications</li> <li>3.3 Images are stepped according to job specifications</li> </ul>   |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- Collecting, analysing and organising information by accessing data on software capabilities and production requirements and matching them with the job brief
- Planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating enlargement / reduction factors, fit, spatial relationships between elements and colour profiles
- Problem-solving skills by adjusting fit and using colour correction so that output meets requirements of the brief
- Use of technology by using software correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Combining the data

- How do you create a page layout according to job specifications?
- Describe the function of electronic trapping of image elements as applied to image assembly.
- How does trapping relate to the job specification?

#### Creation of multiple images

- How do you prepare a step and repeat layout to suit a job specification?

#### Evaluation of results

- What are the main criteria for evaluating the final output?

#### Proofing systems

- What are the requirements of a contract proof as compared to an in-house check proof?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"><li>• Specific elements of type and / or screened images to be supplied either as hard copy or electronic files and along with layout or detailed job brief</li></ul>
Capture	<ul style="list-style-type: none"><li>• Scanning device and / or electronic file storage</li></ul>
Manipulation / edit	<ul style="list-style-type: none"><li>• Appropriate software relative to image input</li></ul>
Output	<ul style="list-style-type: none"><li>• Imagesetter, laser printer, CTP, digital print</li></ul>
Complexity	<ul style="list-style-type: none"><li>• Fairly simple layouts with text and colour images</li></ul>
Quality standards	<ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul>
Degree of autonomy	<ul style="list-style-type: none"><li>• Limited supervision and work to detailed job specifications</li></ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The page layout and overall design meet the job specifications, reproduction requirements and final end use
- The underlying skill of combining and assembling should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Use a desktop platform (or high-end system) with appropriate layout, design and drafting software to combine and assemble TWO jobs following the job brief and according to the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools and equipment will be used where appropriate

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.



**ICPPP252B****Unit Descriptor****Employability Skills****Application of the Unit****Output images**

This unit describes the performance outcomes, skills and knowledge required to cover image output.

This unit contains employability skills.

This unit requires the individual to prepare an output device for outputting images. Devices may include but are not limited to plate setters, image setters and commercial digital printers. The final output will meet the job specifications and be free from errors.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                              |  |
|------------------------------|--|
| 1. Prepare the output device | 1.1 Output devices are prepared according to manufacturer's and job specifications                     |
|                              | 1.2 All required proofs and checks are completed prior to outputting images                            |
| 2. Output the image          | 2.1 The system is activated to initiate the output according to job specifications                     |
|                              | 2.2 Print queues are managed to ensure efficient production  |
|                              | 2.3 The image output is evaluated to ensure it conforms to the job specifications                      |
|                              | 2.4 The image is prepared for the next stage of the production process according to job specifications |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by matching the specifications of output devices and file formats to ensure output meets the job brief
- Planning and organising activities by managing print queues to facilitate workflow
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by adjusting output devices so that output matches data files and the job brief
- Problem-solving skills by adjusting output devices so that output matches data files and the job brief
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Types and application of output devices

- Describe the types of output devices used in pre-press.
- What considerations would determine the application of these devices?

#### Calibration procedures to ensure accuracy

- What is the function of the calibration software?
- How do you calibrate at least TWO different output devices to ensure job specifications are achieved?

#### Systems procedures and file management

- Describe the procedure for downloading a file to the output device.
- What are the main considerations to ensure accurate transfer of the file?
- Describe the correct handling and material loading of the output device.

#### Establishing photographic processing data

- How do you identify a correctly processed image?
- What factors control image quality through a processor?

#### Evaluation and interpretation of results

- What are criteria for identifying a correctly transferred file?
- Detail the requirement of the image to meet job specifications.
- How can we be sure the result meets job specifications?
- What are the criteria for evaluating a final film?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>Files from a variety of software sources</li> </ul>
Output	<ul style="list-style-type: none"> <li>Commercial digital printers / plotters (not office laser printers), paper image setters, plate setters and all PostScript devices</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>Procedures defined and given limited supervision</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Proofing is free from errors and final output to digital printer / plotter conforms to the job specifications
- The underlying skills of outputting an image should be transferable across the pre-press sector. It is important that the substrate for reproduction is identified and that the competency be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Calibrate and use at least TWO devices to output to film, paper or plate, images captured electronically according to the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools and equipment will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP260B****Unit Descriptor****Employability Skills****Application of the Unit****Unit Sector****Proof images**

This unit describes the performance outcomes, skills and knowledge required to proof images.

This unit contains employability skills.

This unit requires the individual to undertake a proof, which is either chemical or digital. The individual will prepare and make ready the proof for the next stage of production.

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Set up and maintain proofing equipment | <ul style="list-style-type: none"> <li>1.1 Proofing equipment is set up and maintained according to manufacturer's specifications and enterprise standards</li> <li>1.2 The working environment is cleaned and maintained to ensure the quality of the proof</li> <li>1.3 Proofing materials are used cost efficiently according to job contract costs</li> </ul>  |
| 2. Expose and process the proof           | <ul style="list-style-type: none"> <li>2.1 The quality control of the proof is maintained according to job specifications</li> <li>2.2 Images are positioned accurately on the proof according to job specifications</li> <li>2.3 OHS requirements are observed to ensure the safe use of equipment</li> <li>2.4 The proof is prepared for presentation ready for the next stage of the process</li> </ul> |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by using information on proofing requirements and procedures to facilitate the job
- Planning and organising activities by planning the sequence of operations to facilitate efficient processing of the job
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by using the densitometer
- Problem-solving skills by diagnosing causes of proofing problems
- Use of technology by using equipment correctly to ensure accuracy of the product

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Preparing the proofing environment

- What are the OHS issues in the proofing area?
- What are the main considerations for setting up the proofing environment?

#### Exposure determination

- How would you establish the correct exposure level for your proofing system?
- What are the actinic light requirements?
- What aids can be used to control and ensure repeatability in the proofing area?

#### Calibrate and monitor digital output device

- What are the considerations when matching a proof to output requirements?
- Identify correct stock for the output device.

#### Processing the proof

- How can you detect incorrect processing of the chemical proof?
- What corrective action should be taken if incorrect processing occurs?

#### Evaluation of the proof

- What are the main criteria for evaluation of the proof?
- What are the lighting conditions for evaluating proofs?

#### PMS proofs

- What are the special requirements for PMS proofs?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"><li>• A variety of screened colour separated images</li></ul>
Capture	<ul style="list-style-type: none"><li>• Contact exposure equipment</li></ul>
Manipulation / edit	<ul style="list-style-type: none"><li>• Mask cutting, registration, cleaning</li></ul>
Output	<ul style="list-style-type: none"><li>• Dedicated digital proofing devices or chemical process equipment</li></ul>
Quality standards	<ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul>
Degree of autonomy	<ul style="list-style-type: none"><li>• Working under limited supervision to defined procedures</li></ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Images are positioned accurately on the proof according to job specifications and the proof is ready for the next stage
- The underlying skills associated with digital or chemical proofing should be transferable across a range of systems. It is important that substrates be identified along with the associated printing process that is being simulated
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare and set up the proofing area and produce digital or chemical proofs of TWO four-colour separated images according to the listed Performance Criteria

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools and equipment will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.



**ICPPP266B****Unit Descriptor****Produce relief plates**

This unit describes the performance outcomes, skills and knowledge required to make and proof relief plates from film input for letterpress or label printing.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to correctly prepare and evaluate film, and expose and process a relief plate suitable for letterpress and label printing.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                        |   |
|------------------------|---|
| 1. Produce plates      | <ul style="list-style-type: none"> <li>1.1 The plate processor is prepared and maintained according to manufacturer's specifications and enterprise standards</li> <li>1.2 Exposure control is established and maintained utilising vacuum frames and plate processors according to job specifications</li> <li>1.3 Plates are produced that conform to job specifications</li> </ul> |
| 2. Proof relief plates | <ul style="list-style-type: none"> <li>2.1 Relief plates are proofed according to job specifications</li> <li>2.2 Relief plates are proofed according to manufacturer's specifications and enterprise standards</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by matching the job brief with production requirements
- Planning and organising activities by preparing equipment and materials
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating exposures and positioning of film
- Problem-solving skills by recognising faults in plates and correcting
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### The essential film requirements for plate production

- List the main factors to be considered when preparing to lay a plate.
- What aids can be used to ensure accuracy and repeatability?
- What quality control or problem-solving devices can be included?
- What are the essential criteria for evaluating a film to be used in plate production?

#### Establishing plate exposure conditions

- How would you conduct a test exposure for plate making?
- What are the main considerations with a plate exposure system?
- What means can be used to ensure continuity and control with plate exposure?

#### Determining plate processing requirements

- Describe the plate processing operation.
- How could you identify a poor processing operation?

#### Evaluation and quality control in platemaking

- What are the main criteria for evaluating a correctly prepared plate?

#### The proofing of printing plates

- What OHS concerns are there when processing and proofing printing plates?
- What are the main advantages of plate proofing?
- State the criteria for plate proof evaluation.

#### Relevant printing processes

- What are the different requirements for plates for litho printing and relief printing?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>Assembled film and plates to suit various press sizes</li> </ul>
Capture	<ul style="list-style-type: none"> <li>Plate exposing facility</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>Masking and / or multiple exposure techniques</li> </ul>
Output	<ul style="list-style-type: none"> <li>Plate(s) to suit relevant printing process</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>Limited supervision to defined procedures</li> </ul>

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The plate(s) meet job specifications and have been accurately proofed
- The underlying skills of plate production should be transferable across the pre-press sector. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Use the plate making facilities to produce TWO printing plates according to job specifications and the listed Performance Criteria

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools and equipment will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP267B****Unit Descriptor****Produce offset lithographic plates**

This unit describes the performance outcomes, skills and knowledge required to make lithographic plates from film input. For plates with electronic input see ICP452B Output complex images direct to plate or press.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to correctly prepare, expose and process a lithographic plate. The individual will post-treat the plate to satisfy job specifications.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                             |  |
|-----------------------------|--|
| 1. Select and prepare plate | <ul style="list-style-type: none"> <li>1.1 The job specifications are interpreted to determine the appropriate type and size of plate for the job</li> <li>1.2 The plate is selected to deliver the quality of output required by the job brief</li> <li>1.3 Plate is prepared to accommodate printing machine plate positioning requirements</li> </ul>   |
| 2. Expose the plate         | <ul style="list-style-type: none"> <li>2.1 The work area is tidied and cleaned to ensure quality of output</li> <li>2.2 Film is correctly positioned on the plate according to job specification</li> <li>2.3 The correct exposure unit is selected to deliver the required output</li> <li>2.4 Exposure control is correctly established utilising a quality control step wedge</li> <li>2.5 Exposure and vacuum frame are maintained according to manufacturer's specifications</li> </ul> |
| 3. Process the plate        | <ul style="list-style-type: none"> <li>3.1 The plate processing unit is maintained according to manufacturer's specifications</li> <li>3.2 The plate is processed according to plate manufacturer's specifications</li> </ul>  |
| 4. Post-treat the plate     | <ul style="list-style-type: none"> <li>4.1 The plate is checked for quality of outcome and analysed for conformance to job specifications</li> <li>4.2 Changes to the plate image are carried out correctly to ensure the standard of output required by the job brief</li> <li>4.3 The plate is chemically treated and / or baked according to job specifications</li> <li>4.4 The plate is prepared for storage prior to printing according to manufacturer's specifications</li> </ul>    |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by matching the job brief with production requirements
- Planning and organising activities by preparing plates and work area for work
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating exposures and positioning of film
- Problem-solving skills by recognising faults in plates and correcting
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Plate selection

- List the types of lithographic plates available.
- Define the criteria for selection of plates.
- What are the advantages and disadvantages of negative and positive plates?

#### Plate exposure techniques and control

- What is necessary for images to be centred and square?
- Why is it important to use colour bars and control strips?
- What light sources are used in plate exposing frames?

#### Plate processing

- What OHS concerns are there when processing printing plates?
- State the baths and solutions used in a plate processing machine.
- What is the impact of a change in processor time on the final plate?

#### Plate finishing and correction

- What is the purpose of gumming a plate?
- Why are post-exposure techniques applied?

#### Evaluation of plate quality

- What criteria are used to evaluate the accuracy of the plate?

#### Recognition of dot gain issues

- What is the difference between physical and optical dot gain?
- List the steps to overcome dot gain.

#### Plate punching and registration

- What care needs to be taken to ensure accurate punching and registration?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Types of plates	<ul style="list-style-type: none"> <li>• Range of plates used in offset lithography</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working to defined procedures in consultation with other relevant persons to ensure production requirements are met</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The plate is processed according to the plate manufacturer's specifications. Changes to the plate image are carried out correctly to deliver the standard of output required by the job brief
- The underlying skills of plate making should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the plate be suitable for the identified printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare, set up and use lithographic plate exposure and plate processing equipment to produce ONE lithographic plate manually and ONE using a machine according to the listed Performance Criteria

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools and equipment will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.



**ICPPP268B****Unit Descriptor****Make photopolymer plates (flexographic)**

This unit describes the performance outcomes, skills and knowledge required to make flexo plates from film inputs.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to correctly select, prepare, process and finish photopolymer plates. The plate is finished to meet job specifications.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                         |   |
|-------------------------|---|
| 1. Select the plate     | <ul style="list-style-type: none"> <li>1.1 Job specifications are interpreted to ensure appropriate plate selection</li> <li>1.2 The correct plate is selected according to the printing requirements and job specifications</li> </ul>   |
| 2. Pre-plan the process | <ul style="list-style-type: none"> <li>2.1 Film negatives are checked for conformance with job specifications</li> <li>2.2 Any extra exposure masking is planned by examining the film</li> <li>2.3 Appropriate exposure masks are cut</li> <li>2.4 The appropriate amount of plate material is calculated to ensure economical use</li> </ul>  |
| 3. Expose the plate     | <ul style="list-style-type: none"> <li>3.1 Exposure is determined by using step wedges and depth gauge to establish the correct front and back exposure time</li> <li>3.2 The plate is exposed according to job specifications</li> <li>3.3 The exposure unit and vacuum frame are maintained according to manufacturer's specifications</li> </ul>   |
| 4. Develop the plate    | <ul style="list-style-type: none"> <li>4.1 The chemistry balance is maintained according to manufacturer's specifications</li> <li>4.2 The washout unit is maintained according to manufacturer's specifications</li> <li>4.3 The plate is washed out to pre-determined depth that has been pre-set by front and back exposures</li> </ul>  |
| 5. Finish the plate     | <ul style="list-style-type: none"> <li>5.1 The plate is dried in a drying oven at a temperature and time according to manufacturer's specifications</li> <li>5.2 The back of the plate is cleaned</li> <li>5.3 The plate is post-exposed according to manufacturer's specifications</li> <li>5.4 The plate is light finished according to manufacturer's specifications</li> <li>5.5 OHS procedures are observed to ensure a safe working environment when making plates</li> </ul> |

6. Establish and maintain a chemical register
- 6.1 A chemical register is established to identify and describe the purpose of each chemical and to ensure finished plates meet set specifications
  - 6.2 All chemicals used in the workplace are identified and registered correctly according to safe working practices

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by matching the job brief with production requirements
- Planning and organising activities by pre-planning the process
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating exposures and positioning of film
- Problem-solving skills by recognising and correcting faults in plates
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Relevant printing processes**

- What effect does flexo ink have on your selection of plate material?
- What effect does the "shoulder" have on the printing process?

#### **OHS requirements for flexographic plates**

- How do you overcome "orange peel effect"?
- What are the effects of chemicals used in detaching?

#### **Registration**

- What methods can be used to counteract image elongation?

#### **Information sources**

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                    |   |
|--------------------|---|
| Types of plates    | • Flexographic plates: includes plates using water washout              |
| Quality standards  | • Should meet client requirements and enterprise and industry standards |
| Degree of autonomy | • Working under supervision   |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The plate has been correctly finished to meet the job brief and according to manufacturer's specifications
- The underlying skills of plate making should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the plate be suitable for the identified printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce TWO flexographic plates, with different characteristics, according to the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools and equipment will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP269B****Unit Descriptor****Employability Skills****Application of the Unit****Produce photopolymer plates for pad printing**

This unit describes the performance outcomes, skills and knowledge required to make plates (cliches) from film inputs for pad printing.

This unit contains employability skills.

This unit requires the individual to correctly select, prepare, process and finish photopolymer plates for pad printing. The plate is finished to meet job specifications.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Select the plate                           | <ul style="list-style-type: none"> <li>1.1 Job specifications are interpreted to ensure appropriate plate selection</li> <li>1.2 The correct plate is selected according to the printing requirements and job specifications</li> </ul>   |
| 2. Pre-plan the process                       | <ul style="list-style-type: none"> <li>2.1 Film positives are flattened to prevent air entrapment</li> <li>2.2 Exposure unit is energised for one cycle to warm up the UV elements where necessary</li> <li>2.3 The appropriate screen film positive is selected and checked according to the printing requirements</li> </ul>  |
| 3. Expose the plate                           | <ul style="list-style-type: none"> <li>3.1 Exposure is determined by using a quality control step wedge to establish the correct exposure time</li> <li>3.2 The plate is exposed to standard / established exposure time</li> <li>3.3 The plate is exposed with screen film positive according to job specifications</li> <li>3.4 The exposure unit and vacuum frame are maintained according to manufacturer's specifications</li> </ul> |
| 4. Develop the plate                          | <ul style="list-style-type: none"> <li>4.1 The chemistry balance is maintained according to manufacturer's specifications</li> <li>4.2 The washout tools are maintained according to manufacturer's specifications</li> <li>4.3 The plate is washed out for pre-determined time that has been established by manufacturer and in-house tests</li> </ul>   |
| 5. Finish the plate                           | <ul style="list-style-type: none"> <li>5.1 The plate is blown dry by compressed air</li> <li>5.2 The plate is dried in a drying oven at a temperature and time according to manufacturer's specifications</li> <li>5.3 The plate is post-exposed according to manufacturer's specifications</li> <li>5.4 OHS procedures are observed to ensure a safe working environment when making plates</li> </ul>                                   |
| 6. Establish and maintain a chemical register | <ul style="list-style-type: none"> <li>6.1 A chemical register is established to identify and describe the purpose of each chemical and to ensure finished plates meet set specifications</li> <li>6.2 All chemicals used in the work place are identified and registered correctly according to safe working practices</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by matching the job brief with production requirements
- Planning and organising activities by interpreting the job specifications when preparing for the job
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating exposures and positioning of film
- Problem-solving skills by recognising faults in plates and correcting
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes

- What effect does print life requirement have on your selection of plate material?
- What effect does the screen dot have on the printing process?

#### Chemicals

- What OHS requirements are there for photopolymer plate chemicals?
- How do you overcome undercutting of screens?

#### Exposure

- What methods can be used to counteract air entrapments between film and plate?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Types of plates

- May include plates using both water and chemical washout

Quality standards

- Should meet client requirements and enterprise and industry standards

Degree of autonomy

- Working under supervision

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- The plate has been correctly prepared to meet the job brief and according to manufacturer's specifications
- The underlying skills of plate making should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the plate be suitable for the identified printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce TWO photopolymer plates with different characteristics according to the listed Performance Criteria

### Context of and specific resources for assessment

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools and equipment will be used where appropriate

### Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP272B****Produce gravure cylinders manually****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to manually make gravure cylinders.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to manually make gravure cylinders and establish and maintain a chemical register.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Select the cylinder                        | <ul style="list-style-type: none"> <li>1.1 The job specifications are interpreted to determine the appropriate type of cylinder base and / or shell for the job</li> <li>1.2 The cylinder and / or shell is selected to deliver the quality of output required by the job brief</li> </ul>  |
| 2. Coat and expose the cylinder               | <ul style="list-style-type: none"> <li>2.1 The work area is tidied and cleaned to ensure quality of output and a safe work site</li> <li>2.2 The exposure and coating equipment is maintained according to manufacturer's specifications and safety requirements</li> <li>2.3 Exposure is controlled using step wedges and densitometry</li> <li>2.4 The cylinder is coated according to manufacturer's specifications</li> <li>2.5 The cylinder is exposed making sure image direction, autotrons and tracker lines are correctly positioned according to job specifications</li> <li>2.6 OHS requirements are observed when handling chemicals</li> </ul> |
| 3. Develop the cylinder                       | <ul style="list-style-type: none"> <li>3.1 The chemical balance is checked and maintained in the developing tank</li> <li>3.2 The cylinder is developed according to manufacturer's specifications, enterprise procedures and safety requirements</li> </ul>  |
| 4. Etch the cylinder                          | <ul style="list-style-type: none"> <li>4.1 The etching bath is maintained to the correct activity level according to manufacturer's specifications and enterprise procedures</li> <li>4.2 The cylinder is etched according to the job specifications (cell depth)</li> </ul>  |
| 5. Establish and maintain a chemical register | <ul style="list-style-type: none"> <li>5.1 A chemical register is established to identify and describe the purpose of each chemical and to ensure finished cylinders meet set specifications</li> <li>5.2 All chemicals used in the workplace are identified and registered correctly according to safe working practices</li> </ul>  |



## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by matching the job brief with production requirements
- Planning and organising activities by cleaning and preparing the work area
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating exposure and using a densitometer
- Problem-solving skills by recognising cylinder faults and correcting
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### OHS issues

- State the chemical names and symbols for three chemicals used in cylinder production.
- Describe the standard safety procedures used when handling gravure chemicals.

#### Selection of appropriate cylinder

- Describe two methods of manual gravure cylinder production.
- What is cylinder balancing and how is it achieved?
- State the preparation processes for both steel and aluminium cylinder bases.

#### Coating and exposure processes

- What is a Blue Print and how is it produced?
- State the Direct Transfer method of cylinder production.
- What determines the cell depth?

#### Chemistry of cylinder production

- What is the chemical of the etching solution?
- What is the thickness chrome coating on the etched surface?
- What factors govern the rate of etch?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>Line and tone images</li> </ul>
Capture	<ul style="list-style-type: none"> <li>Carbon tissue and direct transfer methods</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>Chemical processing - conventional and post</li> </ul>
Output	<ul style="list-style-type: none"> <li>A variety of cylinders and shells</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>Under limited supervision to defined procedures</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The cylinder is correctly and safely processed and etched to ensure a quality print
- The underlying skills of cylinder making should be transferable across the pre-press sector. It is important that the substrate for reproduction is identified and that the quality of the cylinder be suitable for the identified printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Manually produce TWO gravure cylinders and establish and maintain a chemical register according to the listed Performance Criteria

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools and equipment will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP281B****Unit Descriptor****Design basic carton**

This unit describes the performance outcomes, skills and knowledge required to design cartons using and adapting existing templates.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to design a basic carton using known templates that meet job specifications and then produce an accurate example.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Assess the requirements of the brief | 1.1 All relevant information in the brief is checked eg carton type, dimensions, material<br>1.2 All relevant requirements of the brief are assessed in line with enterprise specifications  |
| 2. Select and modify template           | 2.1 Appropriate template is selected on the CAD system<br>2.2 Height, width and depth and gluing flap dimensions are adjusted according to the client brief<br>2.3 Requirements for knife setting and stripping in production are checked and position is designed so as to have correct grain direction and to maximise use of material |
| 3. Use plotter to cut sample            | 3.1 Plotter is set up ready for downloading design<br>3.2 Cutting and creasing depths are set<br>3.3 Material is positioned correctly<br>3.4 Plotter is operated safely according to manufacturer's specifications and enterprise procedures<br>3.5 Routine machine maintenance is carried out as required                               |
| 4. Assemble sample                      | 4.1 Sample is cut by hand<br>4.2 Cut sample is folded and glued by hand ensuring that angles and construction are correct  |
| 5. Check and adjust design              | 5.1 Sample is checked to ensure conformance to the client brief<br>5.2 Design is adjusted if necessary to meet job specifications  |
| 6. Output design                        | 6.1 Design is saved ready for downloading to forme cutter<br>6.2 Design is outputted as keyline for artwork or as film as required<br>6.3 Relevant paperwork is completed according to enterprise procedures   |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by using information on carton types and templates in conjunction with the job brief
- Planning and organising activities by planning the sequence of operations to facilitate processing
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating sizes, allowances, calliper of materials
- Problem-solving skills by recognising and fixing sample problems
- Use of technology by using equipment correctly to facilitate processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### OHS

- What health and safety concerns are there when using computers and plotters?

#### CAD programs and techniques

- What CAD programs are available for carton design?
- How do you ensure that a cut out is correctly aligned and positioned in a design?

#### Carton types and uses

- What types of products are the following types of cartons used for? (sleeves, full flap, auto lock, crash lock, trays)
- How do you determine if a design is appropriate for its end use?
- What aspects of product sizing and tolerances should be rechecked?

#### Packing techniques

- What carton designs are suitable for machine packing?
- What carton designs are suitable for hand packing?

#### Knife making and manufacturing processes

- What constraints on design and positioning on the forme are caused by the requirements of knife making and production?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Design tools	<ul style="list-style-type: none"> <li>• Appropriate CAD programs, plotters</li> </ul>
Types of design	<ul style="list-style-type: none"> <li>• Full range of cartons including sleeves, tucks, full flap, auto lock, crash lock, trays for which there are existing templates on the CAD system</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working under limited supervision</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The sample carton accurately meets the job and client specifications
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce TWO different carton designs and samples using existing templates to meet job brief according to the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- Assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP283B****Unit Descriptor****Prepare artwork for screen printing**

This unit describes the performance outcomes, skills and knowledge required to apply fundamental principles when combining elements and colour and selecting appropriate type for manual and electronic design artwork.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to prepare artwork for screen printing.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Assess the requirements of the brief | <ul style="list-style-type: none"> <li>1.1 The printing requirements of the layout brief are determined for printing feasibility</li> <li>1.2 The brief is broken down into stages of production in order to determine a plan of procedure</li> <li>1.3 A plan of action is determined to meet the time requirements of each stage so that deadlines are identified and adhered to</li> <li>1.4 Correct design and typographic terms are used to facilitate communication</li> </ul>  |
| 2. Assemble layout materials            | <ul style="list-style-type: none"> <li>2.1 Client copy and images are assembled to conform to the client brief</li> <li>2.2 Library files are accessed for relevant data to conform to the brief</li> <li>2.3 Appropriate equipment and materials to complete the layout are assembled to enable the brief to be undertaken efficiently</li> </ul>  |
| 3. Construct a simple graphic design    | <ul style="list-style-type: none"> <li>3.1 Client requirements are checked to ensure the design concept matches the brief</li> <li>3.2 Preliminary graphic design ideas are sketched according to the brief</li> <li>3.3 A simple graphic design concept is rendered electronically or manually to conform to the brief</li> <li>3.4 The rendered graphic design is checked for conformance to the brief</li> </ul>   |
| 4. Produce finished artwork             | <ul style="list-style-type: none"> <li>4.1 A layout grid is ruled up according to the brief</li> <li>4.2 Type selection, style and size are selected for the theme and readability and are fitted into the grid space allocated to conform to the brief</li> <li>4.3 Originals and elements are selected, scaled and cropped appropriately to fit the grid space allocated</li> <li>4.4 The components of the layout are positioned accurately using keylines to conform to the grid framework</li> <li>4.5 Overlays / colour roughs are created to conform to the brief</li> </ul> |



- 5. Check for suitability
  - 5.1 The layout is checked to eliminate omissions and errors
  - 5.2 The layout design is checked for conformance to the brief
  - 5.3 Proofs are produced for hard copy checking
  - 5.4 The layout is rendered ready to present to the client
  
- 6. Tidy materials and store data
  - 6.1 Equipment and materials are returned to storage according to enterprise procedures
  - 6.2 Design data and materials are filed ready for future retrieval according to enterprise procedures
  - 6.3 The design area is cleaned to enterprise procedures ready for re-use

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by using correct terms to facilitate communication according to industry standards
- Collecting, analysing and organising information by producing and collecting elements according to the initial conceptual ideas
- Planning and organising activities by sequencing stages of the artwork to produce a design flow
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by working within the layout constraints to the specifications of the brief
- Problem-solving skills by initiating quality checks against the brief as an ongoing process
- Use of technology by using the relevant equipment to produce artwork for screen printing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Assess the requirements of the brief

- What considerations are given to the layout?
- Describe the first stage of the production brief.
- What function would take up the most time?
- What does a thumbnail describe?

#### Assemble layout materials

- What importance would you place on detail in the first stage of the brief?
- Describe the type of equipment that may be used for the construction of the layout.
- Name the guides used in the design area.

#### Construct a simple graphic design

- Describe various requirements that would be included in the brief.
- How many graphic design ideas are sketched or illustrated as preliminary ideas?
- What additional constraints can be included in the concept?

#### Produce finished artwork

- What is the purpose of ruling up a layout?
- What limitations are there with type selection on the chosen substrates?
- What considerations are given to elements to fit a given space?
- Describe the use of keylines when used as element identification?
- What is the importance of identifying all colour(s) on the rough?

#### Check for suitability

- What techniques are used to check for mistakes?
- After a proof is produced what checks are made to conform to the brief?

#### Tidy materials and store data

- In what condition should materials be stored?
- What system of storage is used for electronic data?
- What materials could be recycled?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Brief	<ul style="list-style-type: none"> <li>• Job specifications, work ticket</li> </ul>
Original	<ul style="list-style-type: none"> <li>• Line graphic or text</li> </ul>
Elements	<ul style="list-style-type: none"> <li>• Text, headings, rules, pictures, graphics, tints, vignettes components and shapes</li> </ul>
Substrates	<ul style="list-style-type: none"> <li>• Print medium that will hold an image</li> </ul>
Proofs	<ul style="list-style-type: none"> <li>• A printed sheet produced by electronic or manual means that represent the final product</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Applying design principles when combining elements and colour to prepare artwork, both manually and electronically, to the satisfaction of the client
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- access to appropriate equipment and materials

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP311B****Unit Descriptor****Employability Skills****Prerequisite Unit(s)****Application of the Unit****Develop a detailed design concept**

This unit describes the performance outcomes, skills and knowledge required to develop a complex graphic design.

This unit contains employability skills.

ICPPP211B Develop a basic design concept

The unit applies to operators taking some responsibility for a design brief.

This unit outlines the skills required to render a graphic design based on the design brief and to produce a finished complex artwork.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                     |  |
|-------------------------------------|--|
| 1. Determine brief specifications   | 1.1 Communicate with the client to confirm the requirements of the brief as required<br>1.2 Job details are accurately documented according to enterprise policies and procedures  |
| 2. Render a graphic design          | 2.1 The client's requirements are translated into a design concept that accords with the brief<br>2.2 Different graphic design ideas / concepts are detailed and the potential of each is assessed according to the brief<br>2.3 A unique graphic design concept is rendered electronically or manually to conform to the brief<br>2.4 The rendered graphic design is assessed for printing feasibility according to the requirements of the brief<br>2.5 A visual is produced showing position and fit of design elements to document the design layout |
| 3. Produce a dummy                  | 3.1 A range of visual interpretations of the brief are made to present options to the client<br>3.2 Text and images are graphically presented to conform to the grid layout<br>3.3 Basic imposition is calculated to suit printing and binding processes<br>3.4 A dummy is produced for marking-up copy and to obtain client feedback about the suitability of design  |
| 4. Produce complex finished artwork | 4.1 A design concept is structured step by step to conform to the brief and to fit a grid format<br>4.2 Appropriate type styles are selected to conform to the client brief and the printing substrate<br>4.3 Line reproduction quality is assessed to effect the standard of print reproduction required by the client brief<br>4.4 Images are selected to conform to the client brief and the end use<br>4.5 Colours are selected and combined effectively using overlays to conform to the client brief and the end use                               |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by determining exactly what the client wants from brief and subsequent discussion
- Collecting, analysing and organising information by producing and collecting elements according to the initial conceptual ideas
- Planning and organising activities by coordinating job sequence so that materials arrive, are processed and can be checked efficiently
- Teamwork when ensuring that designers, printers and clients all know what they need to do and when
- Mathematical ideas and techniques by calculating costs and enlargement / reduction factors
- Problem-solving skills by coping with discrepancies between the brief and what is possible
- Use of technology by using appropriate software to create the design and ensuring files are saved in the required format

### Required knowledge:

following knowledge must be assessed as part of this unit:

#### Technical requirements for preparing art for printing or electronic output

- What are the parameters of the job for which this artwork is being prepared?
- What instruments, materials and computer equipment will be used in producing this artwork?
- How is colour used for effect and harmony?
- What is the colour composition of white light?
- Describe colour wheel elements and the use of the Pantone Matching System.
- What effect does the selection of a print or electronic output system have on the preparation of artwork?

#### Basic design principles and use of instruments, materials and CAD programs

- Describe the method for making or revising a layout.
- What basic design principles are used in the preparation of layouts?
- How do you vary format, size, style and preparation of artwork when using computer equipment for layouts / colour roughs?
- What is a CAD program and how could such a program aid the work of a designer?

#### Use of camera, scanner and computer equipment

- What OHS concerns are there when using cameras or computers?
- Describe the production of bromides using a process camera and contact frame.
- Describe the diffusion transfer process for producing bromides.
- What is your understanding of the operation of mono laser printers and resolution output?
- How do you calculate proportional enlargement and reduction?
- Describe the process of drawing line, borders and corners using drawing instruments or a computer or digitiser.

## Evaluating artwork and its suitability for printing

- How do you recognise and rectify faults on artwork supplied by the client?
- How do you determine the effect of colour breakdown and sequence on printing operations and printed jobs?
- What method do you use for checking size and scale of reproduction?
- How do you assess whether artwork matches customer's specifications as outlined on the job sheet?
- What methods do you use for assessing the quality and suitability of externally produced artwork?
- What problems can be caused by using sub-standard and unsuitable artwork?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Complexity of process	• Artwork is complex and may involve numerous elements
Job details	• Include the number of colours, the media of the final product, the purpose of the design, materials
Images	• Photographs, illustrations, format graphics, text
Degree of autonomy	• Initiative, judgement and working in consultation with others
Enterprise policies and procedures	• Tasks must be performed according to enterprise procedures
Quality standards	• Should meet client requirements and enterprise and industry standards

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Client requirements are accurately reflected in the design concept. The final design combines type, lines, tones, colours and images in a manner that meets the design brief and reproduction requirements
- The underlying skill of designing a detailed layout to conform to brief specifications should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare TWO sets of design, colour roughs and finished artwork which incorporate line and tone work according to specifications of the client brief, enterprise standards and listed performance criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages will be used where appropriate

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.



**ICPPP321B****Unit Descriptor****Employability Skills****Prerequisite Unit(s)****Application of the Unit****Produce a typographic image**

This unit describes the performance outcomes, skills and knowledge required to typeset text in various sizes and shapes and images.

This unit contains employability skills.

ICPPP221B Select and apply type

This unit requires an individual to develop typographic images which are positioned correctly and proofed for errors. The typographic image would be produced under limited supervision.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Select and evaluate typography          | <ul style="list-style-type: none"> <li>1.1 Typeface, type-size, letter and word, and line spacing are selected according to the design setting requirements</li> <li>1.2 Typeface and type-size are evaluated for their suitability to retain the required characteristics through the set of reproduction stages according to the design brief and printing process</li> </ul>   |
| 2. Position images                         | <ul style="list-style-type: none"> <li>2.1 Images are positioned accurately according to the design specifications</li> <li>2.2 The overall balance and emphasis of composition conform to the brief</li> </ul>   |
| 3. Produce and proof type                  | <ul style="list-style-type: none"> <li>3.1 Type is produced either on the keyboard from copy using the appropriate layout and design and typesetting technology or by transferring information from the electronic medium into the typesetting program</li> <li>3.2 Typographic quality is checked and adjusted to meet job specifications</li> <li>3.3 Proof reading is carried out to ensure the typesetting meets job specifications</li> <li>3.4 Proofs are marked up with correct proof reading marks and corrected</li> </ul> |
| 4. Assess text for punctuation and grammar | <ul style="list-style-type: none"> <li>4.1 Text is read and errors in grammar, punctuation and word-breaks are identified</li> <li>4.2 Errors and omissions are corrected in consultation with the client</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the brief to ensure that product matches implicit and explicit requirements
- Collecting, analysing and organising information by matching information on font sizes and layouts with requirements of the brief
- Planning and organising activities by evaluating type suitability for the reproduction stages
- Teamwork when correcting errors in consultation with the client
- Mathematical ideas and techniques by calculating fit, sizes and enlargement factors and costs
- Problem-solving skills by adjusting fit and fonts to ensure a best possible result for client within restraints of production
- Use of technology by using appropriate software correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes and electronic media

- How has the choice of typeface selected for this job been influenced by the printing process or electronic medium?

#### Design theory

- Does the type face design selected suit the topic of the job?
- What is the appropriate number of characters generally accepted in a line of text type?

#### Point sizes

- What is the relationship between point size and column width?
- Viewing distance of the final product has an effect on point size selection. Explain

#### Kerning

- When should kerning be used or not used and why?

#### Typography

- What considerations must be made when selecting a type face to be used on a particular product?

#### Proof reading marks

- List ten proof reading marks and give the meaning of each.

#### Grammar and punctuation

- Three different words sound like the word "there". What are the three different ways of writing "there" and when should each be used?
- What are the uses of the apostrophe and how are apostrophes often misused?

## Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"><li>• Producing and proofing type may involve hard copy or captured key strokes</li></ul>
Clients	<ul style="list-style-type: none"><li>• Internal or external clients</li></ul>
Application	<ul style="list-style-type: none"><li>• Design can be specific to publishing, consultancy, advertising or packaging in either hard copy or electronic media</li></ul>
Complexity	<ul style="list-style-type: none"><li>• Routine typesetting with text in various sizes and shapes and images</li></ul>
Quality standards	<ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul>
Degree of autonomy	<ul style="list-style-type: none"><li>• Working under limited supervision</li></ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Typeface, size, letter, word and spacing all meet design specifications and substrate, reproduction and end use requirements. Overall composition meets the design brief
- The underlying skill of applying typographic principles to setting and proofing copy and design should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Use manual or electronic equipment and suitable software to select, set, arrange, evaluate and modify type in TWO different design briefs according to the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages for producing typographic images will be used where appropriate

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP322B****Unit Descriptor****Employability Skills****Application of the Unit****Digitise images for reproduction**

This unit describes the performance outcomes, skills and knowledge required to scan images.

This unit contains employability skills.

This unit requires the individual to prepare copy, calibrate the scanner and produce scanned images that meet the technical specifications of the job.

The individual will work under limited supervision with defined procedures.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                        |  |
|------------------------|--|
| 1. Mount original copy | <ul style="list-style-type: none"> <li>1.1 The original image is scaled and identified according to job specifications</li> <li>1.2 Work surfaces are cleaned and prepared to ensure the images are dust free</li> <li>1.3 The original is mounted according to enterprise procedures</li> <li>1.4 OHS issues are identified and correct practices are used if any solvents are applied</li> </ul>   |
| 2. Set up scanner      | <ul style="list-style-type: none"> <li>2.1 The scanner is set up and calibrated according to specifications</li> <li>2.2 Data from copy evaluation and aim points to suit the original are entered correctly onto the scanner according to specifications</li> <li>2.3 The scanner application or plug-in is selected</li> </ul>   |
| 3. Produce images      | <ul style="list-style-type: none"> <li>3.1 The medium being scanned to is selected according to job specifications</li> <li>3.2 The disk capacity is checked where appropriate to ensure sufficiency for the job</li> <li>3.3 The processor is set and checked where according to job specifications</li> <li>3.4 Images are outputted as required according to job specifications</li> <li>3.5 The output images are checked for conformance to the technical specifications of the job and scan adjustments made if necessary</li> </ul> |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- Collecting, analysing and organising information by matching requirements for reproduction (colour profiles and resolution) with the job brief
- Planning and organising activities by ensuring all materials are delivered
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating resolution and enlargement / reduction factors
- Problem-solving skills by matching needs of the client with constraints of production
- Use of technology by using software and hardware correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes and electronic media

- How would you change the scanner settings for TWO different printing processes or electronic media?
- Why does the scanner need to be calibrated?

#### Colour theory

- Explain primary colours and colour mixing principles.
- State the variables that influence the colour separation requirements.

#### Print process requirements

- What is the importance of tone gradation and grey balance?
- Why is it necessary to apply colour correction?

#### Output requirements

- What factors influence the selection of screen ruling and dot percent?
- What impact does output resolution have on final screen ruling?

#### Evaluation of films and proof

- When evaluating a final film, what are the essential elements to consider?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>• Transparency (positive and negative) reflection and re-screens for mono, RGB, CMYK</li> <li>• Pre-planning and mounting</li> </ul>
Capture	<ul style="list-style-type: none"> <li>• Flat-bed drum scanner or digital camera with medium to high-end full colour capabilities</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>• Software and / or hardware functions</li> </ul>
Output	<ul style="list-style-type: none"> <li>• Film, disk, proof</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Limited supervision to defined procedures</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Scanned images meet specified quality and technical standards for reproduction and final end use
- The underlying skill of scanning images should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the scanned image be suitable for the identified printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Use a medium to high-end full colour digital device to reproduce ONE mono, ONE colour transparency (positive), ONE negative and ONE rescreen according to the listed Performance Criteria

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.



**ICPPP323B****Unit Descriptor****Photograph and produce halftone images**

This unit describes the performance outcomes, skills and knowledge required to undertake advanced graphic arts camera work.

The skill is used in the industry but is becoming obsolete and should probably not be part of entry level training.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to prepare the copy and equipment to photograph halftone images. The halftone image is evaluated to ensure it meets design and production quality standards.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Evaluate copy                         | <ul style="list-style-type: none"> <li>1.1 Copy is scaled and gradation aim points are selected to produce the required output</li> <li>1.2 Screen rulings, angles, tone gradation, dot percentages, and dot shapes are selected according to job specifications</li> <li>1.3 Rescreens and mono conversions from colour originals are evaluated for reproduction requirements</li> </ul>                            |
| 2. Prepare for exposure                  | <ul style="list-style-type: none"> <li>2.1 The camera is cleaned and prepared and lights are set to deliver an even distribution of light</li> <li>2.2 Exposure program is set according to stock and print conditions</li> <li>2.3 Densities are measured on the copy according to evaluation</li> <li>2.4 Exposure programs for special effects and duotones are calculated to deliver job requirements</li> </ul> |
| 3. Process and evaluate image            | <ul style="list-style-type: none"> <li>3.1 The processor is checked and maintained within tolerances</li> <li>3.2 Film is processed according to job specifications</li> <li>3.3 The image is checked for size, gradation, cleanliness and dot percentages according to job specifications</li> </ul>  |
| 4. Solve technical photographic problems | <ul style="list-style-type: none"> <li>4.1 Technical problems relevant to tone and reproduction of photographic images are resolved by reassessing the elements for photography, camera operations or amendment of the brief in consultation with the client</li> <li>4.2 Images are photographed with the potential to be reproduced in conformance to specifications of the brief</li> </ul>                       |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- Collecting, analysing and organising information by matching production requirements and constraints with requirements of the job brief
- Planning and organising activities by ensuring all necessary materials are delivered in correct format
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating enlargement / reduction factors, exposures and grey scales
- Problem-solving skills by adjusting exposure and grey scales so that output matches requirements of the job brief
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

### Relevant printing processes

- How do halftone images need to be varied to suit different printing processes?

### Evaluation of copy and image requirements

- What are the main characteristics of a halftone image?
- What factors would influence selection of highlight and shadow points (first and last printing tones)?
- What is the problem associated with the reproduction of screened copy? How is this overcome?

### Determining basic screen and processing data

- Describe the method of calibrating the densitometer and copy measurement.
- What factors influence basic exposure data?
- How would you prepare a basic exposure program?

### Exposure of the halftone image

- How do you apply exposure data to selected copy?
- What factors could cause a change of exposure?
- How is a grey scale used to assist in exposure control?

### Evaluation of the results

- What are the criteria for evaluation of the halftone image?
- Describe the effect a change to processing conditions may have on the final result.
- Detail the image requirements for the various printing processes.
- What are the criteria for evaluation of a duotone?

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## **RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Aim points	<ul style="list-style-type: none"><li>• Highlights, shadows and midtones</li></ul>
Camera process type	<ul style="list-style-type: none"><li>• Vertical or horizontal</li></ul>
Input	<ul style="list-style-type: none"><li>• A variety of continuous tone originals</li></ul>
Capture	<ul style="list-style-type: none"><li>• A variety of graphic arts cameras</li></ul>
Manipulation / edit	<ul style="list-style-type: none"><li>• Masking to crop or deep etch, drop highlights out</li></ul>
Output	<ul style="list-style-type: none"><li>• Diffusion transfer, rapid access</li></ul>
Quality standard	<ul style="list-style-type: none"><li>• Must meet client and industry requirements</li></ul>
Degree of autonomy	<ul style="list-style-type: none"><li>• Limited supervision to defined procedures</li></ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Special effects and duotones meet job specifications. The image size, gradation, cleanliness and dot percentages meet technical specifications. Photographed images are suitable for final media reproductions
- The underlying skill of photographing images should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the photographed image be suitable for the identified printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Use a graphic arts camera to photograph and process at least THREE continuous tone originals with different contrast characteristics according to the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- camera and other equipment required to produce a halftone image

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP324B****Unit Descriptor****Create pages using a page layout application**

This unit describes the performance outcomes, skills and knowledge required to compose pages based on a client design brief using a high-end application.

**Employability Skills**

This unit contains employability skills.

**Prerequisite Unit(s)**

ICPPP224B Produce pages using a page layout application

**Application of the Unit**

For this unit the knowledge and skills cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specific problems. This will be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                |   |
|--------------------------------|---|
| 1. Confirm client design brief | <ul style="list-style-type: none"> <li>1.1 Details of the client design brief are reviewed and clarified with client or supervisor</li> <li>1.2 The type of document is determined and production requirements are assessed</li> <li>1.3 Client copy and images are assembled to conform to the design brief</li> <li>1.4 Library files are accessed for relevant data to conform to the design brief</li> </ul>  |
| 2. Set up document             | <ul style="list-style-type: none"> <li>2.1 A master page for multiple pages and with multiple columns is set up</li> <li>2.2 Required text is prepared and formatted and appropriate fonts and size are selected</li> <li>2.3 Master pages, templates and style sheets, as appropriate, are used consistently to ensure data is the same after exchange or transfer</li> <li>2.4 Text boxes and columns are correctly linked for text flow and chapter heading hierarchies are selected</li> <li>2.5 Colour palettes are set up according to the design brief</li> <li>2.6 Document set up is completed to conform to requirements of the final media and design brief</li> </ul> |
| 3. Arrange elements on page    | <ul style="list-style-type: none"> <li>3.1 Imported text or data from other applications is correctly formatted and any cross-application formatting issues are resolved</li> <li>3.2 Elements are created and arranged on page to conform to the design brief</li> <li>3.3 Graphics and other elements are imported from other applications and correctly formatted and arranged</li> <li>3.4 Elements are arranged in layers according to the design brief</li> </ul>   |

- 4. Finalise artwork
  - 4.1 Pages and combined elements are composed correctly to suit specified sheet size
  - 4.2 Numerical sequence and laydown of the product or mock-up is correctly identified to meet binding and finishing requirements
  - 4.3 A bleed allowance is incorporated in margins and borders
  
- 5. Check quality
  - 5.1 Text is reviewed for possible errors and omissions and errors are discussed with the client or supervisor
  - 5.2 Overall balance of the layout and correct colour blends and gradients are maintained in the arrangement of the elements
  - 5.3 Completed file is sent to be ripped
  - 5.4 A proof is created and rechecked for errors, omissions and the overall balance of the layout
  - 5.5 Necessary changes are made, reviewed on screen and reproofed as required
  - 5.6 The job is saved according to enterprise procedures
  - 5.7 A digital proof or PDF is created to present to client

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by clarifying information with the client or supervisor
- Collecting, analysing and organising information by selecting library files for relevant data to conform to the design brief
- Planning and organising activities by developing the numerical sequence and laydown of the product
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by identifying the numerical sequence and laydown of the product
- Problem-solving skills by imposing pages and combined elements to correctly suit specified sheet size
- Use of technology by using hardware and software applications

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Trapping approaches

- Why is trapping an important consideration during the design phase?
- Why do colour qualities and behaviour for trapping need to be taken into account?

#### TIFF / EPS

- What are the different qualities of TIFF and EPS and when would you use them?

#### Colour theory and colour models

- If a colour set doesn't have the colours marked how can we distinguish the colours?
- What are the principles of additive and subtractive colour mixing?

#### Relevant print processes and electronic media

- Why is it important to give consideration to the printing process during the design phase?
- What kinds of problems can occur if the printing process isn't considered during the design stage?

#### Imposition

- Why does the media size need to be considered during imposition?
- Why do you need to plan for multiple colours and graphics during imposition?

#### Typography

- Is computer type the same as print type, why?
- What is the importance of type to the overall design?
- What factors do you need to consider to ensure overall readability?

#### Design principles

- Why is design and layout important in arranging artwork?
- How can typography be used in design?
- Why does design need to be purposeful?

### Market segmentation

- Why is it important to understand the target audience?
- What factors do you need to consider when targeting equity groups?

### Templates

- How are templates created and saved?

### Style guides and sheets

- How are style guides and sheets created?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

High-end page layout applications

- Adobe InDesign, Adobe PageMaker, QuarkXPress, Corel Ventura, Adobe FrameMaker. New software applications and new versions of existing products enter the market regularly and therefore this example group will change

Library files

- Bullets, borders, buttons, images, clip art

Elements

- Graphics, frames, menus or dialogue boxes, indexes

Document set up

- Margins, page size, page orientation, multiple pages, multiple columns, arrangement of pages

Final media

- Printed material, Internet, CD Rom

Imposed

- Plug-ins, stand alone applications or automated features of high-end page layout programs exist to impose pages

Enterprise procedures

- Enterprise procedures for saving a document can include the preferred format, naming preferences and the location the file is saved to



## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Composing a page incorporating elements and features that meets the client's design brief and is print ready
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare THREE different sets of page layouts according to the listed Performance Criteria
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- page layout applications such as InDesign PageMaker, QuarkXPress, will be required for assessment of this unit of competency. New software applications and new versions of existing products enter the market regularly and therefore this example group will change

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP325B****Unit Descriptor****Create graphics using a graphics application**

This unit describes the performance outcomes, skills and knowledge required to develop graphics incorporating a range of features for cross-media publishing based on a client brief using a high-end application.

**Employability Skills**

This unit contains employability skills.

**Prerequisite Unit(s)**

ICPPP225B Produce graphics using a graphics application

**Application of the Unit**

For this unit the knowledge and skills cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specific problems. This will be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Balance image quality and file size | <ul style="list-style-type: none"> <li>1.1 Graphics files are opened and design brief requirements are confirmed</li> <li>1.2 Graphics are repeated efficiently using a symbol or stamp to reduce file size</li> <li>1.3 Slices are created from objects, layers or groups and updated as required</li> <li>1.4 Type anti-aliasing is applied selectively to keep small text easy to read</li> <li>1.5 Tasks are automated wherever possible and where necessary scripts are used for automation</li> </ul> |
| 2. Manipulate objects                  | <ul style="list-style-type: none"> <li>2.1 Objects and text are manipulated and edited as required</li> <li>2.2 Elements are defined for repetition, repetition tools are used to create duplicates and then are manipulated as a group</li> <li>2.3 Complex shapes are created by combining shapes into compounds and if required compounds are edited</li> </ul>  |
| 3. Import images                       | <ul style="list-style-type: none"> <li>3.1 Bitmap images are embedded and / or linked in the file</li> <li>3.2 Placed Bitmaps are modified and / or duplicated depending on design requirements</li> <li>3.3 Bitmaps are masked and / or an opacity mask is added</li> <li>3.4 Layered file is exported to image editing program for editing</li> </ul>   |
| 4. Develop variable templates          | <ul style="list-style-type: none"> <li>4.1 Based on the design brief, objects are defined within the template as variables</li> <li>4.2 An automated script or an image server is used to ensure variations, using data stored in any ODBC-compliant source</li> <li>4.3 The template variables are tested to ensure correct operation</li> </ul>   |

- 5. Colour separate artwork
  - 5.1 The correct format for the colour separation is determined by the requirements of the pre-press workflow system
  - 5.2 Command preferences are set to correct preferences for print quality and process
  - 5.3 Based on printer feedback the colour separation options are set according to print requirements of the design brief
  - 5.4 Process and spot colours are combined if required
  - 5.5 A screen frequency value appropriate for the print quality is selected and colour separation preferences are saved
  - 5.6 Spreads and chokes traps are created to avoid mis-registration
  - 5.7 The overlapping and overprint of objects are defined
  - 5.8 A proof is created and the separations checked, any required editing is completed and the file is saved
  
- 6. Prepare for final media
  - 6.1 Metadata tags are embedded to catalogue, organise and retrieve artwork
  - 6.2 For cross-media publishing purposes web-safe colours are selected
  - 6.3 File formats are chosen to best represent artwork styles
  - 6.4 Objects are linked to create an image map that meets design requirements
  - 6.5 Objects are layered to create animation frames and exported for animation set up
  - 6.6 Compression options are selected that keep the image quality high and the file size low
  - 6.7 Export options are set to the best settings for the final media and the file is saved and exported

**REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

**Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by embedding metadata tags
- Collecting, analysing and organising information by linking objects to create an image map that meets design requirements
- Planning and organising activities by automating tasks wherever possible and using scripts for automation
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by selecting a screen frequency value appropriate for the print quality
- Problem-solving skills by creating complex shapes and editing them
- Use of technology by creating graphics using a graphics application

**Required knowledge:**

The following knowledge must be assessed as part of this unit:

- Image formats (SWF, SVG, GIF, JPEG, PNG)
- JavaScript, AppleScript or Microsoft Visual Basic
- Text and formatting
- Drawing shapes
- Manipulating images
- Design principles
- Profiles
- Colour management

**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

High-end application	• Adobe Illustrator, CorelDRAW, Freehand
Tasks	• Batch processing and creating variations of similar designs
Manipulated	• Bend, stretch, twist, warping, liquefy
Command preferences	• RGB, CMYK, colour management, proof options, Document Information subjects

Colour separation options	<ul style="list-style-type: none"> <li>• Process colour, spot colour, halftone, resolution, bleed, printer marks</li> </ul>
Colours	<ul style="list-style-type: none"> <li>• CMYK colours, Spot colours, Registration colours, PMS</li> </ul>
Edited	<ul style="list-style-type: none"> <li>• Transparency, gradients, strokes, custom colours using CMYK sliders</li> </ul>
Objects	<ul style="list-style-type: none"> <li>• Predefined shapes, drawn objects, curved segments, lines</li> </ul>
Formatting	<ul style="list-style-type: none"> <li>• Font, leading, paragraph alignment, character size, columns of type, text flow</li> </ul>
Appearance attributes	<ul style="list-style-type: none"> <li>• Fills, strokes, effects, blending modes, transparency</li> </ul>
Properties	<ul style="list-style-type: none"> <li>• Are appearance attributes such as above</li> </ul>
Effects	<ul style="list-style-type: none"> <li>• Glows, textures, opacity, blur</li> </ul>
Elements	<ul style="list-style-type: none"> <li>• Layers, fine lines, blending, feathering</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Developing graphics incorporating a range of features for cross-media publishing based on a client brief using a high-end application
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- relevant hardware and software

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP328B****Generate high-end PDF files****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to generate a high-end PDF file that is ready to be sent to an imaging centre.

**Employability Skills**

This unit contains employability skills.

**Prerequisite Unit(s)**

(ICPPP226B Produce interactive PDF files  
OR ICPPPP227B Produce online PDF files)

**Application of the Unit**

This unit requires the individual to generate a high-end PDF file that is ready to be sent to an imaging centre.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                |   |
|--------------------------------|---|
| 1. Check file                  | <ul style="list-style-type: none"> <li>1.1 Document is checked to ensure correct layout file and that there are no non-printable elements</li> <li>1.2 All scanned images have correct resolution and electronic font modification is avoided</li> <li>1.3 Images requiring cropping and compression are edited in an image editing environment to maintain quality of image</li> <li>1.4 Tint areas are checked to ensure correct percentage for printing</li> <li>1.5 Unnecessary elements and blank pages are deleted if not required</li> <li>1.6 A bleed allowance is incorporated in margins and borders</li> </ul>   |
| 2. Prepare the PostScript file | <ul style="list-style-type: none"> <li>2.1 Correct paper size is set and PostScript Type 1 fonts are chosen and embedded to meet quality print requirements</li> <li>2.2 A printer description file or PostScript language file is created and all relevant options are selected</li> <li>2.3 All job options, compression, colour management, colour separation and font options are selected and checked according to requirements of the data recipient</li> <li>2.4 Process colour separations or spot colour jobs are checked and any problems resolved</li> <li>2.5 If required, a job ticket is set up according to enterprise procedures</li> <li>2.6 Advanced job options are selected depending on compatibility and system requirements</li> <li>2.7 Job options set is named and saved to the correct folder</li> </ul> |
| 3. Create watched folder       | <ul style="list-style-type: none"> <li>3.1 A folder is created and saved in preferred location</li> <li>3.2 The correct job option is chosen in Distiller</li> <li>3.3 The watched folder requirements are customised and are assigned to the saved folder</li> <li>3.4 PostScript file is saved in a watched folder, if required</li> <li>3.5 Distiller is set to downsample image resolutions</li> </ul>  |

4. Create a PDF file
  - 4.1 Saved PostScript file is opened and the job option file is opened through the Distiller
  - 4.2 Distiller options are checked and are set so that it does not override the Postscript file preferences
  - 4.3 PostScript file is distilled and when processing is finished document can be opened to view
  - 4.4 The file is printed to a PostScript device and quality of all elements are checked
  - 4.5 If necessary, changes to the file are made in the layout program and pages inserted into multiple page documents
  - 4.6 Additional files are dropped into the watched folder

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by preparing a PDF file that is ready to be sent to an imaging centre
- Collecting, analysing and organising information by checking the document to ensure correct file layout
- Planning and organising activities by checking the document before preparing the PostScript file
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by incorporating a bleed allowance into margins and borders
- Problem-solving skills by resolving any problems with process colour separations
- Use of technology by generating high-end PDF files

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **PDF printer driver options**

- What are driver types?
- List THREE driver types and their preferred application.
- Why is PDF writer not suitable for high-end printing?

#### **True Base 13 fonts**

- What are the True Base 13 fonts?



## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Non-printable elements	<ul style="list-style-type: none"><li>• Hairlines, elements outside margins</li></ul>
Electronic font modification	<ul style="list-style-type: none"><li>• Bold, italic, shadowed, contoured</li><li>• Select fonts like Times-Bold, Times-Italic</li></ul>
Image editing environment	<ul style="list-style-type: none"><li>• Adobe Photoshop, Adobe PhotoDeluxe, Corel Photo-Paint, procreate Painter, MGI PhotoSuite, Adobe Illustrator, CorelDRAW, Macromedia Freehand, Creature House Expression</li></ul>
Advanced job options	<ul style="list-style-type: none"><li>• Converting gradients, ASCII format, PostScript to override job options and Document Structuring Conventions options</li></ul>
Preferred location	<ul style="list-style-type: none"><li>• A server, Distiller computer, Distiller Server, the location will be dependent on organisational network configuration</li></ul>
Downsample	<ul style="list-style-type: none"><li>• There are three different methods of downsampling: subsampling, average downsampling, bicubic downsampling</li></ul>
Layout program	<ul style="list-style-type: none"><li>• May include Adobe InDesign, Adobe PageMaker, QuarkXPress, Corel Ventura, Adobe FrameMaker. New software applications and new versions of existing products enter the market regularly and therefore this example group will change</li></ul>
Data recipient	<ul style="list-style-type: none"><li>• Pre-press house, pre-press technician, printing house</li></ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Preparing a high-end PDF file for pre-press
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- PDF software

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP331B****Manually combine complex four-colour images****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to undertake advanced manual combining of colour images.

The skill is used in the printing industry but is becoming obsolete.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to prepare images and equipment and to combine elements, separate colours and prepare registration and complex artwork for the next production stage.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Plan the combining strategy and prepare the work | <ul style="list-style-type: none"> <li>1.1 Job components are gathered and checked according to job specifications</li> <li>1.2 Dot shapes and percentages are checked according to job specifications</li> <li>1.3 The correct masking technique is used to combine the job economically</li> <li>1.4 Screen rulings and angles are checked according to job specifications</li> <li>1.5 Spotting techniques are performed accurately to achieve the required combining effect</li> <li>1.6 Exposures and processing equipment are set up to manufacturer's specifications</li> <li>1.7 Stipples and vignettes are laid at the correct angles and using the correct percentages</li> </ul> |
| 2. Combine film                                     | <ul style="list-style-type: none"> <li>2.1 Spreads, chokes, reverses, deep etchings and line and tone combinations are created according to job specifications</li> <li>2.2 Colours are separated correctly according to job specifications</li> </ul>  |
| 3. Ensure accurate registration                     | <ul style="list-style-type: none"> <li>3.1 Register marks, register punch holes, centre lines and trim lines are calculated and aligned accurately according to job specifications</li> <li>3.2 All elements are registered accurately according to design specifications</li> </ul>  |
| 4. Apply photographic contacting                    | <ul style="list-style-type: none"> <li>4.1 The basic exposures for contact, duplication and spreads and chokes are determined</li> <li>4.2 The contact frames for contact, duplication and spreads and chokes are used correctly</li> </ul>   |

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting implicit and explicit requirements of the brief or layout
- Collecting, analysing and organising information by matching production requirements and constraints with requirements of the brief
- Planning and organising activities by determining sequence of processes and organising necessary materials
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating enlargement / reduction factors, register and position
- Problem-solving skills by resolving issues of register, fit and overlap
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Relevant printing processes**

- How has the choice of printing process affected combining strategy and settings?

#### **Planning a work strategy for the combining of the images**

- List the steps required to produce the combined image.
- What are the image elements unique to this job specification?
- State what criteria you should apply to colour separated images to ensure they meet job specification / printing process.

#### **Mask preparation for image combination**

- Describe the masking technique to ensure accuracy and economy.
- What equipment considerations are essential to ensure accuracy?
- Describe the method of producing spreads and chokes (trapping).

#### **Establishing basic exposure data**

- How could you determine basic exposure data for contacting and duplicating emulsions?
- What aids can be used to ensure quality control?

#### **Establishing basic processing data**

- What factors ensure quality of output through a processor?

#### **Assembling the images**

- What procedures could be used to ensure accuracy of registration?
- What factors should be observed to ensure screen elements are assembled correctly?
- How do you ensure tints are of the correct percentage?

#### **Evaluation of the combined image**

- How do you ensure all job specifications have been met?

### Proofing systems

- What care must be taken when matching to PMS colours?

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>• A variety of screened colour separations and tints and detailed job specifications</li> </ul>
Capture	<ul style="list-style-type: none"> <li>• Variety of image registration and contact exposure equipment suitable for darkroom or roomlight handling</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>• Hand and photographic techniques</li> </ul>
Output	<ul style="list-style-type: none"> <li>• Assembled to final film and colour proofing</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Limited supervision and work to a detailed brief</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Spreads, chokes, reverses, deep etchings and line and tone combinations meet the job specifications. Colours are separated correctly and all elements registered accurately. Contact, duplication and spreads and chokes have correct exposure
- The underlying skill of combining should be transferable across safelight and roomlight environments. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare and assemble at least TWO layouts with a variety of selected image elements following the job brief and the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools and equipment will be used where appropriate

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP333B****Unit Descriptor****Employability Skills****Application of the Unit****Electronically combine complex images**

This unit describes the performance outcomes, skills and knowledge required to undertake complex electronic combining of images.

This unit contains employability skills.

In a pre-press environment many individuals are required to be competent on more than one graphics application.

If this unit is to be used to assess competency with graphics applications, it should be used as a secondary unit to ICP325B Create graphics using a graphics application. It should be used when an additional graphics application is being assessed or taught.

It is not be used to assess an individual on the same software application as ICP325B Create graphics using a graphics application. In other words the individual should not receive the two units of competency for the one graphics application.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Assess and combine complex images      | 1.1 The components of complex images for reproduction are electronically evaluated for combining<br>1.2 Operations are planned for combining digital information from any electronic source to effect job specifications<br>1.3 Combined images are manipulated, retouched and corrected electronically to conform to job specifications |
| 2. Edit complex image                     | 2.1 Images are retouched to conform to job specifications<br>2.2 Images are contoured to conform to job specifications<br>2.3 Colour correction is undertaken to conform to job specifications<br>2.4 Tonal correction is undertaken to conform to job specifications  |
| 3. Solve technical combining problems     | 3.1 Technical problems relevant to combining images are resolved by reassessing the elements for combining or amendment of the design<br>3.2 Complex images are combined with the potential to be reproduced according to the job brief  |
| 4. Prepare information for output devices | 4.1 The disk capacity is checked for space before final assembly<br>4.2 The limitations of the system to achieve the required output are assessed<br>4.3 Appropriate colour profiles are applied according to job specifications   |
| 5. Manage the combining system            | 5.1 The electronic combining system is managed effectively to facilitate the storage, retrieval and outputting of data<br>5.2 Combining software and files are maintained to ensure an operative system  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting implicit and explicit requirements of the job brief and discussing format and quality of inputs with the client
- Collecting, analysing and organising information by accessing data on software capabilities and production requirements and matching them with the job brief
- Planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating enlargement / reduction factors, fit, spatial relationships between elements and colour profiles
- Problem-solving skills by adjusting fit and using colour correction so that output meets requirements of the job brief
- Use of technology by using software correctly to ensure efficient processing and ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes and electronic media

- Describe THREE examples of why settings need to be varied to suit subsequent printing processes or electronic output.

#### Pre-planning and scanning

- What factors are used in determining scan resolution?
- What are the limitations of a CCD scanner when compared to a Photo Multiplier scanner?

#### Post-scanning techniques

- What factors are involved in calibrating the monitor?
- When converting from an RGB colour model to a CMYK colour model, what changes take place?

#### Page assembly processes

- What is meant by Native format?
- Describe the characteristics of EPS and TIFF formats.

#### RIP technology

- What is meant by Raster Image Processing?
- How do you calibrate the RIP?

#### OPI

- What are two advantages of OPI?

#### Advanced systems applications



- What is the difference between a bitmapped and a vector image?
- What is the purpose of the calculation menu [or equivalent] in systems work?

### Digital photography

- What specific limitations are there with digital cameras?

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>• Both DTP and / or proprietary system</li> </ul>
Capture	<ul style="list-style-type: none"> <li>• Scanner, digital camera, hard storage</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>• Appropriate software relative to image input</li> </ul>
Output	<ul style="list-style-type: none"> <li>• Image setters, final films, direct imaging proofing, contract proofs</li> </ul>
Complexity	<ul style="list-style-type: none"> <li>• Wrap around text, contoured graphics, vignettes, use of layers</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working independently and being able to cope with the unexpected</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Complex images are combined with the potential to be reproduced according to job specifications and any image manipulation enhances the image quality
- The underlying skill of combining should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce TWO jobs that combine and manipulate complex elements following the job brief and according to the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- produce TWO jobs that combine and manipulate complex elements following the job brief and according to the listed Performance Criteria
- it is expected that special purpose industry software packages will be used where appropriate

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

## ICPPP334B

## Prepare an imposition format for printing processes

### Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to create layouts and impositions.

### Employability Skills

This unit contains employability skills.

### Application of the Unit

This unit requires an individual to manually develop a lay-down sheet and imposition scheme, combine components and meet production and finishing requirements.

### Unit Sector

Pre-press

### ELEMENT

### PERFORMANCE CRITERIA

- |   |  |
|---|--|
| 1. Generate a lay-down sheet and imposition scheme                            | 1.1 Printing processes, sheet sizes and binding and finishing instructions are applied to the finished artwork to generate an imposition scheme  |
|   | 1.2 A lay-down sheet and imposition scheme are generated according to folding and binding machine requirements and special printing requirements |
| 2. Impose pages and combine components to the final machine sized work sheets | 2.1 Pages and combined components are imposed correctly to suit specified sheet size   |
|   | 2.2 Numerical sequence and lay-down of the product or mock-up are correctly identified to meet binding and finishing requirements                |

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- Collecting, analysing and organising information by accessing data on software capabilities and production requirements and matching them with the job brief
- Planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating enlargement / reduction factors, fit, spatial relationships between elements, impositions and colour profiles
- Problem-solving skills by adjusting fit, maximising efficiency of imposition and using colour correction so that output meets requirements of the brief
- Use of technology by preparing work for final production

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Relevant printing processes and working methods**

- What are the main considerations when preparing a layout for a printing press?
- Describe the different working methods for sheet fed presses.
- What image control marks are important for press operation?

#### **Numeracy and calculations relevant to the work parameters**

- What calculations need to be done to ensure that the size of the layout is correct?

#### **Available paper sizes and characteristics**

- In what way do paper considerations impact on the type of imposition used?

#### **Image control marks related to the binding and finishing processes**

- Describe which image control marks are necessary at the binding finishing stage.

### **Imposition**

- What are the factors that influenced your imposition?

### **Information sources**

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"><li>• Variety of four-colour images and page assembly</li></ul>
Capture	<ul style="list-style-type: none"><li>• Images to be imposed can be hard copy or electronic</li></ul>
Manipulation / edit	<ul style="list-style-type: none"><li>• Hand or electronic techniques</li></ul>
Output	<ul style="list-style-type: none"><li>• Manually prepared layout or electronically generated on screen or plotting</li></ul>
Quality standards	<ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul>
Degree of autonomy	<ul style="list-style-type: none"><li>• Under limited supervision working to a detailed brief</li></ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Printing processes, sheet sizes, binding and finishing instructions and numerical sequence and lay-down of the product meet job and binding and finishing requirements
- The underlying skill of imposition should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the photographic image be suitable for the identified printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare, set up and use the manual or software system to produce TWO layouts according to the listed Performance Criteria

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose cameras, tools, equipment and industry software packages will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP352B****Unit Descriptor****Output complex images**

This unit describes the performance outcomes, skills and knowledge required to output complex images.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to prepare an output device and prepare complex images or files for output. The final out put will meet the job specifications and be free from errors.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Set up and maintain the output device | <ul style="list-style-type: none"> <li>1.1 Devices are set up to manufacturer's specifications and enterprise standards</li> <li>1.2 Output medium is calibrated by conducting exposure tests using appropriate software and hardware</li> <li>1.3 Calibration is evaluated and necessary adjustments are made to output device</li> </ul>  |
| 2. Adjust and manipulate images / files  | <ul style="list-style-type: none"> <li>2.1 Electronic files are evaluated as to suitability for output</li> <li>2.2 Appropriate output resolution is set</li> <li>2.3 Appropriate screen angle and dot type are set according to job specifications</li> <li>2.4 Appropriate colour profiles are applied where necessary</li> <li>2.5 Availability of high resolution images is assessed for OPI process</li> <li>2.6 Appropriate fonts are available</li> <li>2.7 All support files are included with the job</li> </ul> |
| 3. Output the image                      | <ul style="list-style-type: none"> <li>3.1 The file is prepared for output to imaging device</li> <li>3.2 Job queuing is managed to ensure efficient production</li> <li>3.3 Images are outputted to the appropriate medium</li> <li>3.4 Output is processed according to job specifications</li> </ul>   |
| 4. Evaluate the result                   | <ul style="list-style-type: none"> <li>4.1 Out put is checked for correct dot size, screen angles and film density</li> <li>4.2 Image elements are checked according to original job specifications</li> <li>4.3 Technical problems are solved and appropriate corrections are made</li> <li>4.4 Job is prepared for the next stage of production</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- Collecting, analysing and organising information by matching information on production requirements and formats with the job brief
- Planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating screens and dots and colour profiles
- Problem-solving skills by using different types of output (dot shape, screens) to best satisfy requirements of the job brief
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes

- What effect does the selection of printing process have on the output settings for final films?

#### Calibration procedures

- What methods / procedures are available for calibrating an output device?
- What are the consequences of incorrect calibration?

#### Systems procedures and file management

- If a file does not transfer correctly what action should you take to correct the problem?
- What are the main points to be checked before sending a job to the RIP?

#### Image manipulation

- What relationship to screen ruling does the selection of image resolution have?
- What conditions would cause a variation from conventional screen angles?

#### OPI

- What needs to be checked when preparing a job for OPI?
- What are the consequences for image quality if OPI files are not placed in their correct folders?
- What is the function of the low resolution file in the OPI process?

#### RIPs

- What are the main factors that influence the processing speed of a job when being RIPped?
- How can the RIPping speed of a job be increased?

#### Stochastic / random dots



- What setting changes must be made to the output device when outputting a stochastic screen?
- What factors influence the selection of the micron rating of the screen?

### File formats

- Define the main types of file formats and the effects the selection of a format has on the processing of a job.

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"><li>• Files from a variety of software sources and platforms</li></ul>
Output	<ul style="list-style-type: none"><li>• Image setters</li></ul>
Complexity	<ul style="list-style-type: none"><li>• Complex refers to intricate and detailed design (line and tones) and may include difficult vignettes, tone separations, colour reproductions</li></ul>
Quality standards	<ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul>
Degree of autonomy	<ul style="list-style-type: none"><li>• Working under limited supervision</li></ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Final image must meet job specifications and appropriate colour profiles are applied as required
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Output TWO complex images

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP360B****Unit Descriptor****Undertake special colour proofing**

This unit describes the performance outcomes, skills and knowledge required to undertake special colour proofing.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to produce colour proofs according to the job specifications.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                     |   |
|-------------------------------------|---|
| 1. Evaluate artwork and separations | 1.1 Job is evaluated to identify required process<br>1.2 Job is evaluated to identify special colours   |
| 2. Produce special colour proofs    | 2.1 Colours are formulated according to job specifications<br>2.2 Film separations are exposed to appropriate medium<br>2.3 Colours are checked against the job specifications using densitometers, spectrophotometers or visual matching to supplied sample or PMS book<br>2.4 Colours are proofed in the correct sequence according to job specifications |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by using information on colour and proofing to facilitate processing
- Planning and organising activities by planning the sequence of operations to facilitate efficient processing of the job
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by using the densitometer
- Problem-solving skills by diagnosing colour matching and other proofing problems and correcting
- Use of technology by using equipment correctly to ensure accuracy of output

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Colour matching systems

- What systems can be used for matching colours?
- What lighting conditions should be used when matching colours.

#### Production of special colour proofs

- What effects can humidity have on special colour proofing?
- What other factors need to be considered when producing special colour for proofing?
- What determines correct colour sequence?

#### The use of quality control devices for colour appraisal

- How do you use a densitometer for proof evaluation?
- How do you use colour evaluation charts?

#### Evaluation of the proof

- What are the criteria for evaluating a colour proof?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Clients	<ul style="list-style-type: none"><li>• May include but are not limited to new or regular clients with routine or special needs</li></ul>
Input	<ul style="list-style-type: none"><li>• Film separations or digital workflow</li></ul>
Manipulation / edit	<ul style="list-style-type: none"><li>• Adjustment of density, exposure, registration</li></ul>
Colour matching	<ul style="list-style-type: none"><li>• Using densitometry or visual matching against colour or PMS book</li></ul>
Quality standards	<ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul>
Degree of autonomy	<ul style="list-style-type: none"><li>• Working under limited supervision</li></ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Colours accurately match the job specifications
- The underlying skills of proofing should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the image be suitable for the printing process
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce TWO sets of special colour proofs that match original artwork and meet client and industry requirements

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools and equipment will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP370B****Unit Descriptor****Produce multiple image plates**

This unit describes the performance outcomes, skills and knowledge required to make plates for any printing process with repeated images from film inputs.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to make plates with repeated images from film input.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                   |   |
|-----------------------------------|---|
| 1. Produce step and repeat layout | 1.1 Client information is gathered to enable step and repeat layout<br>1.2 A layout is produced according to client information<br>1.3 Data is stored for future retrieval using industry software package<br>1.4 A register of stock levels is maintained and advice about the depletion of stock is recorded according to enterprise procedures |
| 2. Set up step and repeat machine | 2.1 The film is mounted squarely to produce an accurate image<br>2.2 Accurate masks are cut for image protection / bleeds<br>2.3 Mounting foils are positioned in a chase to ensure a quality output<br>2.4 The film or plate is punched, loaded, exposed and processed according to job specifications   |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by obtaining client information
- Collecting, analysing and organising information by matching the job brief with production requirements
- Planning and organising activities by planning the sequence of operations to ensure efficient processing
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating exposures, chemical formulations and positioning of film
- Problem-solving skills by identifying plate faults and correcting
- Use of technology by using equipment is correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Preparation of step and repeat layout

- What is the relationship between the image of the original and the final substrate?
- Describe the calculation required to produce the final layout.

#### Set up of the step and repeat machine

- Explain what steps are necessary to ensure the correct operation of the step and repeat machine.
- What steps are necessary to ensure safe operation?

#### Programming of the step and repeat machine

- To produce the layout rough, what calculations using x and y coordinates need to be completed?

#### Producing the multiple image output

- What OHS concerns are there when processing printing plates?
- How do you prepare and use a mask to suit the job?
- What procedures are employed to ensure correct registration and accuracy / repeatability of exposure?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?



## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>• A variety of images to be assembled in multiples repeated in a single layout</li> </ul>
Capture	<ul style="list-style-type: none"> <li>• A variety of devices electronically or manually operated</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>• Appropriate software and / or masking methods</li> </ul>
Output	<ul style="list-style-type: none"> <li>• Dedicated step and repeat machine either manual or electronically driven</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Work under limited supervision to defined procedures</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The film or plate is punched, loaded, exposed and processed according to job specifications
- The underlying skills of step and repeat should be transferable across different pre-press systems and printing processes. It is important that the substrate for reproduction is identified and that the quality of the photographic image be suitable for the identified printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare and set up at least TWO step and repeat layouts for production of multiple repeated images according to the listed Performance Criteria

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP372B****Unit Descriptor****Produce gravure cylinders electronically**

This unit describes the performance outcomes, skills and knowledge required to undertake electronic processes and procedures used to make gravure cylinders.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to prepare and electronically engrave a blank cylinder to be used for gravure printing.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                    |  |
|------------------------------------|--|
| 1. Select the cylinder             | 1.1 The job specifications are interpreted to select an appropriate cylinder and / or core<br>1.2 The base cylinder is selected according to the job specifications  |
| 2. Pre-plan for engraving          | 2.1 Opels are analysed against the job specifications and the technical requirements of the equipment<br>2.2 Opels are masked manually for any uneven start positioning  |
| 3. Engrave cylinder electronically | 3.1 A clean work environment is maintained to ensure quality of output<br>3.2 Equipment is maintained according to manufacturer's specifications<br>3.3 The cylinder is engraved according to job specifications and enterprise procedures |
| 4. Adjust finished cylinder        | 4.1 Add and delete to finished cylinder<br>4.2 Required changes are pre-planned<br>4.3 Additions and deletions are made to cylinder according to job specifications and enterprise procedures  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief
- Collecting, analysing and organising information by matching the job brief with production requirements
- Planning and organising activities by planning the sequence of operations to facilitate processing
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating screen angles and rulings
- Problem-solving skills by recognising cylinder faults and correcting
- Use of technology by using equipment and software correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Pre-planning for engraving

- What OHS concerns are there when engraving cylinders?
- State EIGHT production parameters that should exist on the job ticket.
- How do you calculate a change in screen angle?
- What would be the screen line ratio for fine rulings?

#### Cylinder production techniques

- What are the specific features of the laser engraving process?
- How would the cutting stylus affect the print quality?
- What are the characteristics of the diamond stylus used for colour work?

#### Corrections to finished cylinders

- State TWO techniques of deleting errors on the finished cylinder.

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>• A variety of line and tone originals, either as scan ready or digital data</li> </ul>
Capture	<ul style="list-style-type: none"> <li>• Proprietary or desktop system, or scanning technology</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>• Use of specific or desktop software</li> </ul>
Output	<ul style="list-style-type: none"> <li>• Laser and programmable stylus machine</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Under limited supervision to defined procedures</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The cylinder is correctly etched to ensure quality reproduction and meets print requirements
- The underlying skills of cylinder making should be transferable across the pre-press sector. It is important that the substrate for reproduction is identified and that the quality of the cylinder be suitable for the identified printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare, set up and use an electronic engraving system to produce BOTH stylus and laser gravure cylinders

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP382B****Unit Descriptor****Produce computer image for screen printing**

This unit describes the performance outcomes, skills and knowledge required to generate electronic art to a supplied layout film positive or computer cut stencil.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to generate electronic art to a supplied layout film positive or computer cut stencil.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Prepare for scanning                  | <ul style="list-style-type: none"> <li>1.1 The original is scaled to conform to production specifications</li> <li>1.2 The original is assessed to determine scanner settings</li> <li>1.3 The original is cleaned and correctly mounted according to production specifications</li> <li>1.4 The correct settings are selected for the original to be scanned</li> </ul>   |
| 2. Scan and check the image              | <ul style="list-style-type: none"> <li>2.1 The original is scanned according to quality requirements</li> <li>2.2 The quality of the scanned image is checked for conformance to job specifications</li> <li>2.3 The appropriate software is applied for any processing of text if necessary</li> </ul>  |
| 3. Prepare the combining strategy        | <ul style="list-style-type: none"> <li>3.1 The required data from electronic files is accessed</li> <li>3.2 The appropriate application is opened to undertake combining tasks</li> <li>3.3 The required fonts are accessed according to job specifications</li> </ul>   |
| 4. Combine data                          | <ul style="list-style-type: none"> <li>4.1 Page layout size is created according to job specifications</li> <li>4.2 Elements are placed in the page according to job specifications</li> <li>4.3 Trapping (spread and chokes) is applied according to job specifications</li> <li>4.4 Step and repeat function is accessed according to job specifications</li> <li>4.5 Elements are stepped according to job specifications</li> <li>4.6 The output menu is configured according to job specifications</li> </ul> |
| 5. Access and maintain the output device | <ul style="list-style-type: none"> <li>5.1 Output devices are set up and maintained according to manufacturer's specifications and enterprise procedures</li> <li>5.2 Suitable material is identified and loaded into the output device</li> </ul>   |
| 6. Output the image                      | <ul style="list-style-type: none"> <li>6.1 The system is activated to initiate the output according to job specifications</li> <li>6.2 Quality is monitored according to enterprise procedures</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the client brief
- Collecting, analysing and organising information by scanning the image and combining it with data
- Planning and organising activities by preparing the correct sequence of operations for the combining tasks
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by working with layout size when combining data
- Problem-solving skills by maintaining quality standards during the production process
- Use of technology by using relevant hardware and software to produce computer images for screen printing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Prepare for scanning

- What tolerance is allowed when scaling the original?
- What is the common scanner DPI for graphic line images?
- When is original angling used?
- What resolution is used for optical character recognition in scanning?

#### Scan and check the image

- What format is the scan saved in?
- Is formatting retained when OCR scanning?

#### Prepare the combining strategy

- How are external files accessed?
- What is the most appropriate software for this combining task?
- What would be the procedure if required are not readily accessible?

#### Combine data

- Who determines the page layout size?
- What type of elements can be used?
- When is trapping applied?
- What can determine the amount of step and repeats in a job?
- What is the first step in configuring the output menu?

#### Access and maintain the output device

- Describe the type of output devices used in screen printing.
- What range of substrates is used in output devices?

#### Output the image

- Where does the file go prior to the output device?
- What checking techniques are used to maintain quality standards?



## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Original	<ul style="list-style-type: none"> <li>Line graphic or text</li> </ul>
Job specifications	<ul style="list-style-type: none"> <li>Job sheets, work tickets or processing orders</li> </ul>
Elements	<ul style="list-style-type: none"> <li>Text, headings, rules, pictures, graphics, tints, vignettes components and shapes</li> </ul>
Material	<ul style="list-style-type: none"> <li>Electronic storage, film, papers, fabric or other substrates</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correctly scan, electronically combine and output to designated devices according to job specification and client standards
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce TWO separate images on film and /or stencil
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- access to appropriate equipment and materials

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP386B****Unit Descriptor****Undertake digital proofing**

This unit describes the performance outcomes, skills and knowledge required to undertake digital proofing.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to calibrate equipment and complete digital proofing for client sign off.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                     |  |
|-------------------------------------|--|
| 1. Calibrate proofing device        | <ul style="list-style-type: none"> <li>1.1 The calibration of the machine is checked for conformance to job specifications</li> <li>1.2 Appropriate ICC profiles are applied to meet colour requirements</li> <li>1.3 Paper for output is matched to profile</li> </ul>  |
| 2. Produce proofs from digital data | <ul style="list-style-type: none"> <li>2.1 The image is retrieved from the database using industry software</li> <li>2.2 Data file is checked for structural compatibility with capability of RIP</li> <li>2.3 Special colours are sent to the RIP where appropriate</li> <li>2.4 Proof is produced according to job specifications and workflow procedures</li> <li>2.5 Proof is evaluated against job specifications using a densitometer, and checked against changes and original working data</li> <li>2.6 Proof is prepared for client submission</li> <li>2.7 Proof is used as a contract proof only if RIP is the same for both proof and film and if client accepts it as such</li> </ul> |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by gaining client agreement on contract proof
- Collecting, analysing and organising information by checking machine calibration
- Planning and organising activities by calibrating the proofing device prior to producing a proof
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by using a densitometer to evaluate the proof
- Problem-solving skills by checking the data file for structural compatibility
- Use of technology by using relevant hardware and software to produce a digital proof

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Types of digital colour proofing systems

- Describe the method of producing the colour image.
- What variations may occur when utilising different imaging methods?

#### Production of colour proofs

- Describe the procedure for outputting the image and produce a colour proof, i.e. the transfer of files and the use of specific assembly software.
- What constraints on file structure can the RIP impose?
- What is an ICC profile?
- What differences can different RIPs have on output?

#### The use of quality control devices for colour appraisal

- How do you use a densitometer for proof evaluation?
- Describe the function of the calibration software for the output device.
- How do you use colour evaluation charts?

#### Evaluation of the proof

- What are the criteria for evaluating a colour proof?
- What differences can there be between preliminary proofs and a contract proof?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>• A variety of electronic image files</li> </ul>
Capture	<ul style="list-style-type: none"> <li>• Variety of digital colour output devices</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>• Software and hardware functions</li> </ul>
Output	<ul style="list-style-type: none"> <li>• Laser and inkjet proofing systems, using standard copier materials or specially prepared substrate</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working under limited supervision</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The underlying skills of proofing should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the image be suitable for the printing process
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages will be used where appropriate

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP395B****Unit Descriptor****Transfer digital files**

This unit describes the performance outcomes, skills and knowledge required to manipulate, delete and transfer digital files by using File Transfer Protocol.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to manipulate, delete and transfer digital files by using File Transfer Protocol.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                                      |  |
|--------------------------------------|--|
| 1. Set up the FTP Client             | <ul style="list-style-type: none"> <li>1.1 FTP application is opened or if necessary, downloaded</li> <li>1.2 Details such as User ID, password and Host Name / ID are entered into the correct profile fields to create a permanent profile</li> <li>1.3 Settings such as auto-detect, save profile and password are chosen depending on company security, firewall and privacy requirements and guidelines</li> <li>1.4 The configuration is tested and if necessary the settings are reviewed</li> <li>1.5 Once configuration is complete connection is established to server or FTP site depending on company network</li> </ul> |
| 2. Transfer files                    | <ul style="list-style-type: none"> <li>2.1 Files to be transferred (uploaded or downloaded) are selected and correct mode (ASCII or Binary) is chosen</li> <li>2.2 The directories where files are to be saved or downloaded are accurately located</li> <li>2.3 Sent files are checked to ensure correct transfer</li> <li>2.4 Downloaded files are scanned for viruses according to workplace security requirements</li> <li>2.5 Files are moved, renamed, copied and deleted as necessary and as permissions allow</li> </ul>   |
| 3. Provide for ongoing file transfer | <ul style="list-style-type: none"> <li>3.1 Multiple files are transferred to correct location</li> <li>3.2 Files requiring synchronisation are identified and given synchronisation status according to job or company needs</li> <li>3.3 The queuing utility is employed for scheduling multiple transfers and executions</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by completing the required profile fields to create a permanent profile
- Collecting, analysing and organising information by selecting files to be transferred and choosing the correct mode
- Planning and organising activities by setting up the FTP client before transferring files
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by testing the configuration and reviewing the settings
- Problem-solving skills by renaming, moving, copying and deleting files
- Use of technology by transferring digital files

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- ASCII or Binary transfer modes
- Security
- Strings
- Packet switching
- Types of files
- Data transfer modes
- Protocols
- Control and data connections

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Company security	• Each company will have different firewall and privacy requirements and guidelines
Company network	• Company network refers to how the company accesses the Internet or intranet and may include an analog modem, ISDN
Directories	• May be located on a web server, FTP server or FTP site
Workplace security requirements	• Different workplaces will have automatic virus detection, others will have a manually initiated virus application, other workplaces will have firewalls



**Permissions**

- Permissions are allocated to individuals or files and provide the ability to access files to make changes, delete or read
- A file may have different permissions for different kinds of access and for different users or groups of users

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Manipulating, deleting and transferring digital files by using File Transfer Protocol
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that relevant software and hardware will be used for this unit

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP411B****Unit Descriptor****Undertake a complex design brief**

This unit describes the performance outcomes, skills and knowledge required to undertake advanced graphic design from the negotiation of design briefs through to the production of complex finished artwork.

**Employability Skills**

This unit contains employability skills.

**Prerequisite Unit(s)**

ICPPP311B Develop a detailed design concept

**Application of the Unit**

This unit requires an individual to negotiate a design brief, plan the design process and produce a complex design that meets the design brief and production and quality requirements. The individual will work independently and take responsibility for fulfilment of the brief.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Negotiate a complex design contract | <ul style="list-style-type: none"> <li>1.1 Communication with the client results in the development of a complex design brief and client agreement is secured</li> <li>1.2 Job analysis and research are undertaken to source cost-efficient design production procedures</li> <li>1.3 Possible design options are analysed to meet optional printing processes and substrates</li> <li>1.4 Individual design stages of the brief are timed and costed to determine accurate parameters of cost</li> <li>1.5 A quotation is prepared using accurate estimates to communicate to the client the fees required to undertake the brief</li> <li>1.6 Client approval to proceed is obtained</li> </ul> |
| 2. Plan the design process             | <ul style="list-style-type: none"> <li>2.1 The appropriate production processes are planned and scheduled to meet the specifications of the brief for the printing substrate</li> <li>2.2 Materials are sourced and ordered to conform to the requirements of the brief</li> <li>2.3 Design team members are briefed and work roles allocated to facilitate the orderliness and timeliness of the design process</li> </ul>  |
| 3. Render a complex graphic design     | <ul style="list-style-type: none"> <li>3.1 A complex graphic design concept is rendered electronically or manually to conform to the brief</li> <li>3.2 Adjustments or recommendations are made to enhance the design according to the brief in consultation with the client</li> <li>3.3 The production processes of the design concept for colour, production run, substrates and costs are assessed according to the requirements of the brief</li> <li>3.4 The specifications for reproducing the finished artwork are annotated so as to define specified printing processes and substrates</li> </ul>  |

- 4. Ensure feasibility of production
  - 4.1 Type options are checked to meet specified printing processes and substrates
  - 4.2 The reproduction feasibility of multiple colour vignettes is analysed to meet specified printing processes and substrates
  - 4.3 Line and tone are combined and dot complexity of photography is analysed to meet specified printing processes and substrates
  - 4.4 The feasibility of complex imposition and folds are calculated to meet specified printing processes and substrates
  - 4.5 Foils and embossing are checked to meet specified printing processes and substrates
- 5. Solve technical problems
  - 5.1 Materials and / or format are reviewed to ensure the most suitable are selected and therefore do not create problems
  - 5.2 Technical problems are resolved by re-design or amendment of the brief in consultation with the client to acceptable standards
- 6. Ensure quality output
  - 6.1 Standards for reproduction are documented to form a reference bank for the design process
  - 6.2 Design solutions are filed and stored ready for retrieval according to enterprise procedures
  - 6.3 Internal performance standards are evaluated to identify potential reforms for future enterprise procedures
  - 6.4 Future actions are determined to incorporate accurate cost and time analyses into future briefs

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by determining exactly what the client wants from the brief and subsequent discussion
- Collecting, analysing and organising information by balancing and matching client demands with requirements for reproduction and costs
- Planning and organising activities by coordinating job sequence so that materials arrive, are processed and can be checked efficiently
- Teamwork when ensuring that designers, printers and clients all know what they need to do and when
- Mathematical ideas and techniques by calculating costs and determining enlargement / reduction factors
- Problem-solving skills by coping with discrepancies between the brief and what is possible
- Use of technology by using appropriate software to create the design and ensuring files are saved in the required format

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes and electronic media

- What is the effect of the design brief upon the selection of a printing process?
- Describe in detail the different design requirements for THREE printing processes, operations or electronic media.

#### Design and colour theory

- What factors have you considered when selecting appropriate colours for this job?
- How does the choice of colours utilised affect the mood of a targeted consumer?

#### Typography

- What procedures have you implemented to produce a special effect?
- The selection of type face design must be appropriate to the intended product. Explain this concept.

#### Chemical and reproduction nature of substrates

- What factors have you considered when selecting the appropriate printing substrate for this job?
- What effects do different inks and substrates have on design?
- What problems may arise when running an image across a double page spread?

#### Technical problem solving

- What steps would you take to overcome the problem of finger marks on dark solids?
- What common technical problems occur when a design is printed and how can they be resolved?

#### Evaluating artwork

- How do you recognise and rectify faults on artwork supplied by the client?
- How do you determine the effect of colour breakdown and sequence on printing operations and printed jobs?
- How do you assess whether artwork matches customer's specifications as outlined on the job sheet?
- What methods do you use for assessing the quality and suitability of externally produced artwork?
- What problems can be caused by using sub-standard and unsuitable artwork?

### Costing

- What design factors affect the cost of a printed job?
- How do you ensure that a design can be reproduced within budget?

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Design tools	<ul style="list-style-type: none"> <li>• A range of manual equipment or hardware and design software applications</li> </ul>
Clients	<ul style="list-style-type: none"> <li>• Internal or external clients</li> </ul>
Costed	<ul style="list-style-type: none"> <li>• Hourly rates, material costs and any other factor contributing to job costs</li> </ul>
Applications	<ul style="list-style-type: none"> <li>• Design can be specific to publishing, consultancy, advertising or packaging</li> </ul>
Complex graphic design	<ul style="list-style-type: none"> <li>• Complex refers to intricate and detailed design (line and tones) and may include difficult vignettes, tone separations, colour reproductions and embossing</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working independently and taking responsibility for fulfilment of the brief</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Developing an agreed clear design brief and preparing a quotation. Rendering a complex design taking into account the design brief and quotation. Meeting the design reproduction and end user requirements
- The underlying skill of solving complex technical problems of layout to conform to brief specifications should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce finished art from a complex design brief. Provide evidence that each stage from initial negotiations to completion has been carried out satisfactorily

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages will be used where appropriate

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP421B****Unit Descriptor****Compose and evaluate typography**

This unit describes the performance outcomes, skills and knowledge required to undertake advanced typesetting and typography involving contingencies and problem solving beyond routine requirements.

**Employability Skills**

This unit contains employability skills.

**Prerequisite Unit(s)**

ICPPP221B Select and apply type

**Application of the Unit**

This unit requires an individual to compose type, resolve any technical reproduction issues and manage type storage and retrieval.

The individual would be working independently and be able to cope with the unexpected challenges related to the job.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Compose type                         | 1.1 Type is composed according to job specifications<br>1.2 Allowance is made for type run-arounds, stipples, spot colour and complex shapes<br>1.3 Kerning is applied to type according to job specifications  |
| 2. Solve typographic technical problems | 2.1 Capabilities of the equipment to produce type are assessed correctly<br>2.2 Technical problems relevant to the colour and reproduction of type are resolved by re-evaluation of typographic elements or amendment of the brief in consultation with the client                              |
| 3. Ensure quality of typographic output | 3.1 The finished typography is checked for conformance to client specifications, including correct grammar and punctuation and printing requirements<br>3.2 The quality of typographic reproduction is monitored to ensure the required standards of output                                     |
| 4. Manage the type system               | 4.1 The electronic type system is managed to facilitate the storage, retrieval and outputting of data<br>4.2 Type software and fonts have current user licences that allow the type to be used for the job<br>4.3 Type software and files are stored in appropriate locations for future access |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting implicit and explicit requirements of the brief and discussing format of inputs with the client
- Collecting, analysing and organising information by matching information on fonts, typography, colour, production constraints with the brief to ensure best possible outcome
- Planning and organising activities by composing type using overlays and tints
- Teamwork when resolving technical problems in consultation with the client
- Mathematical ideas and techniques by calculating fit, font size, enlargement / reduction factors and costs
- Problem-solving skills by solving problems of fit, colour and costs to produce best possible result
- Use of technology by using appropriate software correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes and electronic media

- What typographic considerations must be taken into account when making type face selections for the various printing processes or electronic media?

#### Design theory

- What effects do type alignment and justification have on a job?
- Discuss the nature of dynamic design layouts which affect type selection.

#### Point sizes

- What is the difference between text point size and display point size?

#### Typography

- What are the basic classifications of text typefaces?

#### Technical problem solving

- What problems arise when using fine type in reverse print?
- What typographic principles must be considered when stippling type?
- What are the colour considerations when using text type?

#### Grammar and punctuation

- What references have you utilised to evaluate if appropriate grammar has been used in this job?
- What references have you utilised to evaluate if appropriate punctuation has been used in this job?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are



they kept?

- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Tools	<ul style="list-style-type: none"> <li>• A range of manual or electronic equipment and software applications</li> </ul>
Clients	<ul style="list-style-type: none"> <li>• Internal or external clients</li> </ul>
Application	<ul style="list-style-type: none"> <li>• Design can be specific to publishing, consultancy, advertising or packaging in hard copy or electronic media</li> </ul>
Input	<ul style="list-style-type: none"> <li>• Type can be generated manually or electronically using typesetting software applications</li> </ul>
Complexity	<ul style="list-style-type: none"> <li>• Intricate and contingency operations requiring problem solving beyond the routine operation</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Type of software	<ul style="list-style-type: none"> <li>• May include Suitcase, FontAgent X, Fontographer, FontLab, TypeTool and type utilities. New software applications and new versions of existing products enter the market regularly, therefore this example group will change</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working independently and being able to cope with the unexpected</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Composing type using overlays, tints and kerning to meet specifications. Resolving any technical problems. The quality of type reproduction meets the quality standards defined in the job specifications
- The underlying skill of solving typographic problems should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce and evaluate TWO complex typographic jobs according to the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP422B****Unit Descriptor****Digitise complex images for reproduction**

This unit describes the performance outcomes, skills and knowledge required to undertake advanced complex colour scanning or digital capture.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to prepare an original, calibrate the scanner, and produce and evaluate scanned images that meet the technical specifications of the job.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Mount and prepare original copy     | 1.1 Copy is mounted and positioned according to scanner / artwork specifications<br>1.2 Crops are marked to minimise the use of disk space<br>1.3 Multiple copy units are correctly identified and assigned according to technical specifications   |
| 2. Set up and adjust the scanner       | 2.1 The scanner is calibrated and the program is set according to job specifications<br>2.2 Colourcast and catchlights are assessed to ensure the image is scanned according to job specifications<br>2.3 Adjustments are made to tone and colour correction requirements<br>2.4 End points are set<br>2.5 Scanner settings are utilised to achieve the required results for varied print processes |
| 3. Produce and evaluate complex images | 3.1 Images are scanned using appropriate software commands and scanner controls<br>3.2 Scanned images are evaluated for colour and grey balance, tone reproduction, cast removal and end point accuracy<br>3.3 Images are stored on file and displayed on monitor or output device according to job specifications  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting explicit and implicit requirements of the job brief
- Collecting, analysing and organising information by matching constraints of production with requirements of the job brief
- Planning and organising activities by ensuring scan procedure is in correct sequence
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating enlargement / reduction factors, resolutions, colour profiles and grey balances
- Problem-solving skills by adjusting colour and grey balance to ensure best possible outcomes
- Use of technology by using software and hardware correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes, electronic media and transfer characteristics

- Describe THREE examples of why scanner settings need to be varied to suit subsequent printing processes or electronic output.

#### Copy evaluation

- What are the factors that influence selection of highlight and shadow aim points?
- What are the critical qualities of a copy that need evaluation prior to reproduction?

#### Copy preparation

- What are the main points to be considered when preparing a copy for scanning?

#### Colour correction and grey balance

- Why must grey balance requirements be determined prior to applying colour correction?
- Describe the process of determining grey balance requirements.
- What factors determine the requirement for colour correction?

#### Catchlight controls

- How and why are catchlight controls applied?

#### Image output

- What considerations are necessary to ensure predictability and repeatability at the output stage?
- What methods of storage and filing of images for retrieval are used?
- What are the criteria used for evaluating scanned images?

#### File formats

- Why have you selected the file format (eg TIFF, EPS, PICT) you have used to save the

scan?

- What other file formats are available for saving scans and when would you use them?

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input / Copy	<ul style="list-style-type: none"> <li>• Transparency (positive and negative) reflection and re-screens for mono, RGB, CMYK</li> <li>• Evaluation, preparation and mounting</li> </ul>
Capture	<ul style="list-style-type: none"> <li>• Flat-bed or drum scanner with full colour capabilities</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>• Software to achieve programming and functional control to suit various printing processes and copy specifications</li> </ul>
Output	<ul style="list-style-type: none"> <li>• Film, disk, proof</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working independently in consultation with others</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Scanned images should have high quality colour, grey balance, tone reproduction and cast removal
- The underlying skill of scanning images should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the quality of the scanned image be suitable for the identified printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Use a medium to high-end full colour scanner (with full software capabilities) to reproduce at least TWO colour continuous tone originals with different contrast characteristics and ONE rescreen according to the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages will be used where appropriate

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP423B****Unit Descriptor****Apply colour to design brief**

This unit describes the performance outcomes, skills and knowledge required to effectively apply colour to enhance artwork and to meet the requirements of a design brief.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to apply colour to enhance a design and meet the requirements of a design brief. This unit covers the application of colour to a design.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |                            |  |
|----------------------------|--|
| 1. Prepare colour options  | <ul style="list-style-type: none"> <li>1.1 Colour requirements of the brief are identified and clarified if necessary</li> <li>1.2 The effectiveness of different colour schemes used previously by self and others are compared to influence current artwork</li> <li>1.3 Colour tools are used to inform choice of colours</li> <li>1.4 Overall colour composition is developed taking into account target audience, balance and relationships</li> </ul>  |
| 2. Apply colour to artwork | <ul style="list-style-type: none"> <li>2.1 Colours are applied to the artwork according to specifications of the brief</li> <li>2.2 Colour and objects are appraised to ensure overall balance and emphasis and adjustments made as required</li> <li>2.3 Any halftones are matched with similar colours according to specifications of the brief</li> <li>2.4 Overall artwork is appraised to ensure best possible colour options are used given the brief and other elements of the artwork and changes are made if necessary</li> <li>2.5 Artwork samples that effectively meet the brief are produced</li> <li>2.6 Artwork is saved and prepared for presentation to client</li> </ul> |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by applying colour effectively to the design brief
- Collecting, analysing and organising information by considering previous colour schemes used by self or others
- Planning and organising activities by preparing colour options prior to applying colour to artwork
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by appraising overall artwork to ensure best possible colour options are used
- Problem-solving skills by identifying the effectiveness of different colour schemes
- Use of technology by using the relevant hardware and software to effectively apply colour

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Reducing colour for compression
- Market segmentation responses to colour
- Colour attributes
- Browser safe colours
- Colour models

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Target audience	<ul style="list-style-type: none"> <li>• Consumer preferences, corporate identity, mood, age group or gender appeal, social connotations of colour</li> </ul>
Colour schemes	<ul style="list-style-type: none"> <li>• Colour grading, colour scales, colour attributes in hue, chroma, value</li> </ul>
Colour requirements	<ul style="list-style-type: none"> <li>• Object colour balance, colour contrast, browser safe colours, RGB Spectrum, process colour, spot colour</li> </ul>
Colour tools	<ul style="list-style-type: none"> <li>• Colour Hex charts, colour wheels, colour swatches, Sixteen Predefined Colours, PANTONE</li> </ul>



**Balance**

- Optical centre, colour relationships, composition balance, colour / object balance

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Producing artwork with a sophisticated use of colour that demonstrates a fundamental understanding of colour theory
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone and / or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- relevant hardware and software

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPP411B Undertake a complex design brief.

**ICPPP430B****Unit Descriptor****Manage colour**

This unit describes the performance outcomes, skills and knowledge required to manage colour in pre-press operations to ensure that proofs, monitors and final products match.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to manage colour in pre-press operations to ensure that proofs, monitors and final products match.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Identify colour requirements                                  | <ul style="list-style-type: none"> <li>1.1 Printing conditions are determined to identify colour management requirements</li> <li>1.2 Printer's requirements are established to guide the provision and use of ICC colour profiles</li> </ul>   |
| 2. Fingerprint press if printing in a controlled environment     | <ul style="list-style-type: none"> <li>2.1 Suitable test charts are selected</li> <li>2.2 Test chart is printed with standard ink densities on a range of stock including non-standard types such as yellow parchment</li> <li>2.3 Densitometer and / or spectrophotometer is used to examine printed test charts and generate colour profile for that press and that stock</li> </ul>  |
| 3. Calibrate digital proofing device                             | <ul style="list-style-type: none"> <li>3.1 Proofer is linearised for required stock</li> <li>3.2 Digital test file (eg IT8 chart) is obtained</li> <li>3.3 Test file is printed on a proofing device and on the type of press that will be used in order to obtain a proof for both film and direct to plate technologies</li> <li>3.4 Results are measured with a spectrophotometer</li> <li>3.5 Results are used to generate output profile that allows for dot gain, GCR, UCR, total gradients and black values</li> </ul> |
| 4. Create different monitor profiles using colour tuning package | <ul style="list-style-type: none"> <li>4.1 A densitometer with screen suction device, if available, and / or appropriate software (OR) are used</li> <li>4.2 Contrast (white level) and brightness are set</li> <li>4.3 RGB and CMYK ICC profiles are applied</li> <li>4.4 Jobs on screen are viewed through appropriate profiles</li> </ul>  |
| 5. Calibrate scanner   | <ul style="list-style-type: none"> <li>5.1 Test chart (eg IT8) is loaded</li> <li>5.2 Scanner input profiling software is used to calibrate scanner (OR)</li> <li>5.3 All settings are put to zero (0)</li> <li>5.4 Test chart is scanned and digital proof is outputted</li> <li>5.5 Spectrophotometer is used to measure proof and ICC profile as generated</li> <li>5.6 ICC profile is loaded into scanning software</li> </ul>  |

- 6. Calibrate digital camera
  - 6.1 Standard lighting conditions are set up
  - 6.2 ICC target is photographed and digital proof is outputted
  - 6.3 Spectrophotometer is used to measure proof and ICC profile as generated
  - 6.4 ICC profile is loaded into digital camera software
  
- 7. Carry out maintenance
  - 7.1 Whole system is checked every two to three months
  - 7.2 Monitor calibrations are checked monthly
  - 7.3 Digital proofing devices are checked at least every time ink or paper stock is changed
  
- 8. Use colour profiles
  - 8.1 Appropriate profiles are used to ensure that colour on monitors, proofs and final product match as closely as possible
  - 8.2 In a controlled environment press fingerprint for final output is used, otherwise digital proofer profile is used
  - 8.3 Colour wedges are included in all files and outputs

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by printing a test file on proofer
- Collecting, analysing and organising information by determining printing conditions in order to identify colour management requirements
- Planning and organising activities by clarifying colour requirements before generating a proof
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by using densitometry, spectrophotometry and colour profiles
- Problem-solving skills by diagnosing and correcting colour problems
- Use of technology by using software and hardware correctly to ensure consistency of output

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### OHS

- What OHS issues need to be considered when managing colour for pre-press?

#### Light

- How do you measure light intensity and colour temperature?
- What are standard lighting conditions for matching colour?
- What effects do different lighting conditions have on using a monitor, proofing and printing?

#### Colour theory

- What is the difference between RGB and CMYK colour?
- What is the theory behind UCR and what effect does it have on an image?
- What is the theory behind GCR and what effect does it have on an image?

#### Densitometry / spectrophotometry

- What do densitometry and spectrophotometry measure?
- What are ICC profiles and why are they used?
- How do ICC profiles affect output?

#### Scanning theory

- What are the factors that influence selection of highlight and shadow aim points?
- Why must grey balance requirements be determined prior to applying colour correction?
- Describe the process of determining grey balance requirements.
- What factors determine the requirement for colour correction?

#### Printing processes

- Why do you use different ink densities for different stocks?
- What are the standard ink densities for THREE different types of job?
- What effects do different stocks have on colour reproduction?

- What effects do different inks have on colour reproduction for proofing and final production?
- What effects do the age and configuration of the press (eg 2-colour vs 4-colour) have on colour reproduction?
- What is dot gain and how does it affect colour?
- Why is it important to know what type of press and what printing process are being used for final output?
- Outline the strengths and limitations with respect to colour reproduction of TWO different printing processes.

### Problem solving

- What are THREE common problems for colour management and how can they be solved?
- When should you include an ICC profile in a PDF file?
- What effect does using the wrong profile have on output?

### Information sources

- What sources of information about colour management are available?

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Test charts	<ul style="list-style-type: none"> <li>• 3 and 4-colour neutrals, CMYK colour scales and a range of colour patches</li> </ul>
Monitors	<ul style="list-style-type: none"> <li>• Range of monitors used in the pre-press sector</li> </ul>
Proofing systems	<ul style="list-style-type: none"> <li>• Range of digital proofing systems used in the industry</li> </ul>
Spectrophotometers	<ul style="list-style-type: none"> <li>• Range of strip reader style devices including Gretag, Macbeth, Xwrite</li> </ul>
Software	<ul style="list-style-type: none"> <li>• Range of industry colour applications including colour management software (eg Colorsync), profile creating software, scanner profiling software (eg Colortone Pro, Scan Open), densitometry and spectrophotometry software</li> </ul>
Controlled environment	<ul style="list-style-type: none"> <li>• A controlled environment is one in which temperature and humidity are controlled, the press to be used for the job is known as is, preferably, the printer</li> </ul>

- |                    |  |
|--------------------|--|
| Printing processes | • All printing processes                               |
| Degree of autonomy | • Working independently with responsibility for others |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Managing colour in pre-press operations to ensure that proofs, monitors and final products match
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- A portfolio that demonstrates all criteria have been met. This should include evidence of THREE jobs with final product printed on various stocks and matching digital proofs on simulated stock. Monitors should also be checked to ensure that they have different loaded profiles that match jobs. There should also be evidence of colour management system maintenance procedures

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP435B****Unit Descriptor****Generate complex imposition**

This unit describes the performance outcomes, skills and knowledge required to undertake complex electronic imposition.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to develop an imposition that best meets the job specifications and substrate size with a minimum delay in workflow.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Impose images electronically           | <ul style="list-style-type: none"> <li>1.1 Industry designated software is applied to the imposition of images according to job specifications</li> <li>1.2 Imposition options are reviewed to ensure best fit for final substrate size</li> <li>1.3 Trapping variables are taken into account</li> <li>1.4 The particularities of the press are considered</li> </ul> |
| 2. Solve technical problems of imposition | <ul style="list-style-type: none"> <li>2.1 Technical problems relevant to imposition are considered in the imposition scheme</li> <li>2.2 A lay-down sheet is prepared according to cutting and creasing and folding requirements</li> <li>2.3 Binding and finishing requirements are considered according to job specifications</li> </ul>                            |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- Collecting, analysing and organising information by accessing data on software capabilities, production requirements and imposition schemes and matching them with the job brief
- Planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating fit, spatial relationships between elements, impositions and colour profiles
- Problem-solving skills by adjusting fit and imposition schemes to production requirements so that output meets the job brief
- Use of technology by using software correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

### Relevant printing processes and electronic output

- Describe THREE examples of how subsequent printing processes or electronic output affect imposition.
- What is the purpose of imposition marks and why are they there?

### Principles of imposition

- What is the difference between saddle stitch and perfect binding?
- Why are head margins required?
- Describe the difference between sheetwise and work and turn.

### Preparation of data

- What trapping requirements apply for specific jobs?
- What do you have to consider when saving a PostScript file?
- What is specific about the imposition set up document?

### Use of imposition program

- How do you install fold and cut marks?
- How are creep settings nominated?
- What is meant by creep and bottling?

### Output techniques

- Why is it important to have a server signature program available to the output station?
- What technique is used to verify that pictures and fonts are available?
- What is mock-up and why is it used?

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are



they kept?

- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	<ul style="list-style-type: none"> <li>• Complex imposition data</li> </ul>
Capture	<ul style="list-style-type: none"> <li>• Any desktop or proprietary computing system</li> </ul>
Manipulation / edit	<ul style="list-style-type: none"> <li>• A suitable imposition application</li> </ul>
Imposition software	<ul style="list-style-type: none"> <li>• May include Imposition Publisher, Preps, DynaStrip, Impose-X, FACILIS IM, Panther PageImposer. New software applications and new versions of existing products enter the market regularly and therefore this example group will change</li> <li>• Imposition plug-ins (eg Quark Express, Impolite) and imposition components of page layout applications where imposition is completely automated are not appropriate for assessing this unit of competency</li> </ul>
Output	<ul style="list-style-type: none"> <li>• Printers, hard disk, imagesetters, digital proofers or plotters</li> </ul>
Complexity	<ul style="list-style-type: none"> <li>• Complex refers to intricate and detailed imposition and may include difficult cuts for packaging, design variations, folds and bindings</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working independently and being able to cope with the unexpected</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Imposition that best meets the job specifications and substrate size
- The underlying skill of solving complex technical problems of imposition to conform to brief specifications should be transferable across the design and pre-press sectors. It is important that the substrate for reproduction is identified and that the competencies be demonstrated with a clear identification of printing processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce TWO complex impositions according to the listed Performance Criteria

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools, equipment and industry software packages will be used where appropriate

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP452B****Output complex images direct to plate or press****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to output complex images direct to plate or direct to press.

**Employability Skills**

This unit contains employability skills.

**Prerequisite Unit(s)**

ICPPP352B Output complex images

**Application of the Unit**

This unit requires the individual to set up and calibrate the output device, align, adjust and manipulate files and output the error free data to plate or press.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Set up and maintain the output device | 1.1 Output device is set up to manufacturer's specifications and enterprise standards<br>1.2 Output device is calibrated for profiles, stock and ink types through use of calibration pages and densitometry<br>1.3 Calibration is evaluated regularly and necessary adjustments are made to output device  |
| 2. Adjust and manipulate images / files  | 2.1 Files on electronic media are evaluated as to suitability for output<br>2.2 Appropriate output resolution and data are set<br>2.3 Appropriate screen angle and dot type are set according to job specifications<br>2.4 Colour profiles appropriate to the job specifications are applied as required<br>2.5 Availability of high resolution images for OPI process is assessed<br>2.6 Appropriate fonts are available<br>2.7 All support files are included with the job  |
| 3. Output the image                      | 3.1 The file is prepared for output to plate setter or digital printing press using industry designated software<br>3.2 If outputting to plate, plate material is selected according to requirements of the press and job specifications<br>3.3 If outputting to plate, plate size is selected according to the requirements of the press<br>3.4 Image is positioned on plate / press with correct orientation with respect to grip<br>3.5 Job queuing is managed to ensure efficient production<br>3.6 Images are outputted to the appropriate medium<br>3.7 Output is processed according to job specifications |

- 4. Evaluate the result
  - 4.1 Out put is checked for correct dot size and screen angles
  - 4.2 Image elements are checked according to original job specifications
  - 4.3 Technical problems are solved and appropriate corrections are made
  - 4.4 Job is prepared for the next stage of production (eg plates are processed)

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting implicit and explicit requirements of the job brief
- Collecting, analysing and organising information by matching information on production requirements and constraints with file formats and the job brief
- Planning and organising activities by planning the sequence of operations to facilitate smooth processing of the job
- Teamwork when organising delivery of files and materials to facilitate smooth processing
- Mathematical ideas and techniques by calibrating equipment to the requirements of file formats, outputs and the job brief
- Problem-solving skills by diagnosing technical problems with output and adjusting
- Use of technology by using equipment correctly to ensure ease of subsequent processing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Relevant printing processes

- What effect does the selection of printing process have on the output settings?

#### Calibration procedures

- What methods / procedures are available for calibrating an output device?
- What are the consequences of incorrect calibration?
- How do differences in stock affect calibration?
- How often should calibration be checked?

#### Systems procedures and file management

- If a file does not transfer correctly what action should you take to correct the problem?
- What are the main points to be checked before sending a job to the RIP?

#### Image manipulation

- What relationship to screen ruling does the selection of image resolution have?
- What conditions would cause a variation from conventional screen angles?

#### OPI

- What needs to be checked when preparing a job for OPI?
- What are the consequences for image quality if OPI files are not placed in their correct folders?
- What is the function of the low resolution file in the OPI process?

#### RIPs

- What are the main factors that influence the processing speed of a job when being RIPped?
- How can the RIPping speed of a job be increased?

**FM screening**

- What setting changes must be made to the output device / software when outputting a FM screen?
- What factors influence the selection of the micron rating of the screen?

**File formats**

- Define the main types of file formats and the effects the selection of a format has on the processing of a job.

**Information sources**

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Input	• Files from a variety of software sources and platforms
Output	• Digital plate setters and direct imaging presses
Complexity	• Complex refers to intricate and detailed design (line and tones) and may include difficult vignettes, tone separations, colour reproductions
Quality standards	• Should meet client requirements and enterprise and industry standards
Degree of autonomy	• Working independently

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Final image must meet job specifications. All proofs and checks are confirmed as being completed before proceeding to output image. Selected plate size and orientation meet requirements of the press
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Output TWO complex images direct to plate or press

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that special purpose tools and equipment will be used

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP481B****Unit Descriptor****Design complex carton**

This unit describes the performance outcomes, skills and knowledge required to design cartons for which no templates exist.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to design an original complex carton that meets job specifications and substrate characteristics, and then produce an accurate example.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Assess the requirements of the brief            | 1.1 Discuss brief with client to ensure requirements are understood<br>1.2 Check that all relevant information is in the brief ie end use, dimensions and product characteristics  |
| 2. Design carton to suit requirements of the brief | 2.1 Determine appropriate carton style, size, material and calliper to meet the client brief<br>2.2 Use scanners or digitisers to import design material into computer program<br>2.3 Draw design using computer program<br>2.4 Set height, width and depth and gluing flap dimensions to meet the requirements of the client brief<br>2.5 Requirements for knife setting, stripping and gluing in production are checked and position is designed so as to have correct grain direction and to maximise use of material |
| 3. Use plotter to cut sample                       | 3.1 Output device (eg plotter) is set up ready for downloading design<br>3.2 Cutting and creasing depths are set<br>3.3 Calliper of material is checked<br>3.4 Material is positioned correctly<br>3.5 Output device is operated safely according to manufacturer's specifications and enterprise procedures<br>3.6 Routine machine maintenance is carried out   |
| 4. Assemble sample                                 | 4.1 Sample is cut by hand adopting safe practices<br>4.2 Cut sample is folded and glued by hand ensuring that angles and construction are correct  |
| 5. Check and adjust design                         | 5.1 Sample is checked for conformance to the client brief<br>5.2 Design is adjusted if necessary to meet job specifications  |
| 6. Output design                                   | 6.1 Design is saved ready for downloading to forme cutter<br>6.2 Design is outputted as keyline for artwork or as film as required<br>6.3 Relevant paperwork is completed  |



## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting the job brief and discussing possibilities with the client
- Collecting, analysing and organising information by matching the job brief with data on carton types, designs and materials
- Planning and organising activities by planning the sequence of operations to facilitate processing
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating sizes, callipers and efficient use of materials
- Problem-solving skills by recognising and fixing problems with samples
- Use of technology by using equipment correctly to ensure efficient output and accurate designs

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### OHS

- What health and safety concerns are there when using computers, plotters and scanners?

#### Board characteristics

- How does board grain affect carton design?
- How does board calliper affect carton design?
- How do you use a micrometer correctly?
- How do you determine what board is appropriate for a product?
- How do you determine scuff, heat and moisture resistance?
- What effect do inks and sealants have on board characteristics and selection?

#### Computer programs and techniques

- What computer programs are available for carton design?
- What do you need to check when programming a new design on the computer system?

#### Digitisers and scanners

- What are the uses and limitations of digitisers and scanners?
- What needs to be checked when using digitisers and scanners?

#### Carton types and uses

- What types of products are the following types of cartons used for? (sleeves, full flap, auto lock, crash lock, trays)
- How do you determine if a design is appropriate for its end use?
- What effect on design and materials does refrigeration have?
- What aspects of product sizing and tolerances should be rechecked?

#### Structural issues

- How do you set tolerances in a design?
- How do you ensure stability in a display carton?
- How do you determine appropriate strength?
- How do you determine appropriate size and placing of glue lines and nips?

### Packing techniques

- What carton designs are suitable for machine packing?
- What carton designs are suitable for hand packing?

### Knife making and manufacturing processes

- What constraints on design and positioning on the forme are caused by the requirements of knife making and production?
- How do manufacturing requirements with regard to cutting and gluing affect carton design?
- How do you determine appropriate angles and cornering of flaps?

### Graphic design software

- What are the main features of, and differences between, TWO different graphic design software programs that need to be considered when outputting carton designs?
- How do you ensure that output is appropriate for the graphic design software used by the customer?

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Design tools	<ul style="list-style-type: none"> <li>• Appropriate computer programs, output devices, plotters, scanners, digitisers</li> </ul>
Types of design	<ul style="list-style-type: none"> <li>• Full range of cartons including sleeves, tucks, full flap, auto lock, crash lock, trays and other special designs for which there are no existing templates on the computer</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working in consultation with others</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The sample carton accurately meets the client brief and substrate characteristics
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce TWO different complex carton designs

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP484B****Unit Descriptor****Set up and operate automated workflow**

This unit describes the performance outcomes, skills and knowledge required to set up and operate an automated workflow to produce a print ready file.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to set up and operate an automated workflow to produce a print ready file.

**Unit Sector**

Pre-press

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Check job files and perform pre-flight       | <ul style="list-style-type: none"> <li>1.1 All details required for the job are checked and confirmed against job specifications</li> <li>1.2 Files are loaded and all file resources are checked to determine if file is ready for production</li> <li>1.3 File format is identified and best method of submission is chosen</li> <li>1.4 Missing fonts are, where available, embedded and image data optimised, cropped and / or compressed if necessary</li> <li>1.5 Hairlines are thickened to a minimum width, if necessary</li> <li>1.6 Layout images are assigned as high resolution data and down sampled</li> <li>1.7 Thumbnails are generated for viewing pages</li> </ul> |
| 2. Create portable job ticket format processors | <ul style="list-style-type: none"> <li>2.1 Parameters for individual elements or steps for all phases of the job are defined</li> <li>2.2 All phases of the job are sequenced according to the workflow and enterprise processes</li> <li>2.3 If necessary access levels are set for operators</li> <li>2.4 The workflow definition is reviewed and saved</li> </ul>   |
| 3. Transform colours                            | <ul style="list-style-type: none"> <li>3.1 Assigned colour libraries are checked for consistency and colour names are converted if inconsistency is present</li> <li>3.2 Spot colours are converted to process colours where necessary</li> <li>3.3 Output colours are matched to colours input using selected ICC profile</li> <li>3.4 Colours are set for the final proof output</li> </ul>  |
| 4. Set trapping parameters                      | <ul style="list-style-type: none"> <li>4.1 The portable job ticket format trapping settings are used and additional trapping requirements are added where appropriate</li> <li>4.2 Traps are viewed and checked in the file</li> <li>4.3 If necessary traps are edited, removed or replaced</li> <li>4.4 An appropriate separation-capable proof is viewed to ensure that the separations will output as expected</li> </ul>   |

5. Proof pages
  - 5.1 An imposition plan is assigned to the job
  - 5.2 A form proof from the plotter is printed containing all printer marks and signature marks are viewed for final checking
  - 5.3 Pages are outputted on a page proofer and checked
  - 5.4 Any required changes are made and proof is approved by client
  
6. Prepare for output
  - 6.1 Jobs to be imaged are outputted to film or plate
  - 6.2 CIP3 / CIP4 data is captured and dealt with according to enterprise procedures
  - 6.3 Information for the presetting of cutting and folding machines is generated if required and plug-ins are available
  - 6.4 The Print Production Format files are exported to or saved for the print console and outputted for plate or film imaging
  - 6.5 Job data is saved and archived as required
  - 6.6 Documentation is signed off according to enterprise procedures

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by exporting or saving print production format files
- Collecting, analysing and organising information by loading files and checking file resources to determine production status
- Planning and organising activities by proofing pages prior to preparing for output
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by generating thumbnails for viewing pages
- Problem-solving skills by checking assigned colour libraries and converting inconsistent colour names
- Use of technology by creating portable job ticket format processors

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Pre-flighting**

- Why is it important to change hairline effects at times?
- What is the importance of the colour space?

#### **Trapping**

- What is trapping?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

File resources	<ul style="list-style-type: none"> <li>• Fonts, high-resolution images</li> </ul>
File format	<ul style="list-style-type: none"> <li>• PP, EPS, PDF, PS, TIFF, JPEG</li> </ul>
Separation-capable proof	<ul style="list-style-type: none"> <li>• such as VPS, Spectrum, InSite, or Prinergy's Separation Viewer plug-in for Adobe Acrobat</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Setting up and operating an automated workflow to produce a print ready file
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Set up and operate an automated workflow to produce TWO different print ready files
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- automated workflow software

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPPP385B****Unit Descriptor****Employability Skills****Application of the Unit****Operate a database for digital printing**

This unit describes the performance outcomes, skills and knowledge required to enter, retrieve and prepare data for personalised printing.

This unit contains employability skills.

This unit requires the individual to enter, retrieve and prepare data for personalised printing by integrating a database with a layout.

At this level of variable data printing the competency is about integrating a database with a layout.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                                |   |
|--------------------------------|---|
| 1. Enter and retrieve data     | <ul style="list-style-type: none"> <li>1.1 All data required for the job is checked and confirmed against job specifications</li> <li>1.2 Data is accurately entered and completed to meet job specifications</li> <li>1.3 Fields are created or modified to effectively meet job specifications whilst maintaining the integrity of existing data</li> <li>1.4 Data structure is maintained according to job specifications</li> <li>1.5 Automated facilities for data checking are used effectively</li> <li>1.6 Data is located and retrieved as required by the job</li> <li>1.7 The help function is used to find solutions to queries if required</li> <li>1.8 Files are saved to preserve data integrity and to comply with organisational requirements</li> </ul> |
| 2. Set extraction requirements | <ul style="list-style-type: none"> <li>2.1 The database fields meet the placement requirements for the document format</li> <li>2.2 Client data requirements are prepared by interrogating the database</li> <li>2.3 The information extracted to the template is correctly processed and saved according to job specifications</li> <li>2.4 A composition engine is used to achieve the required data format and page layout requirements for merging variable data and static elements</li> </ul>   |
| 3. Test data                   | <ul style="list-style-type: none"> <li>3.1 Data is checked to ensure it is uncorrupted</li> <li>3.2 Data is in the correct sequence required for the run</li> <li>3.3 Required dynamic links operate correctly and settings conform to job specifications</li> <li>3.4 Any adjustments required are made and retested</li> </ul>  |



- |                |   |
|----------------|---|
| 4. Output data | 4.1 The database is configured to the printer and the printer output parameters are set to meet output requirements |
|                | 4.2 Quality standards for data output are confirmed according to job specifications                                 |
|                | 4.3 The run is monitored to identify improvement opportunities and to maintain quality                              |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by creating or modifying fields to enter data
- Collecting, analysing and organising information by locating and retrieving the correct data required of the job
- Planning and organising activities by using a composition engine to achieve the required data format and page layout requirements
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by configuring the database with the correct output parameters to meet requirements
- Problem-solving skills by ensuring that the database fields meet the placement requirements for the document format
- Use of technology by operating a database for digital printing

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Computer specific applications
- Job sheets
- Fonts
- Image parameters
- Storage and retrieval of digital information
- Production standards

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                        |  |
|------------------------|--|
| Job specification      | • Job sheets, batch processing orders, job specifications  |
| Fields                 | • Database fields  |
| Placement requirements | • Are the variable data and static fields. Variable data fields for this unit are text and images with fixed placement |

Composition engine	<ul style="list-style-type: none"> <li>DL Formatter, Autograph Series, DL Pager, Calligramme, DL Composer</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>Should meet client requirements and enterprise and industry standards</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- Entering, retrieving and preparing data for personalised printing. Both text and graphic may be used with fixed placement
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### Context of and specific resources for assessment

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- it is expected that relevant hardware and software will be used for this unit

### Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU120B****Unit Descriptor****Employability Skills****Application of the Unit****Unit Sector****Pack product**

This unit describes the performance outcomes, skills and knowledge required to pack basic printed or paper products.

This unit contains employability skills.

This unit requires the individual to correctly pack products safely and without causing damage to the product.

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                                 |   |
|---------------------------------|---|
| 1. Assess final product         | <ul style="list-style-type: none"> <li>1.1 Finished job is collected / received and checked against job specifications according to enterprise procedures</li> <li>1.2 Defects, irregularities and discrepancies are identified and action taken according to enterprise procedures</li> <li>1.3 Fanning, knock up and splitting of product is performed safely and efficiently to ensure ease of use in next stage</li> </ul>      |
| 2. Pack product                 | <ul style="list-style-type: none"> <li>2.1 Wrapping and packaging materials are prepared according to enterprise procedures</li> <li>2.2 Product is packaged to specification</li> <li>2.3 Packaged goods are checked, weighed and labelled according to delivery instructions and enterprise procedures</li> </ul>   |
| 3. Prepare stock for next phase | <ul style="list-style-type: none"> <li>3.1 Product is stacked onto pallets in a predetermined pattern that will stop the product falling or being damaged</li> <li>3.2 If required, the pallet is wrapped and moved safely to another location in predetermined form as appropriate to product size and type</li> <li>3.3 Documentation associated with tasks is accurately completed according to enterprise procedures</li> </ul> |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Collecting, analysing and organising information by collecting / receiving and checking finished job against job specifications
- Problem-solving skills by identifying defects, irregularities and discrepancies and taking action according to enterprise procedures
- Communication of ideas and information by labelling packaged goods according to enterprise procedures
- Planning and organising activities by performing safely and efficiently fanning, knock up and splitting of product to ensure ease of use in next stage
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by checking and weighing packaged goods
- Use of technology by using pallet wrapping equipment

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Wrapping and packing materials and methods

- What are the OHS regulations on packaged goods?
- How was the type of packaging determined?
- Why does the type of transport or destination have a bearing on the wrapping and packing method?
- How did you determine the number of units to be wrapped in each parcel?
- What details need to be recorded on dispatching labels and why?

#### Completing documentation of dispatched product

- What details are recorded when dispatching?
- Why is it necessary to have all shipping documentation completed?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Type of inspection	• Various types of inspection techniques (ie 100%, random, periodic or continuous in-line inspection)
Packaging techniques	• Various methods and equipment used in wrapping and packing of printed and printing related products
Degree of autonomy	• Autonomy required in working under supervision to ensure production requirements are met

Enterprise procedures	<ul style="list-style-type: none"> <li>• Range of enterprise procedures within defined work area</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Product types	<ul style="list-style-type: none"> <li>• Range of products within the major categories of mail, security mail, paper, pressure sensitive material, board, corrugated board, plastics and related films</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- Prepare and pack TWO lots of printed or other paper product following correct procedures, job and workplace specifications and the listed Performance Criteria
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Product is correctly packed and labelled where necessary with no damage occurring to product due to packing
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### Context of and specific resources for assessment

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- resources and product to pack

### Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU201B****Prepare, load and unload reels and cores on and off machine****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to load and unload reels and cores on and off machines. It should be assessed separately only when this is a substantial part of the worker's job. Otherwise it is integrated into most printing and converting, binding and finishing set up units.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to correctly load and unload reels and cores on and off machines whilst maintaining OHS standards

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                                      |  |
|--------------------------------------|--|
| 1. Prepare reels and cores           | <ul style="list-style-type: none"> <li>1.1 Faulty material is visually identified and removed according to enterprise procedures</li> <li>1.2 Substrate is positioned in correct unwind direction</li> <li>1.3 Substrate is spliced / joined according to job requirements</li> <li>1.4 Reel cores are selected or prepared to meet OHS requirements and job specifications</li> </ul>   |
| 2. Load reels and cores onto machine | <ul style="list-style-type: none"> <li>2.1 Reels are loaded according to OHS requirements and manufacturer's and enterprise procedures and specifications</li> <li>2.2 Reel cores are loaded to meet job specifications</li> <li>2.3 Area around machine is cleaned during and on completion of loading</li> </ul>   |
| 3. Unload reels off machine          | <ul style="list-style-type: none"> <li>3.1 Reels are unloaded according to OHS requirements and manufacturer's and enterprise procedures and specifications</li> <li>3.2 Reels are prepared (stripped, stacked, wrapped, labelled) for next process according to manufacturer's and enterprise procedures and specifications</li> <li>3.3 Reels are stored according to manufacturer's and enterprise procedures and specifications</li> </ul> |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by working with the printer to ensure that reels are suitably prepared and brought to the production process
- Collecting, analysing and organising information by identifying faulty material
- Planning and organising activities by preparing and loading reels
- Teamwork when working with printer to ensure that correct reels are loaded when needed to ensure efficient production
- Mathematical ideas and techniques by calculating weights of reels to ensure correct and safe handling; and calculating paper use to ensure timely delivery and loading of new reels
- Problem-solving skills by preparing reels for the next process
- Use of technology by loading and unloading reels and cores on and off the machine according to manufacturer's specifications

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### OHS

- Identify all nip points, guards and safety devices on the machine.
- What potential dangers are there at these points?

#### Identifying characteristics of reels

- What necessary information can be obtained from the reel label?
- What methods could be used to identify reel grain direction?

#### Identifying faulty reels and cores

- What features would indicate that a reel is faulty?
- What techniques could be used to combat distorted reels?
- What techniques could be used to combat distorted cores?

#### Manual handling of reels

- What are the OHS concerns related to the manual handling of reels?

#### Preparing and loading selected reels

- How would you determine the position of the reels on the unwind unit?
- What techniques could be used to join reels to the web?

#### Unloading reels off the machine for further processing

- What are the OHS concerns related to the unloading of reels off the machine?
- What faults could be created by reels being unloaded incorrectly?
- What preparations need to be considered for the next operation?

#### Information sources

- What machine manuals, safety and other documentation are relevant to this task and

where are they kept?

- What information is included in these documents?

## **RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Range of machines	<ul style="list-style-type: none"><li>• Range of printing, converting, binding and finishing, corrugating and laminating machines</li></ul>
Substrate types	<ul style="list-style-type: none"><li>• Range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal</li></ul>
Substrate delivery	<ul style="list-style-type: none"><li>• Wide and narrow reel delivery systems</li></ul>
Splicing medium	<ul style="list-style-type: none"><li>• Splicing tapes and adhesives</li></ul>
Substrate preparation	<ul style="list-style-type: none"><li>• Manual, semi-automatic and automatic zero speed or flying splicing mechanisms and a range of splicing patterns</li></ul>
Quality standards	<ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul>
Degree of autonomy	<ul style="list-style-type: none"><li>• Working under supervision to defined procedures</li></ul>



## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Identify all stop and safety controls on the machine
- The individual will correctly load and unload reels and cores on and off machines whilst maintaining OHS standards
- Prepare, load and unload at least TWO wide OR narrow reels and cores demonstrating BOTH manual and EITHER semi-automatic OR automatic splicing, according to job specifications and listed performance criteria. BOTH tapes AND adhesive splicing mechanisms must be demonstrated
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- printing or converting machine

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU202B****Prepare, load and unload product on and off machine****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to load and unload product on and off machines. It should be assessed separately only when this is a substantial part of the worker's job. Otherwise it is integrated into most printing and converting, binding and finishing set up units.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to correctly prepare, load and unload product on and off machines according to OHS requirements and manufacturer / supplier's specifications with minimum downtime.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                               |  |
|-------------------------------|--|
| 1. Prepare product            | <ul style="list-style-type: none"> <li>1.1 Job sheets or equivalent are interpreted correctly</li> <li>1.2 Product is located and prepared to meet job specifications</li> <li>1.3 Product is positioned correctly to the machine to meet job specifications</li> <li>1.4 Faulty product is visually identified and removed according to OHS requirements and enterprise procedures</li> </ul>   |
| 2. Load product onto machine  | <ul style="list-style-type: none"> <li>2.1 Product is loaded according to OHS requirements and manufacturer's and enterprise procedures and specifications</li> <li>2.2 Area around machine is cleaned during and on completion of loading</li> </ul>  |
| 3. Unload product off machine | <ul style="list-style-type: none"> <li>3.1 Product is unloaded according to OHS requirements and manufacturer's and enterprise procedures and specifications</li> <li>3.2 Product is prepared (hand-stripped, stacked, wrapped, labelled) for next process according to manufacturer's and enterprise procedures and specifications</li> <li>3.3 Product is stored according to manufacturer's and enterprise procedures and specifications</li> </ul> |

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by working with others to maintain the production process
- Collecting, analysing and organising information by preparing product
- Planning and organising activities by loading product onto machines
- Teamwork when working with printer to ensure that correct substrates are loaded when needed to ensure efficient production
- Mathematical ideas and techniques by calculating weights of substrates to ensure correct and safe handling; and calculating substrate use to ensure timely delivery and loading
- Problem-solving skills by preparing product for the next stage in the process
- Use of technology by using manual and automatic stackers

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Identifying characteristics of substrates (grain direction, gsm, watermarks)**

- What necessary information can be obtained from the package label?
- What methods could be used to identify substrate grain direction?
- How are watermarks identified in substrates?
- What are the different characteristics of coated and uncoated stocks?

#### **Manual handling of the substrate**

- What are the OHS concerns related to the manual handling of substrates?
- What are the elements of a correctly knocked up stack?
- What are the benefits of fanning sheets prior to stacking or loading?
- When would sheets be turned?
- What are the procedures in turning substrates?

#### **Preparing and loading selected substrate**

- What techniques are used to ensure that the stack is knocked up correctly?
- How would you determine which side guide the stack is positioned to?
- What methods are used to ensure correct positioning of watermarked substrates?
- Identify the printing side of any given substrate.
- How can distorted stacks be made even during loading?

#### **Unloading sheets off the machine**

- What are the OHS concerns related to the unloading of sheets off the machine?
- What faults could be created by substrate being unloaded incorrectly?
- What preparations need to be considered for following operations?

#### **Identifying faulty substrates**

- What conditions could cause a stack to become uneven?
- What techniques could be employed to combat distorted stacks?

## Information sources

- What machine manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Range of equipment	<ul style="list-style-type: none"><li>• Range of printing, screen printing, converting, binding and finishing, corrugating, coating and laminating machines</li></ul>
Substrate types	<ul style="list-style-type: none"><li>• Range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, metal, fabrics or textiles</li></ul>
Substrate delivery	<ul style="list-style-type: none"><li>• Large and small sheet / section delivery systems</li></ul>
Substrate preparation	<ul style="list-style-type: none"><li>• Manual and machine-based fanning, turning and jogging</li></ul>
Feeding units	<ul style="list-style-type: none"><li>• Manual and automatic single sheet and stream-fed pre-feeders and feeders</li></ul>
Stacking units	<ul style="list-style-type: none"><li>• Manual and automatic stackers</li></ul>
Quality standards	<ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul>
Degree of autonomy	<ul style="list-style-type: none"><li>• Working under supervision to defined procedures</li></ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The individual will correctly prepare, load and unload product on and off machines according to OHS requirements, manufacturer's / supplier's specifications with minimum downtime
- Prepare, load and unload product on and off any ONE appropriate machine incorporating specific enterprise requirements; manual techniques; fanning, turning, jogging (where appropriate) and stacking; to job and workplace specifications according to the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- printing or converting machine

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU203B****Unit Descriptor****Prepare and maintain the work area**

This unit describes the performance outcomes, skills and knowledge required to undertake basic housekeeping functions and retrieve and deliver materials including chemicals and liquid waste within the workplace.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to prepare and maintain the work area according to OHS and enterprise procedures.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Perform general cleaning duties                               | <ul style="list-style-type: none"> <li>1.1 Requirements for cleaning duties are identified</li> <li>1.2 Personal safety equipment, where needed, is selected and used according to OHS and enterprise procedures</li> <li>1.3 Appropriate cleaning equipment and chemicals / detergents for specific tasks are determined, prepared and mixed to manufacturer's specifications and OHS procedures</li> <li>1.4 Procedures for handling, storage and correct disposal of cleaning liquids are carried out according to enterprise, OHS and EPA specifications</li> <li>1.5 Cleaning is carried out to OHS and enterprise requirements</li> </ul>  |
| 2. Maintain supplies of materials                                | <ul style="list-style-type: none"> <li>2.1 Requests are received, where relevant, and tasks are confirmed and organised according to specific procedures</li> <li>2.2 Tools and equipment are identified, stored and maintained according to manufacturer's recommendations to ensure ease of access and operator safety</li> <li>2.3 Appropriate equipment for transferring material or equipment is identified and organised, where relevant</li> <li>2.4 Material or equipment is loaded and unloaded using suitable equipment (other than forklift) according to materials handling requirements, safe work practices and correct manual handling techniques</li> <li>2.5 Material is transferred to correct destination in a safe manner</li> </ul> |
| 3. Store and retrieve artwork, information, used plates and film | <ul style="list-style-type: none"> <li>3.1 Inventory control procedures are followed to ensure correct filing and retrieval of artwork, information, used plates and film</li> <li>3.2 Artwork and other materials are stored and retrieved according to enterprise procedures to ensure preservation</li> </ul>   |

- 4. Handle chemicals and liquid waste
  - 4.1 Material safety data sheets are used to identify safe chemical handling procedures
  - 4.2 Chemicals and liquid waste are handled according to manufacturer's specifications and enterprise OHS requirements
  - 4.3 The correct procedure for dealing with spilt chemicals is demonstrated according to OHS requirements

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by supplying materials when needed and conveying information between production workers and stores people
- Collecting, analysing and organising information by accessing and using MSDSs; using basic inventory procedures
- Planning and organising activities by confirming and organising tasks
- Teamwork when working with others to ensure that correct consumables and materials are available when needed
- Mathematical ideas and techniques by calculating dilution factors for cleaning materials / chemicals to ensure correct and safe handling; calculating weights of materials to ensure safe handling
- Problem-solving skills by applying the correct procedure for dealing with spilt chemicals
- Use of technology by using manual handling equipment to move supplies

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Performing general cleaning duties

- What personal safety equipment may be required to perform cleaning duties?
- What are the OHS concerns related to the use of cleaning chemicals?

#### Handling of supplies, parts and finished product

- What potential dangers are there when handling supplies or parts?
- What are the safety requirements for transporting finished products?
- What recording details are necessary in the transfer of the finished product?
- What safety requirements and procedures are necessary for the disposal of liquid waste?

#### Operating inventory control systems

- What key information is required for accurate storage and for ensuring retrieval?
- What filing inventory procedures are utilised in your work environment?

#### The nature of various materials and substrates

- What OHS considerations are associated with materials and substrates used in the workplace?
- What are the main environmental considerations associated with storage of artwork, photographic materials and plates?

#### Safety requirements

- What are the safety requirements for the storage and disposal of chemicals?
- What potential accidents can occur when cleaning or handling supplies?
- What are the weight limitations when lifting manually?
- What injuries may occur if correct lifting techniques are not followed?
- What is the general rule to follow when placing loads so as to avoid back injury?



## Quality requirements

- How can incorrect handling affect quality?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Sector	<ul style="list-style-type: none"> <li>• All sectors of pre-press, printing, screen printing, corrugating, converting and finishing</li> </ul>
Tools and equipment	<ul style="list-style-type: none"> <li>• Manual, mechanical and electronic equipment used in the production process</li> </ul>
Chemicals	<ul style="list-style-type: none"> <li>• Wet and dry chemicals</li> </ul>
Enterprise procedures	<ul style="list-style-type: none"> <li>• Range of enterprise procedures within defined work area</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working under supervision to defined procedures</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Demonstrate cleaning, delivery of materials, equipment, artwork, information, used plates and film and chemical and liquid waste handling (if relevant to the workplace) according to the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- a production environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU207B****Unit Descriptor****Prepare machine for operation (basic)**

This unit describes the performance outcomes, skills and knowledge required to prepare machines and assist with their operation according to enterprise procedures. It is an integral part of most printing and finishing machine set ups but need not be assessed separately unless it represents the main job of the worker. It can also be used to assess processes on dedicated machines.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit is intended to be used by machine minders and offsidiers assisting in the operation of a machine.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Prepare or set up substrates (or loads)        | <ul style="list-style-type: none"> <li>3.1 Job sheets or equivalent instructions are interpreted correctly</li> <li>3.2 Product is located, checked and prepared to meet job specifications according to established enterprise procedures and OHS procedures</li> <li>3.3 Faulty material is visually identified and removed according to established enterprise procedures and OHS procedures</li> </ul>   |
| 2. Set up reel systems (OR Element 3)             | <ul style="list-style-type: none"> <li>2.1 Unwind reel is set up and adjusted to suit job requirements</li> <li>2.2 Webbing procedures are carried out according to enterprise procedures</li> <li>2.3 Web-control system is set up and adjusted to suit job requirements</li> <li>2.4 Reels are spliced / joined to suit job requirements</li> <li>2.5 Rewind reel is set up and adjusted to suit job requirements</li> <li>2.6 Folder is set up and adjusted to suit job requirements</li> <li>2.7 Sheeter is set up and adjusted to suit job requirements</li> <li>2.8 Readiness of transport and delivery systems is reported according to enterprise procedures for final adjustments by designated person</li> </ul>           |
| 3. Set up sheet or product systems (OR Element 2) | <ul style="list-style-type: none"> <li>3.1 Feeder is set up and adjusted to suit job requirements</li> <li>3.2 Sheet / product pick-up and transportation system is set up and adjusted to suit job requirements</li> <li>3.3 Transfer systems are set up and adjusted to suit job requirements</li> <li>3.4 Delivery is set up and adjusted to suit job requirements</li> <li>3.5 Product is removed from process according to job instructions</li> <li>3.6 Sheet / product transfer and control system is set up and adjusted to suit job requirements</li> <li>3.7 Readiness of transport and delivery systems is reported according to enterprise procedures for final adjustments by designated person, if required</li> </ul> |

- 4. Prepare machine
  - 4.1 Machine is set up according to job instructions
  - 4.2 Inks, glues, liquid and or other materials are loaded as required according to manufacturer's instructions and enterprise procedures
  - 4.3 Plates, cutting or other devices are installed as required according to manufacturer's instructions and enterprise procedures
  - 4.4 Registration, alignment or centring is confirmed according to machine manufacturer's / supplier's instructions and enterprise procedures
  - 4.5 Machine is run through cycle at the same time ensuring that the substrate / product is positioned properly and that the process is being performed according to established workplace and OHS procedures
  - 4.6 Readiness of machine is reported according to enterprise procedures for final adjustments and proofing by designated person, if required
  
- 5. Conduct shutdown of production process
  - 5.1 Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures
  - 5.2 Shutdown is conducted in association with fellow workers, if required, and in compliance with OHS requirements
  - 5.3 Unused materials are stored according to manufacturer's / supplier's specifications and enterprise procedures
  - 5.4 Used plates, cutting and other devices are removed and stored according to manufacturer's / supplier's specifications and enterprise procedures
  - 5.5 All product is removed from operating area according to enterprise procedures and OHS standards
  - 5.6 Machine faults requiring repair are identified and reported to designated person according to enterprise procedures
  - 5.7 Repair / adjustment is verified prior to resumption of operations
  
- 6. Clean and wash up machine at end of run
  - 6.1 Machine sections, as relevant to process, are cleaned ready for next run
  - 6.2 Inking / gluing / coating system, if used in process, is washed up ready for next run, and waste is disposed of according to enterprise and regulatory requirements
  - 6.3 In-line printing / converting / binding / finishing / coating units are cleaned ready for next run
  - 6.4 Feed, transportation and delivery systems are disengaged and cleaned ready for next run

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by interpreting job tickets
- Collecting, analysing and organising information by reading data on substrates, inks and glues to ensure correct usage and handling
- Planning and organising activities by deciding on a sequence of set ups and wash-ups to ensure efficient operation
- Teamwork when working with others to ensure efficient set up and wash-up
- Mathematical ideas and techniques by calculating substrate and other consumable requirements for job
- Problem-solving skills by recognising and reporting problems in set up (or wash-up)
- Use of technology by using monitoring systems

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Handling of supplies, parts and finished product**

- How do you avoid back strain when lifting heavy objects?
- How do you avoid damaging finished product?
- What supplies require special handling?

#### **Substrate preparation and machine set up procedures**

- What are the OHS considerations when preparing substrates and setting up a machine?
- What are the procedures for the disposal of faulty materials?
- What are the possible danger areas of the machine?
- Where is the registration section of the machine?
- What is the function of the registration section of the machine?
- What problems could interrupt the running cycle of the machine?

#### **Shutdown procedures**

- Which areas of the Machine are modified during shutdown?
- What areas of the machine should be checked for possible repair?
- What details should be included when labelling unused ink?

#### **Cleaning and washing machine**

- What are the OHS considerations when washing up a machine?
- How could an ineffective wash-up affect the following production run?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Machines	<ul style="list-style-type: none"> <li>• Range of printing, converting, binding, corrugating, laminating, coating processes. Also minor processes including in-line auto packers, down stackers, or stackers, pile turners and wrappers on dedicated machines</li> </ul>
Product	<ul style="list-style-type: none"> <li>• All substrates and paper or plastic converting products</li> </ul>
Enterprise procedures	<ul style="list-style-type: none"> <li>• Range of enterprise procedures within defined work area</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working under supervision or in teams to defined procedures. This unit is applicable to workers who assist in machine set up or prepare machines up to the stage of final adjustment and proofing</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Demonstrate all safety devices on the machine
- Prepare machines and assist with their operation according to enterprise procedures
- Prepare and set up to the stage of final adjustment of any ONE machine according to manufacturer's specifications and the listed Performance Criteria OR set up a minor process on a dedicated machine
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- a printing or converting machine in a production environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU208B****Unit Descriptor****Operate and monitor machines (basic)**

This unit describes the performance outcomes, skills and knowledge required to operate and monitor machines under supervision according to enterprise requirements

This unit is an integral part of most printing and converting, binding and finishing produce units. It should only be assessed separately when it constitutes the worker's main job.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit is intended to be used by machine minders and offsidiers assisting in the operation of a machine. It is an integral part of most printing and finishing machine produce units but need not be assessed separately unless it represents the main job of the worker. It can also be used to assess minor processes on dedicated machines..

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Operate and monitor reel systems (OR Element 2) | <ul style="list-style-type: none"> <li>1.1 Job sheets or equivalent instructions are interpreted correctly</li> <li>1.2 Reel stand is monitored and adjusted to ensure efficient continuous operation according to job instructions</li> <li>1.3 Web control system is monitored and minor adjustments made to ensure correct tension and accurate continuous positioning of the web for efficient</li> <li>1.4 Substrate is added to process according to job instructions</li> <li>1.5 Reel rewind section is monitored and minor adjustments made to maintain correct tension and to ensure no marks, blemishes or damage to finished product</li> <li>1.6 Substrate is removed from process according to job instructions</li> <li>1.7 Sheeting section is monitored and minor adjustments made to ensure quality and efficient product delivery</li> <li>1.8 Need for major adjustments to process are identified and reported according to company operating procedure to designated person</li> </ul> |
|--|--|



- 
- |  |  |
|--|--|
| 2. Operate and monitor sheet or product systems (OR Element 1) | 2.1 Job sheets or equivalent instructions are interpreted correctly<br>2.2 Feeder is monitored and minor adjustments made to ensure continuous and efficient feeding to machine<br>2.3 Sheet or product pick-up and transport system is monitored and minor adjustments made to ensure accurate and continuous sheet or product handling and efficient operation<br>2.4 Transfer systems are monitored and minor adjustments made to ensure correct and continuous sheet or product handling and efficient operation<br>2.5 Product is added to process according to job instructions<br>2.6 Delivery is monitored and minor adjustments made to ensure quality and efficient product delivery<br>2.7 Need for major adjustments to process are identified and reported according to company operating procedures to designated person |
| 3. Maintain and monitor production process                     | 3.1 Production process is operated and monitored in association with fellow workers and according to company specifications and planned daily schedule<br>3.2 Product is monitored and minor adjustments are made to ensure quality of output is maintained<br>3.3 Need for major adjustments to process are identified and reported according to operating procedure to other appropriate worker<br>3.4 Faulty performance of equipment is identified and reported according to enterprise procedures<br>3.5 Waste is sorted according to enterprise procedures   |
| 4. Conduct shutdown of production process                      | 4.1 Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures<br>4.2 Shutdown is conducted in association with fellow workers and in compliance with OHS requirements<br>4.3 Unused materials are stored according to manufacturer / supplier specifications and company operating procedures<br>4.4 Used plates, cutting and other devices are removed and stored according to manufacturer / supplier specifications and company operating procedures<br>4.5 All product is removed from operating area according to enterprise procedures and OHS standards<br>4.6 Machine faults requiring repair are identified and reported, according to enterprise procedures to designated person<br>4.7 Repair / adjustment is verified prior to resumption of operations                   |

- 5. Clean and wash up machine at end of run
  - 5.1 Machine units, as relevant to process, are cleaned ready for next run
  - 5.2 Inking / gluing / coating system, if used in process, is washed up ready for next run, and waste is disposed of according to company and regulatory requirements
  - 5.3 In-line printing / converting / binding / finishing / coating units are cleaned ready for next run
  - 5.4 Feed, transportation and delivery systems are disengaged and cleaned ready for next run

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by providing useful feedback to supervisors on course of job
- Collecting, analysing and organising information by accessing data on substrates and inks and glues to ensure efficient production
- Planning and organising activities by identifying sequences for monitoring to ensure efficient production
- Teamwork when working with supervisors to ensure efficient production
- Mathematical ideas and techniques by calculating the use of consumables and estimated completion times for jobs
- Problem-solving skills by recognising and correctly reporting production problems
- Use of technology by monitoring systems

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Handling of supplies, parts and finished product**

- How do you avoid back strain when lifting heavy objects?
- How do you avoid damaging finished product?
- What supplies require special handling?

#### **Reel or sheet transportation and delivery systems**

- What OHS factors must be considered when setting and / or operating machine transport and delivery systems?
- What areas of the transport and delivery systems should be monitored to ensure trouble-free operation?
- What area of the web control system should be adjusted to maintain correct web tension?
- What needs to be checked when substrate is removed from the machine?

#### **Maintaining production processes**

- What OHS factors must be considered when operating and monitoring the production process?
- What are the basic criteria for assessing finished product?
- What adjustments can be made to the machine to correct TWO different production or quality problems?

#### **Shutdown procedures**

- Which areas of the machine are modified during shutdown?
- What areas of the machine should be checked for possible repair?
- What details should be included when labelling unused ink?

#### **Cleaning and washing machine**

- What are the OHS considerations when washing up a machine?
- How could an ineffective wash-up affect the following production run?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Machines	<ul style="list-style-type: none"> <li>Range of printing, converting, binding, corrugating, laminating, coating processes. Also minor processes including in-line auto packers, down stackers, or stackers, pile turners and wrappers on dedicated machines</li> </ul>
Product	<ul style="list-style-type: none"> <li>All substrates, paper and plastic converting products</li> </ul>
Enterprise procedures	<ul style="list-style-type: none"> <li>Range of enterprise procedures within defined work area</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>Working under supervision to defined procedures. This unit is applicable to workers who operate and monitor machines but who would require assistance for any major adjustments or problems</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Operating and monitoring machines according to job and enterprise requirements
- Demonstrate all safety devices on the machine
- Under the supervision of, or in conjunction with a worker with the appropriate skills, operate, monitor and shut down and clean any ONE machine according to manufacturer's specifications and the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- a printing or converting machine in a production environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU211B****Unit Descriptor****Employability Skills****Application of the Unit****Unit Sector****Prepare ink and additives**

This unit describes the performance outcomes, skills and knowledge required to prepare inks and additives in a range of printing processes

This unit contains employability skills.

This unit describes the performance outcomes, skills and knowledge required to prepare inks and additives in a range of printing processes

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                         |   |
|-------------------------|---|
| 1. Select ink           | <ul style="list-style-type: none"> <li>1.1 Inks, dyes and additives are selected according to job specifications</li> <li>1.2 Quality and suitability of inks, dyes or additives are checked and appropriate action is taken</li> <li>1.3 Inks and dyes are selected according to suitability of substrate, adhesion, physical and chemical resistance, and light fastness, drying method and print process</li> </ul>  |
| 2. Prepare ink          | <ul style="list-style-type: none"> <li>2.1 Inks, dyes and additives are prepared according to OHS requirements, and manufacturer's / supplier's instructions with suitable precautions to minimise waste</li> <li>2.2 Correct colour and weight / volume of ink are mixed and prepared to match the requirements of the job specifications and the printing press to be used</li> <li>2.3 Formulation of the ink and the approved colour is appropriately recorded</li> </ul> |
| 3. Store and handle ink | <ul style="list-style-type: none"> <li>3.1 Inks, dyes and additives are appropriately stored, handled and labelled according to manufacturer's / supplier's instructions to prevent damage and hazards to personnel</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by correctly labelling inks and additives
- Collecting, analysing and organising information by accessing and using MSDSs and data on ink / additive formulation to ensure efficient production
- Planning and organising activities by selecting appropriate inks and additives prior to preparation
- Teamwork when maintaining the production process in association with other staff
- Mathematical ideas and techniques by calculating weights and volumes and dilution factors
- Problem-solving skills by identifying problems in formulation and making appropriate adjustments
- Use of technology by using manual and electronic measuring equipment

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Selecting inks and additives to match process and job requirements

- How is the suitability of the ink determined for the particular process?
- How were the characteristics of the chosen ink matched to the substrate?
- How do you determine if the ink adheres to the substrate?
- How do you determine the physical, chemical and light or colour fastness of the ink?

#### Preparing inks and additives

- What are the OHS concerns related to the preparation of inks and additives?
- How are the correct handling procedures determined?
- How do you determine the correct weight / volume required?
- What methods are available to check and adjust ink colour and consistency?
- How do you determine if the quality of the ink or additive is up to the standard required?

#### Matching colour

- What are the OHS concerns related to the matching of inks and additives?
- What effect do lighting conditions have on colour matching?
- How do you determine that the inks being mixed are compatible?
- How do you check inks for correct colour?

#### Storage, handling and labelling of inks and additives

- What MSDSs for this ink system are at hand?
- What environmental conditions are relevant to the storage of inks and additives?
- What conventions should be adhered to when labelling mixed inks?
- Describe the method of disposal of inks, solvent and solvent rags?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Type of ink, substrate	<ul style="list-style-type: none"> <li>• Range of inks and substrates commonly used in the printing industry</li> </ul>
Colour matching systems	<ul style="list-style-type: none"> <li>• Commonly used matching procedures</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Autonomy required in working under supervision to defined procedures to ensure production requirements are met</li> </ul>
Type of equipment	<ul style="list-style-type: none"> <li>• Range of manual and electronic measuring equipment</li> </ul>
Enterprise procedures	<ul style="list-style-type: none"> <li>• Range of enterprise procedures within defined work area</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correctly preparing ink and additives as required by job specifications
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare at least TWO lots of inks or additives to match a colour sample and specific end-use requirements according to workplace specifications and the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity



**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- inks and additives

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU212B****Unit Descriptor****Prepare coatings and adhesives**

This unit describes the performance outcomes, skills and knowledge required to prepare coatings and adhesives

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to prepare coatings and adhesives to match the job specifications.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Select coatings, adhesives and additives           | <ul style="list-style-type: none"> <li>1.1 Coatings, adhesives and additives are selected according to job specifications</li> <li>1.2 Quality and suitability of coatings, adhesives and additives are checked and appropriate action is taken</li> <li>1.3 Coatings, adhesives and additives are selected according to suitability of substrate, physical and chemical properties and performance</li> </ul>   |
| 2. Prepare coatings, adhesives and additives          | <ul style="list-style-type: none"> <li>2.1 Coatings, adhesives and additives are prepared according to OHS requirements and manufacturer's / supplier's instructions with suitable precautions to minimise waste</li> <li>2.2 Correct weight / volume of coatings, adhesives and additives are mixed and prepared to match the job specification and the process to be used</li> <li>2.3 Formulation of the coatings, adhesives and additives is appropriately recorded</li> </ul> |
| 3. Store and handle coatings, adhesives and additives | <ul style="list-style-type: none"> <li>3.1 Coatings, adhesives and additives are appropriately stored, handled and labelled according to manufacturer's / supplier's instructions to prevent damage and hazards to personnel</li> <li>3.2 Coatings, adhesives and additives are stored and used in a manner that ensures use before use-by dates</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by labelling coatings, adhesives and additives
- Collecting, analysing and organising information by accessing and using MSDSs and other data sources on coatings and adhesives to ensure safe and efficient production
- Planning and organising activities by selecting coatings and adhesives required prior to preparation
- Teamwork when maintaining the production process in association with other staff
- Mathematical ideas and techniques by calculating weights, volumes and formulations
- Problem-solving skills by checking quality and suitability of coatings and taking appropriate action if problems arise
- Use of technology by using manual and electronic measuring equipment

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Selecting coatings / adhesives to match process and job requirements

- How is the suitability of the coatings / adhesives determined for the particular process?
- How were the characteristics of the coatings / adhesives matched to the job / substrate?
- How do you determine if the coatings / adhesives adhere to the substrate?

#### Preparing coatings / adhesives

- What are the OHS concerns related to the preparation of coatings / adhesives?
- How are the correct handling procedures determined?
- What details are required in order to calculate quantities of coatings / adhesives?
- What details are required to record the formulation of coatings / adhesives?

#### Storage, handling and labelling of coatings / adhesives

- What are the OHS concerns related to the storage and handling of coatings / adhesives?
- What environmental conditions are relevant to the storage of coatings / adhesives?
- What conventions should be adhered to when labelling coatings / adhesives?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                         |  |
|-------------------------|--|
| Coatings                | <ul style="list-style-type: none"><li>• Range of coatings including wax, varnish, carbon coating, carbonless slurry; pre-mixed starch adhesives, cold and hot melt glue; and appropriate additives used in the printing industry</li></ul> |
| Colour matching systems | <ul style="list-style-type: none"><li>• Commonly used colour matching procedures</li></ul>   |
| Degree of autonomy      | <ul style="list-style-type: none"><li>• Autonomy required in working under supervision to defined procedures to ensure production requirements are met</li></ul>   |
| Type of equipment       | <ul style="list-style-type: none"><li>• Range of manual measuring equipment</li></ul>  |
| Enterprise procedures   | <ul style="list-style-type: none"><li>• Range of enterprise procedures within defined work area</li></ul>  |
| Quality standards       | <ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul>  |
| Substrate types         | <ul style="list-style-type: none"><li>• Range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal</li></ul>                                     |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Prepare coatings and adhesives according to job specifications
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare TWO different coatings or adhesives for specific end-use requirements to meet job and workplace specifications and the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- coatings, adhesives and substrates

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU216B****Unit Descriptor****Employability Skills****Application of the Unit****Unit Sector****Inspect quality against required standards**

This unit describes the performance outcomes, skills and knowledge required to inspect the quality of work against job specifications.

This unit contains employability skills.

This unit is a minimum quality standard required for anyone to operate successfully in the workplace

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Carry out inspection of quality during job | <ul style="list-style-type: none"> <li>1.1 Job is collected / received and inspected against job specifications according to enterprise standards and procedures</li> <li>1.2 Quality specifications and tolerances are understood</li> <li>1.3 Variation to standards is monitored and corrective action taken to rectify the problem according to enterprise procedures</li> <li>1.4 Inspection and testing procedures are applied at regular intervals to determine conformity with specifications and to minimise waste</li> <li>1.5 Unsatisfactory work is identified according to predetermined standards and enterprise procedures</li> </ul> |
| 2. Complete documentation                     | <ul style="list-style-type: none"> <li>2.1 Documentation is accurately completed to meet required enterprise procedures</li> <li>2.2 Problems and suggestions for improvement are documented and passed on to appropriate personnel</li> </ul>   |

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by providing feedback to supervisors on quality problems and issues
- Collecting, analysing and organising information by accessing information on quality requirements eg tolerances and applying these in the workplace to ensure a quality product
- Planning and organising activities by checking quality requirements before commencing the job
- Teamwork when participating in quality reporting procedures at all levels
- Mathematical ideas and techniques by applying inspection and testing procedures as relevant
- Problem-solving skills applied by identifying quality problems and resolving or reporting them
- Use of technology by using relevant inspection and testing procedures

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Principles of the quality system**

- What are three common faults that need to be recognised?
- Why is quality important?

#### **Checking quality requirements before job commencement**

- What quality standards have been set by the customer?
- How are enterprise procedures for quality achieved?
- What are the necessary quality areas that should be inspected?

#### **Quality inspection procedures**

- When should quality inspections be carried out?
- What result does unnecessary inspection have on production output?
- What control instruments are used in quality inspection?
- What should you do if you identify a fault?
- Who is responsible for the quality of the product?

#### **Documentation procedures**

- What specifications are recorded on the job sheet?
- What necessary information needs to be documented?
- Who should receive this information?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Type of inspections	<ul style="list-style-type: none"> <li>• Various types of inspection and testing techniques (ie 100%, random, periodic or continuous in-line inspection)</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Enterprise procedures	<ul style="list-style-type: none"> <li>• Range of enterprise procedures within defined work area</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Autonomy required in working under supervision to ensure production requirements are met</li> </ul>
Sector	<ul style="list-style-type: none"> <li>• All sectors of pre-press, printing, screen printing, multimedia, converting, binding and finishing, mail house and ink manufacture</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correctly inspect the quality of work against job specifications
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Evidence should include a record of at least one month during which no reasonable complaints or reports of faulty goods or documentation are received from customers (internal or external) relating to work handled by the candidate
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of both. Off the job assessment must be undertaken in a closely simulated workplace environment



**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU221B****Unit Descriptor****Pack and dispatch product**

This unit describes the performance outcomes, skills and knowledge required to pack and dispatch basic printed products.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to pack and dispatch printed products according to enterprise procedures.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                               |  |
|-------------------------------|--|
| 1. Assess final product       | <ul style="list-style-type: none"> <li>1.1 Finished job is collected / received and checked against job specifications according to enterprise procedures</li> <li>1.2 Defects, irregularities and discrepancies are identified and action taken according to enterprise procedures</li> </ul>   |
| 2. Prepare stock for dispatch | <ul style="list-style-type: none"> <li>2.1 Suitable area for wrapping / packaging is selected and prepared</li> <li>2.2 Wrapping and packaging materials are prepared according to enterprise procedures</li> <li>2.3 Product is wrapped and packaged in pre-determined parcel sizes according to enterprise procedures, job specifications, storage and delivery specifications</li> <li>2.4 Product is packaged in predetermined form as appropriate to product size, type, destination, delivery route and method of transportation; and according to workplace instructions, transportation / shipping regulations and OHS requirements</li> <li>2.5 Packaged goods are checked, weighed and labelled according to delivery instructions, transportation / shipping regulations and enterprise procedures</li> </ul> |
| 3. Dispatch product           | <ul style="list-style-type: none"> <li>3.1 Packaged product is stacked on / in appropriate storage / shipping containers prior to dispatch</li> <li>3.2 Product is dispatched via appropriate delivery mode according to enterprise procedures, job specifications and OHS requirements</li> <li>3.3 Product shipping / dispatch details are recorded according to enterprise procedures</li> <li>3.4 Documentation associated with tasks, where relevant, is accurately completed according to enterprise procedures</li> </ul>   |

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by labelling packaged goods according to delivery instructions
- Collecting, analysing and organising information by accessing information about packing requirements for various products with regard to protecting product and meeting transport needs and fulfilling these requirements
- Planning and organising activities by preparing stock prior to dispatch
- Teamwork when liaising with printers, transport suppliers and customers to ensure product arrives undamaged and on time
- Mathematical ideas and techniques by calculating weights and dividing jobs into separate packages to meet transport needs
- Problem-solving skills by checking finished job and taking remedial action
- Use of technology by weighing stock and packaging

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Preparing stock for dispatch**

- What items will be required in the process of dispatching?
- What checks are performed prior to packaging the product?
- How do you determine what is a defective print or item?
- How are these defects rectified?

#### **Wrapping and packing materials and methods**

- What are the OHS regulations on packaged goods?
- How was the type of packaging determined?
- Why does the type of transport or destination have a bearing on the wrapping and packing method?
- How did you determine the number of units to be wrapped in each parcel?
- What details need to be recorded on dispatching labels and why?

#### **Dispatching product**

- Where are shipping details obtained?
- What weight limitations are there on dispatched products?
- What priorities are used for dispatching the product?
- How was the appropriate delivery mode determined?

#### **Completing documentation of dispatched product**

- What details are recorded when dispatching?
- Why is it necessary to have all shipping documentation completed?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Type of inspection	<ul style="list-style-type: none"><li>• Various types of inspection techniques (ie 100%, random, periodic or continuous in-line inspection)</li></ul>
Packaging techniques	<ul style="list-style-type: none"><li>• Various methods and equipment used in wrapping and packing of printed and printing related products</li></ul>
Dispatch methods	<ul style="list-style-type: none"><li>• Packaging requirements for the various methods of transportation of products</li></ul>
Degree of autonomy	<ul style="list-style-type: none"><li>• Autonomy required in working under supervision to ensure production requirements are met</li></ul>
Enterprise procedures	<ul style="list-style-type: none"><li>• Range of enterprise procedures within defined work area</li></ul>
Quality standards	<ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul>
Product types	<ul style="list-style-type: none"><li>• Range of products within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal; printing plates, cylinders, disks</li></ul>
Substrate handling	<ul style="list-style-type: none"><li>• Wide and narrow reel and large and small sheet dispatch configurations</li></ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correctly packing and dispatching printed products and accurately completing documentation
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare, pack and dispatch TWO lots of printed or printing related product following correct procedures, job and workplace specifications and the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- resources and product to pack and dispatch

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU222B****Unit Descriptor****Pack and dispatch solid waste**

This unit describes the performance outcomes, skills and knowledge required to packing and dispatch solid waste.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to pack and dispatch solid waste according to enterprise procedures.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Assess solid waste   | 1.1 Reusable waste is sorted from recyclable waste according to enterprise procedures<br>1.2 Waste is weighed and weight and source of waste recorded  |
| 2. Prepare solid waste for removal from site                                    | 2.1 Waste is shredded according to enterprise procedures, storage and delivery specifications<br>2.2 Waste is baled as appropriate for waste destination, delivery method and method of transportation and according to enterprise procedures  |
| 3. Dispatch solid waste   | 3.1 Waste is stacked / packed on / in appropriate storage / shipping containers prior to dispatch<br>3.2 Waste is dispatched via appropriate delivery mode according to enterprise procedures and job specification<br>3.3 Waste is dispatched at pre-determined rate to prevent accumulation of waste around machines<br>3.4 Documentation associated with tasks is accurately completed according to enterprise procedures |
| 4. Carry out minor routine maintenance and cleaning of waste packaging machines | 4.1 Shredder is cleaned, checked and lubricated according to manufacturer's specifications and enterprise standard operating procedures<br>4.2 Baler is cleaned, checked and lubricated according to manufacturer's specifications and enterprise standard operating procedures  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by completing workplace documentation on the dispatch of solid waste
- Collecting, analysing and organising information by recording the source and weight of waste
- Planning and organising activities by sequencing waste collection and packaging to ensure efficiency and minimum disruption of production
- Teamwork when removing waste from around machines to ensure flow of work
- Mathematical ideas and techniques by completing documentation of the packing and dispatch of solid waste
- Problem-solving skills by choosing from various options for waste disposal
- Use of technology by using and cleaning the bales to package waste

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Sorting solid waste

- What is the difference between reusable and recyclable waste?
- Give an example of each of the above.
- How will reusable waste be stored and used?
- What are the weight limitations of each batch of solid waste?

#### Processing solid waste

- What are the OHS regulations on operating the shredding machine?
- What are the capabilities of the shredding machine?
- How was the appropriate baling method determined?

#### Dispatch and documentation

- What is the appropriate method for storage of solid waste prior to dispatching?
- How could accumulation of waste around machines be a problem?
- What details are recorded when dispatching solid waste?
- Where are the details for dispatching obtained?

#### Maintaining waste packaging machines

- What are the OHS concerns related to cleaning and maintaining shredding machines?
- What are the OHS concerns related to cleaning and maintaining baling machines?
- How often should these machines be cleaned and lubricated?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Packing techniques	<ul style="list-style-type: none"> <li>• Various methods and equipment used in packing of solid waste</li> </ul>
Dispatch methods	<ul style="list-style-type: none"> <li>• Packaging requirements for the various methods of transportation of products</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Autonomy required in working under supervision to ensure production requirements are met</li> </ul>
Enterprise procedures	<ul style="list-style-type: none"> <li>• Range of enterprise procedures within defined work area</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>
Substrate types	<ul style="list-style-type: none"> <li>• Range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correct packing and dispatching solid waste
- Assess, prepare and dispatch TWO lots of solid waste and maintain and clean waste packaging machines according to job and workplace specifications and the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity



**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- solid waste and disposal equipment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU224B****Unit Descriptor****Perform basic machine maintenance**

This unit describes the performance outcomes, skills and knowledge required to undertake basic routine maintenance of printing and converting equipment

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to perform basic maintenance of printing and converting equipment

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Carry out minor routine maintenance and programmed cleaning of reel handling system             | <ul style="list-style-type: none"> <li>1.1 Unwind unit is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</li> <li>1.2 Web control devices are cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</li> <li>1.3 Rewind unit is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</li> <li>1.4 Folding unit is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</li> <li>1.5 Sheeting unit is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</li> <li>1.6 Basic maintenance is carried out according to OHS requirements</li> </ul> |
| 2. Carry out minor routine maintenance and programmed cleaning of sheet or object handling systems | <ul style="list-style-type: none"> <li>2.1 Feeder is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</li> <li>2.2 Lays and transfer gripper system are cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</li> <li>2.3 Delivery is cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures</li> <li>2.4 Basic maintenance is carried out according to OHS requirements</li> </ul>   |

3. Carry out minor routine maintenance and programmed cleaning of printing units
  - 3.1 Cylinder / screen / plate and roller surfaces, safety devices, gears and bearings are checked, lubricated and maintained according to manufacturer's recommendations and enterprise standard operating procedures
  - 3.2 Ink distribution system components are checked, lubricated, maintained and replaced according to manufacturer's recommendations and enterprise standard operating procedures
  - 3.3 Various print control devices are checked, lubricated and maintained according to manufacturer's recommendations and enterprise standard operating procedures
  - 3.4 Basic maintenance is carried out according to OHS requirements
  
4. Carry out minor routine maintenance and programmed cleaning of cutting units
  - 4.1 Cutting devices and knives are checked, lubricated, maintained and replaced according to manufacturer's recommendations and enterprise standard operating procedures
  - 4.2 Machine bed is checked and maintained according to manufacturer's recommendations and enterprise standard operating procedures
  - 4.3 Basic maintenance is carried out according to OHS requirements
  
5. Carry out minor routine maintenance and programmed cleaning of folding / collating units
  - 5.1 Folding / collating system components are checked, lubricated and maintained according to manufacturer's recommendations and enterprise standard operating procedures
  - 5.2 Machine bed is checked and maintained according to manufacturer's recommendations and enterprise standard operating procedures
  - 5.3 Basic maintenance is carried out according to OHS requirements
  
6. Carry out minor routine maintenance and programmed cleaning of fastening units
  - 6.1 Adhesive and mechanical fastening components are checked, lubricated and maintained according to manufacturer's recommendations and enterprise standard operating procedures
  - 6.2 Machine bed is checked and maintained according to manufacturer's recommendations and enterprise standard operating procedures
  - 6.3 Basic maintenance is carried out according to OHS requirements

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by advising other staff of any problems found on the machines
- Collecting, analysing and organising information by accessing machine manuals to determine maintenance and cleaning needs
- Planning and organising activities by working to predetermined work schedules
- Teamwork when working with the production manager to ensure maintenance and cleaning is done effectively with minimum disruption of production
- Mathematical ideas and techniques by checking more complex machines with electronic, hydraulic or pneumatic technology
- Problem-solving skills by recognising when maintenance and cleaning are required and responding appropriately (either carrying out maintenance or reporting it to responsible person)
- Use of technology by performing routine maintenance on machines

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Reel handling system

- What are the OHS requirements when maintaining and cleaning the reel handling system?
- What are three common causes of failure or breakdown?
- What precautions must be observed when working with compressed air?
- How could electronic sensors be damaged during cleaning?
- What checks were performed on this area of the machine?
- Why was that particular chemical used for cleaning purposes?

#### Sheet or object handling systems

- What are the OHS requirements when maintaining and cleaning the sheet or object handling system?
- What are three common causes of failure or breakdown?
- What would be the problem with inefficient cleaning?
- What parts of this area of the machine require cleaning?
- What would be the effect of excessive lubricant in this area of the machine?
- Explain the need for regular maintenance of this area of the machine.

#### Printing units

- What are the OHS requirements when maintaining and cleaning the printing units?
- What are three common causes of failure or breakdown?
- What problem arises due to continual inefficient wash-up of roller surfaces?
- Why is it necessary to clean the bearers on all cylinders in the printing unit?
- What problems could result from cylinder bodies not being cleaned correctly?
- What safety devices were checked in the printing unit?
- What should be done if a safety device is found to be inoperative?
- What checks must be carried out when replacing rollers in the inking system?

### Ancillary units

- What are the OHS requirements when maintaining and cleaning ancillary units?
- What are three common causes of failure or breakdown?
- What checks were performed on ancillary units?
- What precautions should be observed when cleaning ancillary units?

### Cutting units

- What are the OHS requirements when maintaining and cleaning the cutting units?
- What are three common causes of failure or breakdown?
- What checks are carried out on cutting devices and knives?
- How should cutting knives be stored after being replaced?
- What problems would arise if the machine bed was not maintained?
- What problems would arise if blades or knives were not maintained?

### Folding / collating units

- What are the OHS requirements when maintaining and cleaning the folding / collating units?
- What are three common causes of failure or breakdown?
- What components were checked with this equipment?
- What would be the problem with inefficient cleaning of the folding / collating unit?
- What parts of this machine require cleaning?
- What type of lubricant was used on this equipment and why?

### Fastening units

- What are the OHS requirements when maintaining and cleaning the fastening units?
- What are three common causes of failure or breakdown?
- What chemicals were used when cleaning this equipment?
- How should you dispose of used chemicals?
- How often should this equipment be cleaned?
- What problems could be caused by inefficient cleaning?
- What parts of the equipment should be cleaned?
- What would be the result of excessive lubricant in this part of the machine?

### Information sources

- What machine manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

#### Supervision

- The work is carried out under minimal supervision, exercising initiative and judgement with discretion. Occasional supervision of the work of other personnel may be required

Machines	<ul style="list-style-type: none"> <li>The operation may apply to a complex machine, various types of machines or all the machinery in a work area. Complex machines include those with electronic, pneumatic, hydraulic or robotics technology</li> </ul>
Inks / coatings	<ul style="list-style-type: none"> <li>Range of standard and specialty inks and specialty finishes such as wax, embossing, foils</li> </ul>
Printing process	<ul style="list-style-type: none"> <li>All printing processes ie lithographic, flexographic, gravure, relief polymer mechanical printing</li> </ul>
Cutting units	<ul style="list-style-type: none"> <li>Range of semi-automatic and automatic folding, collating and inserting units, in-line or off-line operation</li> </ul>
Substrate types	<ul style="list-style-type: none"> <li>Range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal</li> </ul>
Substrate handling	<ul style="list-style-type: none"> <li>Wide and narrow reel and large and small sheet handling systems</li> </ul>
Maintenance procedures	<ul style="list-style-type: none"> <li>Should meet manufacturer's specifications and requirements</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correctly performing basic machine maintenance
- Carry out routine maintenance on any TWO pieces of equipment or systems, satisfying job, workplace and statutory requirements according to the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- basic production machines

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU225B****Unit Descriptor****Perform small machine maintenance**

This unit describes the performance outcomes, skills and knowledge required to undertake basic routine maintenance of small machines and equipment.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to safely carry out routine maintenance on small machines or equipment with minimum down time.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Check and replace machine consumables | 1.1 Machine consumables are checked and replaced if worn or damaged<br>1.2 Any consumables used are documented for reordering purposes   |
| 2. Carry out regular maintenance         | 2.1 Units or machine sections are cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures<br>2.2 Feeders and conveyers are cleaned, checked and lubricated according to manufacturer's recommendations and enterprise standard operating procedures<br>2.3 Safety devices, gears and bearings are checked, lubricated and maintained according to manufacturer's recommendations and enterprise standard operating procedures<br>2.4 Basic maintenance is carried out according to OHS requirements |
| 3. Complete maintenance                  | 3.1 Any wear and tear to the machinery is documented and / or referred to appropriate person for action<br>3.2 Used consumables are disposed of correctly according to enterprise procedures and OHS requirements  |



## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by referring any wear and tear to the machinery to the appropriate person for action
- Collecting, analysing and organising information by documenting any consumables used for reordering purposes
- Planning and organising activities by disposing of used consumables correctly according to enterprise procedures and OHS requirements
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by recording quantities or amounts of consumables used
- Problem-solving skills by carrying out any basic maintenance according to OHS requirements
- Use of technology by using tools and equipment to perform small machine maintenance

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Reel handling system

- What are the OHS requirements when maintaining and cleaning the reel handling system?
- What are three common causes of failure or breakdown?
- What precautions must be observed when working with compressed air?
- How could electronic sensors be damaged during cleaning?
- What checks were performed on this area of the machine?
- Why was that particular chemical used for cleaning purposes?

#### Sheet or object handling systems

- What are the OHS requirements when maintaining and cleaning the sheet or object handling system?
- What are three common causes of failure or breakdown?
- What would be the problem with inefficient cleaning?
- What parts of this area of the machine require cleaning?
- What would be the effect of excessive lubricant in this area of the machine?
- Explain the need for regular maintenance of this area of the machine.

#### Printing units

- What are the OHS requirements when maintaining and cleaning the printing units?
- What are three common causes of failure or breakdown?
- What problem arises due to continual inefficient wash-up of roller surfaces?
- Why is it necessary to clean the bearers on all cylinders in the printing unit?
- What problems could result from cylinder bodies not being cleaned correctly?
- What safety devices were checked in the printing unit?
- What should be done if a safety device is found to be inoperative?
- What checks must be carried out when replacing rollers in the inking system?

#### Ancillary units

- What are the OHS requirements when maintaining and cleaning ancillary units?
- What are three common causes of failure or breakdown?
- What checks were performed on ancillary units?
- What precautions should be observed when cleaning ancillary units?

### **Cutting units**

- What are the OHS requirements when maintaining and cleaning the cutting units?
- What are three common causes of failure or breakdown?
- What checks are carried out on cutting devices and knives?
- How should cutting knives be stored after being replaced?
- What problems would arise if the machine bed was not maintained?
- What problems would arise if blades or knives were not maintained?

### **Folding / collating units**

- What are the OHS requirements when maintaining and cleaning the folding / collating units?
- What are three common causes of failure or breakdown?
- What components were checked with this equipment?
- What would be the problem with inefficient cleaning of the folding / collating unit?
- What parts of this machine require cleaning?
- What type of lubricant was used on this equipment and why?

### **Fastening units**

- What are the OHS requirements when maintaining and cleaning the fastening units?
- What are three common causes of failure or breakdown?
- What chemicals were used when cleaning this equipment?
- How should you dispose of used chemicals?
- How often should this equipment be cleaned?
- What problems could be caused by inefficient cleaning?
- What parts of the equipment should be cleaned?
- What would be the result of excessive lubricant in this part of the machine?

### **Information sources**

- What machine manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

### **RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

#### **Supervision**

- The work is carried out under minimal supervision, exercising initiative and judgement with discretion. Occasional supervision of the work of other personnel may be required

Machine consumables	<ul style="list-style-type: none"> <li>• Stacker wheels, belts, suckers, gripper arms, water brush, OMR readers, barcode readers, ink cartridges, knives, blades</li> </ul>
Machines	<ul style="list-style-type: none"> <li>• The operation may apply to small machines such as inline cutters, inline mail machines</li> </ul>
Units or machine sections	<ul style="list-style-type: none"> <li>• Range of semi-automatic and automatic folding, collating and inserting units, cutters, dryers, in-line or off-line operation</li> </ul>
Maintenance procedures	<ul style="list-style-type: none"> <li>• Should meet manufacturer's specifications and requirements</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correctly and safely carrying out routine maintenance on small machines or equipment with minimum down time
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Carry out routine maintenance on any TWO pieces of equipment or systems, satisfying job, workplace and statutory requirements according to the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- small machines (such as inline cutters, inline mail machines) and machine consumables

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU235B****Unit Descriptor****Lift loads mechanically**

This unit describes the performance outcomes, skills and knowledge required to use lifting equipment such as slings, ropes, shackles, eye bolts and spreader beams.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to use basic equipment to lift loads safely.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                                 |  |
|---------------------------------|--|
| 1. Attach lifting gear to loads | <ul style="list-style-type: none"> <li>1.1 All work is undertaken safely and to prescribed procedures</li> <li>1.2 Load is inspected and best lifting method determined for weight and shape</li> <li>1.3 Appropriate load shifting equipment is selected</li> <li>1.4 Lifting gear is inspected and damaged or worn items are labelled and rejected</li> <li>1.5 Where appropriate, safe working loads are calculated to Australian Standards</li> <li>1.6 Lifting gear is attached to load in a most appropriate and safe manner and to specifications where required</li> </ul> |
| 2. Move loads                   | <ul style="list-style-type: none"> <li>2.1 Load moving is performed to acceptable safe working practices, Australian Standards, codes of practice and specifications</li> <li>2.2 Lifting gear is connected to load mover using safe and appropriate techniques</li> <li>2.3 Appropriate communication and signals methods are used to coordinate the load movement in a safe manner</li> <li>2.4 Load is grounded or put down in a safe and stable manner according to prescribed procedure</li> <li>2.5 All lifting gear is detached from load mover and load</li> </ul>         |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by using appropriate signals to coordinate movement of the load
- Collecting, analysing and organising information by accessing safety and procedure manuals for specific equipment
- Planning and organising activities by determining the best method for lifting a load before moving it
- Teamwork when working with others to ensure lifting is done in a safe manner
- Mathematical ideas and techniques by calculating loads and the holding capacity of various equipment
- Problem-solving skills by working out the best sequence and procedure for lifting loads of different size, weight and content
- Use of technology by using the range of equipment specified

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Attaching lifting gear and selecting appropriate equipment to lift loads

- What references are available to determine safety practices in lifting loads?
- What are some of the most important considerations when lifting loads mechanically?
- How did you determine the best method to lift the load?
- What types of mechanical lifting devices are there?
- Under what circumstances would each type be used?
- What type of damage can occur to any particular piece of lifting equipment?
- What problems could occur if lifting gear is not attached properly?

#### Applying correct practices to move loads

- What safe practices must be observed when moving loads?
- What things should be observed when connecting the lifting gear to the load mover?
- Why was the particular communication technique used for moving the load?
- What would be considered to be a safe distance for personnel not involved in moving the load?
- What other technique for communication could have been used?
- What can happen if a load is not grounded correctly?
- Where should lifting gear be stored after it has been detached?

#### Information sources

- What machine manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                          |   |
|--------------------------|---|
| Legislative requirements | <ul style="list-style-type: none"> <li>• Work is undertaken to state / territory legislative requirements</li> </ul>  |
| Equipment range          | <ul style="list-style-type: none"> <li>• Includes slings, ropes, shackles, eye bolts, spreader beams</li> </ul>   |
| Signals                  | <ul style="list-style-type: none"> <li>• Include using hands, verbal signals and whistles. Signals may be given within sight and out of sight of equipment operators</li> </ul> |
| Degree of autonomy       | <ul style="list-style-type: none"> <li>• Working under supervision alone or in a team using initiative and judgement with discretion</li> </ul>                                 |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Safely lifting loads by using basic equipment such as slings, ropes, shackles, eye bolts and spreader beams
- Lift TWO loads mechanically according to enterprise and statutory requirements and regulations and the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- slings, ropes, shackles, eye bolts, spreader beams and loads

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.



**ICPSU236B****Unit Descriptor****Shift loads mechanically**

This unit describes the performance outcomes, skills and knowledge required to use pallet trucks, overhead travellers and load shifting equipment. It does not include forklifts. If operating a forklift is required, use TDTD1097B Operate a forklift which conforms to OHS licensing requirements.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to shift loads using mechanised equipment.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Conduct routine operation and safety checks of load shifting equipment | <ul style="list-style-type: none"> <li>1.1 Routine pre-use checks are undertaken according to manufacturer's specifications and regulatory safety requirements</li> <li>1.2 Non-compliance with specifications is reported for repair / replacement</li> </ul>  |
| 2. Determine handling methods   | <ul style="list-style-type: none"> <li>2.1 Type of material is determined from labels, colour codes, signage</li> <li>2.2 Material properties are understood</li> <li>2.3 Load is inspected and best handling method is determined for weight and shape</li> <li>2.4 All relevant uncertainties and unknowns are clarified with appropriately qualified authority</li> <li>2.5 All relevant safety and emergency procedures are understood and implemented as required</li> <li>2.6 All relevant regulations and codes of practices are understood and observed</li> <li>2.7 Correct and appropriate handling methods are undertaken</li> </ul> |
| 3. Shift loads  | <ul style="list-style-type: none"> <li>3.1 Most appropriate load shifting device is selected</li> <li>3.2 Load shifting device is operated within design specifications and safe working load</li> <li>3.3 Load is lifted, ensuring balance, vision of operation and protection of load</li> <li>3.4 Safe and efficient path of movement is selected and used</li> <li>3.5 Path of movement is checked and monitored for obstacles and hazards and safely maintained</li> </ul>   |
| 4. Place loads  | <ul style="list-style-type: none"> <li>4.1 Loads are placed ensuring safety, stability, protection of material and avoidance of hazards on site</li> <li>4.2 Shifting device is removed or secured according to enterprise procedures</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by reporting non-compliance with equipment specifications
- Collecting, analysing and organising information by determining type of material by reading labels, signage and colour codes
- Planning and organising activities by determining handling methods before shifting the load
- Teamwork when working with others to ensure safe and timely moving of materials
- Mathematical ideas and techniques by calculating loads and volumes
- Problem-solving skills by working out best sequence for shifting loads of different sizes, weight and content
- Use of technology by using the range of equipment available for mechanically shifting loads

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Maintenance and safety checks for load shifting equipment

- How often should routine checks on equipment be carried out?
- Who do you report to about problems with load shifting equipment?
- What circumstances would necessitate replacement of such equipment?

#### Determining correct handling methods

- What do colour codes indicate about the type of material?
- Where can information about correct handling methods be obtained?
- What personal injuries could occur if incorrect handling methods were undertaken?
- How does implementation of safety procedures effect enterprise operations?
- What statutory authority is responsible for and regulates safety procedures?

#### Safety requirements for load shifting operations

- What licensing requirements are needed to operate various load shifting devices?
- What could cause a load to move and become off balance during shifting?
- Why was the path chosen when shifting the load?
- What position should shifting devices be placed in after completing the shifting of the load?
- How could incorrect placement of loads affect job requirements and enterprise procedures?

#### Information sources

- What machine manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                       |  |
|-----------------------|--|
| Degree of autonomy    | • Work undertaken autonomously or in a team environment  |
| Range of equipment    | • Load shifting equipment includes ride pallet trucks, overhead travellers, load shifting equipment operated within limits of manufacturer's recommended procedures and safe working loads |
| Enterprise procedures | • Work and organisational methods according to enterprise standard operating procedures and legislative requirements   |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Shifting loads mechanically according to legislative and regulatory requirements
- Shift TWO loads mechanically using AT LEAST an electric trolley, according to enterprise and statutory requirements and the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- load shifting equipment - not including forklifts

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU241B****Undertake warehouse or stores materials processing****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to handle, dispatch and receive materials in a warehouse.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to receive, dispatch and handle goods in a warehouse.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Undertake dispatch / receiving procedures   | <ul style="list-style-type: none"> <li>1.1 Warehouse / store standard operating procedures are understood and followed</li> <li>1.2 Warehouse / store materials are managed according to enterprise standard operating procedures</li> <li>1.3 Incoming / outgoing materials are labelled according to enterprise standard operating procedures and legislative requirements</li> <li>1.4 Warehouse / store materials are labelled and stored according to enterprise standard operating procedures and legislative requirements</li> <li>1.5 Materials are issued / dispatched according to enterprise standard operating procedures</li> <li>1.6 Issued / dispatched materials are recorded to enterprise standard operating procedures</li> </ul> |
| 2. Determine handling methods                  | <ul style="list-style-type: none"> <li>2.1 Type of material is determined from labels, colour codes, signage</li> <li>2.2 Material properties are understood</li> <li>2.3 All relevant uncertainties and unknowns are clarified with appropriately qualified authority</li> <li>2.4 All relevant safety and emergency procedures are understood and implemented as required</li> <li>2.5 All relevant regulations and codes of practices are understood and observed</li> <li>2.6 Correct and appropriate handling methods are undertaken</li> </ul>   |
| 3. Store / package warehouse / store materials | <ul style="list-style-type: none"> <li>3.1 Materials are packaged to meet safety, storage conditions, and site and legislative requirements</li> <li>3.2 Materials are stored in a safe, orderly and retrievable manner</li> <li>3.3 Materials are labelled / identified and recorded according to site procedures and legislative requirements</li> </ul>   |

- 4. Store bulk fluids / gases
  - 4.1 Correct storage conditions are determined from instructions / manufacturer's specifications / directions
  - 4.2 Containers are checked for safe and clean use
  - 4.3 Containers are filled / emptied according to enterprise standard operational procedures and legislative requirements
  - 4.4 Containers are handled and moved according to site procedures and legislative requirements
  - 4.5 Containers are correctly labelled and stored according to enterprise standard operational procedures and legislative requirements

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by completing dispatch records
- Collecting, analysing and organising information by accessing MSDSs and information on storage and handling requirements of goods and materials to ensure safe and secure storage and handling
- Planning and organising activities by planning storage so that perishable materials are used in date sequence
- Teamwork when working with other staff to ensure appropriate flow of production
- Mathematical ideas and techniques by calculating weights and volumes
- Problem-solving skills by working out the most appropriate storage and handling procedures for different goods and materials
- Use of technology by using computerised stock systems

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Dispatching and receiving production materials

- What procedures are in place for the receipt of goods?
- What procedures are in place for the inspection of goods on arrival?
- How do you indicate that goods received have been approved for production and comply with the purchase order?
- Why do goods have to be labelled according to operating procedures?
- Why do goods have to be labelled according to legislative requirements?
- What procedures are in place if dispatched goods do not reach their destination?
- What procedures are in place if goods are not received as requested?
- Who has the authority to sign for goods received?

#### Handling methods and procedures

- What production problems are caused by inconsistent stock handling?
- Describe the procedure in reporting and recording damaged materials?
- What could be the alternatives for using damaged stock or materials?
- Is the company covered by any insurance for damaged stock and materials?

#### Storing and packaging of warehouse / store materials

- What is the effect of relative humidity and temperature on substrates?
- What effect will UV light have on exposed rubber blankets or rollers?
- How should materials be stored in relationship to their use-by date or shelf life?
- In what position should heavy or liquid materials be stored on a shelving system?

#### Storage of bulk fluids and gases

- Describe why inks and solvents are stored in fire proof enclosures?
- What are statutory regulations for the storage of flammable solvents and gases?
- What are some of the dangerous fluids and gases used by this organisation?
- What could be the result of using a container for a different chemical?
- Why is it important for correct labelling of containers?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                              |   |
|------------------------------|---|
| Degree of autonomy           | <ul style="list-style-type: none"><li>• Work undertaken autonomously or in team environment</li></ul>   |
| Inventory control processes  | <ul style="list-style-type: none"><li>• Processes used to control inward / outward goods include inventory control methods and procedures utilising manual or electronic systems according to standard operating procedures</li></ul>   |
| Types of stores / warehouses | <ul style="list-style-type: none"><li>• Includes tool, requisition, supply and parts stores, storage, inward / outward warehouse</li></ul>  |
| Range of equipment           | <ul style="list-style-type: none"><li>• Range of equipment used to move warehouse / store goods includes pallet trucks, trolleys, hand trucks</li></ul>   |
| Range of packaging           | <ul style="list-style-type: none"><li>• Procedures and materials used are appropriate for applications and product requirements and can include plastic and paper board wrap, anti-corrosion coverings, pallets, drums, sacks</li></ul> |
| Enterprise procedures        | <ul style="list-style-type: none"><li>• Work and organisational methods according to enterprise standard operating procedures and legislative requirements</li></ul>  |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correct handling, dispatch and receipt of goods in a warehouse / store
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Demonstrate handling and storage techniques and procedures for at least THREE different types of goods / materials according to the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity



**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

## ICPSU243B

### Unit Descriptor

### Employability Skills

### Application of the Unit

## Reconcile process outputs

This unit describes the performance outcomes, skills and knowledge required to reconcile process requirements with process outputs.

This unit contains employability skills.

This unit requires the individual to correctly reconcile process requirements with process outputs, document the information and report any discrepancies.

### Unit Sector

Support

### ELEMENT

### PERFORMANCE CRITERIA

- |                        |  |
|------------------------|--|
| 1. Confirm throughputs | <ul style="list-style-type: none"> <li>1.1 Field values are verified as corresponding to values identified in job sheet</li> <li>1.2 Where required, mail class is verified as the same as the job sheet</li> <li>1.3 Collated data is correct and in sequence</li> <li>1.4 Collated data is correctly matched to addressee</li> <li>1.5 Address information is verified as accurate</li> <li>1.6 Barcode information confirms correct sequence of addressees to collated information</li> <li>1.7 Any discrepancies are reported to supervisor</li> </ul> |
| 2. Reconcile output    | <ul style="list-style-type: none"> <li>2.1 The total number of throughputs is equal to the job specifications</li> <li>2.2 The destination delivery unit rate matches the job specification</li> <li>2.3 An information matching trail is documented</li> <li>2.4 Any discrepancies are reported to supervisor</li> </ul>  |

**REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

**Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by reporting any discrepancies to a supervisor
- Collecting, analysing and organising information by verifying field values as corresponding to values identified in job sheet
- Planning and organising activities by confirming throughputs before reconciling outputs
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by confirming when the total number of throughputs is equal to the job specifications
- Problem-solving skills by reporting any discrepancies to a supervisor
- Use of technology by using barcode equipment to confirm throughputs or reconcile outputs

**Required knowledge:**

The following knowledge must be assessed as part of this unit:

- Basic literacy skills to follow work instructions and read job specifications
- Basic numeracy skills to reconcile process outputs
- OHS in relation to working in a safe environment.

**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Matched/ Matching

- The process of keeping together a unique insert to the addressee that goes with at least one other unique insert in the same package, or a unique insert to the addressee that goes with the address information located on the outside of the package

Process output

- Can include mail, credit cards, smart cards or other items requiring close tracking

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Reconciling process requirements with process outputs
- Correctly reconcile process requirements with process outputs, document the information and report any discrepancies
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity
- equipment and resources required to complete the reconciliation process

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU260B****Unit Descriptor****Maintain a safe work environment**

This unit describes the performance outcomes, skills and knowledge required to ensure OHS procedures are followed in environments where computers are predominately used but which may require limited access to chemicals and solvents.

The unit is based on Generic Competency A in the National Guidelines for Integrating Occupational Health and Safety Competencies into National Industry Competency Standards [NOHSC:7025 (1998) 2nd edition].

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit covers general OHS requirements in business organisations and is relevant for employees using computers and working under direct supervision with no responsibilities for other people.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                                       |  |
|---------------------------------------|--|
| 1. Follow workplace safety procedures | 1.1 Hazards in the work area are recognised while under direct supervision and reported to appropriate people according to enterprise procedures<br>1.2 Enterprise procedures and work instructions for assessing and controlling risks for own area of responsibility are followed accurately while under direct supervision<br>1.3 Enterprise procedures for dealing with incidents (accidents), fire and other emergencies are followed whenever necessary under direct supervision within the scope of responsibilities and competencies |
| 2. Contribute to OHS in the workplace | 2.1 OHS issues are raised with appropriate people according to enterprise procedures and relevant OHS legislation<br>2.2 Contributions to participative arrangements for OHS management in the workplace are made within organisational procedures and the scope of responsibilities and competencies  |
| 3. Ensure workspace health and safety | 3.1 Workspace, furniture and equipment are adjusted to suit the ergonomic requirements of the individual<br>3.2 Lighting is adjusted and glare is reduced to ensure healthy lighting levels<br>3.3 Work organisation meets organisational and OHS requirements for computer operation  |

- 4. Ensure safety from environmental discharges / emissions
  - 4.1 Chemicals and solvents are correctly stored and appropriate ventilation is available when using chemicals and solvents
  - 4.2 Abnormal or unacceptable emission levels are recognised and reported according to enterprise procedures
  - 4.3 Emission levels are monitored and measured according to standard operating procedures where appropriate
  - 4.4 Correct safety procedures are followed and personal protective equipment used correctly
  - 4.5 Containment procedures are applied according to standard operating procedures where required
  - 4.6 Waste removal from work area complies with enterprise procedures and environmental regulations

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by communicating and reporting OHS issues
- Collecting, analysing and organising information by identifying safety requirements
- Planning and organising activities by organising own activities according to OHS procedures while under direct supervision
- Teamwork when contributing to safe workplace practices
- Mathematical ideas and techniques by recording workplace safety information
- Problem-solving skills by recognising and solving routine problems related to hazards while under direct supervision
- Use of technology by accessing relevant workplace safety information

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- At this level the learner must demonstrate knowledge by recall in a narrow range of areas
- Relevant legislation from all levels of government which affect business operations, especially in regard to OHS and environmental issues, equal opportunity, industrial relations, anti-discrimination and diversity
- Understanding ways in which OHS is managed in the workplace including procedures for fire, emergency, accident and near miss and control of risks
- Relevant knowledge of workplace hazards
- Relevant knowledge of designated personnel responsible for reporting OHS concerns
- Understanding of the meaning of OHS signs and symbols relevant to area of work
- Literacy skills to identify work requirements, hazard identification and reporting procedures; follow written instructions and to interpret OHS signs and symbols
- Communication skills to identify lines of communication, request advice, effectively question, follow safety instructions, receive feedback and report hazards in the workplace
- Problem-solving skills to solve routine problems related to hazards in the workplace, while under direct supervision
- Technology skills to use equipment safely while under direction
- Ability to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Legislation, codes and national standards	<ul style="list-style-type: none"> <li>• Award and enterprise agreements and relevant industrial instruments</li> <li>• Relevant legislation from all levels of government which affect business operation, especially in regard to OHS and environmental issues, equal opportunity, industrial relations, anti-discrimination and diversity</li> <li>• Relevant industry codes of practice</li> </ul>
Relevant enterprise procedures	<ul style="list-style-type: none"> <li>• Hazard reporting procedures, job procedures and safe work instructions and allocation of responsibilities, emergency procedures, accident and near miss reporting and recording procedures, consultation on OHS issues, correct selection, use, storage and maintenance procedures for use of personal protective equipment (PPE), control of risks under direct supervision</li> </ul>
Hazards identification	<ul style="list-style-type: none"> <li>• Checking equipment or the workstation and work area before work commences and during work, workplace inspections, on-job housekeeping checks</li> </ul>
Appropriate people	<ul style="list-style-type: none"> <li>• Supervisors, managers, team leaders, designated OHS officers, health and safety representatives</li> </ul>
Contributions	<ul style="list-style-type: none"> <li>• Behaviour that contributes to a safe working environment, identifying and reporting risks or hazards, using business equipment according to guidelines, listening to the ideas and opinions of others in the team, sharing opinions, views, knowledge and skills</li> </ul>
Emergencies	<ul style="list-style-type: none"> <li>• Chemical spills, chemical mixes, fire, accidents, occupational violence</li> </ul>
Participative arrangements	<ul style="list-style-type: none"> <li>• Formal and informal health and safety meetings, meetings called by health and safety representatives, suggestions, requests, reports and concerns put forward to management</li> </ul>
Ergonomic requirements	<ul style="list-style-type: none"> <li>• Workstation height and layout, chair height, seat and back adjustment, footrest, screen position, keyboard and mouse position, document holder, posture, avoiding radiation from computer screens, noise minimisation</li> </ul>



- |                   |  |
|-------------------|--|
| Work organisation | <ul style="list-style-type: none"> <li>• Mix of repetitive and other activities, rest periods, exercise breaks, VDU eye testing</li> </ul>                                     |
| Emissions         | <ul style="list-style-type: none"> <li>• A range of environmental conditions including: noise, light, gas, smoke, odour, vapour, liquids / solids. Particles, fumes</li> </ul> |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Following workplace safety directions / procedures, recognising and reporting hazards, raising OHS issues and contributing to participative arrangements for OHS management in the workplace
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- appropriate documentation and resources normally used in the workplace

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU261B****Follow OHS practices and identify environmental hazards****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to maintain basic OHS standards required in the workplace. OHS is integrated into all other units.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit covers basic OHS necessary to function safely in the workplace.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Follow enterprise procedures for hazard identification and risk control              | 1.1 Hazards in the work area are recognised and reported to designated personnel according to enterprise procedures<br>1.2 Enterprise procedures and work instructions for controlling risks are followed accurately<br>1.3 Enterprise procedures for dealing with accidents, fire and emergencies are followed whenever necessary within scope of responsibilities and competencies                                 |
| 2. Follow enterprise procedures for the control of environmental discharges / emissions | 2.1 Abnormal or unacceptable emission levels are recognised and reported according to enterprise procedures<br>2.2 Waste removal from work area complies with enterprise procedures and environmental regulations<br>2.3 Containment procedures are applied according to standard operating procedures where required<br>2.4 Correct safety procedures are followed and personal protective equipment used correctly |
| 3. Contribute to participative arrangements for the management of OHS                   | 3.1 OHS issues are raised with designated personnel according to enterprise procedures and relevant OHS legislation<br>3.2 Contributions to OHS management in the workplace are made within organisational procedures and scope of responsibilities and competencies   |

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by reporting unacceptable emission levels
- Collecting, analysing and organising information by accessing OHS manuals, MSDSs and applying their content to the workplace
- Planning and organising activities by applying containment procedures according to workplace requirements
- Teamwork when raising OHS issues with designated staff
- Mathematical ideas and techniques by monitoring emission levels
- Problem-solving skills by following enterprise procedures to deal with accidents, fire and emergencies
- Use of technology by using basic fire equipment as required by enterprise procedures

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Significant hazards in the workplace**

- Identify the major hazards in this workplace.
- What safety devices are on this machine and what are their functions?

#### **Location and use of safety equipment and personnel**

- Where are the fire extinguishers and fire exits?
- Who is the first aid officer in your section?
- Where is the first aid kit kept?

#### **Enterprise procedures for dealing with fire and accidents**

- What should you do in case of fire or accident?
- Who should you report any dangerous situation to?

#### **Symbols used on OHS signs**

- What do these symbols mean? (eg hazardous chemicals, goggles, footwear, fire equipment)

#### **Safety data sheets**

- Where are safety data sheets kept and what information do they contain?
- Where can you find information about safe levels for discharges or emissions?

#### **Information sources**

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Degree of autonomy	<ul style="list-style-type: none"> <li>This unit describes OHS competencies applicable for employees without supervisory or managerial responsibilities</li> </ul>
Scope	<ul style="list-style-type: none"> <li>It involves application of relevant OHS legislation and codes of practice including duties and responsibilities of all parties under general duty of care legislation</li> </ul>
Enterprise procedures	<ul style="list-style-type: none"> <li>Relevant enterprise procedures will include hazard policies and procedures, emergency, fire and accident procedures, procedures for the use of personal protective clothing and equipment, hazard identification and issue resolution procedures, and job procedures and work instructions</li> </ul>
Emissions / discharges	<ul style="list-style-type: none"> <li>A range of environmental conditions including: noise, light, gas, smoke, odour, vapour, liquids / solids, particulates, fumes</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Operating safely in the workplace
- A record of at least one month of following safe working practices
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU262B****Unit Descriptor****Communicate in the workplace**

This unit describes the performance outcomes, skills and knowledge required to participate in clear and logical workplace communication including, written and spoken communication.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit covers the basic communication skills required to function effectively in the workplace.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Convey and handle information               | <ul style="list-style-type: none"> <li>1.1 Gather, record and convey simple and routine information in a workplace related context</li> <li>1.2 Personal interaction is courteous in a workplace related context</li> <li>1.3 Queries are made clearly and concisely in a workplace related context</li> <li>1.4 Correct procedures for location and storage of information are employed and the particular workplace practices are adhered to</li> <li>1.5 Information is organised clearly, concisely and logically and complies with workplace practices</li> <li>1.6 Workplace documents are completed clearly and accurately within a specified time</li> <li>1.7 Time is used efficiently in a workplace related context</li> </ul> |
| 2. Give and follow simple routine instructions | <ul style="list-style-type: none"> <li>2.1 Safe work practices are incorporated in the instructions</li> <li>2.2 Instructions are accurate, clear, concise, comprehensive and are consistent with the skills of the receiver</li> <li>2.3 Appropriate methods of instruction are selected</li> <li>2.4 Interaction with others is efficient, effective, responsive, courteous and supportive</li> <li>2.5 Prescribed sequences are adhered to in a workplace related context</li> <li>2.6 Routine checking of own and others' performance is exercised</li> <li>2.7 Task is carried out in a workplace related context</li> </ul>   |
| 3. Participate in small informal work groups   | <ul style="list-style-type: none"> <li>3.1 Interaction is supportive, efficient, effective and courteous</li> <li>3.2 Participation in discussions takes place in a workplace related context</li> <li>3.3 Contributions are constructive in terms of the goal</li> <li>3.4 Group decisions are understood and confirmed</li> </ul>   |

- |    |                       |     |   |
|----|-----------------------|-----|---|
| 4. | Interact with clients | 4.1 | Interact with clients within, and external to, an organisation about simple routine matters   |
|    |                       | 4.2 | Interaction is consistent with the needs of the organisation and the organisation is presented in a positive and client-centred way |
|    |                       | 4.3 | Correct forms of greeting, identification and address are used according to enterprise practices                                    |
|    |                       | 4.4 | The needs of the client are clarified and noted where appropriate   |
|    |                       | 4.5 | Referral processes are followed to establish contact between client and appropriate personnel                                       |
|    |                       | 4.6 | Discretion and confidentiality are exercised where appropriate  |
|    |                       | 4.7 | Appropriate follow-up steps are taken according to enterprise customer service practices  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by understanding and accurately completing job tickets
- Collecting, analysing and organising information by reading and understanding and correctly applying the content of machine manuals
- Teamwork when participating in work group discussions and effectively and courteously interacting with others during work

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- grammar and spelling
- correct use of relevant industry terminology
- diction and pronunciation
- understanding job specifications
- comprehension
- summarising

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                        |   |
|------------------------|---|
| Range of communication | • Range of written and spoken communication within the workplace and with clients including telephone, face to face, electronic media and documents |
|------------------------|---|

**Context**

- This unit applies to both the production environment and the office environment

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Communicating clearly and precisely in a manner suitable to the work environment
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Written documents and oral reports and reports from colleagues
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.



**ICPSU263B****Unit Descriptor****Perform basic industry calculations**

This unit describes the performance outcomes, skills and knowledge required to perform basic trade calculations and measurements.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit covers basic trade calculations and measurements.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Calculate costs and dimensions                             | <ul style="list-style-type: none"> <li>1.1 Additions, subtractions, multiplications and divisions of costs and dimensions are correctly calculated</li> <li>1.2 Material and time costs are correctly calculated for the elements of a brief</li> <li>1.3 Percentages of cost and time are correctly calculated to fulfil the requirements of a brief</li> <li>1.4 Results of calculations are correctly recorded</li> </ul> |
| 2. Calculate area, density and volume                         | <ul style="list-style-type: none"> <li>2.1 The density and / or volume of fluids and colours are correctly calculated and applied</li> <li>2.2 Percentages of densities and volumes are correctly calculated to fulfil the requirements of a brief</li> </ul>  |
| 3. Use basic measuring tools and apply results of measurement | <ul style="list-style-type: none"> <li>3.1 Appropriate measuring tools are selected and used correctly and accurately</li> <li>3.2 Measurements are correctly interpreted and used in appropriate calculations</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by recording the cost of materials and time
- Collecting, analysing and organising information by correctly recording the results of calculations
- Planning and organising activities by selecting and using appropriate measurement tools as part of the task
- Teamwork when working with others as part of the production process
- Mathematical ideas and techniques by calculating weights, areas and volumes required by various tasks
- Problem-solving skills by correctly calculating enlargements and reductions of shapes
- Use of technology by using measuring devices and tools

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Quick approximations of expected answers

- What do you expect the answer to be and why?

#### Use of basic measurement tools

- What is parallax error and how does it affect measurement?
- How do you determine acceptable tolerances in measurement?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Types of calculations	<ul style="list-style-type: none"> <li>• Numerical calculations involved in basic arithmetic, percentages and geometry used in the printing and graphic arts industry</li> </ul>
Calculating methods	<ul style="list-style-type: none"> <li>• Includes approximation and formal calculations using pen and paper, calculators, computers and other calculating devices</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working under supervision</li> </ul>

**Measuring tools**

- Basic measuring tools used in the printing industry, for example micrometers, scales, humidity meters, pH meters, screen angle and screen ruling gauges, dot gain scales and pantone colour matching

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Basic measuring tools used in the printing industry, for example micrometers, scales, humidity meters, pH meters, screen angle and screen ruling gauges, dot gain scales and pantone colour matching
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Documents detailing calculations
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU271B****Unit Descriptor****Provide basic instruction for a task**

This unit describes the performance outcomes, skills and knowledge required to convey technical information to an individual client for their specific use in a clear, concise and coherent manner.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit applies to skilled workers who are instructing other workers in a task during normal work.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Prepare for training                     | 1.1 Check with individual that training is required and that conditions are suitable for training<br>1.2 Check that any necessary equipment is available<br>1.3 Check that sufficient time is available for instructor and trainee  |
| 2. Instruct trainee in task                 | 2.1 Instruct trainee in task using appropriate techniques<br>2.2 Provide individual with details of required knowledge about potential problems and causes of failure<br>2.3 Provide individual with information about potential hazards<br>2.4 Allow individual to practise task under supervision<br>2.5 Encourage individual to ask questions and provide feedback |
| 3. Check that learning has taken place      | 3.1 Check that individual can perform task to required standard<br>3.2 Check that the individual is aware of potential problems and causes of failure<br>3.3 Check that individual is aware of potential hazards and knows how to avoid them  |
| 4. Arrange for necessary follow-up training | 4.1 Estimate individual's level of skill and their requirements for follow-up training, if required<br>4.2 Arrange for appropriate follow-up training or supervised practice sessions, if required  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by using clear explanations and checking responses to ensure that understanding has taken place
- Collecting, analysing and organising information by breaking the task into components for effective training. Theory is matched with practice
- Planning and organising activities by effectively sequencing demonstrations, explanations and practice to maximise learning
- Teamwork when working with supervisors to ensure that task trained is relevant to job and that trainee has opportunities to use and practise new skills
- Problem-solving skills by identifying misunderstandings and inadequate skills and finding remedies for them

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Questioning and active listening for conveying and clarifying information
- Basic negotiation skills in relation to other team members
- Conveying meaning clearly, concisely and coherently
- Basic skills in demonstrating and explaining skills

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Target group	<ul style="list-style-type: none"> <li>• This competency applies to skilled workers instructing other workers in a task during routine work</li> </ul>
Scope of training	<ul style="list-style-type: none"> <li>• Training is provided on a one-to-one basis or to small groups of trainees and may include demonstrations and / or descriptions of procedures</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Working independently but at the direction of a supervisor</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Clearly, concisely and coherently conveying technical information to an individual client for their specific use
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Observation of training on TWO separate occasions combined with discussion with the trainer about what has been done and their assessment of trainee's progress
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU280B****Unit Descriptor****Enter data into electronic system**

This unit describes the performance outcomes, skills and knowledge required to retrieve and amend job information from production machinery.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to pull up job specifications or job information and document changes according to the particular production stage. This unit can be applied to a wide range of machines to access job information and transfer information for the next production stage.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                |  |
|----------------|--|
| 1. Access data | 1.1 Data required for the job is called up electronically using industry program |
|                | 1.2 Data is checked and amended to conform to job specifications                 |
| 2. Input data  | 2.1 Data is entered according to job requirements                                |
|                | 2.2 The data is checked to ensure the output conforms to job requirements        |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by understanding and applying requirements for different outputs
- Collecting, analysing and organising information by entering data into electronic systems
- Planning and organising activities by planning the sequence of work to facilitate efficient output
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by entering output data
- Problem-solving skills by diagnosing format and compatibility problems
- Use of technology by entering data into electronic systems

### Required knowledge:

The following knowledge must be assessed as part of this unit:

### Relevant printing and publication processes

- What aspects related to printing and publication processes must be considered when transferring electronic files?

### Computer programs and applications

- Explain what you would do when converting a file across different computer platforms.
- Should a file fail to transfer correctly what action would you undertake to correct the problem?
- What programs have you used to manage this file?

### File format selection

- What are the consequences of using an incorrect file format?
- What steps are required to ensure that the correct file format is used?

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

### Equipment

- Manufacturing equipment including printing presses, in-line equipment, paper converting equipment



- |                    |   |
|--------------------|---|
| Quality standards  | <ul style="list-style-type: none"><li>• Should meet client requirements and enterprise and industry standards</li></ul> |
| Degree of autonomy | <ul style="list-style-type: none"><li>• Working under limited supervision</li></ul>                                     |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Consistently and accurately enter data into the system
- Accurately access and enter data into a machine console or electronic system
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU281B****Unit Descriptor****Use computer systems**

This unit describes the performance outcomes, skills and knowledge required to perform basic functions on a computer.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit covers basic computer skills.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Use a stand alone computer / terminal correctly | 1.1 Correct posture at the keyboard is adopted according to OHS<br>1.2 Data is correctly accessed to ensure no loss of data<br>1.3 Data is manipulated correctly to ensure access, retrieval and storage of data<br>1.4 Keyboarding technique is safe and meets the speed requirements of the job, if necessary   |
| 2. Perform computer / terminal functions           | 2.1 Data is accessed, saved and retrieved for reference and for amendment<br>2.2 The appropriate program is selected for the job to be undertaken<br>2.3 Mouse and / or keyboard functions are used correctly to operate the computer system<br>2.4 Features of applications are used correctly to deliver a specified output<br>2.5 Data is saved in correct format and file location<br>2.6 Master pages, templates and style sheets, as appropriate, are used consistently to ensure data is the same after exchange or transfer |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by effectively using written materials and correct completion of proformas
- Collecting, analysing and organising information by accessing user manuals and applying their contents
- Mathematical ideas and techniques by calculating file sizes, margins, image sizes and using spreadsheets
- Use of technology by using computer systems

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### OHS and ergonomic issues

- What are the potential health risks associated with the use of a computer workstation?

#### Starting, operating and shutting down the computer

- Under what circumstances should you turn off the power to the computer and why?
- What should you do each time you start or stop using the computer?
- If you use a password, who else is allowed to know that password?
- How do you access alternative file storage devices?

#### Basic typing skills

- Identify the base finger positions on the keyboard.
- Why is it better to type at an even pace instead of typing some letters more quickly than others?

#### Use of applications

- What is the mathematical relationship of byte, kilobyte, megabyte and gigabyte?
- How is a compressed file produced?
- Why should you use master pages, templates or style sheets?
- What is a macro?
- What file formats are used in your workplace and why?
- What are three common errors and their consequences?
- How can you find out whether you have made a mistake?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                       |   |
|-----------------------|---|
| Degree of autonomy    | <ul style="list-style-type: none"> <li>• Work is undertaken according to organisational procedures and in consultation with others to ensure production requirements are met</li> </ul>   |
| Types of systems      | <ul style="list-style-type: none"> <li>• Computer systems used in the printing industry</li> </ul>  |
| Types of applications | <ul style="list-style-type: none"> <li>• Software used in the printing industry, including: typesetting, image manipulation, page layout, word processing, database, spreadsheet, production control and monitoring applications</li> </ul> |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency in this unit**

Evidence of the following is essential:

- Correctly perform basic functions on a stand alone computer / terminal using industry software
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Use a stand alone computer / terminal with at least TWO software applications relevant to the printing industry to perform a variety of computing functions, access and save files, according to the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Critical aspects for assessment and evidence required to demonstrate competency**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- a stand alone computer or terminal

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU311B****Unit Descriptor****Prepare ink and additives (advanced)**

This unit describes the performance outcomes, skills and knowledge required to prepare inks and additives for special colour work or other special purpose inks.

**Employability Skills**

This unit contains employability skills.

**Prerequisite Unit(s)**

ICPSU211B Prepare ink and additives

**Application of the Unit**

This unit requires the individual to prepare ink and additives for specialised purposes or new products.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Select ink for special colour work or other specialised purpose  | 1.1 Inks and additives are selected according to job specifications<br>1.2 Quality and suitability of inks or additives are checked and appropriate action is taken<br>1.3 Inks are selected according to end use of product, suitability of substrate, adhesion, physical and chemical resistance, and light fastness, drying method and print process   |
| 2. Maintain and calibrate equipment                                 | 2.1 Equipment is inspected to ensure it is functional and where necessary appropriate remedial action is taken prior to commencement<br>2.2 Equipment is calibrated, cleaned and adjusted according to manufacturer's / supplier's instructions   |
| 3. Prepare ink for special colour work or other specialised purpose | 3.1 Inks and additives are prepared according to OHS requirements and manufacturer's / supplier's instructions with suitable precautions to minimise waste<br>3.2 Correct colour and weight / volume of ink are calculated, mixed and prepared to match the requirements of the job specification and the printing machine to be used<br>3.3 Formulation of the ink and the approved colour is appropriately recorded |
| 4. Store and handle ink   | 4.1 Inks and additives are appropriately stored, handled and labelled according to manufacturer's / supplier's instructions to prevent damage and hazards to personnel  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by correctly labelling inks and additives
- Collecting, analysing and organising information by accessing and using MSDSs and data on inks and substrates to ensure efficient production
- Planning and organising activities by selecting inks and additives prior to preparation
- Teamwork when maintaining the production process in association with other staff
- Mathematical ideas and techniques by calculating volumes, weights and formulations
- Problem-solving skills by identifying and correcting formulation problems
- Use of technology by maintaining and calibrating equipment

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### OHS requirements

- What safe working conditions are in place and what health hazards are considered when using inks, solvents and additives?
- What pollution and environmental issues need to be considered when working with inks and additives?

#### Select ink / additives and test substrate compatibility

- What are the substrate characteristics and the end use of the substrate?
- What ink colour fastness is required?
- How do you determine if ink adheres to the substrate?
- How do you test the compatibility of solvents, monomers and additives with the ink?

#### Calculate ink quantity and match sample by hand / computer

- Describe the formula for calculating correct quantity of ink.
- What computer-based package is used for calculation of ink quantity?
- What details are required in order to calculate ink quantity?
- How do the screen mesh, machine and squeegee affect ink coverage?

#### Mix ink and check consistency and colour

- Describe the software program and the required inputs.
- What are the ideal conditions for matching colours?
- What effect does white mixed in colour have on finished colour light fastness?
- What methods are there for checking and adjusting ink colour and consistency?
- What are the machine characteristics and other parameters that affect ink deposit and consequently colour?
- What are the effects of viscosity changes in the ink?

#### Identify ink type and record information

- What procedures are there for recording the formulation by hand or by computer?
- Who approves mixed colour prior to commencing production?
- Where has the recipe for the colour been recorded?

## Storage, handling and labelling

- What system is in place for labelling mixed inks?
- What environmental conditions are in place for the storage of inks?
- Where are manufacturer's specifications and MSDSs kept?

## Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Type of ink, substrate	• Ink and substrates used for special inks used in printing processes relative to industry sectors
Colour matching systems	• Colour matching systems commonly used in the industry
Degree of autonomy	• Working in consultation with other relevant persons to defined procedures to ensure production requirements are met
Type of equipment	• Manual and electronic measuring equipment
Enterprise procedures	• Range of enterprise procedures within defined work area
Quality standards	• Should meet client requirements and enterprise and industry standards

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

## Overview of assessment



**Critical aspects for assessment and evidence required to demonstrate competency in this unit**

Evidence of the following is essential:

- Should meet client requirements and enterprise and industry standards
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Prepare at least TWO different lots of ink and additives that require special colour matching and match colour sample by manual and electronic means to job specification, industry standards and listed performance criteria. Ideally each lot of ink should be a different type for use on a different substrate
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- inks and additives

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU321B****Unit Descriptor****Pack and dispatch (advanced)**

This unit describes the performance outcomes, skills and knowledge required to coordinate and supervise the packing and dispatch of printed products.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to coordinate the packing and dispatch of products.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Assess final product                       | <ul style="list-style-type: none"> <li>1.1 Finished job is collected / received and checked against job specifications according to enterprise procedures</li> <li>1.2 Defects, irregularities and discrepancies are identified and action taken according to enterprise procedures</li> </ul>  |
| 2. Assess wrapping and packaging requirements | <ul style="list-style-type: none"> <li>2.1 Work instructions are checked to determine any specific customer wrapping and packaging requirements</li> <li>2.2 Product is assessed to determine wrapping, parcelling and packaging requirements</li> <li>2.3 Product destination and delivery time are confirmed to determine most appropriate delivery mode</li> <li>2.4 Transportation / shipping requirements are determined</li> </ul>  |
| 3. Prepare stock for dispatch                 | <ul style="list-style-type: none"> <li>3.1 Suitable area for wrapping / packaging is selected and prepared</li> <li>3.2 Wrapping and packaging materials are prepared</li> <li>3.3 Product is wrapped in pre-determined parcel sizes as required</li> <li>3.4 Product is packaged as appropriate to product size, type, destination, delivery route and method of transportation, according to workplace instructions, transportation / shipping regulations and OHS requirements</li> <li>3.5 Packaged goods are weighed and labelled according to delivery instructions, transportation / shipping regulations and enterprise procedures</li> </ul> |
| 4. Dispatch product                           | <ul style="list-style-type: none"> <li>4.1 Packaged product is stacked on / in appropriate storage / shipping containers prior to dispatch</li> <li>4.2 Product is dispatched via appropriate delivery mode according to workplace instructions, enterprise procedures and OHS requirements</li> <li>4.3 Product shipping details are recorded according to enterprise procedures</li> <li>4.4 Delivery schedules are monitored and amended as required according to enterprise procedures</li> </ul>   |

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by communicating with printers, transport suppliers and clients about needs and constraints on packing and dispatch of product
- Collecting, analysing and organising information by accessing data about packaging products, requirements for packaging and transport and costs and time frames in order to efficiently deliver product
- Planning and organising activities by establishing sequences and timelines for packing and dispatch to ensure timely delivery of product
- Teamwork when liaising with printers, transport suppliers and clients to ensure timely delivery of undamaged product
- Mathematical ideas and techniques by calculating weights, volumes and delivery times
- Problem-solving skills by monitoring and amending delivery schedules
- Use of technology by using planning software and on-line booking systems for transport

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Quality checking of printed matter for defects and discrepancies**

- How do you determine what is a defective print or item?
- How are these defects rectified?
- Why does the job need to be checked against job specifications?

#### **Specific customer instructions for wrapping, packing and dispatching**

- What are the customer's specific requests for wrapping and packing?
- How do you ascertain the quantities required for each destination?

#### **Wrapping and packing materials, methods and equipment used**

- What OHS concerns are there when using packaging materials and equipment?
- What type of shipping container is to be used?
- What are the requirements for wrapping manually?
- What are the requirements for mechanical wrapping?
- What are the packing requirements for the mode of transport being used?

#### **Use of weighing machines, scales and labelling equipment**

- How critical is the weight of each parcel for dispatch purposes?
- Why is it important to weigh and note the weight of each parcel?
- What labelling requirements are necessary?

#### **Use of pallet trucks, forklifts and storing and loading goods**

- What are the OHS requirements for the use of forklifts?
- What is the maximum weight that the pallet truck / forklift can lift?
- What are the safety measures in place for the use of forklifts?
- What restrictions are there for personnel in the use of forklifts?
- What checks are in place to ensure goods are correctly loaded onto transport to prevent damage during transit?

## Modes of transport and writing of consignment notes

- What factors affect the choice of mode of transport for a particular consignment?
- What arrangements need to be made for the consignment to be picked up by the transport company?
- What labelling needs to be placed on the goods to ensure delivery to the right destination?
- What consignment note / dispatch documentation needs to be completed?
- Why is the signature of the driver necessary on the documentation?
- Why should the time of dispatch be noted on documentation?

## Monitoring delivery schedules

- How do you ensure that the time of delivery at each destination complies with client's requirements?
- What procedures are in place if parcels do not reach their destination?

## Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Type of inspection	<ul style="list-style-type: none"> <li>• Types of inspection techniques (i.e. 100%, random periodic and continuous in-line inspection)</li> </ul>
Packing techniques	<ul style="list-style-type: none"> <li>• Methods of packing and use of equipment for wrapping and packing of screen printed products</li> </ul>
Weighing techniques	<ul style="list-style-type: none"> <li>• Accurate use of weighing machines and scales</li> </ul>
Product mobility	<ul style="list-style-type: none"> <li>• Pallet trucks and forklifts for storage and loading of goods</li> </ul>
Dispatch methods	<ul style="list-style-type: none"> <li>• Packaging requirements for different methods of transportation of screen printed products (ie courier, interstate)</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Application of initiative and judgement to ensure wrapping, packing and dispatch requirements are met</li> </ul>
Enterprise procedures	<ul style="list-style-type: none"> <li>• Range of enterprise procedures within defined work area</li> </ul>

**Quality standards**

- Should meet client requirements and enterprise and industry standards

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Supervising effective packing and dispatching of printed products
- Supervise the wrapping and packing of a variety of printed matter (at least THREE lots) and dispatch goods to at least THREE destinations to job sheet specifications and according to the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- resources and product to pack and dispatch

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU323B****Unit Descriptor****Dispose of waste**

This unit describes the performance outcomes, skills and knowledge required to dispose of waste. Handling and consignment of untreated waste is covered in ICPSU203B Prepare and maintain the work area.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to treat waste and dispose of it according to enterprise procedures and government regulations.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                     |  |
|---------------------|--|
| 1. Prepare waste    | <ul style="list-style-type: none"> <li>1.1 Waste is stored according to OHS and EPA requirements</li> <li>1.2 Waste treatment system is monitored to ensure correct operation and changes to procedures are recommended if required</li> <li>1.3 Waste is treated, if necessary, to ensure compliance with workplace and EPA standards</li> </ul>  |
| 2. Dispose of waste | <ul style="list-style-type: none"> <li>2.1 Appropriate disposal is arranged with regard to waste quality, quantity and EPA and government regulations</li> <li>2.2 Waste is disposed of in an appropriate way to ensure compliance with workplace and EPA standards</li> <li>2.3 Any subcontractors are checked to ensure that they comply with EPA and government regulations</li> <li>2.4 Wastage rates are documented or collated for further review</li> </ul> |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by liaising with printers, waste agencies and subcontractors about requirements for waste disposal
- Collecting, analysing and organising information by using data on waste from EPA and MSDSs to ensure safe and efficient operations
- Planning and organising activities by determining the sequence of operations to ensure safe efficient disposal with minimum disruption to production
- Teamwork when cooperating with printers and subcontractors to ensure efficient handling and disposal of waste
- Mathematical ideas and techniques by calculating volumes, weights and dilution factors
- Problem-solving skills by determining the treatment options for different types of waste
- Use of technology by correctly using waste disposal equipment

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Disposal procedures

- What are the consequences of a company having excess waste?
- What are the segregating and packaging requirements for correct disposal?

#### Handling procedures

- What are the OHS regulations on the handling of waste?
- How was the appropriate handling method determined?
- What could be the result of incorrectly handled waste?
- How was the appropriate storage method identified?

#### Documentation and statutory requirements

- Where were enterprise and statutory details to check results obtained?
- What details are recorded when recording results of liquid waste treatment?

#### Maintaining waste testing equipment

- What are the OHS concerns related to cleaning and maintaining testing equipment?
- Why is it necessary for the equipment be kept clean and maintained?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                     |   |
|---------------------|---|
| Waste environment   | <ul style="list-style-type: none"> <li>• The competencies apply to personnel who are dealing with waste in the printing industry with appropriate equipment and resources</li> </ul>  |
| Degree of autonomy  | <ul style="list-style-type: none"> <li>• The work environment application relates to working under limited supervision exercising initiative and judgement with discretion</li> </ul> |
| Sampling techniques | <ul style="list-style-type: none"> <li>• Various waste sampling techniques</li> </ul>   |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correctly disposing of waste as required
- Treat and dispose of TWO lots of waste according to enterprise and statutory requirements and regulations and the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- waste and waste disposal equipment



**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU342B****Unit Descriptor****Undertake inventory procedures**

This unit describes the performance outcomes, skills and knowledge required to use inventory procedures and requisitioning.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to requisition goods and apply inventory procedures.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                             |  |
|-----------------------------|--|
| 1. Use inventory procedures | <ul style="list-style-type: none"> <li>1.1 Inventory procedures are understood and carried out according to enterprise standard operating procedures</li> <li>1.2 Requisition, purchase, shipping and invoice documentation is used as required according to enterprise standard operating procedures</li> <li>1.3 Inward / outward recording / filing system is understood, accessed and maintained according to enterprise standard operating procedures</li> <li>1.4 Customer orders are maintained according to enterprise standard operating procedures</li> <li>1.5 Returned orders are booked back according to enterprise standard operating procedures</li> </ul> |
| 2. Requisition goods        | <ul style="list-style-type: none"> <li>2.1 Requisition procedures are understood and carried out according to enterprise standard operating procedures</li> <li>2.2 Goods are requisitioned on time</li> <li>2.3 All recording is completed and filed correctly according to enterprise standard operating procedures</li> </ul>   |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by communicating with production managers and suppliers about materials
- Collecting, analysing and organising information by accessing data on materials, shelf life and suppliers and using these efficiently
- Planning and organising activities by establishing procedures to ensure that stores are maintained at appropriate levels
- Teamwork when working with other staff to ensure appropriate flow of production
- Mathematical ideas and techniques by completing requisition, purchase and shipping documentation
- Problem-solving skills by requisitioning goods on time
- Use of technology by using inventory and stores software applications

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Using standard operating procedures to maintain inventory

- What effect would poor inventory control have on organisational procedures?
- What is the difference between requisitioning and purchasing?
- What type of goods and materials would be filed under incoming or inward?
- What type of goods and materials would be filed under outgoing or outward?
- Why should recording and filing systems for inward / outward goods be accurately maintained?
- Why must customer's orders be accurately maintained?
- Why would orders be returned?
- What checks are made on why the goods are returned?
- How do you determine when goods should be replenished?

#### Routine stocktaking

- Describe the system used for stocktaking different types of goods (eg inks, substrates, consumables, perishables).
- Who calculates the value of stock at the date of the stocktake?
- What records of stock value are kept?
- What system is in place for segregating non-current stock?

#### Requisitioning and recording of goods

- Who has the authority to approve the requisition of goods?
- Is there special approval required for the requisition of certain goods or materials?
- How do you indicate that goods received have been approved for production and comply with the purchase order?
- What procedures are in place for the urgent requisition of goods?
- What additional information may need to be recorded prior to filing requisition orders?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                             |   |
|-----------------------------|---|
| Degree of autonomy          | <ul style="list-style-type: none"> <li>• Work undertaken autonomously or in team environment</li> </ul>   |
| Inventory control processes | <ul style="list-style-type: none"> <li>• Inventory control based on standard operating procedures utilising manual or electronic systems. Standard operating procedures undertaken include Just-in-Time, Kan Ban</li> </ul> |
| Enterprise procedures       | <ul style="list-style-type: none"> <li>• Work and organisational methods according to enterprise standard operating procedures and legislative requirements</li> </ul>  |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Requisitioning goods and correctly applying inventory procedures
- Compile a portfolio of inventory paperwork covering ONE month that shows performance criteria have been met
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU345B****Unit Descriptor****Employability Skills****Application of the Unit****Unit Sector****Purchase materials and schedule deliveries**

This unit describes the performance outcomes, skills and knowledge required to purchase materials and schedule deliveries.

This unit contains employability skills.

This unit requires the individual to purchase materials and schedule deliveries for production and / or storage. It is applicable to a production section or a stores / warehouse.

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Identify material requirements             | <ul style="list-style-type: none"> <li>1.1 Customer / client is consulted as appropriate and customer order specifications detailed</li> <li>1.2 Supporting production data is examined</li> <li>1.3 Materials required are identified including type, quality and quantity</li> <li>1.4 Quantities required are estimated according to predetermined standards</li> <li>1.5 Purchase order / list is developed according to enterprise standard operating procedures</li> </ul>   |
| 2. Purchase materials and schedule deliveries | <ul style="list-style-type: none"> <li>2.1 Delivery requirements are determined from production plan</li> <li>2.2 Supplier / vendor is informed of requirements and specifications</li> <li>2.3 Supply / purchasing schedules are adjusted where required according to enterprise standard operating procedures</li> <li>2.4 Appropriate paperwork / contracts are exchanged according to enterprise standard operating procedures</li> <li>2.5 Records / files are maintained accurately according to enterprise standard operating procedures</li> </ul> |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by liaising with production management and suppliers to ensure consumables are available
- Collecting, analysing and organising information by gathering and using information about supplies and suppliers, delivery times, usage rates
- Planning and organising activities by identifying required materials and organising delivery to support production schedule
- Teamwork when liaising with production management and suppliers to ensure consumables are available
- Mathematical ideas and techniques by examining production data and determining material requirements
- Problem-solving skills by finding alternative suppliers if required and rescheduling deliveries to meet production exigencies
- Use of technology by using computerised stock and order systems

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Determining materials and purchasing requirements

- Where are customer order specifications obtained?
- Why is it necessary to keep an accurate stock control system?
- What manual or computer stock control systems are in place?
- How do you determine when stocks need to be replenished?
- When would you ask a customer or client to verify verbal instructions?

#### Purchasing procedures

- Is there a list of preferred suppliers and the products they supply?
- Where is the order raised and by whom?
- What contracts are listed for purchase orders?
- Why do you have purchasing contracts?
- Who has determined the required quantity in the order?
- What special instructions could be listed on the order?
- Why should you accurately maintain purchasing records?

#### Scheduling materials delivery

- What are the procedures if delivery requirements cannot be met?
- What are the possible alternatives if delivery requirements cannot be met?
- Who should be informed if delivery requirements cannot be met?
- Why would you adjust purchasing schedules?
- What effects could atmospheric conditions have on materials in storage?
- What effects could UV light have on materials in storage?

**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Purchasing schedules	<ul style="list-style-type: none"> <li>On site procedures developed for pre-contracted suppliers / vendors</li> </ul>
Contract preparation	<ul style="list-style-type: none"> <li>Manual or electronic systems utilising on site system</li> </ul>
Purchasing specifications	<ul style="list-style-type: none"> <li>Determined from standard job sheets, written and verbal instruction</li> </ul>
Context	<ul style="list-style-type: none"> <li>Working within a production team or a warehouse / store section servicing a number of production teams</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>Working under limited supervision to defined procedures</li> </ul>

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correctly purchasing materials and scheduling their delivery
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce a portfolio of paperwork that shows scheduling and purchasing of material deliveries. This should include a record of at least a month during which there were no major interruptions of production caused by absence of materials and no excess inventory in stock
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment



**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

## ICPSU351B Unit Descriptor

## Undertake basic production scheduling

This unit describes the performance outcomes, skills and knowledge required to schedule production for a small work unit. For scheduling within an enterprise or large section see ICPSU455B Supervise and schedule work of others and ICPSU456B Control production.

### Employability Skills Application of the Unit

This unit contains employability skills.

This unit requires the individual to schedule production in a small work unit.

### Unit Sector

Support

### ELEMENT

### PERFORMANCE CRITERIA

- |  |   |
|--|---|
| 1. Identify production requirements and capacities | 1.1 Printing, converting and finishing production data is identified<br>1.2 Inventory capacities and requirements are identified<br>1.3 Procurement and supply requirements and constraints are identified<br>1.4 Production capacity for the workgroup is identified<br>1.5 Production constraints for the workgroup are identified<br>1.6 Standard times for the workgroup are identified |
| 2. Prepare production schedule for small work unit | 2.1 Scheduling is done in conjunction with overall scheduling of other units and processes<br>2.2 Production schedule is prepared according to production, inventory, procurements, time constraints and supply capacities and requirements<br>2.3 Schedule is documented according to enterprise procedures<br>2.4 Schedule is modified as required  |
| 3. Monitor production                              | 3.1 Production is monitored<br>3.2 Any necessary changes in scheduling, and the reasons for this, are reported according to enterprise procedures   |

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by liaising with production management and customers
- Collecting, analysing and organising information by monitoring production and determining changes required in scheduling
- Planning and organising activities by sequencing machinery as efficiently as possible
- Teamwork when liaising with other production processes and stores to ensure materials are available
- Mathematical ideas and techniques by calculating required consumables and run times of jobs
- Problem-solving skills by adjusting schedules to minimise machine down time and / or to accommodate rush jobs
- Use of technology by using production control software

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Identifying production requirements and capacities**

- What job requirements determine the production processes?
- How do you identify special production requirements and possible problems?
- What criteria are used to determine availability of machines, materials and labour?
- What OHS concerns need to be considered when planning production?

#### **Checking stock levels**

- How are internal stock levels checked?
- What information do you obtain from outside suppliers that will allow you to establish job priorities?
- What system do you use to select alternative suppliers?

#### **Preparation and documentation of the production schedule**

- How is the production workflow determined?
- What is the system used to work out job priorities?
- What is the purpose of documenting production workflow?
- How are schedules communicated to the workforce?

#### **Revising schedules**

- How are production schedules monitored and amended if required?
- What consideration is given to revising production schedules to take into account customer requirements and job complexity?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                     |  |
|---------------------|--|
| Print processes     | <ul style="list-style-type: none"> <li>• Any processes in pre-press, press, finishing, screen printing</li> </ul>  |
| Scope of scheduling | <ul style="list-style-type: none"> <li>• Applies to the scheduling for a single small production work unit or production cell, or workstation or work unit; or a single production process where there are only a small number of constraints or variables. The scheduling applies to only a part of the overall production process</li> </ul> |
| Degree of autonomy  | <ul style="list-style-type: none"> <li>• Initiative and judgement must be demonstrated</li> </ul>  |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Effectively scheduling production for a small work unit
- Produce a portfolio that shows all appropriate paperwork for one month's scheduling according to the listed Performance Criteria for a single small production unit in pre-press, printing, screen printing, converting or finishing
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU352B****Unit Descriptor****Plan operational processes**

This unit describes the performance outcomes, skills and knowledge required to develop and plan new or to modify existing, operational or production processes.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit focuses on the systems analysis and design and requires the individual to develop and plan for new or modified operations.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Identify production requirements     | 1.1 Overall production schedule is examined to identify production requirements<br>1.2 Material requirements are identified according to production requirements<br>1.3 Current processes are identified in consultation with other staff  |
| 2. Review customer order specifications | 2.1 Customer order specifications are obtained and examined<br>2.2 Supporting production data is examined<br>2.3 The production process to be used is determined based on information supplied in production plan  |
| 3. Determine process operations         | 3.1 Existing process operations are reviewed in consultation with management<br>3.2 Existing problems are clarified with team and customers<br>3.3 Work operations required are identified in consultation with team<br>3.4 Suitable machinery or equipment is identified in consultation with team<br>3.5 Cost and duration are estimated against production estimates<br>3.6 Recommendations on possible solutions are made and documented |
| 4. Determine production sequence        | 4.1 Steps required for the process are identified<br>4.2 Material and equipment requirement lists are prepared and documented<br>4.3 Quality assurance steps and specifications are identified<br>4.4 Process steps are documented and clearly represented   |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by liaising with production workers and customers to identify needs and limitations
- Collecting, analysing and organising information by accessing data about machine capabilities, production processes and customer needs and using them in the planning process
- Planning and organising activities by modelling and trialling different process operations
- Teamwork when working with staff to review existing process operations
- Mathematical ideas and techniques by completing a cost benefit analysis of the production process and making projections for different options
- Problem-solving skills by considering options for modifying operational processes and choosing the most efficient
- Use of technology by using planning and project management software

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Examination of design and identification of materials and suitable processes

- Why is it necessary to implement change?
- What changes to existing production areas will have to be made?
- How can the operation be integrated into existing organisational processes?
- What materials are required in addition to existing ones?
- What are the alternatives to the chosen process?
- Why was this process chosen?

#### Reviewing customer and production requirements

- What review was conducted to assess the process to suit customer requirements?
- Will new customers have to be sought?
- How will new customers be sought?
- What production plan information will aid in determining the process?

#### Reviewing existing operations and problems

- What impact will the process have on existing operations?
- How can training be integrated into existing process operations?
- How can the process eliminate existing production problems?

#### Identifying operations and machinery

- How can existing machinery or equipment be utilised?
- What space will the equipment occupy in the production area?
- What special provisions will be necessary to accommodate the equipment?
- What is the expected production life of this equipment?
- What technology could see this equipment outdated?

#### Testing and costing for analysis and recommendations

- What production factors were established from tests and trials?

- How were cost savings estimated?
- What will be the estimated total cost savings per annum?
- What positive conclusions can be drawn from the tests and trials?
- What negative conclusions can be drawn from the tests and trials?
- Who has the authority to approve the operational process?

### **Determining production sequence and identifying process specifications**

- How were the steps for the process identified?
- Will the process have any effect on existing quality assurance steps? If so, what?
- What new materials will need to be supplied?
- Why is it important to document the steps of the process?

### **RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Range of processes	<ul style="list-style-type: none"> <li>• Applies to the development of new processes or the modification of existing processes based on known and documented changes to process technology or product. Applies to a part of the overall production process</li> </ul>
Enterprise procedures	<ul style="list-style-type: none"> <li>• Carried out according to established organisational practices and processes and following instructions as to approach. Plan is developed according to accepted organisation practice and procedures</li> <li>• Work for the process element is planned over the specified time frame taking into account resources required and available</li> <li>• Process plan establishes detailed steps required and milestones against which progress can be checked</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Applies to personnel who supervise employees</li> </ul>

### **EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Overview of assessment**



**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Effective planning or modification of production processes
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce a portfolio that includes paperwork showing planning of operational processes in any ONE of pre-press, printing, screen printing, converting, binding and finishing, corrugating or laminating, according to the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- BSBFLM509A Promote continuous improvement.

**ICPSU357B****Unit Descriptor****Employability Skills****Application of the Unit****Apply quick changeover procedures**

This unit describes the performance outcomes, skills and knowledge required to carry out quick operational changeovers.

This unit contains employability skills.

In a typical scenario, an organisation is pursuing quick changeover as one of its competitive manufacturing tools. The operator is also involved in recommending improvements within the scope and authority of their job.

This unit is based on the competitive manufacturing initiative competency MCMT220A Apply quick changeover procedures. This unit is from the Competitive Manufacturing Initiative group of competency standards.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                           |   |
|---------------------------|---|
| 1. Prepare for changeover | <ul style="list-style-type: none"> <li>1.1 Timing of changeover is determined according to production schedule</li> <li>1.2 All required tools / parts / materials are obtained for changeover</li> <li>1.3 Process and tools / parts / materials are organised ready for changeover</li> <li>1.4 Liaison with relevant people is conducted for quick changeover</li> </ul> |
| 2. Make quick changeover  | <ul style="list-style-type: none"> <li>2.1 Quick changeover is planned according to quick changeover principles</li> <li>2.2 Changeover is completed according to enterprise procedures</li> <li>2.3 Output is checked to meet specifications</li> <li>2.4 Any steps which cause a problem are noted and changes recommended to problematic steps</li> </ul>                |
| 3. Improve OHS            | <ul style="list-style-type: none"> <li>3.1 Hazards in all steps/actions are identified</li> <li>3.2 Risks from each hazard are determined</li> <li>3.3 Actions which may be performed in a more ergonomic manner are identified</li> <li>3.4 Changes are recommended to improve OHS</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by liaising with relevant staff to facilitate changeover
- Collecting, analysing and organising information by determining when changeover will be required according to production schedule
- Planning and organising activities by planning a quick changeover according to quick changeover principles
- Teamwork when working with others to affect a quick changeover
- Mathematical ideas and techniques by checking output to ensure that it meets specifications
- Problem-solving skills by identifying actions which may be performed in a more ergonomic manner
- Use of technology by using required tools / parts / materials for changeover

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Principles of quick changeover
- Relevant procedures
- Purposes / requirements of changeover
- Methods of recommending changes
- Quality requirements for products
- Minimisation of changeover scrap

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

### Changeover

- Changeover may refer to an exchange of dies / tools (traditional), or a change between batches, or it may be any quantum equipment / process change to produce a different product eg plate changeover, stock change
- This unit may not be applicable to a totally continuous operation producing only the one product or simultaneous range of products. This is not applicable to a maintenance / PVI shutdown as experienced by continuous process manufacturers

**Procedures**

- Procedures includes all work instructions, standard operating procedures, formulas / recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, oral, computer-based or in some other form

**SMED**

- Changeover is sometimes referred to as SMED which is a more extreme form where SMED is an abbreviation for Single Minute Exchange of Die; literally, changing a die on a forming or stamping machine in a minute or less; broadly, the ability to perform any set up activity in a minute or less of machine or process downtime. The key to doing this is frequently the capability to convert internal set up time to external set up time. Variations on SMED include:
  - Single-digit set up: performing a set up activity in a single-digit number of minutes, ie fewer than ten
  - OTED: One touch exchange of die; literally, changing a die with one physical motion such as pushing a button; broadly, an extremely simple procedure for performing a set up activity

**Set up time**

- Set up time - work required to change over a machine or process from one item or operation to the next item or operation. It can be divided into two types:
  - internal set up work that can be done only when the machine or process is not actively engaged in production; OR
  - external set up work that can be done concurrently with the machine or process performing production duties

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Routine positive participation in quick changeover procedures
- Assessment will need to occur in an organisation using quick changeover or a suitable simulation in say a workshop

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- machinery for changeover

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU362B****Unit Descriptor****Communicate as part of a work team**

This unit describes the performance outcomes, skills and knowledge required to communicate as part of a work team. It is similar in scope to BSBFLM304A Participate in work teams, which should not be used in conjunction with it.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit covers communication skills used in work teams.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Participate in group discussions        | 1.1 The participant's contribution in a small group discussion to reach agreement on a workplace related issue is clearly evident<br>1.2 Personal views are presented in a way that supports the views of others involved in the discussion<br>1.3 Appropriate meeting procedures are adhered to<br>1.4 Information is conveyed in a logical, clear and concise manner<br>1.5 Specified follow up steps are taken |
| 2. Prepare a presentation                  | 2.1 Planning and preparation of a simple presentation is undertaken cooperatively with team members<br>2.2 Agreed tasks are completed to schedule<br>2.3 The participant's purpose in the presentation is clearly evident from the context<br>2.4 Interaction is supportive and constructive  |
| 3. Present a job related report to a group | 3.1 Views are presented clearly and logically and relate to the aims of the presentation<br>3.2 The stated purpose of the presentation is achieved  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by actively participating in work group (or workplace committee eg OHS) discussions
- Collecting, analysing and organising information by preparing a job related report to a group
- Planning and organising activities by cooperating with team members to make a presentation to a group
- Teamwork when participating in a group discussion on a workplace issue
- Mathematical ideas and techniques by conveying information in discussion where relevant
- Problem-solving skills by being part of a group discussion that proposes actions as a follow up on a workplace issue
- Use of technology by using presentation tools and media

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Listening
- Speaking
- Note taking
- Gathering and organising information
- Meeting procedure
- Group goal-setting techniques
- Handling conflict
- Negotiation
- Presentation techniques and media

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Range of work teams	• Range of workgroups or work teams found in the workplace
Presentation media	• Range of media including overheads, slides, charts, models, computers
Degree of autonomy	• This unit applies to people involved in organising work teams and their activities

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Communication within the team is clear and logical and is understood by the group. Presentations achieve their aims
- Presentation documentation is clear and logical and meets the aims of the presentations
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.



## ICPSU381B Unit Descriptor

## Operate and maintain computer resources

This unit describes the performance outcomes, skills and knowledge required to undertake basic computing skills including routine personal computer maintenance, upgrades, restorations, data storage, conversion and transmission.

### Employability Skills

This unit contains employability skills.

### Application of the Unit

This unit covers undertaking basic computing skills including routine personal computer maintenance, upgrades, restorations, data storage, conversion and transmission.

### Unit Sector

Support

### ELEMENT

### PERFORMANCE CRITERIA

- |  |   |
|--|---|
| 1. Perform routine system maintenance                      | <ul style="list-style-type: none"> <li>1.1 Required equipment is checked to be in working order and available for use</li> <li>1.2 Peripherals are fitted, maintained, cleaned and adjusted as required</li> <li>1.3 Personal computer furniture and fittings are adjusted according to OHS practices and protection of equipment</li> <li>1.4 Routine system maintenance and security processes are performed</li> <li>1.5 Correct functioning of automated processes is monitored</li> <li>1.6 Monitors are adjusted only when being calibrated and are otherwise left alone</li> <li>1.7 All abnormalities and system malfunctions are reported</li> <li>1.8 Off-line maintenance records are kept up to date</li> </ul> |
| 2. Perform backups and restorations on a personal computer | <ul style="list-style-type: none"> <li>2.1 File system backups are performed regularly according to established workplace practices</li> <li>2.2 Backup media are labelled, stored and rotated according to established workplace practices</li> <li>2.3 Files are restored from backup as required</li> <li>2.4 Data is recovered from damaged and corrupted files using small office tools</li> <li>2.5 Adequate written records of backups are kept</li> </ul>   |
| 3. Store and supply consumables                            | <ul style="list-style-type: none"> <li>3.1 Consumables are stored and disposed of with regard to OHS, care of equipment and system security</li> <li>3.2 Stock levels and user needs are monitored to ensure required consumables are available</li> </ul>  |
| 4. Upgrade and configure a personal computer               | <ul style="list-style-type: none"> <li>4.1 Software and peripherals are installed, upgraded and configured according to enterprise policy</li> <li>4.2 New software, upgrades and adjustments are tested to ensure adequate performance</li> <li>4.3 Associated a personal computer furniture and fittings are adjusted to meet workplace standards for OHS and care of equipment</li> <li>4.4 Written records of installations, upgrades and configurations are maintained</li> </ul>  |

- 5. Access documentation, records and updates
  - 5.1 Documentation, including hardware and software manuals and equipment inventory and service records, is stored and accessed appropriately
  - 5.2 Supplementary product information, updates and technical reference material are accessed using the Internet, journals and other sources
  
- 6. Access and deliver data
  - 6.1 Removable storage devices are connected, disconnected and configured as required
  - 6.2 Data is accessed from different types of file systems
  - 6.3 Data is stored and converted to suit a variety of operating systems, environments and applications
  - 6.4 Data is transmitted effectively by the method most appropriate to the task

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by providing clear information about protocols and procedures to other system users
- Collecting, analysing and organising information by accessing user manuals and on-line resources and organising them for easy use
- Teamwork when liaising with other system users to ensure maintenance program causes minimum disruption to production
- Mathematical ideas and techniques by calculating file sizes and memory requirements
- Problem-solving skills by troubleshooting application problems and system faults
- Use of technology by using computer systems

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### OHS requirements for terminal operators

- How are the keyboard, mouse and screen positioned to avoid fatigue?
- When would you provide a foot rest?

#### Computing technology

- What are the relationships between baud rate, bits per second and bandwidth?
- What is meant by MIPPS?
- What is the function of the video card?
- What must be checked before commencement of a software installation or upgrade?

#### Security and storage of data

- A user wishes to install their own software to use during their lunch break. Assuming the software is scanned for viruses, what risks might exist for the system, the enterprise and the user if the installation proceeds?
- Describe the backup and restoration procedures currently used. Where do you see strengths and weaknesses?
- Why are hand-written records kept?
- What would alert you to a possible security breach or virus attack and how would you respond?
- What environmental factors could cause loss of data from removable media?

#### File preparation, conversion and encoding including cross-platform considerations

- How do you ensure that a converted file retains its fonts?
- What are the differences in file naming conventions between IBM-PC, Macintosh and Unix?
- Name at least three encoding methods for Internet email transmission of files and state which platform each is used for.
- Name four common graphics file formats. When would each format be chosen?

#### Correct use of network and telecommunications technologies

- How can a Macintosh communicate with another computer without using AppleTalk?

- What types of cabling and network cards are installed and what is their effect on data transmission speed?
- Can a v34 modem transmit data at 38400bps? Explain.
- How do you initiate a search for product information on the Internet?
- What is the most efficient way to exchange files with clients or other companies?

### Specific hardware, peripherals and consumables for the pre-press area

- What is a SCSI device and how does the system refer to SCSI devices?
- List the configuration of a typical high performance pre-press computer.
- What form of computer language is used to drive an imagesetter?
- Describe the types of removable media commonly used in the pre-press area.
- What pieces of hardware require periodical cleaning?

### Pre-press software

- What is the limiting factor with most DTP pre-press software?
- Where does UNIX fit into the pre-press production process?
- Identify the appropriate software required to:
  - scan for a virus
  - produce a logo
  - manipulate an image
  - set up a printer network
  - create a page of text

### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Degree of autonomy	<ul style="list-style-type: none"> <li>• Working independently under limited supervision</li> </ul>
Types of systems	<ul style="list-style-type: none"> <li>• Multi-user and or network computer systems used in the printing industry including publishing, consultancy, advertising or packaging</li> </ul>
Types of installations	<ul style="list-style-type: none"> <li>• Peripherals and software with pre-configured installation routines</li> </ul>
Data transmission	<ul style="list-style-type: none"> <li>• Methods may include ISDN, removable devices, the Internet</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correctly operating and maintaining computer resources. The underlying skill of system maintenance should be transferable across the design and pre-press sectors
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce log books and written records showing system maintenance and configuration history over a period of THREE months, including all reported abnormalities and how they were addressed, stock records
- Perform a routine system backup and restore a nominated file from an earlier backup
- Convert a document from one common file format to another and make available for access on a different platform (eg Macintosh application to MS-Windows application via suitably encoded Internet email attachment)
- Research and report the availability of upgrades and support for TWO pieces of hardware and TWO pieces of software currently in use
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU389B****Unit Descriptor****Undertake basic root cause analysis**

This unit describes the performance outcomes, skills and knowledge required to contribute to an advanced maintenance strategy; competitive manufacturers rely on the use of root cause analysis (RCA) by all personnel.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

In a typical scenario, the employee works in an organisation which is applying competitive manufacturing strategies. This involves the operator in "owning" their process, taking responsibility for it, undertaking basic root cause analysis of problems and generally contributing to increasing the up time and general overall equipment efficiency (OEE). This competency comes from the Competitive Manufacturing Initiative group of competency standards.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                               |   |
|-------------------------------|---|
| 1. Recognise problems         | 1.1 Equipment / plant condition is monitored according to enterprise procedures<br>1.2 Product is monitored against quality standards and job specifications<br>1.3 Conditions / product characteristics indicative of a problem are identified<br>1.4 An existing work-based problem and / or practice is recognised   |
| 2. Implement quick fix        | 2.1 The immediate problem is controlled / contained<br>2.2 A quick fix is recommended / implemented within the scope of competency and authority  |
| 3. Determine root cause       | 3.1 A range of possible causes is identified<br>3.2 Information is gathered to eliminate / confirm causes<br>3.3 Assistance is sought as required according to level of responsibility and personal capabilities<br>3.4 Root cause is identified based on examination of the above  |
| 4. Develop permanent solution | 4.1 A range of methods of eliminating the root cause / breaking the cause tree is identified<br>4.2 The most appropriate solution is selected based on machinery capabilities, material requirements and job schedules<br>4.3 Relevant people are liaised with to confirm decision, if required<br>4.4 Solution is recommend / implemented within the limits of competency and authority<br>4.5 Implementation is monitored and improvements are made as required |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by liaising with relevant people to confirm decision
- Collecting, analysing and organising information by monitoring implementation and making improvements
- Planning and organising activities by monitoring implementation and making improvements
- Teamwork when seeking assistance as required according to level of responsibility and personal capabilities
- Mathematical ideas and techniques by gathering information to eliminate / confirm causes
- Problem-solving skills by selecting the most appropriate solution based on machinery capabilities, material requirements and job schedules
- Use of technology by utilising equipment and tools to analyse capabilities

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Analysis
- Problem solving
- Communication
- Documenting
- Root cause analysis methodology
- Indicators of a problem
- Principles of the process sufficient to undertake a RCA and propose solutions
- Use of relevant analysis tools (cause / effect diagrams, Pareto Charts, 4W)

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

### Quick fix

- Not all situations can wait for the root cause analysis and eventual elimination of the root cause as there are serious current impacts. The quick fix will control these immediate impacts, but does not eliminate the root cause. The quick fix is sometimes referred to as the "quick and dirty" solution

Root cause	<ul style="list-style-type: none"> <li>• There are many possible causes of any problem. Eliminating some causes will have no impact, eliminating others will ameliorate the problem. However elimination of the root cause will eliminate the problem. There should only be one root cause for any problem and so the analysis should continue until this one cause is found. Elimination of the root cause permanently eliminates the problem</li> </ul>
Cause tree	<ul style="list-style-type: none"> <li>• The series of causes is referred to as the cause tree. Not all root causes are accessible and able to be eliminated. Breaking the cause tree in such a way that the problem cannot recur is an acceptable alternative</li> </ul>
Uptime	<ul style="list-style-type: none"> <li>• Uptime refers to the overall availability of the plant - it is the inverse of downtime or the unavailability of the plant. Ideal uptime is 100%</li> </ul>
Overall equipment efficiency (OEE)	<ul style="list-style-type: none"> <li>• Overall equipment efficiency (OEE) is the combination of the main factors causing loss of productive capacity from equipment / plant and where:</li> <li>• availability takes into account losses due to breakdown, set up and adjustments</li> <li>• performance takes into account losses due to minor stoppages, reduced speed and idling</li> <li>• quality rate takes into account losses due to rejects, reworks and start up waste</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### Overview of assessment

#### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The competent operator will be able to recognise problems in their process and undertake a root cause analysis, either alone or with assistance, and propose permanent solutions. Evidence of root cause analyses undertaken should be available
- Generally a range of RCA activities will be required in order to generate sufficient evidence



**Context of and specific resources for assessment**

Assessment must ensure:

- assessment will need to occur in an organisation implementing root cause analysis or by simulation or project
- access to an organisation using RCA

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPSU458B Monitor production workflow
- ICPSU482B Troubleshoot and optimise materials and machinery

**ICPSU417B****Perform laboratory quality tests of materials and finished product****Unit Descriptor**

This unit describes the performance outcomes, skills and knowledge required to quality test materials and printed products in a laboratory.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to perform quality testing in a laboratory.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Prepare laboratory equipment         | 1.1 Appropriate equipment is selected and prepared<br>1.2 Equipment is checked for calibration where necessary  |
| 2. Test raw materials or finished goods | 2.1 Raw material or finished goods specification is identified and test procedure established to determine test parameters<br>2.2 Raw material or finished goods are tested against specified quality standards using appropriate / prescribed testing procedures and according to OHS requirements |
| 3. Record and report test result        | 3.1 Recording and reporting of test results are completed according to enterprise requirements<br>3.2 Problems and issues are documented and reported to appropriate personnel  |
| 4. Clean laboratory equipment           | 4.1 Equipment is cleaned and stored according to enterprise requirements<br>4.2 Chemicals and waste are disposed of according to enterprise procedures and OHS standards  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by reporting test results according to enterprise requirements
- Collecting, analysing and organising information by recording test results
- Planning and organising activities by preparing the laboratory equipment prior to conducting tests
- Teamwork when maintaining production system in association with other staff
- Mathematical ideas and techniques by calibrating and using measuring devices, and calculating dilution factors
- Problem-solving skills by recording and reporting test results
- Use of technology by using monitoring and diagnostic equipment

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### OHS and other statutory requirements

- What OHS concerns are there in the use of this testing equipment?
- What statutory requirements must be met regarding the use of this equipment?

#### Testing equipment

- Why is it necessary to work in a controlled clean environment?
- Why was this particular equipment used?
- How is the equipment calibrated?

#### Printing processes

- What common tests are required for the various printing operations and products in this company?
- What are common causes of failure in the products that you test?
- What test was performed on this product and why?

#### Sampling and quality control techniques

- What sampling techniques are used to select products for testing?
- How do you determine the appropriate size of samples for testing?

#### Record keeping

- What records need to be kept on a particular test product?
- What is the purpose of keeping test results?
- How can test results be used in the future?

#### Equipment maintenance

- Why is it necessary to keep this equipment clean?
- How should this test equipment be stored?
- What chemicals are used to clean the equipment?

#### Information sources

- What manuals, safety and other documentation are relevant to this task and where are they kept?
- What information is included in these documents?
- What other sources of information are available?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Work environment	<ul style="list-style-type: none"> <li>• The competencies apply to personnel who have access to working in a laboratory situation with appropriate equipment and resources</li> <li>• The work environment application relates to working under minimal supervision exercising initiative and judgement with discretion</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Occasional supervision of other personnel may be required</li> </ul>
Record keeping	<ul style="list-style-type: none"> <li>• Record keeping procedures may involve independent and varied keyboard operations</li> </ul>
Colour matching systems	<ul style="list-style-type: none"> <li>• Use of visual and computer diagnostic systems</li> </ul>
Inks / coatings	<ul style="list-style-type: none"> <li>• Range of inks / coatings used in 3-4 or more colour printing and specialty finishes such as laminates, embossing, foils, carbon</li> </ul>
Range of machines	<ul style="list-style-type: none"> <li>• Range of pre-press, printing, converting, binding and finishing processes</li> </ul>
Substrate types	<ul style="list-style-type: none"> <li>• Range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal</li> </ul>
Substrate handling	<ul style="list-style-type: none"> <li>• Wide and narrow reel and large and small sheet handling systems</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correct performance of laboratory tests for quality of materials and products. The correct disposal of chemicals and waste according to enterprise procedures and OHS standards
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce a portfolio showing completed paperwork for a range of tests that have been carried out and at least one month's record of no complaints from customers (internal or external) about the quality of goods that have been approved
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- laboratory testing equipment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU455B****Unit Descriptor****Supervise and schedule work of others**

This unit describes the performance outcomes, skills and knowledge required to supervise and schedule the work of a team or individuals.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit applies to supervision and work scheduling for a team leader in charge of a section or shift.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Plan and implement work schedules                       | <ul style="list-style-type: none"> <li>1.1 Tasks and / or jobs are identified and prioritised according to the overall production schedule</li> <li>1.2 Timelines, personnel and equipment are identified for each job and task</li> <li>1.3 Schedules are communicated logically and in an easily understood manner</li> <li>1.4 Changes to schedules are implemented through reorganisation of priorities, with reasons being clearly conveyed to the team or individuals</li> <li>1.5 Priority of tasks is communicated to the team or individuals</li> </ul> |
| 2. Monitor performance of tasks                            | <ul style="list-style-type: none"> <li>2.1 Required standard is effectively communicated to the team or individuals to ensure understanding of the allotted task</li> <li>2.2 Instruction or support to achieve required standard is provided as necessary</li> <li>2.3 Standard of performance is monitored, including quality standards, to ensure achievement of outcomes and is reported according to enterprise procedures</li> <li>2.4 Completion times of tasks / jobs are monitored and scheduling is adjusted as appropriate</li> </ul>                 |
| 3. Monitor and support development of teams or individuals | <ul style="list-style-type: none"> <li>3.1 Individual team or worker performance is monitored to determine effectiveness and is reported according to enterprise procedures</li> <li>3.2 Support is provided to individuals or teams to ensure full participation</li> <li>3.3 Procedures are provided to assist interaction and feedback on effectiveness between teams and individuals</li> </ul>  |
| 4. Monitor the application of OHS in the work area         | <ul style="list-style-type: none"> <li>4.1 Implementation of standards, both OHS and environmental, is monitored to determine safety in the work area</li> <li>4.2 Strategies for prevention or correction of problems are determined from the monitoring process</li> <li>4.3 Recommendations for prevention or correction are made in order to achieve established standards</li> </ul>  |

- 5. Communicate with management, work teams and individuals
  - 5.1 All information affecting work is explained logically and in an easily understood manner to team coordinators, teams or individuals where appropriate
  - 5.2 Effective and appropriate information provision is carried out with management and / or external personnel
  - 5.3 Written reports are concise and conform to enterprise procedures

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by effectively communicating with management and / or external personnel
- Collecting, analysing and organising information by accessing data about production processes and abilities of workers and customer demands and using these effectively in scheduling
- Planning and organising activities by monitoring the performance of tasks and adjusting scheduling
- Teamwork when establishing procedures that enable feedback from workers and encouraging suggestions that might enhance production
- Mathematical ideas and techniques by calculating job times and manipulating scheduling to make most efficient use of personnel and equipment
- Problem-solving skills by adjusting schedules to meet contingencies
- Use of technology by using production scheduling and office software

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### OHS standards

- Who is responsible for OHS standards in the workplace?
- What reporting procedures are necessary with OHS matters?

#### Planning and implementing work schedules

- How is the priority of jobs determined?
- What work scheduling procedures are used within the organisation?
- What would necessitate changes to scheduling?

#### Standards monitoring

- What information is reported in performance monitoring?
- Who provides instruction to achieve the required standard?

#### Staff and workforce development

- How often should teams or individuals be monitored on performance?
- What changes can be made to enhance individual performance?
- What changes can be made to enhance team performance?

#### Workplace liaison and communication

- What is the advantage of providing written reports to management?
- What level of management should reports be directed to?



## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Degree of autonomy

- The competencies relate to personnel who work independently and may be responsible for a number of employees or in charge of a shift

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Effective scheduling and supervision of a team or individuals
- Produce a portfolio that demonstrates that each element has been carried out. This can include rosters, schedules, quality related documentation and testimonials from superiors and workers being supervised
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPSU351B Undertake basic production scheduling

**ICPSU456B****Unit Descriptor****Control production**

This unit describes the performance outcomes, skills and knowledge required to manage production of a shift or section.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to manage production of a shift or section.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Identify requirements for efficient production  | 1.1 Machine operations, staff and production processes are organised to meet production requirements<br>1.2 Recommendations are made related to requirements and according to enterprise procedures, OHS and EPA requirements<br>1.3 Quality standards and safe work practices are checked to ensure compliance with enterprise procedures and legislative requirements |
| 2. Monitor production efficiency                   | 2.1 Compliance to specified requirements (including quality standards, time taken, wastage) is checked to ensure efficiency is maintained<br>2.2 Non-compliance is identified, reported or recorded and investigated to determine causes  |
| 3. Implement improvements to production efficiency | 3.1 Corrective or preventive action is recommended and implemented where appropriate<br>3.2 Changes are communicated to relevant personnel in a logical and easily understood manner<br>3.3 Changes are monitored to confirm improvement to production efficiency   |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by establishing and managing effective oral and written channels with staff and management
- Collecting, analysing and organising information by accessing data about machine and personnel capabilities and integrating that with production planning
- Planning and organising activities by establishing effective goals for work teams and monitoring performance to implement improvements
- Teamwork when working with production staff to maintain production efficiency
- Mathematical ideas and techniques by using data from production control systems to adjust planning and scheduling
- Problem-solving skills by making changes to production based on non-compliance with quality standards
- Use of technology by using production control systems

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Requirements for efficient production standards

- What OHS requirements should be met with production control?
- How was the production process information obtained?
- What quality standards were checked to ensure enterprise procedures were met?
- What quality standards were checked to ensure EPA requirements were met?
- What monitoring systems are available to aid production management?

#### Maintaining production efficiency

- What problems could have caused non-compliance of production efficiency?
- How could these problems have arisen?
- What information is necessary to efficiently plan, schedule and reschedule production?

#### Improving production efficiency

- Who has the authority to implement production changes?
- What information needs to be communicated to implement changes to production control?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Degree of autonomy

- The competencies apply to personnel who supervise employees

Technical guidance	<ul style="list-style-type: none"> <li>The competencies relate to personnel who provide technical guidance and assistance to work teams</li> </ul>
Data sources	<ul style="list-style-type: none"> <li>May include manual records or reports or computerised production monitoring systems</li> </ul>
Decision making	<ul style="list-style-type: none"> <li>Decisions may have a significant effect on the results of a production line / unit / department</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Effective management of a shift or sections production
- Produce a portfolio that demonstrates that each element has been carried out. This can include production summaries, quality related documentation and testimonials from superiors and workers being supervised
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU458B****Unit Descriptor****Monitor production workflow**

This unit describes the performance outcomes, skills and knowledge required to monitor the workflow, assess job steps and evaluate work progress.

**Employability Skills**

This unit contains employability skills.

**Prerequisite Unit(s)**

ICPSU216B Inspect quality against required standards

**Application of the Unit**

This unit requires the individual to monitor the workflow, assess job steps and evaluate work progress.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |                          |  |
|--------------------------|--|
| 1. Input job             | <ul style="list-style-type: none"> <li>1.1 Each new job is assigned a unique identification number</li> <li>1.2 Baselines are set for the production and budget estimation</li> <li>1.3 The number of actions or steps are identified for each job</li> <li>1.4 The nature of the actions are identified</li> </ul>  |
| 2. Assess job step       | <ul style="list-style-type: none"> <li>2.1 The job step is identified using business workflow tools</li> <li>2.2 The current step is compared against any baselines set for the job</li> <li>2.3 The number of steps and iterations are identified and any corrective action undertaken if necessary</li> <li>2.4 Actions within each step are logical to the step</li> <li>2.5 Resources required for the current and future steps are identified and availability confirmed</li> </ul> |
| 3. Evaluate job progress | <ul style="list-style-type: none"> <li>3.1 Job progress is evaluated and any improvement modifications to the workflow are identified</li> <li>3.2 Parallel activities have been fully utilised to meet baselines and quality standards</li> <li>3.3 Reports are reviewed and possible process improvements identified</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by setting baselines for the production and budget estimation
- Collecting, analysing and organising information by reviewing reports and identifying possible process improvements
- Planning and organising activities by identifying resources required for the current and future steps and confirming availability
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by assigning each new job a unique identification number
- Problem-solving skills by evaluating job progress and identifying any improvement modifications to the workflow
- Use of technology by using equipment to monitor workflow, assess job steps and evaluate work progress

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Setting baselines
- Business / production workflows
- Process improvement
- Job assessment
- Scheduling
- Resource allocation

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Nature of the actions	• Ordering, coordinating, modifying
Degree of autonomy	• The competencies apply to personnel who supervise employees
Technical guidance	• The competencies relate to personnel who provide technical guidance and assistance to work teams

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correctly monitoring the workflow, assessing job steps and evaluating work progress
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- relevant hardware and software or non-computerised systems

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU464B****Unit Descriptor****Provide customer service and education**

This unit describes the performance outcomes, skills and knowledge required to liaise with customers and clients to ensure satisfactory provision of printed products or services.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to provide service to customers in the printing industry.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Establish and maintain a positive relationship with the client | 1.1 Rapport with client is built and maintained according to accepted business practices<br>1.2 Opportunities to provide additional services to client are identified<br>1.3 Client is advised of input requirements and restraints for relevant processes   |
| 2. Manage customer expectations                                   | 2.1 Match customer needs and expectations with production process requirements<br>2.2 Job requirements are clarified with client and compared with quote / estimate<br>2.3 Information and clarifications are passed between client and technical staff<br>2.4 Job specifications and job parameters are used to define appropriate production procedures and processes<br>2.5 Knowledge of company services, equipment capabilities, limitations and workflow is demonstrated<br>2.6 Project is evaluated and feedback provided to client as agreed or according to enterprise customer service practices<br>2.7 Preliminary proof and contract proof are distinguished according to enterprise standards and that is communicated to the client<br>2.8 Client is provided with documentation to review and approves all dummies and proofs at appropriate stages in the production process<br>2.9 Job information (eg work orders, quotes, job tickets) is documented and compiled |
| 3. Manage project budget and timeline                             | 3.1 Client requested changes are monitored and documented and the impact on budget and timeline is communicated to the client<br>3.2 The client is advised on alternative production techniques  |



## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by acting as a liaison between customer and printer and accurately transmitting the requirements, possibilities and limitations of each to the other
- Collecting, analysing and organising information by using data on equipment capabilities, costs and customer requirements to produce a viable quote
- Planning and organising activities by ensuring adequate consultation with the customer during the job
- Teamwork when working effectively with both customers and production workers to ensure job satisfaction
- Mathematical ideas and techniques by developing different quotes for different production options
- Problem-solving skills by effectively translating the customer's idea / requirements into a viable product / job
- Use of technology by using software for estimating and understanding cross-platform software issues when quoting jobs

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Requirements of all printing processes
- Relationship between pre-press, press and post-press
- Costs and characteristics of a range of substrates and inks
- Information sources

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Range of processes	• All printing processes
Customers	• Internal and external customers
Degree of autonomy	• Working independently using initiative and judgement

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Effectively managing customer expectations and making client aware of the stages and scheduling of production. Effective customer service
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Provide a portfolio covering a month that demonstrates all paperwork has been completed correctly, jobs are completed within budgets, customers' expectations are met eg by providing written or oral reports or examining work error reports
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

# ICPSU482B Troubleshoot and optimise materials and machinery

<b>Unit Descriptor</b>	This unit describes the performance outcomes, skills and knowledge required to extend the use of materials and adjust and tune machinery to meet efficiency targets.
<b>Employability Skills</b>	This unit contains employability skills.
<b>Application of the Unit</b>	This unit requires the individual to experiment with and extend the use of materials and to undertake non-routine adjustment and tuning of machinery to meet efficiency targets.
<b>Unit Sector</b>	Support

ELEMENT	PERFORMANCE CRITERIA
1. Review material behaviour	<ul style="list-style-type: none"><li>1.1 Evaluation of material or product structure is conducted to identify options for production</li><li>1.2 Material handling options are chosen to ensure best performance of materials during production</li><li>1.3 Options are assessed to determine most effective / efficient method of production, ensuring highest quality and yield from the materials</li><li>1.4 A test runs confirms correct options or the need for further adjustment or trialling to meet quality standards</li><li>1.5 Options and recommendations are documented for future reference according to enterprise procedures</li></ul>
2. Tune and adjust machinery	<ul style="list-style-type: none"><li>2.1 Idiosyncrasies of machines are reviewed and adjustments or tuning undertaken to compensate or to exploit the idiosyncrasy, within the manufacturer's specifications</li><li>2.2 Options are assessed to determine most effective / efficient method of production, ensuring highest quality and yield from machinery</li><li>2.3 A test runs confirms correct options and settings or the need for further adjustment or tuning to meet quality standards</li><li>2.4 Options and recommendations are documented for future reference according to enterprise procedures</li><li>2.5 Instruction is provided to machine operator or finisher on new practices, if required</li></ul>
3. Troubleshoot machinery and material problems	<ul style="list-style-type: none"><li>3.1 Corrective or preventive action is recommended and implemented where appropriate</li><li>3.2 Changes are communicated to relevant personnel in a logical and easily understood manner</li><li>3.3 Changes are monitored to confirm improvement to production efficiency</li><li>3.4 Ongoing problems are reported according to enterprise procedures</li></ul>

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by communicating changes to relevant personnel in a logical and easily understood manner
- Collecting, analysing and organising information by documenting options and recommendations for future reference according to enterprise procedures
- Planning and organising activities by assessing options to determine the most effective / efficient method of production
- Teamwork when providing instructions to machine operator or finisher on new practices
- Mathematical ideas and techniques by conducting test runs to confirm correct options and settings
- Problem-solving skills by evaluating material or product structure to identify options for production
- Use of technology by working with relevant equipment and machinery

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Examination of design and identification of materials and suitable processes**

- Why is it necessary to implement change?
- What changes to existing production areas will have to be made?
- How can the operation be integrated into existing organisational processes?
- What materials are required in addition to existing ones?
- What are the alternatives to the chosen process?
- Why was this process chosen?

#### **Reviewing customer and production requirements**

- What review was conducted to assess the process to suit customer requirements?
- Can different materials be used to produce the same results without the production problems?
- What production plan information will aid in determining the process?

#### **Reviewing existing operations and problems**

- What impact will the process have on existing operations?
- How can training be integrated into existing process operations?
- How can the process eliminate existing production problems?

#### **Identifying operations and machinery**

- How can existing machinery or equipment be optimised?
- What special provisions will be necessary to extend the use of equipment?
- What is the expected production life of this equipment and machinery?
- What technology could see this equipment outdated?
- What technology could improve this equipment or machinery?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |                           |  |
|---------------------------|--|
| Material handling options | <ul style="list-style-type: none"><li>• Fanning, stacking, drying, moisture, quantities, mixers, glues</li></ul>                                   |
| Technical guidance        | <ul style="list-style-type: none"><li>• The competencies relate to personnel who provide technical guidance and assistance to work teams</li></ul> |
| Data sources              | <ul style="list-style-type: none"><li>• May include manual records or reports or computerised production monitoring systems</li></ul>              |
| Decision making           | <ul style="list-style-type: none"><li>• Decisions may have a significant effect on the results of a production line / unit / department</li></ul>  |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Recommend and implement new practices that extend the every day use of materials and machinery and troubleshoot problems material and machinery
- Produce a portfolio that demonstrates that each element has been carried out. This should include records of standards and monitoring procedures and evidence that they are being effectively carried out
- Production efficiencies are confirmed through discussions with senior management and review of workplace documentation
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- machinery and materials

## Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU485B****Unit Descriptor****Implement a Just-in-Time (JIT) system**

This unit describes the performance outcomes, skills and knowledge required to facilitate the implementation and operation of a Just-in-Time (JIT) / kanban system in the organisation.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

In a typical scenario, the team leader will need to monitor the operation of the JIT system and facilitate its working. This will involve liaison with stakeholders as well as examining the data generated. They will need to be alert to potential problems and areas for improvement. This unit comes from the Competitive Manufacturing Initiative group of competency standards.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Monitor the operation of the JIT system | <ul style="list-style-type: none"> <li>1.1 Track value of key measures</li> <li>1.2 Recognise indicators of poor performance</li> <li>1.3 Take appropriate quick fix action</li> </ul>   |
| 2. Liaise with relevant stakeholders       | <ul style="list-style-type: none"> <li>2.1 Regularly communicate with team members regarding the operation of the JIT system</li> <li>2.2 Communicate with relevant personnel up and down the value chain regarding the operation of the JIT system</li> <li>2.3 Identify issues with stakeholders and take appropriate quick fix action</li> </ul>  |
| 3. Improve the JIT system                  | <ul style="list-style-type: none"> <li>3.1 Identify areas requiring improvement in the JIT system</li> <li>3.2 Recognise competency gaps in team members and other stakeholders</li> <li>3.3 Recognise attitudinal issues in team members and other stakeholders</li> <li>3.4 Develop appropriate improvement solutions</li> <li>3.5 Liaise with relevant people regarding these solutions</li> <li>3.6 Implement / assist with the implementation of the solutions</li> </ul> |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by regularly communicating with team members regarding the operation of the JIT system
- Collecting, analysing and organising information by monitoring the operation of the JIT system
- Planning and organising activities by implementing / assisting with the implementation of the solutions
- Teamwork when regularly communicating with team members regarding the operation of the JIT system
- Mathematical ideas and techniques by monitoring the operation of the JIT system
- Problem-solving skills by identifying issues with stakeholders and taking appropriate quick fix action
- Use of technology by monitoring the operation of the JIT system

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Reading
- Recording
- Communicating
- Planning
- Analysing
- Problem solving
- Negotiating
- JIT principles relevant to job(s)
- Procedures for making / recommending improvements
- Reasons for delays / storages / inventories in that section of the value chain under their control and methods of reducing / eliminating them
- Competency gap analysis and methods of filling competency gaps
- Principles of the manufacturing process relevant to the section / team
- Production data generated by the process and its application to JIT

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

### JIT - Just-in-Time

- JIT - a production scheduling concept that calls for any item needed at a production operation, whether raw material, finished item, or anything in between, to be produced and available precisely when needed, neither a moment earlier nor a moment later



## Kanban

- Kanban - a card or sheet used to authorise production or movement of an item; when fully implemented, kanban (the plural is the same as the singular) operates according to the following rules:
- all production and movement of parts and material take place only as required by a downstream operation, ie all manufacturing and procurement are ultimately driven by the requirements of final assembly or the equivalent
- the specific tool which authorises production or movement is called a kanban. The word literally means card or sign, but it can legitimately refer to a container or other authorising device. Kanban have various formats and content as appropriate for their usage; for example, a kanban for a vendor is different than a kanban for an internal machining operation
- Kanban is typically applied to batch type operation and the production is measured in units produced. In continuous manufacturing organisations, production is measured in terms of production rate (eg kg/h, tonne/day) and rate is increased / decreased according to the flow authorisation which may be a kanban (eg ticket, order from a supplier) or may be a SCADA signal from a remote facility (eg customer tank) saying that resupply is required or similar

## SCADA

- SCADA (System Control and Data Acquisition) is a general term applied to a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then make control decisions and / or give required information to personnel for action

## Key measures

- Key measures may include inventory levels, lead time, IFOTIS delivery, productivity / production rate, other measures of pull through the value chain, quality
- IFOTIS refers to delivery of product In Full, On Time and In Specification

## Quick fix

- Quick fix is action taken to immediately and cheaply control a problem, prevent it getting worse and / or ameliorate its impact, but which does not necessarily solve it long term

## Pull system

- A manufacturing planning system based on communication of actual real-time needs from downstream operations ultimately final assembly or the equivalent; as opposed to a push system which schedules upstream operations according to theoretical downstream results based on a plan which may not be current

**Value chain**

- Competitive manufacturing organisations encompass the entire production system, beginning with the customer, and include the product sales outlet, the final assembler, product design, raw material mining and processing and all tiers of the value chain (sometimes called the supply chain). Any truly "competitive" system is highly dependent on the demands of its customers and the reliability of its suppliers. No implementation of competitive manufacturing can reach its full potential without including the entire "enterprise" in its planning

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The competent team leader will at all times know the state of the JIT system in their area and will take actions to ensure its smooth operation on a day to day basis as well as recommend / undertake actions to improve it long term. Evidence should be available of the team leader's facilitation of the operation of the JIT system and their recommendations for making improvements
- Evidence should be gathered from an extended period showing routine support for the JIT system and regular improvements made or recommended

**Context of and specific resources for assessment**

Assessment must ensure:

- this unit will need to be assessed in an organisation operating JIT
- access to an organisation using JIT

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU486B****Unit Descriptor****Mistake proof a production process**

This unit describes the performance outcomes, skills and knowledge required to focus on preventing errors / backsliding to a previous behaviour.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit may be undertaken by any person although typically it would be held by a team leader.

In a typical scenario a team leader, or a work team, needs to analyse the process they are responsible for and determine methods of ensuring it only produces product that meets the job's quality standards. This unit is from the Competitive Manufacturing Initiative group of competency standards.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Analyse the process                     | 1.1 Identify sources of variability / non-conformance in the process<br>1.2 Identify critical control points in the process<br>1.3 Analyse causes of variability / non-conformance   |
| 2. Develop preventive techniques / systems | 2.1 Liaise with team members and other people to develop mistake proof method of performing operation<br>2.2 Test and validate mistake proofing  |
| 3. Implement permanent fix                 | 3.1 Liaise with relevant people to have systems / procedures changed to implement solution<br>3.2 Liaise with relevant people to implement the solution<br>3.3 Liaise with relevant people to ensure the workforce has an appropriate skills set<br>3.4 Follow through to ensure implementation occurs   |
| 4. Monitor implementation                  | 4.1 Critically observe the implementation<br>4.2 Compare the results of the implementation against the expected outcomes<br>4.3 Modify solution to improve outcomes<br>4.4 Ensure procedures reflect change<br>4.5 Ensure training and assessment reflect change<br>4.6 Audit change at agreed period / cycle<br>4.7 Take action on any observed deviation |
| 5. Seek improvements                       | 5.1 Observe changes against enterprise expectations for production<br>5.2 Analyse process against enterprise expectations for production   |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by liaising with relevant people to have systems / procedures changed to implement solution
- Collecting, analysing and organising information by liaising with team members and other people to develop mistake proof method of performing operation
- Planning and organising activities by implementing a permanent fix
- Teamwork when liaising with team members and other people to develop mistake proof method of performing operation
- Mathematical ideas and techniques by implementing a permanent fix
- Problem-solving skills by modifying solution to improve outcomes
- Use of technology by seeking improvements

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Communication ability to discuss items with both operators and technical support personnel
- Problem solving
- Analysis
- Teamwork
- Design conceptualisation
- Understanding of their process
- Factors in the process which may cause variability
- Methods of controlling the variability in the process
- Mistake proofing methods relevant to the process / product

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

### Mistake proofing

- Sometimes known as baka-yoke / poka-yoke - a manufacturing technique of preventing mistakes by designing the manufacturing process, equipment, tools and components / subassemblies so that an operation literally cannot be performed incorrectly; an attempt to perform incorrectly, as well as being prevented, is usually met with a warning signal of some sort

**Procedures**

- Procedures includes all work instructions, standard operating procedures, formulas / recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, oral, computer-based or in some other form
- For the purposes of this Training Package, procedures also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The competent team leader will be able to analyse their process and implement systems to ensure the process is mistake proof and the operators work in a predictable way with little or no chance of mistake. Evidence of actions taken to mistake proof the process should be available
- One complex project on standardisation of a process or several simpler projects will be needed to gain sufficient evidence

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment needs to occur in a workplace implementing competitive manufacturing or by using a suitable project
- access to an organisation using a competitive manufacturing approach

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPSU684B Determine and improve process capability

**ICPSU487B****Unit Descriptor****Analyse manual handling processes**

This unit describes the performance outcomes, skills and knowledge required to analyse manual handling in terms of its efficiency and safety.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

In a typical scenario a team leader or senior team member examines the manual handling component of a job and improves it in terms of safety, effort required and efficiency. This may be conducted for a job performed by others in the team, or it may be for the person's own job. This unit comes from the Competitive Manufacturing Initiative group of competency standards.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Assess manual handling risks                          | 1.1 Identify manual handling hazards in work area<br>1.2 Assess risks arising from those hazards   |
| 2. Analyse physical effort requirements of job           | 2.1 Determine basic manual handling requirements of job<br>2.2 Analyse requirements in terms of components such as lift, move, place, hold<br>2.3 Analyse items to be handled in terms such as weight, size, shape or other hazards  |
| 3. Determine time / effort components of physical effort | 3.1 Break required movement pattern down into movement components<br>3.2 Determine time and effort requirements for movements<br>3.3 Develop alternative movement patterns<br>3.4 Determine time and effort requirements for alternative movements<br>3.5 Determine handling aids required to assist movement<br>3.6 Determine preferred movement pattern(s) |
| 4. Analyse the ergonomics of physical effort             | 4.1 Analyse the ergonomics of the preferred movement pattern<br>4.2 Develop substitute movements for any movement which is not ergonomically sound<br>4.3 Determine handling aids required to improve ergonomics of required movements   |
| 5. Optimise application of physical effort               | 5.1 Select movement patterns which are ergonomically sound and time and effort efficient<br>5.2 Train all relevant people to use these methods<br>5.3 Ensure procedures and practices reflect the optimum methods  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by determining time / effort components of physical effort
- Collecting, analysing and organising information by determining time / effort components of physical effort
- Planning and organising activities by selecting movement patterns which are ergonomically sound and time and effort efficient
- Teamwork when determining time / effort components of physical effort
- Mathematical ideas and techniques by optimising application of physical effort
- Problem-solving skills by optimising application of physical effort
- Use of technology by optimising application of physical effort

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Communication
- Analysis
- Teamwork
- Basic mathematics
- Problem solving
- Relevant OHS acts and regulations as applied to manual handling
- Principles of efficient movement
- Principles of efficient job and work method design
- Principles of work analysis
- Principles of ergonomics / safe movement

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

### Procedures

- Includes all work instructions, standard operating procedures, formulas / recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, oral, computer-based or in some other form
- For the purposes of this Training Package, procedures also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations

**Manual handling hazards**

- Manual handling hazards need to be defined in terms of the relevant OHS acts, regulations, codes of practice, industry standards and best practice

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The competent team leader / senior operator will be able to examine any job for its physical components and then determine a better way of doing it. As a side benefit they will become more aware of poor manual handling practice and raise an alert to it. Evidence should be available of the analysis and improvements of the physical / manual handling aspects of jobs in the workplace
- Where evidence is from continuous improvement activities, then a range of such improvements needs to be considered to provide sufficient evidence. Where evidence is coming from one, complex improvement activity then it may provide sufficient evidence

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment should use evidence from the analysis of real jobs or an appropriate simulation
- access to a workplace which will allow the improvement of physical actions

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.



## ICPSU488B Unit Descriptor

## Ensure process improvements are sustained

This unit describes the performance outcomes, skills and knowledge required to ensure that the gains which have been made by using improved methods, processes and equipment are sustained as the new standard for the team's area of work and so prevent regression to former practices or digression to less efficient practices.

### Employability Skills

This unit contains employability skills.

### Application of the Unit

This unit applies to an environment where continuous improvement in a manufacturing enterprise is being undertaken.

The team leader or other responsible person facilitates and implements methods of ensuring that these improvements are sustained.

Improvement initiatives can be made by any number of methods and by teams or individuals. The unit assumes that desired levels of performance or quality are known to the team leader.

The unit covers ensuring that team members implement the modified processes so that improvements are sustained and opportunities are taken to suggest further improvements. This unit comes from the Competitive Manufacturing Initiative group of competency standards.

### Unit Sector

Support

### ELEMENT

### PERFORMANCE CRITERIA

- |  |   |
|--|---|
| 1. Ensure corrective actions are implemented | 1.1 Liaise with relevant people<br>1.2 Negotiate solutions to allow implementation<br>1.3 Ensure the supply of resources (equipment, modifications, consumables, people)<br>1.4 Ensure workforce has relevant competency levels<br>1.5 Monitor implementation of corrective action<br>1.6 Make required adjustments   |
| 2. Verify systems support improvement        | 2.1 Ensure procedures reflect improvements<br>2.2 Ensure training and assessment systems reflect improvements<br>2.3 Liaise with relevant people to ensure their support of the new modified system(s)  |
| 3. Audit the change                          | 3.1 Determine an appropriate audit period / cycle<br>3.2 Agree on relevant measures / indicators for the improvement<br>3.3 Measure performance at agreed time(s) using agreed measures<br>3.4 Investigate the cause(s) of underperformance<br>3.5 Take appropriate corrective action to improve performance<br>3.6 Re-audit the improvement on an agreed basis |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by negotiating solutions to allow implementation
- Collecting, analysing and organising information by auditing the change
- Planning and organising activities by measuring performance at agreed time/s using agreed measures
- Teamwork when liaising with relevant people to ensure their support of the new modified system
- Mathematical ideas and techniques by ensuring procedures reflect process improvements
- Problem-solving skills by ensuring procedures reflect process improvements
- Use of technology by analysing performance and auditing the change

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Communication skills
- Teamwork
- Basic mathematics
- Planning
- Problem solving
- Analysing
- Existing procedures
- Modified procedures
- Overall process of manufacturing relative to improvements being made
- Appropriate measures of performance
- Business performance goals sufficient to determine best measures of improved performance

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

### Systems

- Used to mean any / all of the equipment, process, procedures and work practices that are used to produce the product
- A term often used in this context is Kaizen - the philosophy of continual improvement, that every process can and should be continually evaluated and improved in terms of time required, resources used, resultant quality and other aspects relevant to the process

## Procedures

- All work instructions, standard operating procedures, formulas / recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, oral, computer-based or in some other form
- For the purposes of this Training Package, procedures also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations

## Improvement

- Improvement procedures in some enterprises are also known by the term baka-yoke which is a manufacturing technique of preventing mistakes by designing the manufacturing process, equipment and tools so that an operation literally cannot be performed incorrectly; an attempt to perform incorrectly, as well as being prevented, is usually met with a warning signal of some sort; the term poka-yoke is sometimes referred to as a system where only a warning is provided
- Improvements may be sustained by use of technology so that it is impossible to do the job any other way. However, improvements may also be sustained by changes to process or procedures or other changes to the manufacturing system which, if followed, will sustain the change and this unit may be applied to all these situations

## Measuring performance

- Measuring performance is not used literally and may mean the personal taking of measurements, or it may mean arranging for measurements to be taken / made by appropriate personnel. The interpretation of the measurements however is to be undertaken personally

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- The competent team leader will be able to point to improvements which have been made where they have been active in designing and implementing systems for sustaining the improvement. Evidence should be available of having sustained improvements in the workplace and of reviewing these improvements for their real impact
- Evidence should be available from multiple small changes or from a large change which has had multiple facets implemented over a period of some months

### Context of and specific resources for assessment

Assessment must ensure:

- assessment will need to occur in a workplace where improvements are occurring, or where specific improvement projects are undertaken for the purpose of providing evidence of competency (among other aims)
- the unit may also be assessed on a project basis in a simulated environment
- access to a workplace implementing competitive manufacturing strategies, or where improvement project(s) can be conducted and relevant records are required

### Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- this unit may be assessed concurrently with appropriate units on continuous improvement.

**ICPSU516B****Unit Descriptor****Set and apply quality standards**

This unit describes the performance outcomes, skills and knowledge required to set and manage quality procedures within an enterprise or large section / department.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to identify and implement quality procedures within an enterprise or large section / department.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Set quality standards               | <ul style="list-style-type: none"> <li>1.1 Quality of items is determined according to job specifications and enterprise capacity</li> <li>1.2 Production proofs are prepared for client approval to determine client's requirements</li> <li>1.3 Quality standards are determined and inspection specifications set for purpose intended</li> </ul>  |
| 2. Determine inspection specifications | <ul style="list-style-type: none"> <li>2.1 Inspection variables are determined in consultation with client, or are set to acceptable workplace standards, and are recorded in job specifications</li> <li>2.2 Type of inspection is determined according to job specifications</li> </ul>   |
| 3. Carry out inspection                | <ul style="list-style-type: none"> <li>3.1 Criteria for rejection are determined in consultation with machine operator and inspector / racker and recorded in job specifications</li> <li>3.2 Variation to standards is monitored and action taken to rectify the problem according to enterprise procedures</li> <li>3.3 Unsatisfactory work is separated according to pre-determined standards</li> </ul> |
| 4. Rework job                          | <ul style="list-style-type: none"> <li>4.1 Unacceptable items are evaluated and possible methods of reworking are determined according to workplace quality standards</li> <li>4.2 Reworking is monitored according to enterprise procedures</li> <li>4.3 Reworked material / substrates is inspected to ensure previously determined requirements are met</li> </ul>                                       |
| 5. Evaluate job process                | <ul style="list-style-type: none"> <li>5.1 Production processes are evaluated to determine cause of unacceptable items</li> <li>5.2 Inspection records are maintained including number of accepted and rejected items, and cause of rejection</li> <li>5.3 Records are maintained to ensure that faulty processes are identified, recorded and corrected</li> </ul>   |
| 6. Participate in quality improvement  | <ul style="list-style-type: none"> <li>6.1 Performance is monitored to ensure product or service standards are maintained or improved</li> <li>6.2 Participation in enterprise quality improvement processes occurs, where applicable</li> </ul>  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by ensuring that all workers are aware of quality concepts and procedures and that communication flows easily between production workers and supervisors
- Collecting, analysing and organising information by accessing data on production processes and acceptable tolerances for different qualities of work and establishing simple guidelines for quality implementation
- Planning and organising activities by establishing procedures for the assessment and maintenance of quality production
- Teamwork when ensuring that quality assessing and reporting systems involve all workers
- Mathematical ideas and techniques by calculating acceptable tolerances and establishing valid sampling procedures
- Problem-solving skills by identifying production problems and establishing procedures to minimise their impact
- Use of technology by use of monitoring and diagnostic equipment, and establishment and use of production control systems

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### Setting quality standards

- How are the criteria for inspection of print quality set?
- Why does the quality of artwork / film have a bearing on the quality of the printed product?
- What quality standards have been set by the customer?
- How do these standards determine the inspection specifications?

#### Determining inspection variables

- What quality specifications have been set to make the product acceptable for the purpose for which it was intended?
- Who has determined the inspection specifications?
- What specifications are recorded on the job sheet?
- What specific inspection standards have been set for printing and finishing?

#### Causes of failure

- What are common causes of failure in each production area that need to be monitored?
- What procedures have you implemented to minimise the effect of these?

#### Inspection procedures

- Has the criteria for inspection been discussed with the operator (100%, random, periodic or continuous in-line)?
- What result does unnecessary inspection have on production output?
- How do you determine the minimum number of inspections required to avoid rejects?
- What information has been conveyed for the operator to rectify the problem?

**Evaluating re-work methods**

- Who is responsible for evaluating the re-work of unacceptable items?
- What method of re-work has been determined?
- What criteria have been set to monitor the re-work?
- What requirements have been established for the inspection of re-working material to customer's specifications?

**Determining unacceptable items and evaluating production procedures**

- What has been determined as the cause of unacceptable items?
- What records are kept of acceptable and rejected items?
- What records are kept for the reason for the rejection?
- What have you determined as the cause for the rejection and how have you rectified the problem?

**Quality improvements**

- What information needs to be monitored so as to maintain standards?
- Who should be involved in monitoring quality standards?
- How can enterprise improvements affect quality standards?

**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Application	<ul style="list-style-type: none"> <li>• This unit applies to managers / supervisors responsible for quality in an enterprise or large production section</li> </ul>
Type of inspections	<ul style="list-style-type: none"> <li>• Various types of inspection techniques (ie 100%, random, periodic or continuous in-line inspection)</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Initiative and judgement are demonstrated</li> </ul>
Enterprise procedures	<ul style="list-style-type: none"> <li>• Range of enterprise procedures within defined work area</li> </ul>
Quality standards	<ul style="list-style-type: none"> <li>• Should meet client requirements and enterprise and industry standards</li> </ul>

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Correct procedures are implemented within an enterprise or large section/ department to ensure that quality standards are achieved
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce a portfolio that demonstrates that each element has been carried out. This should include records of standards, and monitoring procedures and evidence that they are being effectively carried out
- TWO jobs are inspected during production according to the listed Performance Criteria
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.



**ICPSU553B****Unit Descriptor****Prepare production costing estimates**

This unit describes the performance outcomes, skills and knowledge required to cost and estimate production processes.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to estimate and determine the cost of production.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Identify costing estimate requirements | 1.1 Labour hours, times and other statistics required are identified and applied in calculations<br>1.2 Available machine hours are identified and applied in calculations<br>1.3 Economic batch sizes are identified<br>1.4 Material requirements are identified and applied in calculations |
| 2. Prepare costing estimates              | 2.1 Costing estimates are calculated using material, labour and machine costs<br>2.2 Cost estimate details are calculated   |
| 3. Compare estimates with actual costs    | 3.1 Actual costs are compared with estimates<br>3.2 Costing basis is adjusted as appropriate  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by consulting with customers and staff to identify problems and issues
- Collecting, analysing and organising information by accessing data about customer needs, machine and worker capabilities, capital cost bases; use of data from production control systems
- Planning and organising activities by determining required cost estimate details prior to printing estimates
- Teamwork when obtaining feedback from production workers to verify estimates against actual costs
- Mathematical ideas and techniques by developing of costing models that take all relevant factors into consideration
- Problem-solving skills by adjusting the basis for costing as determined by the discrepancy between estimated and actual costings
- Use of technology by using tools to assist with calculations

### Required knowledge:

The following knowledge must be assessed as part of this unit:

#### OHS and other statutory requirements

- What legal requirements affect the costing of your operations?

#### Printing processes and operations

- What information do you require from a client before costing / estimating can be done?
- How do you ensure that production costs are minimised on any given job?
- Describe the relationships between the processes you are involved in and prior and subsequent operations done to the job.
- How do you determine set up and changeover times for your processes?

#### Printing materials

- What materials need to be included in the costing / estimating process?
- How do you determine if alternative materials may be suitable for a client?
- When would you suggest alternative materials or processes to a client?
- What references and resources about materials and suppliers do you need to help in costing / estimating?

#### Different costing / estimating methodologies

- Why have you chosen this particular costing / estimating method?
- What other methods are there, and when might you use them?
- How do you determine appropriate rates of overs?
- What factors might you adjust in your estimations if they consistently do not match costs?

#### Sampling and quality control techniques

- What quality checks are necessary on outsourced materials or other inputs?

- What effect does quality control have on costing?

### Production records

- Why is it necessary to keep accurate production records?
- How often should you review production records and actual costs?
- What computerised production monitoring systems can be used to accurately assess costs?

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Type of costing	<ul style="list-style-type: none"> <li>• Estimation of production costs taking into account time, labour, materials and equipment requirements</li> </ul>
Enterprise procedures	<ul style="list-style-type: none"> <li>• Estimates and calculations are undertaken according to established organisational practices and procedures, and incorporate the organisation's known resources and work load as well as identified capacities</li> </ul>
Scope of costing	<ul style="list-style-type: none"> <li>• Estimates are based on familiar processes using available standard cost item statistics</li> </ul>
Data sources	<ul style="list-style-type: none"> <li>• May be manual records or computerised production monitoring systems</li> </ul>
Degree of autonomy	<ul style="list-style-type: none"> <li>• Applies to personnel who supervise employees</li> </ul>

### EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

#### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Accurately estimating and costing production
- For valid and reliable assessment of this unit, evidence should be gathered over a period of time through a range of methods for assessment to indicate consistent performance
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

**ICPSU554B****Unit Descriptor****Manage teams**

This unit describes the performance outcomes, skills and knowledge required to supervise and coordinate other workers. It is equivalent to BSBFLM504A Facilitate work teams, which should not be used in conjunction with this unit.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to supervise other workers and coordinate their work.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |   |
|---|---|
| 1. Lead planning                            | 1.1 A range of questioning and prompting techniques is applied to promote participative team or individual planning<br>1.2 Proposals are accurately recorded to reflect the outcomes of the planning<br>1.3 Plans take into account the timelines, responsibilities and production requirements which affect the team or individual<br>1.4 Tasks are selected to suit skill levels of individuals or team members   |
| 2. Lead problem solving                     | 2.1 Problem is clearly defined by the team or individuals involved, and criteria for selecting a solution are identified<br>2.2 Data or evidence is collected and analysed<br>2.3 Group or individual is encouraged to contribute to determine solutions<br>2.4 Alternatives are identified and solution selected<br>2.5 Implementation is planned and carried out<br>2.6 Implementation of solution is evaluated to determine effectiveness of decisions |
| 3. Develop individual or team participation | 3.1 Support is provided to individuals or team members to ensure full participation<br>3.2 Procedures are implemented to enable the team or individual to assess effectiveness  |
| 4. Check OHS standards in the work area     | 4.1 Applicable OHS and environmental standards are identified, interpreted and implemented<br>4.2 Implementation of standards is monitored to determine safety in the work area<br>4.3 Improvements are recommended in order to achieve established standards   |
| 5. Monitor process standards                | 5.1 Quality and performance standards are identified, interpreted and implemented<br>5.2 Implementation of standards is monitored to determine effectiveness of process<br>5.3 Improvements are recommended in order to achieve established quality control standards   |

- 6. Communicate with work team, individuals and management
  - 6.1 Information affecting work area, including OHS, is given logically and in an easily understood manner to other workers
  - 6.2 Feedback from team members and individuals is sought to assist in the participation process
  - 6.3 Communication and reporting are carried out, where required, with management and / or external personnel in a manner which ensures effective and appropriate information exchange

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by giving clear instructions to workers
- Collecting, analysing and organising information by using information about machine and worker capabilities to make best use of resources
- Planning and organising activities by planning job sequences and workloads to ensure maximum productivity
- Teamwork when leading planning and problem-solving to develop team effectiveness
- Mathematical ideas and techniques by accounting for timelines in planning the work of others
- Problem-solving skills by leading problem solving with the team
- Use of technology by using basic communications and information management tools

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **OHS standards in the work area**

- Who determines the OHS standards?
- What parties monitor the OHS standards in the workplace?
- What power do individuals in the workplace have in relation to OHS standards?

#### **Planning the production requirements of individuals to suit skill level**

- What is the importance of team participation?
- Why is it necessary to determine the skill level of workers?
- How can the skill levels of individual workers be determined?

#### **Promoting problem solving and decision making**

- What types of problems may be determined?
- What strategies are in place for the implementation of problem-solving techniques?

#### **Developing individual or team participation**

- How can team members be encouraged to participate?
- Why is it necessary to assess the effectiveness of implementation procedures?
- Improving quality and performance standards
- What checks are made to quality standards?
- Who has the power to implement improvements to process standards?
- What could be the ramification of standards not being improved?

#### **Workplace communication**

- How can you ensure effective communication with individuals in the workplace?
- How can feedback be implemented?
- What is the importance of gaining feedback?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- Degree of autonomy
- The competencies apply to personnel who supervise employees and schedule, under limited supervision, approved work in a team environment

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Effectively supervising and managing the work of others
- Produce a portfolio that demonstrates that each element has been carried out. This can include rosters, schedules, quality related documentation and testimonials from superiors and workers being supervised
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.



**ICPSU561B****Unit Descriptor****Implement and monitor OHS**

This unit describes the performance outcomes, skills and knowledge required to implement and monitor the organisation's OHS policies, procedures and programs in the relevant work area to achieve and maintain OHS standards.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit requires the individual to implement and monitor an organisation's OHS policies, procedures and programs.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |   |  |
|---|--|
| 1. Provide information about the organisation's OHS | <ul style="list-style-type: none"> <li>1.1 Relevant provisions of OHS legislation and codes of practice are accurately and clearly explained to the work group</li> <li>1.2 Information on the organisation's OHS policies, procedures and programs is provided in a readily accessible manner and is accurately and clearly explained to the work group</li> <li>1.3 Information about identified hazards and the outcomes of risk identification and control procedures is regularly provided and is accurately and clearly explained to the work group</li> </ul>   |
| 2. Implement and monitor OHS                        | <ul style="list-style-type: none"> <li>2.1 Organisational procedures for consultation over OHS issues are implemented and monitored to ensure that all members of the work group have the opportunity to contribute</li> <li>2.2 Issues raised through consultation are dealt with and resolved promptly or referred to the appropriate personnel for resolution according to enterprise procedures for issue resolution</li> <li>2.3 The outcomes of consultation over OHS issues are made known promptly to the work group</li> <li>2.4 Existing and potential hazards in the work area are identified and reported so that risk assessment and control procedures can be applied</li> </ul> |
| 3. Implement and monitor risk control procedures    | <ul style="list-style-type: none"> <li>3.1 Existing risk control measures are monitored and results reported regularly according to enterprise procedures</li> <li>3.2 Inadequacies in existing risk control measures are identified according to the hierarchy of control and reported to designated personnel</li> <li>3.3 Inadequacies in resource allocation for implementation of risk control measures are identified and reported to designated personnel</li> <li>3.4 Work procedures to control risks are implemented and adherence to them by the work group is monitored according to enterprise procedures</li> </ul>  |

- |   |   |
|---|---|
| 4. Implement hazardous events procedures              | 4.1 Enterprise procedures for dealing with hazardous events are implemented whenever necessary to ensure that prompt control action is taken  |
|   | 4.2 Hazardous events are investigated to identify their cause according to investigation procedures   |
|   | 4.3 Control measures to prevent recurrence and minimise risks of hazardous events are implemented based on the hierarchy of control if within scope of responsibilities and competencies or alternatively referred to designated personnel for implementation |
| 5. Implement and monitor OHS training                 | 5.1 OHS training needs are identified accurately specifying gaps between OHS competencies required and those held by work group members   |
|   | 5.2 Arrangements are made for fulfilling identified OHS training needs in both on and off-the-job training programs in consultation with relevant parties   |
| 6. Implement and monitor OHS recordkeeping procedures | 6.1 OHS records for work area are accurately and legibly completed according to workplace requirements for OHS records and legal requirements for the maintenance of records of occupational injury and disease   |
|   | 6.2 Aggregate information from the area's OHS records is used to identify hazards and monitor risk control procedures within work area according to organisational procedures and within scope of responsibilities  |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by using clear oral communication and written materials to raise awareness of OHS and responding to concerns raised by workers
- Collecting, analysing and organising information by using aggregate OHS data from records to monitor procedures
- Planning and organising activities by establishing OHS committees or working groups to manage risks
- Teamwork when ensuring that all staff observe workplace OHS standards
- Mathematical ideas and techniques by documenting hazardous events
- Problem-solving skills by identifying potentially hazardous situations and resolving them and revising procedures
- Use of technology by using a database application

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- All applicable OHS legislation and codes of practice
- The hierarchy of control (the preferred order of risk control measures: elimination, engineering controls, administrative controls, personal protective equipment)
- Potential hazards of ALL equipment and materials used in the workplace
- The significance of EEO principles and practices for OHS
- The importance of other management systems for OHS
- Levels of literacy and communication levels of workforce
- Teamwork, supervision and training
- Information sources

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Degree of autonomy /  
responsibility

- This unit describes generic OHS competencies applicable for employees with supervisory responsibilities

Scope

- To be exhibited in the work area of responsibility according to all relevant OHS legislation, particularly general duty of care, requirements for the maintenance and confidentiality of records of occupational injury and disease, provision of information and training, regulations and codes of practice relating to hazards present in work area, health and safety representatives and OHS committees, and issue resolution

**Types of hazards**

- Hazardous events include accidents, fire and emergencies such as chemical spills or bomb scares. Procedures for dealing with them include evacuation, chemical containment and first aid procedures

**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

**Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Effectively implementing and monitoring OHS systems within an organisation
- Produce a portfolio that shows that all performance criteria have been met. This should include procedures, information distributed to workers, records of monitoring and checking procedures and equipment
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

## ICPSU583B

## Troubleshoot and optimise the production process

### Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to troubleshoot and optimise the production process. This unit focuses on the systems analysis and design.

### Employability Skills

This unit contains employability skills.

### Application of the Unit

This unit requires the individual to troubleshoot and optimise the production process. The individual will evaluate and recommend changes to the production process and adjust and tune machinery to make efficiency gains. It has some synergy with BSBFLM509A Promote continuous improvement and covers the management of continuous improvement.

### Unit Sector

Support

### ELEMENT

### PERFORMANCE CRITERIA

- |  |   |
|--|---|
| 1. Evaluate production for efficiency purposes | 1.1 Machine operations, staff and production process organisation are evaluated on an ongoing basis to make production efficiency gains   |
|  | 1.2 Production schedule is analysed according to production output, inventory, procurements, time constraints, supply capacities and requirements   |
|  | 1.3 Quality standards and safe work practices are examined to ensure compliance   |
|  | 1.4 Changeover / make ready processes are reviewed for production efficiency gains  |
|  | 1.5 Recommendations covering the above areas are developed and documented   |
| 2. Optimise production efficiency              | 2.1 Compliance to specified requirements is checked to ensure efficiency is maintained  |
|  | 2.2 Non-compliance is identified and investigated to determine causes   |
|  | 2.3 Production standards or machines are set and / or changed according to enterprise procedures  |
|  | 2.4 Changeover/ make ready times and processes are monitored to ensure times are maintained or improved   |
|  | 2.5 Production schedule is monitored and adjusted according to production output, inventory, procurements, time constraints and supply capacities and requirements to ensure efficiency is maintained |
| 3. Troubleshoot production efficiency problems | 3.1 Corrective or preventive action is implemented where appropriate  |
|  | 3.2 Changes are communicated to relevant personnel in a logical and easily understood manner  |
|  | 3.3 Changes are monitored and adjusted to confirm improvement to production efficiency  |

- 4. Troubleshoot material and machining problems
  - 4.1 Evaluation of material or product structure is conducted to identify options for production and required tuning and adjustments are completed
  - 4.2 Idiosyncrasies of machines are reviewed and adjustments or tuning undertaken to compensate or to exploit the idiosyncrasy within the manufacturer's specifications
  - 4.3 Options are assessed to determine most effective / efficient method of production, ensuring highest quality and yield from materials and ease of production
  - 4.4 Options and recommendations are documented for future reference according to enterprise procedures
  
- 5. Document changes and remedies
  - 5.1 Changes to the production process are documented according to enterprise procedures
  - 5.2 Adjustments to machines are recorded according to enterprise procedures
  - 5.3 Documentation is circulated according to enterprise procedures, if required

## **REQUIRED SKILLS AND KNOWLEDGE**

This describes the essential skills and knowledge and their level, required for this unit.

### **Required skills:**

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by documenting recommendations to optimise the production process
- Collecting, analysing and organising information by reviewing the production schedule and evaluating its effectiveness
- Planning and organising activities by determining the most effective production processes
- Teamwork when communicating with colleagues over changes to production
- Mathematical ideas and techniques by determining optimised yield for machinery
- Problem-solving skills by compensating or optimising machine idiosyncrasies
- Use of technology by evaluating machine operations and making changes to improve the production process

### **Required knowledge:**

The following knowledge must be assessed as part of this unit:

#### **Setting quality standards**

- How are the criteria for inspection of print quality set?
- Why does the quality of artwork / film have a bearing on the quality of the printed product?
- What quality standards have been set by the customer?
- How do these standards determine the inspection specifications?

#### **Identifying production requirements and capacities**

- What job requirements determine the production processes?
- How do you identify special production requirements and possible problems?
- What criteria are used to determine the availability of machines, materials and labour?
- What OHS concerns need to be considered when planning production?

#### **Causes of failure**

- What are common causes of failure in each production area that need to be monitored?
- What procedures have you implemented to minimise the effect of these?

#### **Revising schedules**

- How are production schedules monitored and amended if required?
- What consideration is given to revising production schedules to take into account customer requirements and job complexity?

#### **Evaluating re-work methods**

- Who is responsible for evaluating the re-work of unacceptable items?
- What method of re-work has been determined?
- What criteria have been set to monitor the re-work?
- What requirements have been established for the inspection of re-working material to customer's specifications?

## Determining unacceptable items and evaluating production procedures

- What has been determined as the cause of unacceptable items?
- What records are kept of acceptable and rejected items?
- What records are kept for the reason for the rejection?
- What have you determined as the cause for the rejection and how have you rectified the problem?

## Quality improvements

- What information needs to be monitored so as to maintain standards?
- Who should be involved in monitoring quality standards?
- How can enterprise improvements affect quality standards?

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Range of processes	<ul style="list-style-type: none"><li>• Applies to the development of complex new processes or the modification of existing complex processes based on significant judgement. Applies to the overall production process</li></ul>
Production context	<ul style="list-style-type: none"><li>• Production processes and associated machines / equipment include those generally operating in the various sectors of the printing and graphic arts industry</li></ul>
Production schedules	<ul style="list-style-type: none"><li>• Production schedules may apply to daily or production runs, including repetitive production runs, short runs and quick changes</li></ul>



## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- Recommend and implement new, more efficient production processes and troubleshoot problems within the production process that effect efficiency gains
- Produce a portfolio that demonstrates that each element has been carried out. This should include records of standards and monitoring procedures and evidence that they are being effectively carried out
- Production efficiencies are confirmed through discussions with senior management and review of workplace documentation
- Evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity

### **Context of and specific resources for assessment**

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- BSBFLM509A Promote continuous improvement.

**ICPSU684B****Unit Descriptor****Determine and improve process capability**

This unit describes the performance outcomes, skills and knowledge required to process capability, which is a statistical concept that allows a practitioner to assess required performance against the actual (as distinct from design) capability of the process.

**Employability Skills**

This unit contains employability skills.

**Application of the Unit**

This unit would apply to a manager or technical expert support person. Process capability is typically calculated using standard deviations.

In a typical scenario a manager (who may have as a job title section leader, production manager or similar) will be responsible for developing plans to improve process capability and following agreement the implementation of the plans to improve process capability. This unit comes from the Competitive Manufacturing Initiative group of competency standards.

**Unit Sector**

Support

**ELEMENT****PERFORMANCE CRITERIA**

- |  |  |
|--|--|
| 1. Obtain data for process capability study  | 1.1 Identify the process requiring capability analysis<br>1.2 Obtain process capability data   |
| 2. Analyse data                              | 2.1 Identify causes of systematic variation in liaison with relevant personnel<br>2.2 Develop solutions to eliminate / minimise systematic variation in liaison with relevant people   |
| 3. Take action to improve process capability | 3.1 Develop plans to implement solutions<br>3.2 Liaise with relevant people to implement solutions<br>3.3 Gain necessary approvals as required<br>3.4 Monitor implementation and make adjustments as required<br>3.5 Determine new / revised process capability<br>3.6 Implement revised process capability regime |

## REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

### Required skills:

The following skills must be assessed as part of this unit:

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- Communication of ideas and information by liaising with relevant people to implement solutions
- Collecting, analysing and organising information by identifying causes of systematic variation in liaison with relevant personnel
- Planning and organising activities by developing plans to implement solutions
- Teamwork when liaising with relevant people to implement solutions
- Mathematical ideas and techniques by identifying and analysing current and future capacity
- Problem-solving skills by identifying solutions to current capacity problems
- Use of technology by using software applications to identify solutions to current capacity problems

### Required knowledge:

The following knowledge must be assessed as part of this unit:

- Mathematical
- Statistical methods
- Communication
- Negotiation
- Planning
- Analysis
- Problem solving
- Teamwork
- Computer operation
- Data collection methods
- Data processing techniques
- Variability and normal distribution
- Three sigma or six sigma processes as relevant
- Random and non-random results - recognition of assignable causes
- Causes of different types of non-random results
- Causes of random variation
- Process understanding sufficient to translate the data into variations in the process and determine methods of controlling them

## RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

- |             |   |
|-------------|---|
| Six sigma   | <ul style="list-style-type: none"> <li>• A vision of quality which equates to only 3.4 defects per million opportunities for each product or service transaction</li> <li>• Six sigma is a statistical tool for recording defects and determining capability. Six sigma is also used as a general term covering a competitive manufacturing approach</li> </ul>   |
| Three sigma | <ul style="list-style-type: none"> <li>• Traditional statistical process control uses three sigma limits which equates to 3 defects per thousand opportunities for each product or service transaction</li> </ul>   |
| Procedures  | <ul style="list-style-type: none"> <li>• Procedures includes all work instructions, standard operating procedures, formulas / recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, oral, computer-based or in some other form.</li> <li>• For the purposes of this Training Package, procedures also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations</li> </ul> |

## EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### **Critical aspects for assessment and evidence required to demonstrate competency**

Evidence of the following is essential:

- The manager should be able to implement and review a process capability system and make improvements to the process using process capability as a tool. Evidence should be available of the conducting of process capability studies, the improvement to process capability as a result of these studies and the implementation of a revised process capability regime
- One complex project or several simpler projects will be needed to gain sufficient evidence

**Context of and specific resources for assessment**

Assessment must ensure:

- assessment needs to occur in an organisation using process capability as a tool for process monitoring and improvement. It may also be assessed using a suitable project
- access to an organisation using process capability

**Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPSU583B Troubleshoot and optimise the production process.



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