ICP05 Printing and Graphic Arts Training Package

Volume 5 of 6

Version Number: 2
Review Date: 31 August 2008

INDUSTRY
SKILLS
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ICP05
Printing and Graphic Arts Training Package

Screen Printing, Ink Manufacture and Holistic Knowledge 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 5 of 6
Printing and Graphic Arts Training Package (Volume 5 - Screen Printing, Ink Manfacture and Holistic Knowledge Units of Competency)

Vol 1 of 6 Introduction, Assessment Guidelines and Qualifications

Vol 2 of 6 Support and Pre-press Units of Competency

Vol 3 of 6 Multimedia and Printing Units of Competency

Vol 4 of 6 Converting, Binding and Finishing 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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www.aesharenet.com.au/FfE2/

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TABLE OF CONTENTS

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	The following has been changed in 274 units: • Employability skills (ES) mandatory statement inserted; Key Competencies information removed. Code changed to reflect mandatory ES changes. • Unit reformatted into latest template requirements; Skills and Knowledge improved. Category 1 changes made throughout the Training Package to correct typographical, grammatical and minor formatting errors.
1	30/09/2005	Primary release. ICP05 Printing and Graphic Arts Training Package replaces ICP99 Printing and Graphic Arts Training Package.

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 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).

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 section 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 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>. 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>.

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:

Innovation and Business Skills Australia

Level 2, Building B, 192 Burwood Road

Hawthorn Victoria 3122

Telephone: (03) 9815 7000

Facsimile: (03) 9815 7001

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

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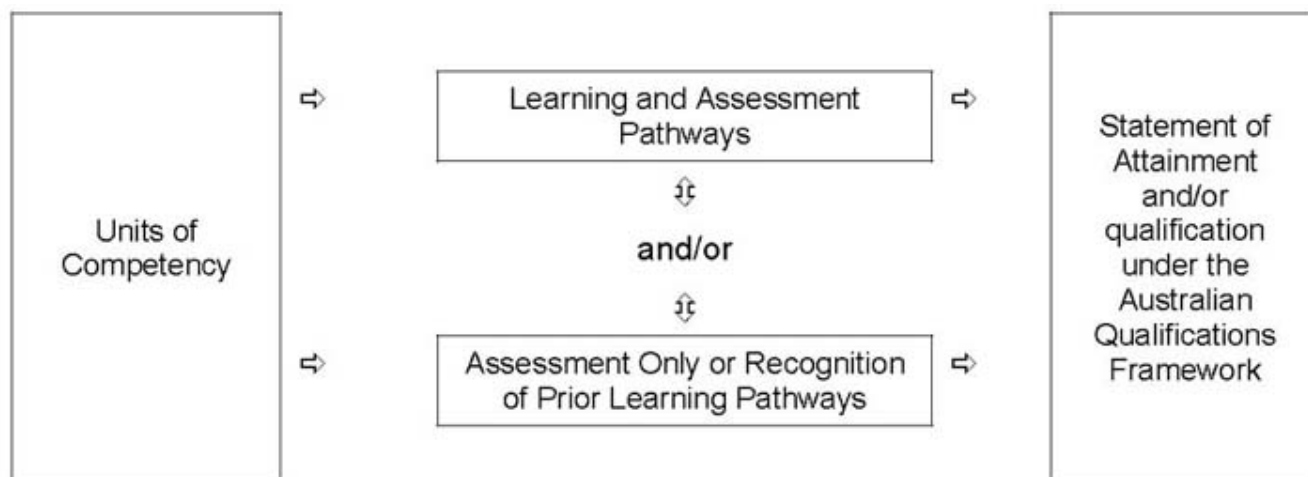
Each of these assessment pathways leads to full recognition of competencies held - the critical issue is that the candidate is competent, not how the competency was acquired.

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

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

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>. 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		*Assessment, including Recognition of Prior Learning:*
	a)	*meets the requirements of the relevant Training Package or accredited course,*

| | b) | *is conducted in accordance with the principles of assessment and the rules of evidence, and* |
| | c) | *meets workplace and, where relevant, regulatory requirements.* |

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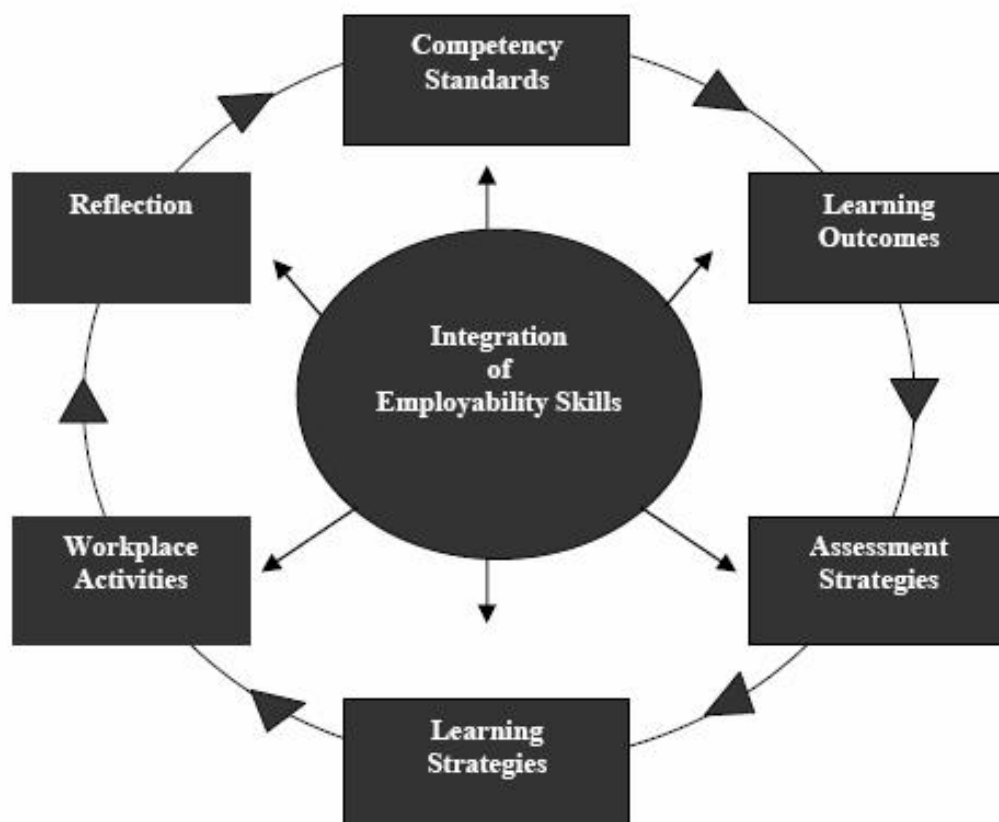
Employability Skills are embedded and explicit within each unit of competency. Training providers must use Employability Skills information in order to design valid and reliable training and assessment strategies. This analysis could include:

- 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

Web: 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

Email: 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

Australian Quality Training Framework 2007 (AQTF 2007) - for information and resources go to < 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

Training Package Development Handbook (DEST, August 2007). Can be downloaded from 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. Go to 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.

ICPKN311B	Apply knowledge of the graphic pre-press sector
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the graphic pre-press sector of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific pre-press areas. It facilitates technical communication and the ability to work as a team member.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit covers preparation of a person working in or dealing with the graphic pre-press sector of the printing industry.
	Workers with the ICP30205 Certificate III in Printing and Graphic Arts (Graphic Pre-press) are likely to acquire most of this knowledge in the production units.
Unit Sector	Holistic Knowledge

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1 Printing industry terminology and vocabulary are used correctly and accurately
	1.2 New technology and new work processes are monitored and implemented when required
	1.3 Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1 Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace
	2.2 The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Apply detailed knowledge of pre-press processes	3.1 The principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and applied where possible in the workplace
	3.2 Different types of images (line, half-tone), digital and their use are assessed to identify most appropriate image for the given job
	3.3 Different output settings eg screen rulings and angles, shapes, are researched and how they affect final product is evaluated
	3.4 The different types of output required for different printing processes are researched and evaluated for different jobs
	3.5 Different output devices eg film setters, plate setters, analogue proofs, digital proofs, are researched and evaluated for different jobs

4.	Apply knowledge of printing processes	4.1	Basic principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital / electronic printing are appraised to inform decisions made for different jobs
		4.2	The types of jobs and products for each process are considered to ensure appropriate choices are made to meet client needs
		4.3	The capabilities and limitations of each process are reviewed for different jobs
5.	Apply knowledge of converting and finishing processes	5.1	Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening, are considered for different jobs
		5.2	The types of processes are appraised to inform decisions made for different jobs
6.	Apply knowledge of substrates and inks	6.1	The range of substrates used for each printing process are researched and evaluated for different jobs
		6.2	The relationship of different paper sizes is considered for different jobs
		6.3	Different weights and callipers of substrates and how they affect pre-press operations are researched for different jobs
		6.4	Paper grain and how it affects pre-press, printing and finishing operations are researched for different jobs
		6.5	Different properties of ink such as drying properties, fastness, gloss, and how they affect pre-press operations are researched for different jobs
7.	Apply detailed knowledge of pre-press requirements for printing and finishing processes	7.1	Designs that are appropriate for different printing processes are explored according to different jobs
		7.2	Dot gain and trapping requirements for different printing processes, inks and substrates are evaluated for different jobs
		7.3	Use and positioning of trimming and folding marks and how these are affected by different substrates are evaluated for different jobs
		7.4	Criteria for evaluating suitability of pre-press outputs for printing processes are explored and implemented
		7.5	Criteria for producing folding impositions are evaluated for different jobs

8.	Apply knowledge of colour theory	8.1	Colour theory of additive colours (light), RGB, is used to inform pre-press and / or design decisions
		8.2	Colour theory of subtractive colours (pigments), CMYK, is used to inform pre-press and / or design decisions
		8.3	Relationship between ranges of visual colour RGB and CMYK is used to inform pre-press and / or design decisions
		8.4	Relationship between hue, greyness and substrate for tone and colour correction is used to inform pre-press and / or design decisions
		8.5	Colour matching conditions and colour matching systems are used to inform pre-press and / or design decisions
		8.6	Procedures that ensure effective colour management are implemented
9.	Apply basic knowledge of costs of production	9.1	The main cost elements (fixed, capital and variable) in pre-press production are considered during different jobs
		9.2	The information required to accurately cost jobs and the means of collecting it (manual and computerised) are considered and implemented, where required, during different jobs
		9.3	Ways of minimising use of materials without affecting the quality of output are considered and implemented, where required, during different jobs
		9.4	Ways of maximising efficiency of capital and human resources are considered and implemented, where required, during different jobs
10.	Apply basic knowledge of production management requirements and systems	10.1	The types of information that need to be exchanged between different stages of production to facilitate production efficiency are identified and implementation strategies developed
		10.2	Systems (manual and computerised) that can be used to exchange information are considered and implemented, where required, during different jobs
		10.3	The basic principles of efficient production management are considered and implemented, where required, during different jobs
		10.4	The principles of effective quality management are considered and implemented, where required, during different jobs

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 accurately using correct printing industry terminology and vocabulary
- Collecting, analysing and organising information by using colour theory of subtractive colours to inform pre-press and / or design decisions
- Planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- Teamwork when implementing procedures that ensure effective colour management
- Mathematical ideas and techniques by considering the information required to accurately cost jobs
- Problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- Use of technology by researching and evaluating different output devices eg film setters, plate setters, analogue proofs and digital proofs, for different jobs

Required knowledge:

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

- This unit underpins the Certificate III level and higher pre-press units.

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.

Level of knowledge	• Knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client
Degree of autonomy	• Working in consultation with 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: • Assessor must be satisfied that sufficient knowledge and understanding of pre-press and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • The successful demonstration of groups of pre-press units at Certificate III level or higher4 • 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: • units packaged in a Certificate III or higher qualification.

ICPKN312B	**Apply knowledge of printing machining**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the printing sector of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific printing areas. It facilitates technical communication and the ability to work as a team member.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit describes the skills and knowledge required by a person working in or dealing with the printing sector of the printing industry.
	Workers with the ICP30505 Certificate III in Printing and Graphic Arts (Printing) are likely to acquire most of this knowledge in production units.
Unit Sector	Holistic Knowledge

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1 Printing industry terminology and vocabulary are used correctly and accurately
	1.2 New technology and new work processes are monitored and implemented when required
	1.3 Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1 Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace
	2.2 The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Apply knowledge of pre-press processes	3.1 The basic principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and applied as required in the workplace
	3.2 Different types of images (line, half-tone), digital and their use are understood and general strategies developed for printing
	3.3 Different output settings eg screen rulings and angles, shapes, and how they affect final product are understood and general strategies developed for printing
	3.4 The different types of output required for different printing processes are understood and general processes developed for printing
	3.5 Different output devices eg film setters, plate setters, analogue proofs, digital proofs, are understood and general processes developed for printing

4.	Apply detailed knowledge of printing processes	4.1	Principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital / electronic printing are applied when using a selected printing process
		4.2	The types of jobs and products for each process are considered to ensure appropriate choices are made to meet client needs
		4.3	The capabilities and limitations of each process are considered when using a selected printing process
5.	Apply knowledge of converting and finishing processes	5.1	Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening are taken into consideration when making print process decisions
		5.2	The types of jobs and products for each process are considered to ensure appropriate choices are made to meet client needs
6.	Apply detailed knowledge of substrates and inks	6.1	The range of substrates used for each printing process are taken into consideration when making print set up decisions
		6.2	The relationship of different paper sizes is taken into consideration when making print set up decisions
		6.3	Different weights and callipers of substrates and how they affect printing operations are taken into consideration when making print set up decisions
		6.4	Paper grain and how it affects pre-press, printing and finishing operations are taken into consideration when making print set up decisions
		6.5	Different properties of ink such as drying properties, fastness, gloss, and how they affect printing and finishing operations are taken into consideration when making print set up decisions
		6.6	Inks and coatings that are appropriate and those that are not appropriate for particular finishing processes are taken into consideration when making print set up decisions

7.	Apply detailed knowledge of printing requirements for pre-press and finishing processes	7.1	Designs that are appropriate for different printing processes are understood and general strategies developed for printing
		7.2	Criteria for evaluating suitability of pre-press outputs for printing processes are understood and general strategies developed for printing
		7.3	Mechanisms and techniques for adjusting image registration and position are understood and general strategies developed for printing
		7.4	Procedures for determining colour sequence are understood and general strategies developed for printing
		7.5	Adjustments that can be made so that product matches approved proof are understood and general strategies developed for printing
		7.6	Criteria for determining impositions and image placements for converting, binding and finishing operations are understood and general strategies developed for printing
8.	Apply basic knowledge of colour theory	8.1	Colour theory of additive colours (light), RGB, is understood and used to inform printing decisions
		8.2	Colour theory of subtractive colours (pigments), CMYK, is understood and used to inform printing decisions
		8.3	Relationship between ranges of visual colour RGB and CMYK is understood and used to inform printing decisions
		8.4	Relationship between hue, greyness and substrate for tone and colour correction is understood and used to inform printing decisions
		8.5	Colour matching conditions and colour matching systems are understood and used to inform printing decisions
9.	Apply basic knowledge of costs of production	9.1	The main cost elements (fixed, capital and variable) in printing production are understood and used to inform printing decisions
		9.2	The information required to accurately cost jobs and the means of collecting it (manual and computerised) are applied to work practices
		9.3	Ways of minimising use of materials without affecting the quality of output is understood and used to inform printing processes
		9.4	Ways of maximising efficiency of capital and human resources are understood and used to inform printing processes
10.	Apply basic knowledge of production management requirements and systems	10.1	The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and used to inform personal work practices
		10.2	Systems (manual and computerised) that can be used to exchange information are understood and used in the workplace
		10.3	The basic principles of efficient production management are understood and used to inform personal work 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 accurately using correct printing industry terminology and vocabulary
- Collecting, analysing and organising information by using colour theory of subtractive colours to inform pre-press and / or design decisions
- Planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- Teamwork when implementing procedures that ensure effective colour management
- Mathematical ideas and techniques by considering the information required to accurately cost jobs
- Problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- Use of technology by applying the principles of the selected printing processes

Required knowledge:

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

- this unit underpins all of the Certificate III level and higher printing units of competency.

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.

Level of Knowledge	• Knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client
Degree of autonomy	• Working in consultation with 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: • Assessor must be satisfied that sufficient knowledge and understanding of printing and related production processes (as outlined in each Element) have been demonstrated so that job requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • Successful assessment of any of the Certificate III level printing units of competency • 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: • units packaged in a Certificate III or higher qualification.

ICPKN313B	**Apply knowledge and requirements of the converting, binding and finishing sector**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the converting and finishing sector of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific converting and finishing areas. It facilitates technical communication and the ability to work as a team member.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit covers preparation of a person working in or dealing with the converting and finishing area of the printing industry.
	Workers with the ICP30705 Certificate III in Printing and Graphic Arts (Print Finishing) are likely to acquire most of this knowledge in the technical units.
Unit Sector	Holistic Knowledge

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1 Printing industry terminology and vocabulary are used correctly and accurately
	1.2 New technology and new work processes are monitored and implemented when required
	1.3 Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1 Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace
	2.2 The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Apply knowledge of pre-press processes	3.1 The basic principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used in the production process where applicable
	3.2 Different types of images (line, half-tone), digital and their use are understood and used as required
	3.3 Different output settings eg screen rulings and angles, shapes, and describe how they affect final printed product are understood and used as required
	3.4 The different types of output required for different media and printing processes are understood and used in the production process where applicable
	3.5 Different output devices eg film setters, plate setters, analogue proofs, digital proofs are understood and built into the production process where applicable

4.	Apply knowledge of printing processes	4.1	Basic principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital / electronic printing are understood and are used to inform production processes
		4.2	The types of jobs and products for which each process is appropriate are understood and are used to inform production decisions
		4.3	The capabilities and limitations of each process are understood and are used to inform production decisions
5.	Apply knowledge of converting and finishing processes	5.1	Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening are understood and are used to inform production processes
		5.2	The types of jobs and products for which each process is appropriate are understood and are used to inform production processes
6.	Apply detailed knowledge of substrates	6.1	The relationship of different substrate sizes is understood and is used to inform production processes
		6.2	Different weights, callipers, bulk, density and opacity of substrates and how they affect pre-press, printing and finishing operations and end uses are understood and are used to inform production processes
		6.3	Paper grain and how it affects pre-press, printing and finishing operations are understood and are used to inform production processes
		6.4	Moisture content, porosity and ink absorbency and how they affect pre-press, printing and finishing operations are understood and are used to inform production processes
		6.5	Gloss, smoothness and surface strength and how they affect pre-press, printing and finishing operations are understood and are used to inform production processes
		6.6	Permanence, durability and acidity and alkalinity of paper and how they affect pre-press, printing and finishing operations and end uses are understood and are used to inform production processes
		6.7	Bursting strength, folding endurance, tensile strength and tearing resistance and how they affect printing and finishing operations and end uses are understood and are used to inform production processes

7.	Apply knowledge of converting and finishing requirements for pre-press and printing processes	7.1 Use and positioning of trimming and folding marks and how these are affected by different substrates are understood and are used to inform production processes
		7.2 Quality checking procedures and problems that should be reported to printer or pre-press and those that are the responsibility of converter or finisher are understood and are used to inform production processes
		7.3 Use and positioning of trimming and folding marks and how these are affected by different substrates are understood and are used to inform production processes
		7.4 Criteria for producing folding impositions are understood and are used to inform production processes
		7.5 Procedures for determining appropriate packing techniques are understood and are used to inform production processes
8.	Apply basic knowledge of costs of production	8.1 The main cost elements (fixed, capital and variable) in printing production are understood and used to inform converting and finishing decisions
		8.2 The information required to accurately cost jobs and the means of collecting it (manual and computerised) are applied to work practices
		8.3 Ways of minimising use of materials without affecting the quality of output are understood and used to inform converting and finishing processes
		8.4 Ways of maximising efficiency of capital and human resources are understood and used to inform converting and finishing processes
9.	Apply knowledge of production management requirements and systems	9.1 The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and used to inform personal work practices
		9.2 Systems (manual and computerised) that can be used to exchange information are understood and used in the workplace
		9.3 The basic principles of efficient production management are understood and used to inform personal work 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 accurately using correct printing industry terminology and vocabulary
- Collecting, analysing and organising information by using colour theory of subtractive colours to inform pre-press and / or design decisions
- Planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- Teamwork when implementing procedures that ensure effective colour management
- Mathematical ideas and techniques by considering the information required to accurately cost jobs
- Problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- Use of technology by applying the principles of the selected printing processes

Required knowledge:

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

- This unit underpins all of the Certificate III level and higher converting, binding and finishing units of competency.

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.

Level of knowledge	• Knowledge required to intelligently discuss job requirements and modifications with a tradesperson, production manager or client
Degree of autonomy	• Working in consultation with 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: • Assessor must be satisfied that sufficient knowledge and understanding of converting and finishing and related production processes (as outlined in each Element) have been demonstrated so that job requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • Successful assessment of any of the Certificate III level converting, binding and finishing units of competency • 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, for example: • units packaged in a Certificate III or higher qualification..

ICPKN314B	**Apply knowledge and requirements of the screen printing sector**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the screen printing sector of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific screen printing operations. It facilitates technical communication and the ability to work as a team member.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit covers preparation of a person working in or dealing with the screen printing sector of the printing industry and underpins all screen printing units packaged in the ICP30605 Certificate III in Printing and Graphic Arts (Screen Printing).
	Workers with the ICP30605 Certificate III in Printing and Graphic Arts (Screen Printing) are likely to acquire most of this knowledge in production units.
Unit Sector	Holistic Knowledge

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1 Printing industry terminology and vocabulary are used correctly and accurately
	1.2 New technology and new work processes are monitored and implemented when required
	1.3 Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1 Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace
	2.2 The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices

3.	Apply knowledge of pre-press processes	3.1	The basic principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used in the production process where applicable
		3.2	Different types of images (line, half-tone) and their use are understood and general methods developed for printing
		3.3	Different output settings eg screen rulings and angles, shapes, and how they affect final product are understood and general methods developed for printing
		3.4	The different types of output required for different printing processes are understood and general methods developed for printing
		3.5	Different output devices eg film setters, plate setters, analogue proofs, digital proofs are understood and general processes developed for printing
4.	Apply knowledge of printing processes	4.1	Basic principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital / electronic printing are understood
		4.2	The types of jobs and products for which each process is appropriate are understood
		4.3	The capabilities and limitations of each process are understood and general strategies developed to address client need
5.	Apply knowledge of converting and finishing processes	5.1	Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening are understood and are used to inform printing decisions
		5.2	The types of jobs and products for which each process is appropriate are understood and are used to inform printing decisions

6.	Apply detailed knowledge of substrates and inks	6.1	The range of substrates used for each printing process is understood and used to inform printing decisions
		6.2	The relationship of different paper sizes is understood and used to inform printing decisions
		6.3	Different weights and callipers of substrates and how they affect screen printing operations are understood and used to inform printing decisions
		6.4	Paper grain and how it affects pre-press, printing and finishing operations are understood and used to inform printing decisions
		6.5	The differences in printing on different substrates eg paper, plastic, glass are understood and used to inform printing decisions
		6.6	Different properties of ink: drying properties, fastness, gloss etc and how they affect screen printing operations are understood and used to inform printing decisions
		6.7	Inks and coatings that are appropriate and those that are not appropriate for particular finishing processes are understood and used to inform printing decisions
7.	Apply detailed knowledge of screen printing and stencil preparation techniques and requirements	7.1	Designs that are appropriate for screen printing on particular substrates are understood and used to inform printing decisions
		7.2	Criteria for selecting mesh count and stencil type are understood and used to inform printing decisions
		7.3	Dot gain, trapping and minimising moire requirements for different meshes, stencils, inks and substrates are understood and used to inform printing decisions
		7.4	Use and positioning of trimming and folding marks and how these are affected by different substrates are understood and used to inform printing decisions
		7.5	Mechanisms and techniques for adjusting image registration and position are understood and used to inform printing decisions
		7.6	Procedure for determining colour sequence is understood and used to inform printing decisions
		7.7	Adjustments that can be made so that product matches approved proof are understood and used to inform printing decisions
8.	Apply knowledge of colour theory	8.1	Colour theory of additive colours (light), RGB, is understood and used to inform printing decisions
		8.2	Colour theory of subtractive colours (pigments), CMYK, is understood and used to inform printing decisions
		8.3	Relationship between ranges of visual colour RGB and CMYK is understood and used to inform printing decisions
		8.4	Relationship between hue, greyness and substrate for tone and colour correction is understood and used to inform printing decisions
		8.5	Colour matching conditions and colour matching systems are understood and used to inform printing decisions
		8.6	Procedures that ensure effective colour management are understood and used to inform printing decisions

9.	Apply basic knowledge of costs of production	9.1	The main cost elements (fixed, capital and variable) in screen printing production are understood and used to inform printing decisions
		9.2	The information required to accurately cost jobs and the means of collecting it (manual and computerised) are understood and used in the workplace
		9.3	Ways of minimising use of materials without affecting the quality of output are understood and used to inform production decisions
		9.4	Ways of maximising efficiency of capital and human resources are understood and used to inform production decisions
10.	Apply basic knowledge of production management requirements and systems	10.1	The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and used to inform production decisions
		10.2	Systems (manual and computerised) that can be used to exchange information are understood and used in the workplace
		10.3	The basic principles of efficient production management are understood and applied in the workplace

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 accurately using correct printing industry terminology and vocabulary
- Collecting, analysing and organising information by using colour theory of subtractive colours to inform pre-press and / or design decisions
- Planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- Teamwork when implementing procedures that ensure effective colour management
- Mathematical ideas and techniques by understanding the different weights and callipers of substrates and how they affect screen printing operations
- Problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- Use of technology by applying the principles of the selected printing screen printing processes

Required knowledge:

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

- This unit of competency underpins all Certificate III level screen printing units.

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.

Level of knowledge	• Knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client
Degree of autonomy	• Working in consultation with 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: • Assessor must be satisfied that sufficient knowledge and understanding of screen printing and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • Successful assessment of Certificate III level screen printing units • 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.

ICPKN315B	**Apply knowledge and requirements of the multimedia sector**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the multimedia sector of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific multimedia areas. It facilitates technical communication and the ability to work as a team member.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit covers preparation of a person working in or dealing with the multimedia sector of the printing industry and underpins all multimedia units packaged in the ICP30305 Certificate III in Printing and Graphic Arts (Multimedia).
	Workers with the ICP30305 Certificate III in Printing and Graphic Arts (Multimedia) are likely to acquire most of this knowledge in the technical units.
Unit Sector	Holistic Knowledge

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of multimedia and the printing industry	1.1 Printing industry terminology and vocabulary are used correctly and accurately
	1.2 New technology and new work processes are monitored and implemented when required
	1.3 Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
	1.4 International standards and open source standards are monitored for new developments and understood and applied where appropriate
2. Apply knowledge of government acts and regulations	2.1 Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace
	2.2 The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices

3.	Apply knowledge of pre-press processes	3.1	The basic principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used in the production process where applicable
		3.2	Different types of images (line, half-tone), digital and their use are understood and used as required
		3.3	Different output settings eg screen rulings and angles, shapes, and how they affect final printed product are understood and used as required
		3.4	The different types of output required for different media and printing processes are understood and used in the production process where applicable
		3.5	Different output devices eg film setters, plate, analogue proofs, digital proofs are understood and used in the production process where applicable

4.	Apply detailed knowledge of multimedia techniques and requirements	4.1	Designs that are appropriate or inappropriate for multimedia are understood and applied to the development process, where applicable
		4.2	Criteria for choosing visual, audio or text delivery for presenting information in both passive and interactive products are understood and applied to the development process, where applicable
		4.3	The differences between various markup languages and their application are understood and applied to a range of suitable development work
		4.4	The differences between various scripting languages and their application are understood and applied to a range of suitable development work
		4.5	The criteria for selecting graphic resolution and formats and advantages and limitations of different formats are understood and applied to the development process, where applicable
		4.6	Criteria for selecting audio formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable
		4.7	The criteria for selecting video formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable
		4.8	The criteria for selecting animation formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable
		4.9	Multimedia platforms and computer systems requirements for different multimedia products are understood and applied to the development process, where applicable
		4.10	Different software and operating systems for producing multimedia products are evaluated for different jobs
		4.11	The features of an effective navigation system for both passive and interactive products are understood and applied to the development process, where applicable
		4.12	The effect of rapidly changing technology and how multimedia production needs to respond to it are understood
5.	Apply knowledge of colour theory	5.1	Colour theory of additive colours (light), RGB, is understood and used to inform design decisions
		5.2	Colour theory of subtractive colours (pigments), CMYK, is understood and used to inform design decisions
		5.3	The relationship between ranges of visual colour RGB and CMYK is understood and used to inform design decisions
		5.4	The relationship between hue and greyness for tone and colour correction is understood and used to inform design decisions

6.	Apply basic knowledge of costs of production	6.1	The main cost elements (fixed, capital and variable) in multimedia production are understood and used to inform development decisions
		6.2	The information required to accurately cost jobs and the means of collecting it (manual and computerised) are understood and used to inform development decisions
		6.3	Ways of minimising use of materials without affecting the quality of output are understood and used to inform development decisions
		6.4	Ways of maximising efficiency of capital and human resources are understood and used to inform development decisions
7.	Demonstrate basic knowledge of production management requirements and systems	7.1	The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and used to inform development decisions
		7.2	Systems (manual and computerised) that can be used to exchange information are understood and used in the workplace
		7.3	The basic principles of efficient production management is understood and used to inform development decisions

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 accurately using correct printing industry terminology and vocabulary
- Collecting, analysing and organising information by monitoring trends within the multimedia sector on an ongoing basis to inform personal work practices
- Planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- Teamwork when implementing procedures that ensure effective colour management
- Mathematical ideas and techniques by understanding and using as required different output settings eg screen rulings and angles, shapes
- Problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- Use of technology by understanding and applying to the development process, where applicable, multimedia platforms and computer systems requirements for different multimedia products

Required knowledge:

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

- This unit underpins all Certificate III level multimedia units of competency.

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.

Level of knowledge	• Knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, programmer, technician, production manager or client
Degree of autonomy	• Working in consultation with 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: • Assessor must be satisfied that sufficient knowledge and understanding of multimedia and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, programmer, technician, production manager or client • Successful assessment of Certificate III level multimedia units of competency • 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.

ICPKN316B	**Apply knowledge and requirements of paper and printing processes**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the paper merchant area of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific paper related operations. It facilitates technical communication and the ability to work as a team member.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit covers preparation of a person working in or dealing with the paper merchant area of the printing industry. This unit underpins all Certificate III level units of competency related to the paper merchant area.
Unit Sector	Holistic Knowledge

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1 Printing industry terminology and vocabulary are used correctly and accurately
	1.2 New technology and new work processes are monitored and implemented when required
	1.3 Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1 Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace
	2.2 The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Apply detailed knowledge of pre-press processes	3.1 The principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used in the production process where applicable
	3.2 Different types of images (line, half-tone) and their use are understood
	3.3 Different output settings eg screen rulings and angles, shapes, and how they affect final product are understood
	3.4 The different types of output required for different printing processes are understood
	3.5 Different output devices eg film setters, plate setters, analogue proofs, digital proofs are understood

4.	Apply knowledge of printing processes	4.1	Basic principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital / electronic printing are understood and are used to inform production processes
		4.2	The types of jobs and products for which each process is appropriate are understood and used to inform production decisions
		4.3	The capabilities and limitations of each process are understood and used to inform production decisions
5.	Apply knowledge of converting and finishing processes	5.1	Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening are understood and used to inform production processes
		5.2	The types of jobs and products for which each process is appropriate are understood and used to inform production processes
6.	Apply detailed knowledge of paper and printing processes	6.1	The relationship of different paper sizes is understood and used to inform production processes
		6.2	Different weights, callipers, bulk, density and opacity of paper and how they affect pre-press, printing and finishing operations and end uses are understood and used to inform production processes
		6.3	Paper grain and how it affects pre-press, printing and finishing operations are understood and used to inform production processes
		6.4	Moisture content, porosity and ink absorbency and how they affect pre-press, printing and finishing operations are understood and used to inform production processes
		6.5	Gloss, smoothness and surface strength and how they affect pre-press, printing and finishing operations are understood and used to inform production processes
		6.6	Permanence, durability and acidity and alkalinity of paper and how they affect pre-press, printing and finishing operations and end uses are understood and used to inform production processes
		6.7	Bursting strength, folding endurance, tensile strength and tearing resistance and how they affect printing and finishing operations and end uses are understood and used to inform production processes
7.	Apply detailed knowledge of paper grades and colours	7.1	Paper types and grades and end uses for each type and grade are understood and used to inform production processes
		7.2	The differences between wood pulp, rag and recycled papers and appropriate end uses are understood and used to inform production processes
		7.3	Colour matching processes are understood and used to inform production processes
		7.4	The effect of different paper colours on printing operations is understood and used to inform production processes

8.	Apply detailed knowledge of paper handling and storage procedures	8.1	Ideal storage conditions for different types and grades of paper are understood and used to inform production procedures
		8.2	The advantages and disadvantages of different packing and delivery systems are understood and used to inform production procedures
9.	Apply basic knowledge of costs of production	9.1	The main cost elements (fixed, capital and variable) in production are understood and applied in the workplace
		9.2	The information required to accurately cost jobs and the means of collecting it (manual and computerised) are understood and applied in the workplace
		9.3	Ways of minimising use of materials without affecting the quality of output are understood and applied in the workplace
		9.4	Ways of maximising efficiency of capital and human resources are understood and applied in the workplace

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 accurately using correct printing industry terminology and vocabulary
- Collecting, analysing and organising information by understanding and applying basic principles and obligations of OHS in the workplace
- Planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- Teamwork when implementing procedures that ensure effective colour management
- Mathematical ideas and techniques by understanding and applying the information required to accurately cost jobs
- Problem-solving skills by considering and implementing, where required, ways of maximising efficiency of capital and human resources during different jobs
- Use of technology by understanding and using the basic principles of the selected printing process

Required knowledge:

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

- This unit underpins all Certificate III level units of competency related to the paper merchant area.

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.

Level of knowledge	• Knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client
Degree of autonomy	• Working in consultation with 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: • Assessor must be satisfied that sufficient knowledge and understanding of paper and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • Successful assessment of Certificate III level units of competency related to the paper merchants area • 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.

ICPKN317B	**Apply knowledge and requirements of the ink manufacturing sector**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to work in the ink manufacturing sector of the printing industry. It facilitates technical communication and the ability to work as a team member.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit covers preparation of a person working in the ink manufacturing sector of the printing industry including senior production staff, chemists, laboratory technicians, quality testing and other research and development personnel.
	This unit underpins all ink manufacture units of competency packaged in the ICP31105 Certificate III in Printing and Graphic Arts (Ink Manufacture).
Unit Sector	Holistic Knowledge

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1 Printing industry terminology and vocabulary are used correctly and accurately
	1.2 New technology and new work processes are monitored and implemented when required
	1.3 Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1 Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace
	2.2 The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
3. Identify categories of the ink manufacturing sector and enterprise products and services	3.1 The scope of the ink manufacturing sector, its products, services and client / supplier profile can be identified
	3.2 Enterprise products and services, their characteristics and their end use, specifically with regard to the printing industry, are identified
	3.3 Printing processes and procedures and their implication for ink manufacture are understood and used to inform decisions about ink usage

4.	Identify enterprise processes and procedures	4.1	Manufacturing processes and quality control procedures for ink / coating / varnish / resin / chemical production are understood and used to inform decisions about ink usage
		4.2	Raw material, intermediate and final product testing and recording procedures within the enterprise are identified and applied in personal work practices
		4.3	Product research and development capacity and opportunities are identified and explored for professional development and enterprise purposes
5.	Apply knowledge of testing procedures	5.1	Appropriate testing procedures for each stage of product manufacture are described, evaluated, and improvements are applied where required
		5.2	Workplace quality assurance procedures are understood and applied in the workplace
		5.3	Procedures for developing and testing formulae for new product with reference to end use and capability and suitability of manufacturing processes are described and applied in the workplace

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 accurately using correct printing industry terminology and vocabulary
- Collecting, analysing and organising information by understanding and applying basic principles and obligations of OHS in the workplace
- Planning and organising activities by identifying and applying raw material, intermediate and final product testing procedures in the workplace
- Teamwork when understanding and applying workplace quality assurance procedures in the workplace in association with others
- Mathematical ideas and techniques by identifying and applying raw material, intermediate and final product recording procedures in the workplace
- Problem-solving skills by describing and evaluating appropriate testing procedures for each stage of product manufacture and applying improvements
- Use of technology by monitoring and implementing new technology and new work processes

Required knowledge:

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

- This unit underpins all Certificate III level units of competency in ink manufacture.

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.

Level of knowledge	• Knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client
Degree of autonomy	• Working in consultation with 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: • Assessor must be satisfied that sufficient knowledge and understanding of ink manufacturing production and testing processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, technician, production manager or client • Successful assessment of Certificate III level units of competency in ink manufacture • 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.

ICPKN318B	Apply knowledge and requirements of mail house operations

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to working in or deal with a mail house; that is, a working knowledge of related areas and a detailed knowledge of specific mailing, labelling and dispatching areas. It facilitates technical communication and the ability to work as a team member.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit covers preparation of a person working in or dealing with a mail house and underpins all mail house units of competency packaged in the ICP31005 Certificate III in Printing and Graphic Arts (Mail House).
	Workers with the ICP31005 Certificate III in Printing and Graphic Arts (Mail House) are likely to acquire most of this knowledge in production units.
Unit Sector	Holistic Knowledge

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1 Printing industry terminology and vocabulary are used correctly and accurately
	1.2 New technology and new work processes are monitored and implemented when required
	1.3 Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
	1.4 Job requirements and alterations are discussed with and understood by tradespersons, supervisors, production managers and clients
2. Apply knowledge of government acts, regulations and codes of practice	2.1 Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace
	2.2 The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices
	2.3 Codes of practice and responsibilities regarding both paper and electronic-based products and services and direct marketing are understood and applied in personal work practices
	2.4 Legislative requirements regarding the storage of data, addressing, ownership of lists, intellectual copyright, privacy and confidentiality of information are understood and applied in personal work practices
	2.5 Mail house responsibilities in regard to the public, clients, suppliers and employees are understood and applied in personal work practices

3.	Apply knowledge of postal standards and requirements	3.1	Limitations on size, weight and content of postal items are understood and applied in processing mail and / or parcels
		3.2	Australia Post Post Standards and Letter Pre-Sorting Standards are understood and used to inform workflow processes
		3.3	Packaging requirements for a range of products are understood and applied
4.	Apply knowledge of electronic / digital printing and bar code systems	4.1	The importance of digital printing systems including inkjet, laser and offset technologies in the mail house centre are understood
		4.2	Digital data customisation is understood and is used to inform quality checks
		4.3	Advantages and applications of digital printing within a mail house are understood
		4.4	In-line processes associated with digital printing systems are understood and used to inform work processes
		4.5	The process and applications of bar coding as applied to mail house operations and services are understood
5.	Apply knowledge of computerised systems and associated software as used in mail house sector	5.1	A variety of computer driven equipment as used in typical mail house operations is understood and used where appropriate
		5.2	Computer driven bar code, sorting, tagging and reading systems are understood and applied in the workplace where appropriate
		5.3	Data management and processing systems and software are understood
		5.4	Computerised document management, design and reading systems and software are understood
		5.5	Computerised market research and listing services and associated software are understood
		5.6	Recent developments in electronic mailing and new applications of this technology are understood

6.	Apply a knowledge of pre-press, printing, converting and finishing sectors and processes	6.1 The principles and functions of image production (typesetting, scanning, camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used to inform production processes where appropriate
		6.2 Pre-press functions including image classification (type, line, tone), output settings (screen rulings and angles) and output devices (film setter, plate maker, proofer) are understood and used to inform production processes where appropriate
		6.3 Conventional printing processes are understood and used to inform production processes where appropriate
		6.4 The most suitable printing process for a variety of jobs and products, taking into account cost, quality and end user requirements is understood and used to inform decisions about printing processes where appropriate
		6.5 Capabilities and limitations of each printing process are understood and used to inform decisions about printing processes where appropriate
		6.6 Basic principles and characteristics of a variety of converting and finishing operations including guillotining, collating, folding, inserting and fastening are understood and used to inform production processes where appropriate
		6.7 Terminology suited to those working in mail house, printing and related industries is understood and applied in the workplace
7.	Apply knowledge of substrates, inks, toners and coatings	7.1 Substrates used for each printing process and the properties that make them suitable are understood and used to inform production processes where appropriate
		7.2 The IPS system, its basis and the relationship of different paper sizes are understood and used to inform production processes where appropriate
		7.3 Different weights, callipers and finishes of substrates and how they affect mailing and converting and finishing operations are understood and used to inform production processes where appropriate
		7.4 Paper grain and how it affects pre-press, printing, finishing and mailing operations are understood and used to inform production processes where appropriate
		7.5 Ink characteristics including drying properties, fastness, gloss, opacity, tack and scuff resistance, and their effect on printing, finishing and end user requirements are understood and used to inform production processes where appropriate
		7.6 Desirable qualities for inks, toners and coatings to ensure suitability for substrate, finishing operations and end user requirements are understood and used to inform production processes where appropriate

8. Apply knowledge of costs of production	8.1	The main cost elements (fixed, capital and variable) in converting and finishing production are understood and applied in the workplace
	8.2	The information required to accurately cost jobs and the means of collecting it (manual and computerised) are understood and applied in the workplace
	8.3	Ways of minimising use of materials without affecting the quality of output are understood and applied in the workplace
	8.4	Ways of maximising efficiency of capital and human resources are understood and applied in the workplace
9. Apply knowledge of production management requirements and systems	9.1	The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and applied in the workplace
	9.2	Systems (manual and computerised) that can be used to exchange information are understood and applied in the workplace
	9.3	The basic principles of efficient production management are understood and applied in the workplace

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 accurately using mail house, postal and printing industry terminology and vocabulary
- Collecting, analysing and organising information by understanding and applying computer driven bar code, sorting, tagging and reading systems in the workplace
- Planning and organising activities by understanding and applying ways of minimising material use in the workplace without affecting the quality of output
- Teamwork when understanding and applying the basic principles of efficient production management in the workplace in association with others
- Mathematical ideas and techniques by understanding and applying the information required to accurately cost jobs
- Problem-solving skills by adopting the most suitable printing process taking account of cost, quality and client needs
- Use of technology by understanding and using pre-press functions to inform production processes

Required knowledge:

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

- This unit underpins all Certificate III level mail house units of competency.

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.

Level of knowledge	• Knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson or other skilled worker, production manager or client
Degree of autonomy	• Working in consultation with 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: • Assessor must be satisfied that sufficient knowledge and understanding of mail house operations and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson or other skilled worker, production manager or client • Successful assessment of Certificate III level mail house units of competency • 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.

ICPKN319B	**Apply knowledge and processes of converting paper-based products**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with the sacks and bags area or other similar paper converting areas of the printing industry; that is, a working knowledge of related areas and a detailed knowledge of specific paper related operations. It facilitates technical communication and the ability to work as a team member.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit covers preparation of a person working in or dealing with the paper converting area of the printing industry, such as sack and bag making and cartons and underpins all units of competency related to the sacks and bags and cartons / corrugating sectors packaged in the ICP30805 Certificate III in Printing and Graphic Arts (Sacks and Bags) and the ICP30905 Certificate III in Printing and Graphic Arts (Cartons and Corrugating).
Unit Sector	Holistic Knowledge

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of printing industry	1.1 Printing industry terminology and vocabulary are used correctly and accurately
	1.2 New technology and new work processes are monitored and implemented when required
	1.3 Trends within the printing industry are monitored on an ongoing basis to inform personal work practices
2. Apply knowledge of government acts and regulations	2.1 Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace
	2.2 The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices

3.	Apply knowledge of pre-press processes	3.1	The principles behind the following pre-press functions: image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are understood and used in the production process where applicable
		3.2	Different types of images (line, half-tone) and their use are understood
		3.3	The qualities of the main material types of paper, ink, adhesive, wax and plastic films and extrusion are understood and used to inform product development choices
		3.4	Different output settings eg screen rulings and angles, shapes, and how they affect final product are understood
		3.5	The different types of output required for different printing processes are understood
		3.6	Different output devices eg film setters, plate setters, analogue proofs, digital proofs are understood
4.	Apply knowledge of printing processes	4.1	Basic principles of the following printing processes: lithography, relief, flexography, gravure, pad printing, screen printing, digital / electronic printing are understood and used to inform production processes
		4.2	The types of jobs and products for which each process is appropriate are understood and used to inform production decisions
		4.3	The capabilities and limitations of each process are understood and used to inform production decisions
5.	Apply knowledge of converting and finishing processes	5.1	Basic characteristics of the following converting and finishing processes: guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening are understood and used to inform production processes
		5.2	The types of jobs and products for which each process is appropriate are understood and used to inform production processes

6.	Apply detailed knowledge of paper and printing processes	6.1	The relationship of different paper sizes is understood and used to inform production processes
		6.2	Different weights, callipers, bulk, density and opacity of paper and how they affect pre-press, printing and finishing operations and end uses are understood and used to inform production processes
		6.3	Paper grain and how it affects pre-press, printing and finishing operations are understood and used to inform production processes
		6.4	Moisture content, porosity and ink absorbency and how they affect pre-press, printing and finishing operations are understood and used to inform production processes
		6.5	Gloss, smoothness and surface strength and how they affect pre-press, printing and finishing operations are understood and used to inform production processes
		6.6	Permanence, durability and acidity and alkalinity of paper and how they affect pre-press, printing and finishing operations and end uses are understood and used to inform production processes
		6.7	Bursting strength, folding endurance, tensile strength and tearing resistance and how they affect printing and finishing operations and end uses are understood and used to inform production processes
		6.8	Paper behaviour and how it affects different production processes is understood and used to inform production decisions
		6.9	The effect of combining paper with adhesive, wax and plastic films on the production process is understood and used to inform production decisions
7.	Apply detailed knowledge of paper grades and colours	7.1	Paper types and grades and end uses for each type and grade are understood and used to inform production processes
		7.2	The differences between wood pulp, rag and recycled papers and appropriate end uses are understood and used to inform production processes
		7.3	Colour matching processes are understood and used to inform production processes
		7.4	The effect of different paper colours on printing operations is understood and used to inform production processes
8.	Apply detailed knowledge of paper handling and storage procedures	8.1	Ideal storage conditions for different types and grades of paper are understood and used to inform production procedures
		8.2	The advantages and disadvantages of different packing and delivery systems are understood and used to inform production procedures

9. Apply basic knowledge of costs of production	9.1	The main cost elements (fixed, capital and variable) in production are understood and applied in the workplace
	9.2	The information required to accurately cost jobs and the means of collecting it (manual and computerised) are understood and applied in the workplace
	9.3	Ways of minimising use of materials without affecting the quality of output are understood and applied in the workplace
	9.4	Ways of maximising efficiency of capital and human resources are understood and applied in the workplace
10. Apply knowledge of production management requirements and systems	10.1	The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and applied in the workplace
	10.2	Systems (manual and computerised) that can be used to exchange information are understood and applied in the workplace
	10.3	The basic principles of efficient production management are understood and applied in the workplace

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 accurately using printing industry terminology and vocabulary
- Collecting, analysing and organising information by monitoring trends within the printing industry on an ongoing basis to inform personal work practices
- Planning and organising activities by considering and implementing, where required, basic principles of efficient production management
- Teamwork when understanding and applying information systems in the workplace in association with others
- Mathematical ideas and techniques by considering the information required to accurately cost jobs
- Problem-solving skills by understanding and using the capabilities and limitations of each process when making production decisions
- Use of technology by understanding and using basic principles of printing processes to meet client needs

Required knowledge:

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

- This unit underpins all Certificate III level units of competency related to the sacks and bags or cartons / corrugating sectors.

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.

Level of knowledge	• Knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client
Degree of autonomy	• Working in consultation with 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: • Assessor must be satisfied that sufficient knowledge and understanding of paper and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, production manager or client • Successful assessment of Certificate III level units of competency related to the sacks and bags or cartons / corrugating sectors for example • 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.

ICPKN320B	Apply knowledge and requirements of information technology systems in the printing industry
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to work in or deal with information technology systems in the printing industry; that is, a working knowledge of related information technology and a detailed knowledge of specific information technology systems in the printing industry. It facilitates technical communication and the ability to work as a team member.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit covers preparation of a person working in or dealing with information technology systems in the printing industry and underpins all multimedia units of competency in the ICP30305 Certificate III in Printing and Graphic Arts (Multimedia).

Workers with the ICP30305 Certificate III in Printing and Graphic Arts (Multimedia) or higher are likely to acquire most of this knowledge in the technical units. |
| **Unit Sector** | Holistic Knowledge |

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of information technology in the printing industry	1.1 Information technology terminology and vocabulary are used correctly and accurately
	1.2 New technology and new work processes are monitored and implemented when required
	1.3 Information technology trends within the printing industry are monitored on an ongoing basis to inform personal work practices
	1.4 International standards and open source standards are monitored for new developments and understood and applied where appropriate
	1.5 The issues involved in producing related print products with new technology are understood and reflected in work practice
	1.6 Issues such security, archiving, backup and storage are understood and used to inform work practice
2. Apply knowledge of government acts and regulations	2.1 Basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are understood in relation to the workplace
	2.2 The basic principles and obligations involved in copyright, OHS, environmental protection, access and equity and industrial awards are followed in personal work practices

3.	Apply knowledge of pre-press information technology systems	3.1	Basic principles and capabilities behind digital workflows and computer networks are understood and used to inform work practices
		3.2	Database and file management are understood and used as required
		3.3	Different output settings and how they affect final printed product are understood and used as required
		3.4	The different types of output required for different media and printing processes are understood and used in the production process where applicable
		3.5	Server and server administration are understood and used to inform work practices
4.	Apply detailed knowledge of information technology in multimedia	4.1	Designs that are appropriate or inappropriate for multimedia are understood and applied to the development process, where applicable
		4.2	Criteria for choosing visual, audio or text delivery for presenting information in both passive and interactive products are understood and applied to the development process, where applicable
		4.3	The differences between various markup languages and their application are understood and applied to a range of suitable development work
		4.4	The differences between various scripting languages and their application are understood and applied to a range of suitable development work
		4.5	The criteria for selecting graphic resolution and formats and advantages and limitations of different formats are understood and applied to the development process, where applicable
		4.6	Criteria for selecting audio formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable
		4.7	The criteria for selecting video formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable
		4.8	The criteria for selecting animation formats for multimedia and advantages and limitations of different formats are understood and applied to the development process, where applicable
		4.9	Multimedia platforms and computer systems requirements for different multimedia products are understood and applied to the development process, where applicable
		4.10	Different software and operating systems for producing multimedia products are evaluated for different jobs
		4.11	The features of an effective navigation system for both passive and interactive products are understood and applied to the development process, where applicable
		4.12	The effect of rapidly changing technology and how multimedia production needs to respond to it are understood

5.	Apply knowledge of printing information technology systems	5.1	The types of information technology systems used in the printing sector are understood and used to inform personal work practice
		5.2	Database and file management are understood and used as required
		5.3	Automated workflow systems are understood and used to inform work practice
		5.4	Different output systems and technology are understood and used to inform work practice
6.	Apply knowledge of converting and finishing information technology systems	6.1	The types of information technology systems used in the converting and finishing sector are understood and used to inform personal work practice
		6.2	Automated workflow systems are understood and used to inform work practice
		6.3	Different dispatch and distribution systems are understood and used to inform work practice
7.	Demonstrate knowledge of production management systems	7.1	The types of information that need to be exchanged between different stages of production to facilitate production efficiency are understood and used to inform development decisions
		7.2	Information technology systems that can be used to exchange information between companies and within companies are understood and used
		7.3	The basic principles of efficient production management information systems are understood and inform development decisions

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 and accurately using information technology terminology and vocabulary
- Collecting, analysing and organising information by understanding and applying basic principles and obligations of OHS in the workplace
- Planning and organising activities by understanding and using basic principles and capabilities behind digital workflows and computer networks in work practices
- Teamwork when understanding and using issues such as security, archiving, backup and storage in work practices
- Mathematical ideas and techniques by understanding and applying the criteria for selecting graphic resolution to the development process
- Problem-solving skills by evaluating software and operating systems when producing multimedia for different jobs
- Use of technology by understanding and applying to the development process, where applicable, multimedia platforms and computer systems requirements for different multimedia products

Required knowledge:

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

- This unit underpins all technical Certificate III level units of competency.

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.

Level of knowledge	• Knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, programmer, technician, production manager or client
Degree of autonomy	• Working in consultation with 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: • Assessor must be satisfied that sufficient knowledge and understanding of information technology systems and related production processes (as outlined in each Element) have been demonstrated so that job procedures, requirements and modifications can be intelligently discussed in some detail with a tradesperson, programmer, technician, production manager or client • Demonstrated competency in Certificate III level Information Technology units of competency • 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.

ICPIM211B

Unit Descriptor

Select and prepare materials for production

This unit describes the performance outcomes, skills and knowledge required to prepare materials for ink and varnish manufacture.

Employability Skills This unit contains employability skills.

Application of the Unit This unit requires the individual to prepare materials for ink and varnish manufacture.

Unit Sector Ink Manufacture

ELEMENT	PERFORMANCE CRITERIA
1. Read and interpret job requirements and locate materials	1.1 Material requirements and quantities are correctly identified from documentation 1.2 Materials are located and checked according to enterprise procedures 1.3 Required quantities of material are confirmed and shortages and / or defective materials reported / recorded
2. Prepare materials	2.1 Weighing / measuring devices are checked for accuracy and reset if required 2.2 Bowls, vats, tanks and pots are selected according to job specifications and checked to ensure they are free from contamination 2.3 Quantities of material are weighed / measured 2.4 Materials are prepared according to enterprise procedures 2.5 Quality checks are undertaken according to enterprise procedures 2.6 Materials are adjusted to conform to job specifications
3. Transfer prepared materials to production area	3.1 Prepared materials are correctly stored / transferred / located 3.2 Documentation is accurately 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
- Communicating ideas and information by completing workplace documentation
- Collecting, analysing and organising information by identifying job requirements and relevant materials
- Planning and organising activities by preparing materials prior to production
- Teamwork when contributing to the production process in association with others
- Mathematical ideas and techniques by identifying required materials and recording quantities
- Problem-solving skills by checking instruments for accuracy and recalibrating
- Use of technology by using equipment to prepare materials

Required knowledge:

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

OHS and environmental hazard control procedures

- Describe the potential health hazards involved in the selection and preparation of materials for ink production.
- What pollution and environmental issues need to be considered when working with the raw materials used in ink production?
- What are the enterprise procedures and policies that are in place to deal with OHS and environmental hazards?

Selection, fit and use of appropriate personal protective equipment

- What safety equipment is required and what do you need to check when fitting and using it?

Identification and location of required materials

- What details are required for selection of materials for ink production?
- How do you determine whether a material is defective?
- What is the procedure if there is a material shortage?

Weighing / measuring

- What needs to be checked when measuring each of the types of materials required for ink production?
- Describe the range of measuring devices used in the work area, how accuracy checks are conducted and procedures for resetting the devices.

Preparation of containers

- What needs to be checked when preparing containers for ink production?

Preparation of materials

- What needs to be checked when preparing materials?

Conducting quality checks

- What are the methods for checking and adjusting materials?
- Who approves prepared materials prior to commencement of production?
- What are the procedures for recording the quantities and formulation?

Transfer and storage procedures

- What equipment is used to transfer materials to the preparation area?

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.

Application	• Selection / assembly of materials is typically performed by operators, weighers, mixers or stores personnel working under supervision to ensure production requirements are met
Documentation	• Range of records including formulae, job dockets, work sheets, job cards, manufacturing orders, specifications, labels, material safety data sheets
Enterprise procedures	• Range of enterprise procedures within defined work area as documented in enterprise procedures (SOPs)
OHS	• OHS includes relevant legislation, regulations and enterprise policies
Materials	• Range of raw materials, packaging materials and consumables
Weighing / measuring devices	• Measuring equipment including scales, flow meters and graduated vessels
Containers	• Vessels that include pans, vats, bowls, tanks, drums, tins, hoppers, bins, pails, pots
Machines / equipment	• Includes pallet mover, drum lifter, wheelbarrow

Degree of autonomy	• Working under supervision to defined 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: • Correctly prepare materials for ink and varnish manufacture according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Select, measure and prepare TWO batches of materials for use in the production of ink or chemicals, according to manufacturer's and job specifications, OHS requirements, enterprise procedures 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
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.

ICPIM221B   Blend chemicals

Unit Descriptor   This unit describes the performance outcomes, skills and knowledge required to blend chemicals for ink and varnish manufacture.

Employability Skills   This unit contains employability skills.

Application of the Unit   This unit requires the individual to blend chemicals for ink and varnish manufacture.

Unit Sector   Ink Manufacture

ELEMENT		PERFORMANCE CRITERIA	
1.	Read and interpret job requirements from documentation	1.1	Appropriate processes are identified and confirmed
		1.2	Appropriate chemicals, inks, materials and / or equipment are selected according to job specifications
2.	Set up machines / equipment	2.1	Pre-startup checks are completed and documented according to enterprise procedures
		2.2	Raw materials / feed lines are checked to ensure availability
		2.3	Machine / equipment operation is verified according to enterprise procedures
3.	Maintain blending / homogenising process	3.1	Mix is completed according to enterprise procedures and OHS requirements
		3.2	Materials are added to the process according to job specifications
		3.3	Quality inspection / sampling is carried out according to enterprise procedures
		3.4	Adjustments to mix / equipment are made to correct identified quality problems
		3.5	Records / log / checklists are completed according to enterprise procedures
4.	Shut down	4.1	Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures
		4.2	Product / materials used in manufacture are removed from operating area where appropriate
		4.3	Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures
5.	Clean up	5.1	Equipment cleaning requirements are identified
		5.2	Correct equipment / materials for manual or mechanical cleaning are selected
		5.3	Cleaning is undertaken 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
- Communications ideas and information by completing logs and checklists according to enterprise procedures
- Collecting, analysing and organising information by reading and interpreting job requirements from documentation
- Planning and organising activities by completing startup checks prior to the blending process
- Teamwork when contributing to the production process in association with others
- Mathematical ideas and techniques by mixing batches according to job specifications
- Problem-solving skills by making adjustments to the mix to maintain quality standards
- Use of technology by using blending machines and equipment

Required knowledge:

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

Safe work practices and hazard avoidance

- What are the OHS considerations when cleaning bowls, vats, and pots?
- What other OHS issues arise in the blending of chemicals and use of an automated ink dispensing system?
- What safety equipment is required and what do you need to check when fitting and using it?

Selecting raw materials according to job specifications and process requirements

- Describe the batch coding system used in the work area and the recording procedures used.
- What are the procedures for preparing containers and equipment for blending / tinting?

Measurement of materials according to prescribed specifications

- What needs to be checked when measuring chemicals for blending?

The mixing / blending properties of raw materials and / or of intermediate and final product

- What procedures apply to adding chemicals according to formulae?
- Describe the purpose and process of homogenisation.
- What is the purpose of de-ionising water when it is to be used in the blending process?

Procedures for chemical blending

- What procedures apply to constructing a correct colour according to a formula?
- What factors determine the position of the mixing head when blending?
- Describe the procedures for testing conductivity, viscosity and pH, where in-process testing is conducted.

Quality assurance

- Describe the sampling and testing process.
- Describe the problems that may occur in the tinting process and how these may be

overcome.
- What recording and labelling procedures apply?

Safe disposal of environmentally hazardous materials

- What environmental issues need to be considered when working with the range of materials used in chemical blending / tinting?

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.

Application	• Chemical blending / tinting and associated tasks are typically performed by operators working under supervision to ensure production requirements are met
Documentation	• Range of work instructions including formulae, job dockets, work sheets, specifications, labels, material safety data sheets
Enterprise procedures	• Range of enterprise procedures within defined work area as documented in enterprise procedures (SOPs)
OHS	• Includes relevant legislation, regulations and enterprise policies / guidelines
Materials	• Range of raw materials / consumables, and chemicals used in cleaning
Machines / equipment	• Machines / equipment may include high and low speed dispersers, pan washer / scrubbers, pumps, valves, automatic ink dispensing system, homogeniser, de-ioniser, other vessels
Adjustments / corrections	• In the range from normal operating to emergency response
Shutdown	• In the range from planned shutdown to emergency response

Degree of autonomy	• Working under supervision to defined 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: • Correctly blend chemicals for ink and varnish manufacture according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Use EITHER a mixer / disperser OR a bead mill OR an automatic ink dispensing system to blend TWO batches of chemicals OR tint TWO batches of ink intermediates / concentrates according to manufacturer's and job specifications, OHS requirements, enterprise procedures 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
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.

ICPIM251B	**Filter and pack product**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to filter and pack ink and varnish products.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to filter and pack ink and varnish products.
Unit Sector	Ink Manufacture

ELEMENT	PERFORMANCE CRITERIA
1. Read and interpret job requirements from documentation	1.1 Product to be filtered is identified from job specifications 1.2 Type / size of packing container is identified from job specifications
2. Set up for filtering and packing	2.1 Filtering requirements are identified from job specifications 2.2 The correct filter is selected and fitted according to enterprise procedures 2.3 Appropriate packaging containers are identified and selected according to job specifications 2.4 Containers are checked to ensure that they are free from contamination
3. Filter and pack product	3.1 Product is filtered according to enterprise procedures and OHS requirements 3.2 Product is sampled and tested according to enterprise procedures 3.3 The correct amount of approved product is tinned off according to enterprise procedures 3.4 Container is correctly labelled according to enterprise procedures 3.5 Packed product is stored / despatched according to job specifications
4. Complete documentation	4.1 Documentation 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
- Communicating ideas and information by completing documentation according to enterprise procedures
- Collecting, analysing and organising information by sampling and testing product according to quality standards
- Planning and organising activities by setting up for filtering according to job specifications
- Teamwork when completing the packing in association with fellow workers
- Mathematical ideas and techniques by identifying correctly sized containers
- Problem-solving skills by selecting the correct filter
- Use of technology by using filtering equipment

Required knowledge:

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

OHS and environmental regulations and requirements

- Describe the potential health hazards involved in the filtering and packing of products.
- What pollution and environmental issues need to be considered when working with ink / chemical products?
- What enterprise policies and procedures are in place to deal with OHS and environmental hazards?

Selection, fit and use of appropriate personal protective equipment

- What safety equipment is required and what do you need to check when fitting and using it?

Selection of correct packaging materials / containers

- What details are required for the correct selection of packaging containers?

Selection and fitting of filter(s) according to specifications / standards

- What details are required for the correct selection of filter(s)?
- What factors determine the selection of filters?
- What needs to be checked when fitting the filter?

Contaminants that affect product properties and quality

- What contaminants can be present and how are they eliminated?

Sampling and testing procedures

- How is the quality of the product (viscosity, skin forming) maintained throughout the filter / pack process?
- Describe the sampling / testing procedures.

Operation of pumps

- What problems may occur in extruding the product and how are they overcome?

Weighing / measuring

- What weighing methods are used in the work area?

Handling, labelling and storage

- What system is in place for labelling and storage of packed product?

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.

Application	• Filtering and packing of product is typically performed by operators working under supervision to ensure that quality standards are maintained
Documentation	• Range of work instructions including formulae, job dockets, work sheets, enterprise procedures (SOPs), manufacturing orders (MOs), specifications, labels, coding systems, material safety data sheets, and computer entry requirements
Enterprise procedures	• Range of enterprise procedures within defined work area as documented in enterprise procedures (SOPs)
OHS	• Includes relevant legislation, regulations and enterprise policies / guidelines
Containers	• Range of packaging containers including pails, tins, drums, bins
Machines / equipment	• Machines / equipment / materials may include pumps, filters, weighing scales, spatulas, cardboard, wax paper, vacuum pack systems, and lifting / shifting devices

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 filter and pack ink and varnish products according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Filter and pack ink / chemical products into TWO types of packaging container using the correct filtering procedures according to manufacturer's and job specifications, OHS requirements, enterprise procedures 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
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.

ICPIM331B
Unit Descriptor

Manufacture inks and coatings

This unit describes the performance outcomes, skills and knowledge required to manufacture inks and coatings.

Employability Skills   This unit contains employability skills.

Application of the Unit   This unit requires the individual to manufacture inks and coatings.

Unit Sector   Ink Manufacture

ELEMENT	PERFORMANCE CRITERIA
1. Read and interpret job requirements from documentation	1.1 Appropriate processes are identified and confirmed
	1.2 Appropriate materials and / or equipment are selected according to job specifications
2. Set up machines / equipment	2.1 Pre-startup checks are completed and documented according to enterprise procedures
	2.2 Raw materials / feed lines are checked to ensure availability
	2.3 Stirrer, mixer, pots and vats are checked to ensure they are free from contamination
	2.4 Machine / equipment operation is verified according to enterprise procedures
3. Maintain blending process	3.1 Mix is completed in association with fellow workers according to enterprise procedures and OHS requirements
	3.2 Materials are added to the process according to job specifications
	3.3 Quality inspection / sampling is carried out according to enterprise procedures
	3.4 Adjustments to mix / equipment are made to correct identified quality problems
4. Maintain ink / coating milling process	4.1 Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule
	4.2 Production is maintained according to OHS requirements and enterprise procedures
	4.3 Milling process and equipment are monitored during batch manufacture to ensure operation is maintained
	4.4 Machines / equipment are inspected, adjusted as required and readouts recorded and interpreted
	4.5 Quality inspections / sampling are undertaken according to enterprise procedures
	4.6 Records / log / checklists are completed according to enterprise procedures

5.	Maintain operation of equipment / process conditions	5.1	Variations / irregularities of equipment operation or process conditions are identified and reported
		5.2	Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention according to enterprise procedures
		5.3	Corrective action is documented and reported according to enterprise procedures
6.	Shut down liquid ink / coating blend / milling process	6.1	Pre-shutdown checks are carried out and documented according to enterprise procedures
		6.2	Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures
		6.3	Shutdown is conducted in association with fellow workers and in compliance with OHS requirements
		6.4	Product / materials used in manufacture are removed from operating area where appropriate
		6.5	Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures
7.	Clean up	7.1	Equipment cleaning requirements are identified
		7.2	Correct equipment / materials for manual or mechanical cleaning are selected
		7.3	Cleaning is undertaken 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
- Communicating ideas and information by completing logs and checklists during manufacturing
- Collecting, analysing and organising information by sampling the mix to maintain quality standards
- Planning and organising activities by completing startup checks prior to manufacture
- Teamwork when completing the mix in association with fellow workers
- Mathematical ideas and techniques by correctly measuring materials required for the mix
- Problem-solving skills by anticipating production difficulties and taking preventive action
- Use of technology by using manufacturing and measuring equipment

Required knowledge:

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

Safe work practices and hazard avoidance

- What are the safety requirements for adding powders during the mixing stage of ink manufacture?
- What are the OHS considerations when cleaning bowls, vats, and pots?
- What other OHS issues arise in the manufacture of ink or coatings?
- What safety equipment is required and what do you need to check when fitting and using it?

Selecting raw materials according to job specifications and process requirements

- Describe the batch coding system used in the work area and the recording procedures used.
- What needs to be checked when preparing containers and equipment for ink / coating manufacture?

Measurement of materials according to prescribed specifications

- What needs to be checked when measuring raw materials for ink production?

The mixing / blending properties of raw materials and / or of intermediate and final product

- What factors determine the position of the mixing head?
- What is the purpose of using low speed early in the mixing process?
- What is the function of antioxidants in the mixing process?
- What is done when the mixture has a skin on it?
- What are the particular requirements for coating manufacture?
- Describe the characteristics of the end product of the mixing phase of ink manufacture.

Procedures for ink / coating manufacture

- What is the purpose of milling ink?
- What are the ideal conditions for milling ink?
- How is a mill adjusted for low or high grind values?

- What are the procedures for potting off the mill?
- What system is in place for labelling containers of ink?

Quality assurance

- What sampling and testing procedures are used at each stage of the ink or coating manufacture process?
- Where in-process testing is carried out, how is the grind of the ink determined?
- Describe how ink texture and viscosity are checked during the milling process.

Safe disposal of environmentally hazardous materials

- What environmental issues need to be considered when working with the range of materials used in the manufacture of ink / coatings?

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.

Application	• Liquid ink / coating manufacture and associated tasks are typically performed by operators working under limited supervision to ensure production requirements are met
Documentation	• Range of work instructions including formulae, job dockets, work sheets, specifications, labels, material safety data sheets
Enterprise procedures	• Range of enterprise procedures within defined work area as documented in enterprise procedures (SOPs)
OHS	• Includes relevant legislation, regulations and enterprise policies / guidelines
Materials	• Range of raw materials / consumables, pigment, varnish, inks, chemicals used in cleaning
Machines / equipment	• Machines / equipment may include high and low speed dispersers, mills, pan washer / scrubbers, pumps, valves, other vessels

Adjustments / corrections	• In the range from normal operating to emergency response
Shutdown	• In the range from planned shutdown to emergency response

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 manufacture inks and coatings according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Use a mixer / disperser and EITHER a bead mill OR a 3-roll mill to manufacture TWO batches of ink / coating according to manufacturer's and job specifications, OHS requirements, enterprise procedures 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
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.

ICPIM335B	**Manufacture varnish and resin**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to manufacture varnishes and resins.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to manufacture varnishes and resins.
Unit Sector	Ink Manufacture

ICPSP211B

Unit Descriptor

Reclaim screen automatically

This unit describes the performance outcomes, skills and knowledge required to automatically reclaim screens.

Employability Skills   This unit contains employability skills.

Application of the Unit   This unit requires the individual to reclaim screens using automatic cleaning equipment.

Unit Sector   Screen Printing

ELEMENT		PERFORMANCE CRITERIA	
1.	Select and prepare chemicals	1.1	Ink and stencil type are correctly identified and screen is assessed for suitability to be reclaimed
		1.2	Screen reclamation chemicals are selected and prepared according to manufacturer's / supplier's specifications
		1.3	Appropriate safety gear is selected and worn according to manufacturer's / supplier's specifications and OHS requirements
2.	Maintain and adjust automatic cleaning equipment	2.1	Automatic cleaning equipment is inspected and routine user maintenance is carried out according to manufacturer's / supplier's specifications and enterprise procedures
		2.2	Automatic cleaning equipment is adjusted to suit ink system, mesh type and frame size
3.	Wash screen	3.1	Screens are washed using a pressure gun or automatic machine in a suitably ventilated area with the required extraction system
		3.2	Stains and hazes are removed using appropriate chemicals according to manufacturer's / supplier's specifications and OHS requirements
		3.3	Screens are checked for damage and any defects are reported and / or rectified according to enterprise procedures
4.	Store screen	4.1	Screens are correctly identified and labelled
		4.2	Screens are stored in a clean, dry environment according to manufacturer's / supplier's specifications
5.	Carry out routine user maintenance	5.1	Cleaning equipment is lubricated, cleaned and adjusted according to manufacturer's / supplier's specifications
		5.2	Faults are identified, reported and / or rectified according to manufacturer's / supplier's 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 correctly identifying and labelling screens
- Collecting, analysing and organising information by identifying and reporting machine faults
- Planning and organising activities by maintaining and adjusting automatic cleaning equipment
- Teamwork when maintaining the production process in association with fellow workers
- Mathematical ideas and techniques by preparing the reclamation chemicals
- Problem-solving skills by identifying and rectifying machine faults
- Use of technology by using automatic cleaning equipment

Required knowledge:

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

Stencil types and mesh counts

- What are the types of stencil used?
- What is the significance of mesh counts?
- What is the handling technique used for frames with various mesh counts?

Selection of appropriate safety gear

- Describe THREE personal protective equipment items you use for screen reclamation.
- What are the health hazards associated with chemical handling?

Ink types

- Why are various ink types treated differently when reclaiming?
- What pollution controls are in operation with regards to environmental issues?

Chemical selection and preparation

- What are the major OHS concerns when handling chemicals?
- How do you select the appropriate chemicals for the ink, stencil and mesh types of each screen?
- Where do you obtain information on the application of each chemical?

Machine operation adjustment and maintenance

- What ventilation and extraction systems should be in operation?
- What maintenance procedures are necessary for this machine?

Reclamation techniques

- What are the properties of different reclamation chemicals?
- How are chemicals applied for stencil removal?
- What chemicals are used to remove stains / haze?

Chemical handling and storage

- What are the enterprise policies on handling materials and chemicals?

- What are the enterprise policies on management and storage of chemicals?
- Name any personal protective clothing that has to be worn when handling and storing chemicals.

Identifying and storing screens

- What method do you use to identify the reclamation status of screens?
- What is the method of storing reclaimed screens?

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.

Chemical type	• Chemicals commonly used for reclamation of screens
Type of machine	• Automatic cleaning equipment commonly used in the industry sector
Ink, stencil and frame types	• Ink systems, stencil and frame types commonly used in the industry sector
Mesh type	• Screen meshes with a variety of thread counts, thicknesses, colours and weaves commonly used within the specific industry sector
Tension measurement techniques	• Tension measurement techniques commonly used with the specific industry sector
Degree of autonomy	• Working in consultation with others to previously defined procedures to ensure production requirements are met
Enterprise 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: • Reclaim screens using automatic cleaning equipment according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Maintain the equipment and reclaim THREE screens, with various grades of meshes and ink types using automatic equipment and according to manufacturer's and job specifications, enterprise procedures 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
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.

ICPSP215B   Prepare screen

Unit Descriptor   This unit describes the performance outcomes, skills and knowledge required to prepare screens.

Employability Skills   This unit contains employability skills.

Application of the Unit This unit requires the individual to prepare screens for screen printing.

Unit Sector   Screen Printing

ELEMENT		PERFORMANCE CRITERIA
1. Select the frame	1.1	Frame is selected according to job specifications
	1.2	Quality, type and finish of frame are specified
2. Prepare the frame	2.1	Frame surface is appropriately prepared free of imperfections to receive the mesh
	2.2	Tools and equipment used in frame preparation are suitable to achieve the standard indicated in job specifications
3. Select the mesh	3.1	Required mesh type is selected according to job specifications
	3.2	Imperfections and flaws are identified and appropriate remedial action is taken
	3.3	Mesh is measured and cut from bulk supply to meet screen specifications with minimum wastage
4. Stretch and fix mesh	4.1	Mesh is positioned in tensioning equipment at the correct angle according to job specifications
	4.2	Tension is set and applied according to job specifications
	4.3	Tension is checked according to manufacturer's / supplier's specifications
	4.4	Mesh is pre-stretched prior to fixing and mesh is fixed to frame according to frame construction requirements
	4.5	Chemicals are mixed for application according to manufacturer's specifications
	4.6	Screen is removed from apparatus after appropriate curing
5. Convert mesh	5.1	Chemicals are selected for the conversion of the mesh according to manufacturer's / supplier's specifications
	5.2	Chemicals are applied to effect conversion according to manufacturer's / supplier's specifications and to OHS requirements
6. Store screen	6.1	Screens are identified and labelled
	6.2	Screens are stored in a safe, clean and dry environment in subdued light

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 screens
- Collecting, analysing and organising information by checking mesh tension for conformance to job specifications
- Planning and organising activities by preparing the frame prior to using the mesh
- Teamwork when maintaining the production process in association with fellow workers
- Mathematical ideas and techniques by measuring and cutting mesh from bulk supplies
- Problem-solving skills by identifying flaws in the mesh and taking appropriate remedial action
- Use of technology by using the tools required to fix the mesh

Required knowledge:

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

Observing OHS standards

- Describe the personal protective equipment required when preparing frame surface, screen adhesive and chemical conversion and using equipment for the surface preparation.

Selecting and preparing the frame

- For what purpose is this frame used?
- What tools do you use for preparing the frame surface?
- Describe what to look for in order to achieve a good surface for mesh adhesion.

Choosing and stretching the mesh

- How did you choose this mesh type from the others?
- How much larger than the frame size is the mesh cut?
- Describe flaws or imperfections that may be found in screen mesh.

Measuring tension and fixing the mesh

- What position is the mesh placed before tensioning?
- Explain the methods of pre-stretching the mesh prior to securing it.
- How is tension measured?
- Describe the various methods of fixing mesh to frame.
- What pre-tensioning techniques do you use?

Converting and storing the screen

- Describe the methods of converting the screen mesh chemically.
- Describe the method of converting the screen mesh mechanically.
- What method do you use to identify the mesh on this screen?
- What are the ideal conditions for storing screens?

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.

Frame type	• Frame types commonly used within the industry relative to industry sectors
Type of mesh	• Screen mesh thread counts, thread thickness, colours and weaves commonly used in the industry sectors
Fixing method	• Fixing methods commonly used in the industry sector
Degree of autonomy	• Working to defined procedures in consultation with others to ensure production requirements are met
Tension measurement	• Different tension measurement techniques commonly used in the industry sector
Enterprise procedures	• Tasks must be performed according to workplace and OHS 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: • Correctly prepare screens for screen printing according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Select TWO different frames types, either fixed or microchase, stretch and fix mesh as appropriate and prepare screen for stencil application, according to manufacturer's and job specifications, enterprise procedures 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 both 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.

ICPSP221B   Prepare substrate

Unit Descriptor   This unit describes the performance outcomes, skills and knowledge required to prepare a wide range of substrates for screen printing. In some cases there may be an overlap with ICPCF221B Set up and produce basic guillotined product; if substrate preparation is substantially guillotining then ICPCF221B Set up and produce basic guillotined product should be used.

Employability Skills   This unit contains employability skills.

Application of the Unit   This unit requires the individual to prepare substrates for screen printing.

Unit Sector   Screen Printing

ELEMENT	PERFORMANCE CRITERIA
1. Select substrate	1.1 Substrates are selected according to job specifications
	1.2 Substrates selected are to be of suitable form and quality according to job specifications and the end use of the product
2. Process substrate	2.1 Processing of substrate is carried out according to job specifications
	2.2 Necessary preventive action is taken to avoid wastage and to ensure best yield with respect to grain direction and the type of substrate selected
	2.3 User maintenance requirements are identified and implemented according to manufacturer's / supplier's instructions
	2.4 Substrate is inspected and print capability assessed, including the need for any special preparation requirements
	2.5 Substrate is suitably pre-treated, where required
	2.6 Substrate is appropriately labelled according to job specifications
3. Store and handle substrate	3.1 Materials are safely handled according to manufacturer's / supplier's specifications
	3.2 Materials and substrate are appropriately handled and stored according to manufacturer's / supplier's specifications to prevent damage and hazards to personnel
	3.3 Offcuts of materials are disposed of according to regulatory requirements 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 implementing user maintenance requirements
- Collecting, analysing and organising information by inspecting substrates and assessing their print capacity
- Planning and organising activities by selecting substrate to ensure best yield according to job specifications
- Teamwork when maintaining the production process in association with fellow workers
- Mathematical ideas and techniques by appropriately storing materials and substrate
- Problem-solving skills by disposing of waste and offcuts according to enterprise procedures
- Use of technology by using basic tools to prepare substrates

Required knowledge:

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

Safe handling of processing equipment and tools

- What OHS concerns are there when preparing substrates?
- How do you determine safe practices for handling substrates and equipment?

Identification of chosen substrate

- Identify each of the chosen substrates.
- What is the final application of each of the substrates after printing?
- Why was this grade / thickness of substrate chosen?

Preparation and pre-treatment of substrate before printing

- How do you identify defects and irregularities of the substrate?
- What pre-treatment of the surface is required before printing?
- What tests should be undertaken to determine the suitability of the substrate for printing?

Ensuring the best yield from substrate sheet / roll to prevent wastage

- How was the cut determined to obtain the least wastage?

Processing substrate according to job specifications

- What are the equipment / tools you use for preparing substrate?
- How is the substrate prepared and the quality of preparation monitored?

Proper stacking and storage of processed substrate

- What handling and storage procedures are there to prevent damage to substrate prior to printing?
- Has preparation of substrate been carried out according to job specifications?

Proper disposal of offcuts and environmental implications

- What are the correct procedures for the disposal of offcuts of substrate?
- What environmental and conservation procedures should be carried out?

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 substrate	• Substrates commonly used within the industry relative to industry sectors
Conversion methods	• Variety of methods of converting substrate of a type commonly used in the industry relative to industry sectors
Degree of autonomy	• Performing work under supervision to defined procedures to ensure production requirements are met
Enterprise 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: • Correctly prepare substrates for screen printing according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Select and process TWO substrates commonly used within the industry sector according to manufacturer's and job specifications, enterprise procedures 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
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.

ICPSP222B	**Prepare and cut screen print substrate**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to inspect and cut substrate according to job specifications.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to inspect and cut substrate according to job specifications and end use of the product.
Unit Sector	Screen Printing

ELEMENT	PERFORMANCE CRITERIA
1. Prepare substrate	1.1 Substrates selected are of suitable quality according to job specifications and the end use of the product
	1.2 Substrate is inspected and print capability assessed, including the need for any special preparation requirements
	1.3 Necessary preventive action is taken to avoid wastage and to ensure best yield with respect to grain direction and the type of substrate selected
	1.4 Substrate is suitably pre-treated, where required
2. Cut substrate	2.1 Set-up is carried out correctly in minimum time with minimum wastage
	2.2 Grip and lay edges of sheet are identified
	2.3 Knives are checked for appropriate sharpness
	2.4 Cutting sticks are replaced when necessary
	2.5 Guillotine is manually set up and adjusted according to job specifications
	2.6 Clamping pressures are set up and adjusted according to job specifications
	2.7 Problems in cutting (guillotining) machine operation are identified and reported according to enterprise procedures
	2.8 Quality of cuts is checked to ensure quality standards are met

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 substrate quality standards
- Collecting, analysing and organising information by inspecting the substrate and its print capability, including the need for any special preparation requirements
- Planning and organising activities by taking necessary preventive action to avoid wastage and to ensure best yield with respect to grain direction and the type of substrate selected
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by setting clamping pressures and adjusting them according to job specifications
- Problem-solving skills by checking quality of cuts to ensure quality standards are met
- Use of technology by using guillotines and other equipment to prepare and cut screen print substrate

Required knowledge:

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

- Ability to read and understand job specifications
- Checking guillotine knives
- Guillotine set up and operation
- Safe guillotine handling and operation
- Proper stacking and storage of processed substrate

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.

Substrates	• Range of substrates in categories of paper, paperboard, corrugated board, plastics
Cut	• Single knife, manual guillotines

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: • Inspect and cut substrate according to job specifications • 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 • guillotine and associated 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.

ICPSP223B
Unit Descriptor

Prepare film for screen printing
This unit describes the performance outcomes, skills and knowledge required to prepare film for screen printing.

Employability Skills
This unit contains employability skills.

Application of the Unit
This unit requires the individual to calculate and produce films by camera and manual combining techniques according to job specifications.

Unit Sector
Screen Printing

ELEMENT	PERFORMANCE CRITERIA
1. Identify job requirements	1.1 Image specifications are checked according to job specifications and enterprise procedures
	1.2 Orientation is checked for conformance to job specifications
	1.3 The correct exposure is established according to job specifications
2. Perform calculations	2.1 Magnification size is calculated according to job specifications
	2.2 The correct design area with elements is drawn according to job specifications
	2.3 The correct amount of fluids is calculated
3. Prepare and operate equipment	3.1 The camera / enlarger is prepared to ensure the correct size and focus and exposure according to job specifications
	3.2 The correct film is selected and correctly exposed
	3.3 The processor is prepared to ensure correct volume, speed, temperature and replenishment
	3.4 The images are photographed and processed
	3.5 Images are checked for conformance to job specifications
	3.6 Images are retouched and register is checked according to quality requirements
4. Combine film	4.1 Opaquing techniques are used according to job specifications
	4.2 Films are combined by adding elements, masks, tints and stipples as required by design requirements
	4.3 The vacuum frame is prepared for contacting according to enterprise procedures
	4.4 Punch register systems are applied to accurately combine elements
	4.5 Finished film is produced according to the layout
	4.6 Finished film is checked for conformance 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 brief and identifying job specifications
- Collecting, analysing and organising information by drawing the correct design area to include elements according to job specifications
- Planning and organising activities by calculating the required magnification before operating the equipment
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by drawing the correct design area with elements according to job specifications
- Problem-solving skills by implementing required quality controls to ensure job specifications are met
- Use of technology by using the equipment necessary to prepare film for screen printing

Required knowledge:

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

Identify job requirements

- What tolerance is allowed for image thickness?
- What identifies the emulsion side of film?
- What will happen on the film with underexposure?

Perform calculations

- How is magnification derived?
- What starting point is used to determine element positions?
- How is the replenishment rate determined on a processor?

Prepare and operate equipment

- How is the correct exposure determined?
- How do films vary?
- Who determines processor standards?
- What safelight conditions are applicable?
- Give characteristics of acceptable line negatives.
- Name TWO standards of the vacuum frame so as to maintain quality.
- What would be the result of incorrect contact exposures?

Combine film

- Opaquing is carried out on which side of the film?
- What is the maximum number of films that can be combined?
- When is it advisable to use a punch register system?
- How many finished films can be produced?

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.

Image specifications	• Screen rulings, dot percentages and image thickness
Elements	• Text, headings, rules, components and shapes

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: • Produce films according to job specification and client standards • The individual must prepare film for TWO different jobs involving a variety of image effects, according to manufacturer's and job specifications, enterprise procedures 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 both 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.

ICPSP231B	**Prepare stencil using computer or hand-cut method**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to cut stencils by hand / or computerised equipment.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to cut stencils by hand / or by using computerised equipment.
Unit Sector	Screen Printing

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the screen	1.1 Screen is selected according to job specifications
	1.2 Required chemicals are applied and removed according to OHS requirements and manufacturer's / supplier's specifications for mesh preparation
	1.3 Tension of screen mesh is checked for suitability according to job specifications
2. Select stencil material	2.1 Stencil material is selected appropriate for the ink type to be used in printing
	2.2 Quality and size of stencil material are checked for conformance to job specifications and suitability of equipment used
3. Process material	3.1 Cutting instruments are selected according to job specifications
	3.2 In the case of computer cutting, equipment is set up and prepared according to manufacturer's / supplier's specifications
	3.3 In the case of computer cutting, stencil material is positioned in plotter according to manufacturer's / supplier's specifications
	3.4 Stencil is secured for cutting job
	3.5 Sequence of colours is identified according to job specifications
	3.6 Stencil material is cut and weeded according to manufacturer's / supplier's specifications in such a way as to avoid excessive waste
	3.7 Before mounting, work is checked for conformance to job specifications and appropriate action is taken
4. Fix stencil to screen	4.1 Stencil material and screen are placed in intimate contact ensuring accurate register position
	4.2 Mounting solution is selected and applied according to manufacturer's / supplier's specifications
	4.3 Prepared stencil / screen is dried and then backing sheet is removed

5.	Block out screen	5.1	Non-image areas of prepared screen are blocked out with filler suitable for ink type and according to job specifications
		5.2	Retouching of image is carried out if required
6.	Store screen	6.1	Prepared screen is labelled according to enterprise specifications
		6.2	Prepared screen is stored in a clean, dry environment according to manufacturer's / supplier's 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 correctly labelling the finished screen
- Collecting, analysing and organising information by preparing the screen according to job specifications
- Planning and organising activities by preparing the screen prior to processing the materials
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by correctly labelling the finished screens
- Problem-solving skills by retouching the image where required
- Use of technology by using hand / or computer driven cutting tools

Required knowledge:

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

Preparing the screen

- What is the mesh count and tension of the screen you have selected?
- What is the compatibility of ink to the chosen stencil type?
- Describe the preparation necessary for the screen to accept the stencil.

Selecting stencil material

- How do you ensure that stencil material is compatible with the ink?

Hand cutting or computer cutting stencil

- What OHS concerns are there when cutting stencils?
- What instrument and cutting methods are required to cut this stencil?
- What are the colour sequence and the size of trapping?
- Describe the manner of inputting data into the computer through scanning, digitising or by disk.
- Describe the positioning of stencil material into the cutter and the operation of the computer stations.
- Describe correct weeding and repairing techniques.

Fixing stencil to screen

- Describe the procedure for positioning the stencil in the correct location under the screen.
- Why is it necessary to have absolute and intimate contact between screen and stencil?
- Why have you selected this fixing solution?
- Describe the method chosen for adhering the stencil films to the mesh.
- Describe the method of drying the screen and removing the backing sheet.

Blocking and storing screen

- What determines the type of filler used for blocking out?
- Why do you spot pinholes and tape the screen?
- By what means is this screen able to be identified at a later date?

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.

Stencil material	• Different stencil materials commonly used relative to industry sector
Cutting equipment	• Manual and computer cutting equipment relative to industry sector
Stencil cutting method	• Hand-cut and computer cut methods
Degree of autonomy	• Working to defined procedures in consultation with other relevant persons to ensure production requirements are met
Enterprise 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: • Correctly cut stencils by hand / or by using computer driven equipment 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 hand-cut and two computer cut lacquer or water soluble stencils, mount the stencils on screens and prepare stencils for printing, according to manufacturer's and job specifications, enterprise procedures 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
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.

ICPSP233B	**Manually prepare direct emulsion stencil**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare direct emulsion stencils using manual techniques.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to prepare direct emulsion stencils using manual techniques.
Unit Sector	Screen Printing

ELEMENT	**PERFORMANCE CRITERIA**	
1. Prepare the work area and equipment	1.1	Work area is made clean and functional prior to the commencement of work
	1.2	All equipment is inspected to ensure it is functional and where necessary, appropriate remedial action is taken prior to the commencement of work
	1.3	Appropriate coating trough is selected ensuring it is free of nicks and burrs
2. Prepare the screen	2.1	Screen is selected according to job specifications
	2.2	Chemicals are applied and removed according to OHS requirements and manufacturer's / supplier's specifications
	2.3	Tension of screen mesh is checked for suitability according to job specifications
3. Select emulsion	3.1	Emulsion is selected according to requirements for ink type, print resolution, substrate, mesh type and machine type
	3.2	Emulsion is checked for expiry date and appropriate action taken
	3.3	Emulsion is prepared according to OHS requirements and manufacturer's / supplier's specifications
	3.4	Emulsion is applied and dried according to manufacturer's / supplier's specifications
4. Process coated screen	4.1	Image films are appropriately positioned onto prepared screen and positioned in cleaned / prepared / appropriate exposure device
	4.2	Light source is positioned according to manufacturer's / supplier's specifications
	4.3	Exposure is calculated and stencil exposed according to manufacturer's / supplier's specifications
	4.4	Exposed screen is removed from vacuum frame exposure device
	4.5	Exposed screen is washed out after positive removal according to OHS requirements and manufacturer's / supplier's specifications
	4.6	Processed stencil / screen is inspected for flaws and scum

5.	Dry stencil	5.1	Processed stencil is dried according to manufacturer's / supplier's specifications
		5.2	Backing sheet is carefully removed and stencil checked for full adhesion
6.	Block out screen	6.1	Backing sheet is carefully removed and stencil checked for full adhesion
		6.2	Stencil is inspected for flaws, scum and / orientation
		6.3	Pinholes are spotted out with suitable filler and taped according to ink type and job specifications
7.	Store screen	7.1	Prepared screen is labelled according to enterprise specifications
		7.2	Prepared screen is stored in a clean, dry environment according to manufacturer's / supplier's 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 labelling the completed screens
- Collecting, analysing and organising information by selecting correct emulsion according to job specifications
- Planning and organising activities by preparing the work area and equipment prior to coating the screens
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating required exposure time for the screen
- Problem-solving skills by inspecting stencil for flaws and spotting out pinholes
- Use of technology by processing the screen using photographic equipment

Required knowledge:

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

Preparation of screen for coating

- What is the significance of the mesh count?
- What effect does screen tension have on emulsion coating?
- How do you determine the emulsion suitable for the job?

Preparation of work area and equipment

- What is the significance of good housekeeping?
- What effect does the coating trough edge have on emulsion coating?

Selecting the right emulsions for the job

- Why have you chosen this emulsion?
- Why do you need to check the expiry date of emulsions?
- What is the maximum temperature at which the emulsion can be dried?

Coating and exposure techniques

- Why is it necessary to have good vacuum pressure in the vacuum frame?
- Why have you placed the light source in this position?
- What formula do you use to calculate exposure time?
- What are the effects of overexposure and underexposure?
- How do you determine the optimum exposure time?
- What effect on exposure does a white or coloured mesh have?
- How do you determine if the screen is washed out properly?
- When inspecting for flaws, what characteristics determine a good or bad stencil?

Drying screen and blocking out

- Why is the screen dried before blocking out?
- What determines the type of filler used for blocking out?
- Why do you spot pinholes and tape the screen?

Storage and OHS

- What are the OHS requirements for UV exposure light?

- By what means is this screen able to be identified at a later date?

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 stencil material	• Direct stencil materials commonly used relative to each industry sector
Coating techniques	• Manual coating techniques for various emulsions, mesh types and definition requirements
Degree of autonomy	• Working under supervision to defined procedures to ensure production requirements are met
Enterprise 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: • Correctly prepare direct emulsion stencils using manual techniques 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 direct screens using manual coating and exposure techniques according to manufacturer's and job specifications, enterprise procedures 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
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.

ICPSP235B   Prepare stencil using photographic indirect method

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare photographic indirect stencils.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to prepare photographic indirect stencils.

Unit Sector	Screen Printing

ELEMENT	**PERFORMANCE CRITERIA**	
1. Prepare the work area	1.1	Work area is made clean and functional prior to the commencement of work
	1.2	All equipment, tools and materials are inspected to ensure they are functional and where necessary, appropriate remedial action is taken prior to the commencement of work
	1.3	Activating chemicals are prepared according to OHS requirements and manufacturer's / supplier's specifications
2. Prepare the screen	2.1	Screen is selected according to job specifications
	2.2	Chemicals are applied and removed according to OHS requirements and manufacturer's / supplier's specifications
	2.3	Tension of screen mesh is checked for suitability according to job specifications
3. Select indirect stencil material	3.1	Stencil material is selected according to requirements for ink type, print resolution, substrate and machine type
	3.2	Stencil material is checked for faults and expiry date and suitable action taken
4. Process material	4.1	Selected material is cut to size according to job specifications with minimisation of waste
	4.2	Material is placed in vacuum frame with positive positioned and intimate vacuum achieved according to manufacturer's / supplier's and job specifications
	4.3	Exposure is calculated and stencil is exposed according to manufacturer's / supplier's specifications
	4.4	Light source is positioned according to manufacturer's / supplier's specifications
	4.5	Exposed stencil is removed from vacuum frame and treated with the necessary activator, if required, according to OHS requirements and manufacturer's / supplier's specifications
	4.6	Activated stencil is washed according to OHS requirements and manufacturer's / supplier's specifications
	4.7	Exposed stencil is inspected for processing flaws

5.	Apply stencil to screen	5.1	Prepared screen is re-wet and inspected for cleanliness and dust
		5.2	Stencil is positioned and adhered accurately according to manufacturer's / supplier's specifications
6.	Dry stencil	6.1	Processed stencil is dried according to manufacturer's / supplier's specifications
		6.2	Backing sheet is carefully removed and stencil checked for full adhesion
7.	Block out screen	7.1	Stencil is inspected for flaws, scum and / orientation
		7.2	Non-image areas of prepared screen are blocked out with filler suitable for ink type and according to job specifications
		7.3	Pinholes are spotted out with suitable filler and faulty / damaged images are retouched and are taped according to ink type and job specifications
8.	Store screen	8.1	Prepared screen is labelled according to enterprise specifications
		8.2	Prepared screen is stored in a clean, dry environment according to manufacturer's / supplier's 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 correctly labelling prepared stencils
- Collecting, analysing and organising information by checking materials for faults and expiry dates
- Planning and organising activities by preparing the screen prior to applying the stencil
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by cutting selected materials to size according to job specifications
- Problem-solving skills by retouching and taping damaged images
- Use of technology by using the vacuum frame and other equipment to prepare the stencil

Required knowledge:

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

Preparing the screen

- What is the significance of mesh count?
- Why must the screen be tensioned correctly?
- What chemicals are used for pre-treating and degreasing?

Equipment used and preparation of work area

- Describe the method of preparing activator to OHS standards.
- What is the significance of a dust-free work area when working with indirect stencils?
- Has the necessary equipment been inspected to ensure it is functional?

Indirect stencil material selection

- What are the characteristics of indirect stencils relative to ink type, print resolution and substrate?
- Why have you chosen indirect stencil material?
- What are the common faults associated with indirect film?

Exposing, activating and washing indirect stencils

- Why is it necessary to have good vacuum pressure prior to exposing the stencil?
- Why have you placed the light source in this position?
- How do you calculate exposure time for this indirect film?
- What are the effects of overexposure and underexposure?
- Describe the method of activating film.
- What is the temperature of the water for washing indirect stencils?
- How do you recognise and rectify flaws?

Applying stencil to screen and drying off

- What are the main considerations before applying the stencil to the screen?
- Describe the method of positioning and adhering stencil to screen.
- Describe the process of drying the stencil and removing the backing sheet.

Blocking out, spotting and storing the screen

- Describe how you rectify flaws and scum in the stencil.
- What determines the type of filler used for blocking out?
- Why are pinholes spotted and the screen taped?
- By what means is this screen able to be identified at a later date?

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 stencil materials	• Storage and use of indirect stencil materials and activators commonly used within the industry relative to industry sectors
Degree of autonomy	• Working under supervision to defined procedures to ensure production requirements are met
Enterprise 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: • Correctly prepare photographic indirect stencils 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 indirect screens using manual or mechanical techniques according to manufacturer's and job specifications, enterprise procedures 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
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.

ICPSP270B	Manually prepare and produce screen prints
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to manually prepare and produce screen prints.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to produce a print on a range of common substrates, using fundamental manual screening techniques. This unit is required for long print runs which therefore involve a production process.
Unit Sector	Screen Printing

ELEMENT	PERFORMANCE CRITERIA	
1. Identify job requirements	1.1	Material safety data sheets are used to identify safe chemical handling procedures
	1.2	Substrate is checked for conformance to job specifications with any irregularities reported and / or rectified
	1.3	Ink is checked for conformance to job specifications
	1.4	Stencil is checked for conformance to job specifications
2. Prepare machine to print	2.1	Substrate position and stencil registration are adjusted according to job specifications
	2.2	Ink is applied to the screen in the quantity required for the screen size
	2.3	Equipment is kept clean and spillage is minimised
3. Produce proof print	3.1	Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying / curing, artwork detail and other technical aspects according to job specifications
	3.2	Adjustments are made according to product and machine specifications
	3.3	Belt speed and energy required are set to achieve desired curing or drying properties
	3.4	Appropriate approval to commence production is sought prior to commencement
4. Run job and monitor print quality	4.1	Printing speed production is adjusted to maximise quality and output
	4.2	Print quality is continuously evaluated and adjusted as required
	4.3	Effects of ink alterations during run are monitored and any discrepancy is notified according to enterprise procedures
	4.4	Workplace documentation on job is completed as required
	4.5	Curing and drying are constantly monitored and adjusted according to manufacturer's/ supplier's and job specifications
5. Carry out routine user maintenance	5.1	Equipment is cleaned according to enterprise procedures
	5.2	Fault conditions are identified and reported according to enterprise procedures

6.	Stack production output	6.1	Output is checked for thorough drying / curing before stacking
		6.2	Job status and progress are checked for conformance to job specifications and any necessary action is taken
7.	Conduct shutdown of the production process	7.1	Material is transferred to correct destination in a safe manner
		7.2	Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's / supplier's specifications
		7.3	Waste materials and chemicals are disposed of according to manufacturer's / supplier's specifications, regulatory requirements and enterprise procedures
		7.4	Equipment and surrounding areas are cleaned according to manufacturer's / supplier's specifications
		7.5	Tools and equipment are identified, stored and maintained according to manufacturer's specifications to ensure ease of access and operator safety
		7.6	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 seeking appropriate approval to commence production prior to commencement
- Collecting, analysing and organising information by running off and checking the proof for various aspects according to the job specifications
- Planning and organising activities by continuously evaluating and adjusting print quality
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by making adjustments according to product and machine specifications
- Problem-solving skills by undertaking the correct procedure for dealing with spilt chemicals
- Use of technology by using manual screen printing equipment

Required knowledge:

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

Identify job requirements

- What information can be gained from material data safety sheets?
- Why is it necessary to check the substrate for conformance to the job specifications?
- What would you do if the ink did not comply with the job specifications?
- What compliance checks are made with the stencil?

Prepare machine to print

- What limitations do you have when setting the substrate position?
- What would be the result if too much ink were applied to the screen?
- Why is it necessary to keep equipment clean?

Produce proof print

- What OHS concerns are there when producing a manual print?
- What is checked on the printed sheet when the proof print has been run off?
- What determines the drying / curing system to be used for this application?
- Where do you obtain product and machine specifications?
- What would be the result if the belt speed was too high?
- Why is it necessary to obtain final approval before commencing the production run?

Run job and monitor print quality

- What aspects of the print are evaluated during printing?
- Why is it necessary to make ink alterations during the run?
- What happens to the workplace documentation when the print run is completed?
- What OHS concerns are there in relationship to drying / curing systems ?

Carry out routine maintenance

- What maintenance should be carried out on this machine?
- Why is it important to report any faulty equipment?

Stack production output

- How do you determine whether a print is dried / cured prior to stacking?
- What would be the result of stacking while the ink film is still wet?
- What action may be necessary if problems occur with job progress?

Conduct shutdown of the production process

- How do you identify the job's destination when you have completed the run?
- What would be the result of not keeping screens and squeegees clean?
- What would be the result of not following correct procedures when disposing of liquid waste?
- What would be the result of not keeping equipment and surrounding areas clean?

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.

Substrate	• Material or substance that will hold an image
Job specifications	• Job sheets, work tickets or processing orders
Drying / curing	• Manual drying systems commonly used in specific industry sections
Workplace documentation	• Enterprise procedural documents
Appropriate approval	• Client approval sought or enterprise approval from supervising personnel

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: • Set up screen printing machinery and produce a print that meets job specifications on a range of common substrates, using fundamental manual screening techniques • 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 of these. Off the job assessment must be undertaken in a closely replicated workplace environment • manual screen printing 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.

ICPSP271B
Unit Descriptor

Manually produce basic screen prints

This unit describes the performance outcomes, skills and knowledge required to manually produce one- or two-colour screen prints.

Employability Skills   This unit contains employability skills.

Application of the Unit   This unit is for the production of short runs that do not require a strong emphasis on production. For example it may be used in the production of limited art prints.

Unit Sector   Screen Printing

ELEMENT	PERFORMANCE CRITERIA
1. Load substrate	1.1 Substrate is checked for conformance to job specifications with any irregularities reported and / or rectified
	1.2 Substrate position and stencil registration are adjusted according to job specifications
2. Apply ink to screen	2.1 Ink is applied to the screen in the quantity required for the screen size
	2.2 Equipment is kept clean and spillage is minimised
	2.3 Ink is checked for conformance to job specifications
3. Produce proof print	3.1 Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying / curing, artwork detail and other technical aspects according to job specifications
	3.2 Adjustments are made as required
	3.3 Appropriate approval to commence production is sought prior to commencement
	3.4 Belt speed and energy required are set to achieve desired curing or drying properties
4. Run job and monitor print quality	4.1 Printing speed production is adjusted to maximise quality and output
	4.2 Print quality is continuously evaluated and adjusted as required
	4.3 Effects of ink alterations during run are monitored and any discrepancy is notified according to enterprise procedures
	4.4 Workplace documentation on job is completed as required
	4.5 Curing and drying are constantly monitored and adjusted according to manufacturer's / supplier's and job specifications
5. Carry out routine user maintenance	5.1 Equipment is cleaned according to enterprise procedures
	5.2 Fault conditions are identified and reported according to enterprise procedures
6. Stack production output	6.1 Output is checked for thorough drying / curing before stacking
	6.2 Job status and progress are checked for conformance to job specifications and any necessary action is taken

7. Finish operation	7.1	Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's / supplier's specifications
	7.2	Waste materials are disposed of according to manufacturer's / supplier's specifications, regulatory requirements and enterprise procedures
	7.3	Equipment and surrounding areas are cleaned according to manufacturer's / supplier's 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 seeking approval for a production run after a proof is produced
- Collecting, analysing and organising information by completing workplace documentation
- Planning and organising activities by producing a proof print prior to doing the job run
- Teamwork when maintaining the production process in association with colleagues
- Mathematical ideas and techniques by applying the correct quantity of ink to the screen
- Problem-solving skills by checking proof for conformance to job specifications and making required adjustments
- Use of technology by using the various equipment and tools required

Required knowledge:

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

Positioning and registering screen

- Describe the procedure for setting up the frame in position relative to the print image and base board in preparation for printing.

Ink systems

- How do you check the ink to determine its suitability for printing on this substrate?

Substrate

- Why is it necessary to check the substrate for conformance to job specifications?

Printing techniques

- What OHS concerns are there when producing a manual print?
- What is checked on the printed sheet when the proof print has been run off?
- What aspects of the print are evaluated during printing?

Drying / curing systems

- What determines the drying / curing system to be used for this application?

Equipment maintenance

- What maintenance should be carried out on this machine?
- What is the correct method of ink removal and cleaning squeegees?

Stacking procedures

- How do you determine whether a print is dried / cured prior to stacking?

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 techniques	• Basic manual techniques relative to industry sector
Drying / curing units	• Manual drying systems commonly used in specific industry sectors
Complexity	• One- or two-colour jobs
Degree of autonomy	• Working under supervision to previously defined procedures to ensure production requirements are met
Enterprise 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: • Manually produce different one- or two-colour print runs according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Manually produce TWO different one- or two-colour print runs according to manufacturer's and job specifications, enterprise procedures 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

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:

- ICPSU202B Prepare, load and unload product on and off machine
- ICPSP351B Prepare machine and drying / curing unit

ICPSP273B	Semi-automatically produce basic screen prints

Unit Descriptor   This unit describes the performance outcomes, skills and knowledge required to produce one- or two-colour semi-automatic screen prints.

Employability Skills   This unit contains employability skills.

Application of the Unit   This unit requires the individual to produce screen prints using one- or two-colour semi-automatic machines.

Unit Sector   Screen Printing

ELEMENT	PERFORMANCE CRITERIA
1. Load substrate	1.1 Substrate is checked for conformance to job specifications with any irregularities reported and / or rectified
	1.2 Substrate position and stencil registration are adjusted according to job specifications
2. Apply ink to screen	2.1 Ink is applied to the screen in the quantity required for the screen size
	2.2 Equipment is kept clean and spillage is minimised
	2.3 Colour is mixed and ink is checked for conformance to job specifications
3. Produce proof print	3.1 Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying / curing, artwork detail and other technical aspects according to job specifications
	3.2 Adjustments are made as required
	3.3 Appropriate approval to commence production is sought prior to commencement
	3.4 Belt speed and energy required are set to achieve desired properties and then printing speeds are adjusted to suit
4. Run job and monitor print quality	4.1 Printing speed production is adjusted to maximise quality and output
	4.2 Print quality is continuously evaluated and adjusted as required
	4.3 Effects of ink alterations during run are monitored and appropriate action taken according to manufacturer's / supplier's and job specifications
	4.4 Workplace documentation on job is completed as required
	4.5 Curing and drying are constantly monitored and adjusted according to manufacturer's / supplier's and job specifications
5. Carry out routine user maintenance	5.1 Equipment is cleaned according to manufacturer's / supplier's specifications
	5.2 Fault conditions are identified and reported according to enterprise procedures

6.	Stack production output	6.1	Output is checked for thorough drying / curing before stacking
		6.2	Job status and progress are checked for conformance to job specifications and any necessary action is taken
7.	Shut down machine	7.1	Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's / supplier's specifications
		7.2	Waste materials are disposed of according to manufacturer's / supplier's specifications, regulatory requirements and enterprise procedures
		7.3	Equipment and surrounding areas are cleaned according to manufacturer's / supplier's 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 obtaining approval to commence a production run
- Collecting, analysing and organising information by checking the substrate for conformance to the job specifications
- Planning and organising activities by producing a proof print prior to running a job
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by setting the belt speed and required energy
- Problem-solving skills by continuously evaluating and adjusting print quality
- Use of technology by using semi-automatic and computerised machines to produce screen prints

Required knowledge:

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

Identifying and setting of substrate

- Identify the substrate, finished size, length of run and / order of colours.
- Why are you using this particular colour sequence?
- What is the correct placement of image on the sheet?

Positioning substrate and screen frame

- What is the significance of substrate guides / lays?
- Describe the procedure for setting up the frame position relative to the print image and base in preparation for printing.

Solvent and ink systems for selected substrate

- Why did you select this ink system?

Drying and curing systems

- Why are belt speed and head units set to these parameters?

Proofing and running the job and monitoring print quality

- What OHS concerns are there when using a semi-automatic machine?
- Why do you use that type of squeegee / flood coater and squeegee angle?
- Why have you produced a proof print and what needs to be checked on the proof?
- Why are print quality and drying / curing of ink continuously monitored?
- What is the purpose of workplace documentation?

Stacking production output

- How do you check printed sheets for drying / curing before stacking?

Housekeeping and maintenance

- What procedure do you take for disposing of unused ink and solvent rags?
- How do you determine that prints are dried / cured?

- Describe frequency and type of maintenance that should be performed.

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.

Types of machine	• Semi-automatic and computerised machines relative to the industry sector
Drying / curing units	• Manual drying racks, mechanical dryers or UV curing units
Complexity	• One- or two-colour jobs
Degree of autonomy	• Working under supervision to previously defined procedures to ensure production requirements are met
Enterprise 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: • Correctly produce screen prints using semi-automatic machines according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Produce TWO different one- or two-colour print runs using a semi-automatic machine according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • Demonstrate use of computerised control, monitoring and data entry systems if available and appropriate
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: • ICPSU202B Prepare, load and unload product on and off machine • ICPSU208B Operate and monitor machines (basic) • ICPSP351B Prepare machine and drying / curing unit • any basic set up units.

ICPSP275B **Unit Descriptor**	**Automatically produce basic screen prints**
	This unit describes the performance outcomes, skills and knowledge required to produce one- or two-colour automatic screen prints.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to produce screen prints using one- or two-colour automatic machines.
Unit Sector	Screen Printing

ELEMENT	**PERFORMANCE CRITERIA**
1. Load substrate	1.1 Substrate is checked for conformance to job specifications with any irregularities reported and / or rectified
	1.2 Substrate position and stencil registration are adjusted according to job specifications
2. Apply ink to screen	2.1 Ink is applied to the screen in the quantity required for the screen size
	2.2 Equipment is kept clean and spillage is minimised
	2.3 Ink is checked for conformance to job specifications
	2.4 Feeder is set and adjusted to suit substrate
3. Produce proof print	3.1 Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying / curing, artwork detail and other technical aspects according to job specifications
	3.2 Adjustments are made as required
	3.3 Appropriate approval to commence production is sought prior to commencement
	3.4 Belt speed and energy required are set to achieve desired properties and then printing speeds are adjusted to suit
4. Run job and monitor print quality	4.1 Printing speed production is adjusted to maximise quality and output
	4.2 Print quality and sheet feeder are continuously evaluated and adjusted as required
	4.3 Effects of ink alterations during run are monitored and appropriate action taken according to manufacturer's / supplier's and job specifications
	4.4 Workplace documentation on job is completed as required
	4.5 Curing and drying are constantly monitored and adjusted according to manufacturer's / supplier's and job specifications
5. Carry out routine user maintenance	5.1 Equipment is cleaned according to manufacturer's / supplier's specifications
	5.2 Fault conditions are identified, reported and / or rectified according to enterprise procedures

6. Handle production output	6.1	Output is checked for thorough drying / curing before handling
	6.2	Job status and progress are checked for conformance to job specifications and any necessary action is taken
7. Shut down machine	7.1	Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's / supplier's specifications
	7.2	Waste materials are disposed of according to manufacturer's / supplier's specifications, regulatory requirements and enterprise procedures
	7.3	Equipment and surrounding areas are cleaned according to manufacturer's / supplier's 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 gaining approval to commence a production run
- Collecting, analysing and organising information by checking job status and progress according to job specifications
- Planning and organising activities by following machine shutdown procedures
- Teamwork when completing workplace documentation
- Mathematical ideas and techniques by adjusting print speed to maximise quality
- Problem-solving skills by monitoring and responding to the effect of ink alterations
- Use of technology by operating automatic and computerised screen printing machines

Required knowledge:

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

Preparing for printing and machine / feeder user maintenance

- What adjustments are necessary to the machine prior to setting up?
- What maintenance is required on the machine and feeder prior to the commencement of printing?
- How do you determine which substrate is to be used on this job?
- What procedure do you use for checking the screen sequence of colours, ink, substrate and squeegee / flood coater prior to printing?

Adjusting the feeder system to suit substrate

- Describe the system for setting the feed board and loading substrate.
- Why is it necessary to prepare substrate or item when loading the feeder?
- Describe how to adjust the stock feed system for this machine.

Positioning and registering the screen and setting up the machine

- Describe how the frame is correctly positioned, registered and the screen locked into position.
- How is the on / off contact / peel-off requirements of the frame adjusted?

Maintenance and adjusting the drying / curing unit

- What are the OHS requirements when working with infra red / UV curing units?
- What is the relationship between ink deposit, squeegee speed and belt speed / temperature of the drying / curing unit?
- Describe the routine maintenance you undertake on this drying / curing unit.

Proofing and running the job and monitoring print quality

- What OHS concerns are there when using an automatic machine?
- What is the effect of humidity on the substrate?
- How do you determine the correct viscosity of the ink prior to printing?
- How do you rectify the thickening of the ink during the print run?
- How do you evaluate and maintain the print quality during printing?
- What is the ideal printing rate for this substrate on this machine?

Checking and handling production output

- How is production output handled to prevent offsetting of the ink?
- What effect do the ink conditions have on output capacity?
- Why is it necessary to determine the exact count and to record production details on the job sheet?

Post-production cleaning and routine maintenance

- What are the health hazards associated with ink / solvents?
- What is the correct procedure for removing the ink without damaging the screen?
- What is the correct method of cleaning squeegees / flood coaters, machine and surrounding area?
- What maintenance is required on this machine after printing?

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.

Types of machine	• Automatic and computerised screen printing machines relative to the industry sector
Drying / curing units	• Various drying systems commonly used in the industry relative to the industry sector
Complexity	• One- or two-colour jobs
Degree of autonomy	• Working in consultation with other relevant persons to define procedures to ensure production requirements are met
Enterprise 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: • Correctly produce screen prints using automatic machines according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Produce TWO different one- or two-colour print runs using an automatic machine according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • Demonstrate use of computerised control, monitoring and data entry systems if available and appropriate
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: • ICPSU202B Prepare, load and unload product on and off machine • ICPSU208B Operate and monitor machines (basic) • ICPSP351B Prepare machine and drying / curing unit • any basic set up unit.

ICPSP281B

Unit Descriptor

Finish screen print products

This unit describes the performance outcomes, skills and knowledge required to undertake finishing processes used on screen printed products not covered by Converting, Binding and Finishing units. If the finishing is substantially guillotining, flat-bed cutting or folding, the relevant Converting, Binding and Finishing units should be used.

Employability Skills   This unit contains employability skills.

Application of the Unit   This unit requires the individual to finish screen print products.

Unit Sector   Screen Printing

ELEMENT	PERFORMANCE CRITERIA
1. Receive printed product	1.1 Screen print job is collected / received and quality checks made according to job specifications
	1.2 Defects or irregularities are identified, reported and / or rectified
2. Carry out final processing	2.1 Final processing requirements of the job are determined from job specifications
	2.2 Equipment and materials for final processing are identified and prepared according to manufacturer's / supplier's and job specifications
	2.3 Final processes are implemented according to job specifications and industry practice
	2.4 Quality of product is monitored and maintained throughout final processing
	2.5 Irregularities are identified, reported and / or rectified
	2.6 Job status and progress are checked for conformance to job specifications and any necessary action is taken
3. Handle final product	3.1 The final print is processed using appropriate handling, storage and dispatching techniques to ensure minimal wastage and prevent hazards to personnel
	3.2 Waste materials are disposed of according to manufacturer's / supplier's specifications, regulatory requirements and enterprise procedures
	3.3 Post-production cleaning and user maintenance are carried out according to manufacturer's / supplier's specifications
4. Store, pack and dispatch	4.1 Final quality checks are carried out and appropriate action taken according to job specifications
	4.2 Finished job is stored, packed and dispatched 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 reporting defects or irregularities
- Collecting, analysing and organising information by determining final processing requirements from job specifications
- Planning and organising activities by disposing of waste products according to workplace and community standards
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by preparing equipment and materials according to job specifications
- Problem-solving skills by identifying and rectifying faults in screen print jobs
- Use of technology by using the various equipment and machinery required to finish screen print products

Required knowledge:

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

Quality checking for defects and irregularities

- What techniques are used to determine defects and irregularities?
- How are defects rectified?
- What are the features of a quality screen printed job?

Equipment and materials for final processing

- What OHS concerns are there when finishing print jobs?
- What are the equipment, tools and materials you use for final processing?
- What are the final processing requirements for the job?

Processing to job specifications

- What finishing processes are being used on this job?
- What are the final processes indicated in the job specifications?
- How is the quality of the finished product monitored and maintained throughout final processing?

Handling and storage

- What safety requirements are there when handling printed product?
- What the handling techniques are used to prevent damage to the processed product?

Disposal of waste material

- What are the correct methods for disposing of waste material?

Housekeeping and equipment / tools maintenance

- What post-production cleaning methods are used?
- Name the type and frequency of maintenance that should be performed on equipment.

Final quality checking and dispatching

- What are the final quality checking methods you are using?
- What method do you use for maintaining and recording job information?
- In what way is the final product packed and stored?

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.

Types of finishing process	• Finishing processes commonly used in screen printing EXCLUDING guillotining, flat-bed cutting and folding covered in separate Converting Binding and Finishing units
Degree of autonomy	• Work is performed under supervision to defined procedures to ensure production requirements are met
Enterprise 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: • Correctly finalise screen print products according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Finish TWO different screen printed jobs and apply final processing requirements according to manufacturer's and job specifications, enterprise procedures 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

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:
	• any basic set up unit.

ICPSP311B

Unit Descriptor

Reclaim screen manually

This unit describes the performance outcomes, skills and knowledge required to manually reclaim screens.

Employability Skills   This unit contains employability skills.

Application of the Unit   This unit requires the individual to manually reclaim screens.

Unit Sector   Screen Printing

ELEMENT	PERFORMANCE CRITERIA
1. Select and prepare chemicals	1.1 Ink and stencil type are correctly identified and screen is assessed for suitability to be reclaimed 1.2 Most appropriate reclamation method is chosen for the job 1.3 Screen reclamation chemicals are selected and prepared according to manufacturer's / supplier's specifications 1.4 Appropriate safety gear is selected and worn according to manufacturer's / supplier's specifications and OHS requirements
2. Wash screen	2.1 Stencil is treated with appropriate chemical to manufacturer's specifications 2.2 Screens are washed using a pressure gun in a suitably ventilated area with the required extraction system 2.3 Stains and hazes are removed using appropriate chemicals according to manufacturer's / supplier's specifications and OHS requirements 2.4 Screens are checked for damage and any defects are reported and / or rectified according to enterprise procedures
3. Store screen	3.1 Screens are correctly identified and labelled 3.2 Screens are stored in a clean, dry environment according to manufacturer's / supplier's 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 correctly identifying and labelling screens
- Collecting, analysing and organising information by correctly identifying ink and stencil type
- Planning and organising activities by selecting and preparing chemicals and solvents before washing and storing screens
- Teamwork when maintaining the production process in association with fellow workers
- Mathematical ideas and techniques by preparing the reclamation chemicals
- Problem-solving skills by rectifying damage to screens according to enterprise procedures
- Use of technology by using a pressure gun with associated safety equipment

Required knowledge:

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

Mesh counts

- What is the significance of mesh count?
- How should you treat screens with different mesh counts?

Mesh and frame faults

- What are the THREE common faults that could occur in meshes and frames?

Ink / stencil types

- Describe the ink removal procedures for THREE different inks.
- What are the stencil removal procedures for TWO stencil types?

Chemical selection and preparation

- What chemicals are available for screen reclamation?
- Why have you selected the chemicals and method you are using?

Chemical handling and disposal

- What are the main considerations when handling and disposing of chemicals?

Reclamation techniques

- What other screen reclamation techniques are available in the industry?
- Why have you selected the particular technique you are using?

OHS constraints

- Name THREE hazards to be aware of in reclaiming screens.
- What are the enterprise material handling policies?
- What are the enterprise policies on management of waste?
- Name any personal protective clothing that may need to be worn when reclaiming screens.

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.

Chemical type	• Chemicals and solvents commonly used for the reclamation of screens
Ink, stencil and frame types	• Ink systems, stencil and frame types in common use in specific industry sectors
Mesh type	• All types of mesh material, thread counts, thicknesses, colours and weaves used in specific industry sectors
Tension measurement techniques	• Various different tension measurement techniques in common use in specific industry sectors
Degree of autonomy	• Working under supervision to previously defined procedures to ensure production requirements are met
Enterprise procedures	• Tasks must be performed according to enterprise procedures and OHS requirements
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: • Reclaim screens, preferably of different mesh and stencil types commonly used in the industry, using manual techniques, according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Reclaim THREE screens, preferably of different mesh and stencil types commonly used in the workplace, using manual techniques, according to manufacturer's and job specifications, enterprise procedures 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
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.

ICPSP333B
Unit Descriptor

Automatically prepare direct emulsion stencil

This unit describes the performance outcomes, skills and knowledge required to prepare direct emulsion stencils using automatic coating equipment.

Employability Skills   This unit contains employability skills.

Application of the Unit   This unit requires the individual to prepare direct emulsion stencils using automatic coating equipment.

Unit Sector   Screen Printing

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the work area and equipment	1.1 Work area is made clean and functional prior to the commencement of work
	1.2 All equipment is inspected to ensure it is functional and where necessary, appropriate remedial action is taken prior to the commencement of work
	1.3 Appropriate coating troughs for automatic coaters are selected ensuring they are free of nicks and burrs
	1.4 Automatic coating equipment is inspected and routine user maintenance is carried out according to manufacturer's instructions and enterprise procedures
	1.5 Automatic coating equipment is adjusted to suit screen frame and mesh and emulsion
2. Prepare the screen	2.1 Screen is selected according to job specifications
	2.2 Chemicals are applied and removed according to OHS requirements and manufacturer's / supplier's specifications
	2.3 Tension of screen mesh is checked for suitability according to job specifications
3. Select emulsion	3.1 Emulsion is selected according to requirements for ink type, print resolution, substrate, mesh type and machine type
	3.2 Emulsion is checked for expiry date and appropriate action taken
	3.3 Emulsion is prepared according to OHS requirements, and manufacturer's / supplier's specifications
	3.4 Emulsion is used and dried according to manufacturer's / supplier's specifications

4.	Process coated screen	4.1	Coated screen frame is placed in vacuum frame and adequately vacuumed with positive positioned according to manufacturer's / supplier's specifications
		4.2	Light source is positioned according to manufacturer's / supplier's specifications
		4.3	Exposure is calculated and stencil exposed according to manufacturer's / supplier's specifications
		4.4	Exposed screen is removed from vacuum frame
		4.5	Exposed screen is washed out after positive removal according to OHS requirements and manufacturer's / supplier's specifications
		4.6	Processed stencil / screen is inspected for flaws
5.	Store screen	5.1	Prepared screen is labelled according to enterprise specifications
		5.2	Prepared screen is stored in a clean, dry environment according to manufacturer's / supplier's 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 correctly labelling prepared stencils
- Collecting, analysing and organising information by selecting the correct emulsion according to job specifications
- Planning and organising activities by ensuring functionality of equipment prior to starting work
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by calculating required exposure time for emulsion
- Problem-solving skills by inspecting automatic coating machine and conducting maintenance
- Use of technology by using automatic coating machines

Required knowledge:

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

Preparation of screen for coating

- What influence does mesh count have on final printed product?
- Why is it necessary to have the correct tension on the screen?
- How do you determine what screen tension is required on screens of various mesh counts and grades?
- What degreasing / cleaning techniques are employed prior to coating the screen?

Preparation of work area and equipment maintenance

- What information is contained in MSDSs for the emulsion being used?
- What are the OHS requirements for exposure to UV light sources?
- What pollution and environmental issues need to be considered when working with emulsions?
- What maintenance is required for the automatic coating machine?

Selecting the correct emulsion

- Name TWO emulsions used in screen printing and describe their characteristics, their shelf life and areas of use.
- What are the storage requirements for the emulsion you are using?
- What is the preparation formula for the emulsion you are using?
- Why is it necessary to have the correct illumination in the work area?

Coating and drying the screen

- What influence does the length of run and ink or dye being used have on the coating technique?
- How do you determine the number of coats of emulsion and the best method of coating the screen?
- What factors are taken into consideration in determining the angle at which the coaters coat the screen?
- What is the appropriate position (horizontal or vertical) for drying the screen?
- Describe what effect each of these positions has on the way the emulsion dries.

- What is the effect of heat on the emulsion during the drying process?

Exposing, washing and drying the screen

- Describe the function and use of a light integrator.
- Describe the procedure for exposing the stencil.
- What effect do the position, angle and distance of the light source have on the exposure process?
- Why is it necessary to have perfect contact between positive and screen during exposure?
- What effect do temperature, pressure and time taken have on the washing out process?
- How do you determine when wash-out is complete?
- What is the ideal position of the screen for drying to prevent scum and streaking?
- What does post-curing do to the stencil?

Blocking out and storing the screen

- What information have you obtained from the MSDS for this particular blockout?
- Why do the ink to be used and the type of stencil have a bearing on the type of blockout?
- What preventive measures can be taken to minimise pinholes?
- Why is it necessary to tape the edge of the frame and the squeegee edge?
- By what means is this screen able to be identified at a later date?

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 stencil materials	• Direct stencil materials commonly used relative to the industry sector
Types of machines	• Automatic coating equipment commonly used in the screen printing sector
Coating techniques	• Appropriate automatic coating techniques for various emulsions, mesh types and definition requirements
Degree of autonomy	• Working to defined procedures and in consultation with other relevant persons to ensure production requirements are met

Enterprise 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: • Correctly prepare direct emulsion stencils using automatic coating equipment 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 direct screens using automatic coating equipment, and expose, wash and dry the screen according to manufacturer's and job specifications, enterprise procedures 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
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.

ICPSP337B

Prepare stencil using photographic capillary method

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to prepare photographic capillary stencils.

Employability Skills

This unit contains employability skills.

Application of the Unit

This unit requires the individual to prepare photographic capillary stencils.

Unit Sector

Screen Printing

ELEMENT	PERFORMANCE CRITERIA	
1. Prepare the work area	1.1	Work area is made clean and functional prior to the commencement of work
	1.2	All equipment, tools and materials are inspected to ensure they are functional and where necessary, appropriate remedial action is taken prior to the commencement of work
	1.3	Chemicals are prepared, if necessary, according to OHS requirements and manufacturer's / supplier's specifications
2. Prepare the screen	2.1	Screen is selected according to job specifications
	2.2	Chemicals are applied and removed according to OHS requirements and manufacturer's / supplier's specifications
3. Select and process capillary film	3.1	Capillary film is selected according to requirements for ink type, print resolution, substrate and machine type with minimisation of waste
	3.2	Capillary film is cut to size according to OHS requirements and manufacturer's / supplier's specifications with minimisation of waste
	3.3	Capillary film is mounted on screen according to manufacturer's / supplier's specifications
	3.4	Screen is dried according to manufacturer's / supplier's specifications and enterprise procedures
	3.5	Backing sheet is removed according to manufacturer's / supplier's specifications

4.	Process material	4.1	Screen is placed in vacuum frame with positive positioned according to manufacturer's / supplier's specifications and job specifications
		4.2	Exposure is calculated and stencil exposed according to manufacturer's / supplier's specifications
		4.3	Light source is positioned according to manufacturer's / supplier's specifications
		4.4	Exposed screen is removed from vacuum frame according to OHS requirements and manufacturer's / supplier's specifications
		4.5	Exposed screen is washed out according to OHS requirements and manufacturer's / supplier's specifications
5.	Dry stencil	5.1	Processed stencil is dried according to manufacturer's / supplier's specifications
		5.2	Backing sheet is carefully removed and stencil checked for full adhesion
6.	Block out screen	6.1	Stencil is inspected for flaws, scum and / orientation
		6.2	Non-image areas of prepared screen are blocked out with filler suitable for ink type and according to job specifications
		6.3	Pinholes are spotted out with suitable filler and faulty / damaged images are retouched and taped according to ink type and job specifications
7.	Store screen	7.1	Prepared screen is labelled according to enterprise specifications
		7.2	Prepared screen is stored in a clean, dry environment according to manufacturer's / supplier's 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 labelling prepared screens
- Collecting, analysing and organising information by selecting the appropriate capillary fill-in according to job specifications
- Planning and organising activities by positioning light source prior to exposing the screen
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by cutting capillary fill-in to size according to job specifications
- Problem-solving skills by retouching and taping damaged images
- Use of technology by using the vacuum frame and other equipment to prepare the stencil

Required knowledge:

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

Preparing work area, the screen and routine maintenance

- What are the health hazards and what safe working procedures should be in place when degreasing screens?
- What is the significance of mesh count?
- Why is it necessary to have the correct tension on the screen?
- How do you determine the best screen mesh count for the application of a capillary stencil?
- What chemicals are used for degreasing screens?
- What maintenance procedures are there in place for equipment in the stencil preparation area?

Selecting film

- What are the peculiarities of photographic capillary stencils?
- What determines the type of capillary film to be used?
- What pollution and environmental concerns are addressed when working with capillary films?

Mounting capillary to screen manually / by machine

- What wetting agents are used to facilitate the application of the film to the screen?
- What problems are caused by dust on the surface of the mesh?
- How do you determine the position of film on the screen?
- What problems can occur from poor or incorrect mounting techniques?
- How do you rectify problems associated with mounting capillary film?

Processing the stencil

- What OHS concerns are there when exposing stencils?
- What is the correct drying distance and drying time?
- What are the effects of incorrect drying temperature?
- What factors indicate that drying is complete?

- Why is it necessary to dry film under safelight conditions?
- When and how is the backing sheet removed?
- Describe the function and use of a light integrator.
- What effect do the position, angle and distance of the light source have on the exposure process?
- What effect do temperature, pressure and time taken have on the washing out process?

Drying and blocking out

- Why is it important to blot up excess water from the stencil to prevent scum and streaking?
- How do you determine when drying is complete?
- Why do the ink to be used and the type of stencil have a bearing on the type of blockout?
- What preventive measures can be taken to prevent pinholes?
- Why is it necessary to tape the edge of the frame?

Storage and post-processing maintenance

- By what means is the screen able to be identified at a later date?
- What maintenance should be carried out on exposing, washing and drying 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.

Type of stencil material	• Capillary stencil materials commonly used relative to the industry sector
Degree of autonomy	• Working to defined procedures and in consultation with others to ensure production requirements are met
Enterprise 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: • Correctly prepare photographic capillary stencils 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 screens by applying a capillary stencil and exposing, washing, drying and blocking out according to manufacturer's and job specifications, enterprise procedures 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
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: • any basic set up units.

ICPSP339B	Prepare stencil using direct projection method
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare direct projection stencils.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to correctly prepare direct projection stencils.
Unit Sector	Screen Printing

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the work area	1.1 Work area is made clean and functional prior to the commencement of work
	1.2 All equipment, tools and materials are inspected to ensure they are functional and where necessary, appropriate remedial action is taken prior to the commencement of work
	1.3 Chemicals are prepared according to OHS requirements and manufacturer's / supplier's specifications
	1.4 Appropriate coating trough (or troughs for automatic coaters) is selected ensuring they are free of nicks and burrs
2. Prepare the screen	2.1 Screen is selected according to job specifications
	2.2 Chemicals are applied and removed according to OHS requirements and manufacturer's / supplier's specifications
3. Select emulsion	3.1 Emulsion is selected according to requirements for ink type, print resolution, substrate, mesh type and machine type with minimisation of waste
	3.2 Emulsion is checked for expiry date and appropriate action taken
	3.3 Emulsion is prepared according to OHS requirements, and manufacturer's / supplier's specifications
	3.4 Emulsion is used and dried according to manufacturer's / supplier's specifications

4. Process material	4.1	Coated screen is positioned on projection frame holder according to manufacturer's / supplier's specifications
	4.2	Projection light source equipment is positioned according to manufacturer's / supplier's specifications
	4.3	The positive is positioned into the projection light source which is then set up to desired enlargement according to manufacturer's / supplier's specifications
	4.4	Exposed screen is removed from positioning frame according to OHS requirements and manufacturer's / supplier's specifications
	4.5	Exposed screen is washed out according to OHS requirements and manufacturer's / supplier's specifications
	4.6	Processed stencil / screen is inspected for processing flaws
5. Dry stencil	5.1	Processed stencil is dried according to manufacturer's / supplier's specifications
	5.2	Backing sheet is carefully removed and stencil checked for full adhesion
6. Block out screen	6.1	Non-image areas of prepared screen are blocked out with filler suitable for ink type and according to job specifications
	6.2	Stencil is inspected for flaws, scum and / orientation
	6.3	Pinholes are spotted out with suitable filler and taped according to ink type and job specifications
7. Store screen	7.1	Prepared screen is labelled according to enterprise specifications
	7.2	Prepared screen is stored in a clean, dry environment according to manufacturer's / supplier's 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 labelling prepared screens
- Collecting, analysing and organising information by drying and using emulsion according to supplier's instructions
- Planning and organising activities by preparing the emulsion prior to processing the material
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by correctly preparing chemicals
- Problem-solving skills by blocking out non-image areas of the screen and spotting out pinholes
- Use of technology by using various items of equipment to prepare direct projection stencils

Required knowledge:

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

Preparation of the screen for coating

- What influence does mesh count have on final printed product?
- Why is it necessary to have a correctly tensioned screen?
- How do you determine what screen tension is required on screens of various mesh count or grades?
- What degreasing / cleaning techniques are employed prior to coating the screen?

Preparation of the work area and equipment maintenance

- What information is contained in MSDSs for the emulsion?
- What pollution and environmental issues need to be considered when working with emulsions?
- What maintenance is required on the direct projection camera?
- Why is it necessary to work in a safelight area when using the direct projection method?

Selecting the correct emulsion

- What kinds of high sensitivity emulsion are available and state their characteristics, lifespans and areas of use?
- What is the preparation method for the emulsion you are using?

Coating and drying the screen

- What influence do the length of run and ink being used have on the coating technique?
- How do you determine the number of coats of emulsion and the best method of coating the screen?
- What is the best position (horizontal or vertical) for drying the screen?
- What is the effect of heat on the emulsion during the drying process?

Operating the direct projection camera and exposing the screen

- What OHS concerns are there when exposing the screen?
- What are the operating features of the direct projection camera?

- How do you set the enlargement factor and take into account registration on the frame for the appropriate printing machine?
- What exposure techniques are used and how do you calculate exposure time?
- What are the exposure procedures?

Washing and drying the screen

- What is the effect of temperature, pressure and period of washing on the emulsion?
- How do you determine when washing out is complete?
- What is the ideal position of the screen for drying to prevent scum and streaking?
- What does post-curing do to the stencil?

Blocking out and storing the screen and maintenance of equipment

- What information have you obtained from the MSDSs for this particular blockout?
- Why do the ink to be used and the type of stencil have a bearing on the type of blockout?
- What preventive measures can be taken to minimise pinholes?
- Why is it necessary to tape the edge of the frame?
- By what means is this screen able to be identified at a later date?

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 stencil materials	• Direct emulsion commonly used in direct projection relative to the industry sector
Coating techniques	• Coating techniques for various emulsions, mesh types and edge definition requirements
Enlargements	• Ability to determine and set enlargement criteria within the variable parameters of the equipment commonly used relative to the industry sector
Degree of autonomy	• Working to defined procedures in consultation with other relevant person to ensure production requirements are met
Enterprise 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: • Correctly prepare direct projection stencils 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 screens using the direct projection method according to manufacturer's and job specifications, enterprise procedures 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
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: • any basic set up units.

ICPSP341B	Prepare stencil using direct electronic imaging method

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare direct electronically imaged stencils.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to prepare direct electronically imaged stencils.
Unit Sector	Screen Printing

ELEMENT	PERFORMANCE CRITERIA	
1. Prepare the work area	1.1	Work area is made clean and functional prior to the commencement of work
	1.2	All equipment, tools and materials are inspected to ensure they are functional and where necessary, appropriate remedial action is taken prior to the commencement of work
	1.3	Chemicals are prepared according to OHS requirements and manufacturer's / supplier's specifications
	1.4	Appropriate coating trough (or troughs for automatic coaters) is selected ensuring they are free of nicks and burrs
2. Prepare the screen	2.1	Screen is selected according to job specifications
	2.2	Chemicals are applied and removed according to OHS requirements and manufacturer's / supplier's specifications
3. Select direct emulsion	3.1	Emulsion is selected according to requirements for ink type; print resolution; substrate, mesh type and machine type with minimisation of waste
	3.2	Emulsion is checked for expiry date and appropriate action taken
	3.3	Emulsion is prepared according to OHS requirements and manufacturer's / supplier's specifications
	3.4	Emulsion is used and dried according to manufacturer's / supplier's specifications
4. Process material	4.1	Coated screen is placed in direct imaging equipment according to manufacturer's / supplier's specifications
	4.2	Direct imaging equipment is set up according to manufacturer's / supplier's and job specifications
	4.3	Direct imaging equipment is operated according to OHS requirements, and manufacturer's / supplier's specifications
	4.4	Exposed screen is removed and washed out according to OHS requirements and manufacturer's / supplier's specifications
	4.5	Processed stencil / screen is inspected for processing flaws

5.   Dry stencil

   5.1   Processed stencil is dried according to manufacturer's / supplier's specifications

   5.2   Backing sheet is carefully removed and stencil checked for full adhesion

6.   Block out screen

   6.1   Non-image areas of prepared screen are blocked out with filler suitable for ink type and according to job specifications

   6.2   Stencil is inspected for flaws, scum and / orientation

   6.3   Pinholes are spotted out with suitable filler and taped according to ink type and job specifications

7.   Store screen

   7.1   Prepared screen is labelled according to enterprise specifications

   7.2   Prepared screen is stored in a clean, dry environment according to manufacturer's / supplier's 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 labelling prepared screens
- Collecting, analysing and organising information by drying and using emulsion according to supplier's instructions
- Planning and organising activities by drying the stencil prior to blocking out the screen
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by correctly preparing chemicals
- Problem-solving skills by inspecting the stencil for flaws, scum and / orientation
- Use of technology by using relevant equipment to prepare direct electronically imaged stencils

Required knowledge:

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

Preparation of the screen for coating

- What influence does mesh count have on final printed product?
- Why is it necessary to have a correctly tensioned screen?
- How do you determine what screen tension is required on screens of various mesh count or grades?
- What degreasing / cleaning techniques are employed prior to coating the screen?

Preparation of the work area and equipment maintenance

- What information is contained in MSDSs for the emulsion?
- What pollution and environmental issues need to be considered when working with emulsions?
- What maintenance is required on the direct imaging equipment?
- Why is it necessary to work in a safelight area when using the direct imaging method?

Selecting the correct emulsion

- What kinds of emulsion are available and state their characteristics, lifespans and areas of use?
- What is the preparation method for the emulsion you are using?

Coating and drying the screen

- What influence do the length of run and ink being used have on the coating technique?
- How do you determine the number of coats of emulsion and the best method of coating the screen?
- What is the best position (horizontal or vertical) for drying the screen?
- What is the effect of heat on the emulsion during the drying process?

Operating direct imaging equipment and exposing the screen

- What health hazards are associated with the direct imaging equipment and what safe working procedures should be followed?
- What are the operating features of the direct imaging equipment?
- How do you determine the best position on the frame and the registration requirements?

- How do you determine the scanning speed and the exposure time?
- Describe how to input information into the computer, manipulate the image and output information.

Washing and drying the screen

- What is the effect of temperature, pressure and period of washing on the emulsion?
- How do you determine when washing out is complete?
- What is the ideal position of the screen for drying to prevent scum and streaking?
- What does post-curing do to the stencil?

Blocking out and storing the screen and maintenance of equipment

- What information have you obtained from the MSDSs for this particular blockout?
- Why do the ink to be used and the type of stencil have a bearing on the type of blockout?
- What preventive measures can be taken to minimise pinholes?
- Why is it necessary to tape the edge of the frame?
- By what means is this screen able to be identified at a later date?

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 stencil materials	1	Direct emulsions commonly used for direct imaging relative to the industry sector
Coating techniques	1	Appropriate coating techniques for various emulsions, mesh types and edge definition requirements
Degree of autonomy	1	Working to defined procedures in consultation with other relevant persons to ensure production procedures are met
Enterprise procedures	1	Tasks must be performed according to enterprise procedures
Quality standards	1	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: • Correctly prepare direct electronically imaged stencils 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 screens using direct electronic imaging techniques according to manufacturer's and job specifications, enterprise procedures 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
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.

ICPSP351B	**Prepare machine and drying / curing unit**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare a manual, semi-automatic or automatic machine for printing and set up drying and / or curing units.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to prepare machines for printing and set up drying and / or curing units.
Unit Sector	Screen Printing

ELEMENT		**PERFORMANCE CRITERIA**	
1.	Inspect the screen	1.1	Screen frames are identified to determine colour sequence
		1.2	Each screen frame is examined for defects and appropriate action taken
		1.3	Each screen is taped as necessary
		1.4	Screens are inspected against film positives noting variations in centring, registration and alignment and appropriate action is taken
		1.5	Screen frame, mesh and stencil are appropriately handled according to manufacturer's / supplier's specifications to prevent damage and hazards to personnel
2.	Maintain and adjust machine	2.1	Machine is inspected and routine user maintenance is carried out according to manufacturer's / supplier's specifications and enterprise procedures
		2.2	All necessary periodic adjustments and user maintenance items are made at the correct times according to manufacturer's /supplier's specifications and enterprise procedures
3.	Install screen frames and dry run machine	3.1	Laysheet is positioned in grippers and side-lay according to manufacturer's / supplier's specifications
		3.2	Image position is established on laysheet
		3.3	Screen frame is positioned in screen frame holder
		3.4	Registration, alignment and centring are confirmed and screen clamps tightened to ensure no movement of the frame according to manufacturer's / supplier's specifications
		3.5	Machine is run through printing cycle at the same time ensuring that substrate registers in lays and appropriate action is taken

4.	Prepare and position flood bar and squeegees	4.1	Flood bar (for semi-automatic and automatic machines) and correct squeegee are assembled according to manufacturer's / supplier's specifications ensuring that flood bar is free from nicks and burrs
		4.2	Squeegee blade is sharpened according to manufacturer's / supplier's specifications considering the ink system to be used
		4.3	Flood bar (for semi-automatic and automatic machines) and squeegee are positioned according to job specifications with squeegee at the correct pre-determined angle
		4.4	On / off contact (and peel-off if available) is adjusted to suit ink system and printing speed according to manufacturer's / supplier's specifications
		4.5	Squeegee is correctly adjusted and brought into contact with the substrate
5.	Set up drying / curing unit	5.1	Belt speed and energy required are set to achieve desired properties and then printing speeds are adjusted to suit
		5.2	Stock is properly stacked at the end of the dryer

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 taking relevant appropriate actions when screen defects are identified
- Collecting, analysing and organising information by identifying screen frames to determine colour sequence
- Planning and organising activities by inspecting the screens before installing the frames
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by setting belt speed and energy levels
- Problem-solving skills by inspecting machines and performing basic maintenance
- Use of technology by maintaining and adjusting the machines

Required knowledge:

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

Inspection of the screen

- How do you determine the colour sequence?
- What defects can be found when examining the screen and stencil?
- How do you determine variation between the positive and stencil?

Preparation of machine and equipment maintenance

- What OHS concerns are there when using drying and curing units?
- What maintenance is required on this equipment?
- What periodic adjustments are made to the equipment and drying / curing units?
- What are the machine capabilities and characteristics?

Preparing the base and installing and registering the screen frame

- What is the function of the printing base?
- What is the position of the lay sheet on the printing base?
- How do you establish the image position on the lay sheet?
- Describe the lay sheet you are using.
- Describe how to position the frame in the frame holder and register and align the stencil with the image on the lay sheet.
- What other checks are required so as to maintain register?

Squeegee types / flood coaters and their adjustments

- What are the characteristics of a good squeegee blade / flood coater?
- What is the significance of shore hardness of squeegee material?
- Why have you chosen that length squeegee / flood coater?
- Describe the positioning, fixing and adjustment of the squeegee / flood coater.
- What is the relationship of the squeegee to the flood coater?

Adjusting and dry running the machine

- Describe the adjustment of on / off contact distance and peel-off requirements of the screen frame.
- What is the relationship of the machine stroke to off contact / peel-off requirements?

Adjustment and maintenance of drying / curing unit

- Describe the basic maintenance requirements for the drying / curing unit.
- What adjustments are required to the unit before and during drying / curing?
- How do you adjust the unit for ink drying / curing?
- What are the effects of temperature on the substrate?

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?
- 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 machine	• Commonly used hand tables / machines / dryers / curing units relative to the industry sector
Degree of cure / drying	• Assessing the degree of cure or drying required to obtain required product properties
Degree of autonomy	• Working to defined procedures in consultation with others to ensure production requirements are met
Enterprise 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: • Correctly set up printing machines and drying or curing units according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Prepare a machine for printing TWO different jobs by installing the screen frame and squeegee / flood coater and setting up a drying / curing unit to achieve the desired properties, according to manufacturer's and job specifications, enterprise procedures 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
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: • ICPSU207B Prepare machine for operation (basic) • any basic set up units. It may be appropriate to assess this unit in conjunction with a produce print unit, for example: • ICPSP271B Manually produce basic screen prints • ICPSP273B Semi-automatically produce basic screen prints • ICPSP275B Automatically produce basic screen prints • ICPSP371B Manually produce complex screen prints • ICPSP373B Semi-automatically produce complex screen prints • ICPSP375B Automatically produce complex screen prints

ICPSP371B Manually produce complex screen prints

Unit Descriptor   This unit describes the performance outcomes, skills and knowledge required to manually produce three- or more colour screen prints.

Employability Skills   This unit contains employability skills.

Application of the Unit   This unit requires the individual to manually produce three- or more colour screen prints.

Unit Sector   Screen Printing

ELEMENT		PERFORMANCE CRITERIA
1. Load substrate	1.1	Substrate is checked for conformance to job specifications with any irregularities reported and / or rectified
	1.2	Substrate position and stencil registration are adjusted according to job specifications
2. Apply ink to screen	2.1	Ink is applied to the screen in the quantity required for the screen size
	2.2	Equipment is kept clean and spillage is minimised
	2.3	Colour is mixed and ink is checked for conformance to job specifications
3. Produce proof print	3.1	Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying / curing, artwork detail and other technical aspects according to job specifications
	3.2	Adjustments are made as required
	3.3	Appropriate approval to commence production is sought prior to commencement
	3.4	Belt speed and energy required are set to achieve desired properties
4. Run job and monitor print quality	4.1	Printing speed production is adjusted to maximise quality and output
	4.2	Print quality is continuously evaluated and adjusted as required
	4.3	Effects of ink alterations during run are monitored and appropriate action taken according to manufacturer's / supplier's and job specifications
	4.4	Workplace documentation on job is completed as required
	4.5	Curing and drying are constantly monitored and adjusted according to manufacturer's / supplier's and job specifications
5. Carry out routine user maintenance	5.1	Equipment is lubricated, cleaned and adjusted according to manufacturer's / supplier's specifications
	5.2	Fault conditions are identified and reported according to enterprise procedures

6.	Stack production output	6.1	Output is checked for thorough drying / curing before stacking
		6.2	Job status and progress are checked for conformance to job specifications and any necessary action is taken
7.	Finish operation	7.1	Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's / supplier's specifications
		7.2	Waste materials are disposed of according to manufacturer's / supplier's specifications, regulatory requirements and enterprise procedures
		7.3	Equipment and surrounding areas are cleaned according to manufacturer's / supplier's 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 completing workplace documentation
- Collecting, analysing and organising information by checking substrate for conformance to job specifications
- Planning and organising activities by producing a proof print prior to doing the job run
- Teamwork when seeking approval prior to commencement of the job run
- Mathematical ideas and techniques by setting the belt speed and required energy
- Problem-solving skills by continuously evaluating and adjusting print quality
- Use of technology by using the various equipment and machinery required to produce prints

Required knowledge:

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

Substrates and ink compatibility

- What are the criteria for selecting the correct substrate for the job?
- How do you determine ink and substrate compatibility?
- What are the characteristics of solvents and ink additives and how is compatibility determined?

Preparing for printing and routine user maintenance

- Describe the adjustments necessary on the equipment prior to setting up.
- What routine user maintenance is required for this equipment?
- What method do you use for checking the screen, ink, substrate and squeegee prior to printing?

Positioning and registering screen and setting up machine

- What maintenance is required on the printing base?
- How do you determine the lay edge on the equipment?
- Demonstrate how you correctly position, register and lock the screen in position.
- How do you determine which squeegee to use?
- How do you determine the off contact distance?

Maintaining and adjusting drying / curing unit

- Why have you selected this drying / curing system to print / cure this job?
- What determines the speed / temperature of the unit?
- What routine maintenance is required on this unit?

Run job, monitor print quality and stack and check production output

- What OHS concerns are there when producing a manual print?
- Why is it necessary to condition some substrates?
- How do you determine the correct viscosity of ink?
- How do you rectify the problem of alteration to ink viscosity during the run?
- How do you evaluate and maintain print quality during the run?
- What is the ideal printing rate on this equipment?

- What procedure do you have for checking and stacking production output?

Post-production cleaning and maintenance

- What is the correct procedure for removing ink without damaging the screen?
- What is the correct method of cleaning squeegees, equipment and the surrounding area?

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.

Types of techniques	• Manual screen printing techniques relative to the industry sector
Drying / curing units	• Drying systems commonly used and relative to the industry sector
Complexity	• Multi-colour jobs
Degree of autonomy	• Working in conjunction with others to ensure production requirements are met
Enterprise 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: • Manually produce a three- or more colour screen print according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Manually produce TWO different multi-colour print runs according to manufacturer's and job specifications, enterprise procedures 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
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: • ICPSU202B Prepare, load and unload product on and off machine • ICPSP351B Prepare machine and drying / curing unit • any basic set up units.

ICPSP373B	**Semi-automatically produce complex screen prints**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to produce complex screen prints using semi-automatic machines.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to produce complex screen prints using semi-automatic machines.
Unit Sector	Screen Printing

ELEMENT	PERFORMANCE CRITERIA	
1. Load substrate	1.1	Substrate is checked for conformance to job specifications with any irregularities reported and / or rectified
	1.2	Substrate position and stencil registration are adjusted according to job specifications
2. Apply ink to screen	2.1	Ink is applied to the screen in the quantity required for the screen size
	2.2	Equipment is kept clean and spillage is minimised
	2.3	Colour is mixed and ink is checked for conformance to job specifications
3. Produce proof print	3.1	Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying / curing, artwork detail and other technical aspects according to job specifications
	3.2	Adjustments are made as required
	3.3	Appropriate approval to commence production is sought prior to commencement
	3.4	Belt speed and energy required are set to achieve desired properties and then printing speeds are adjusted to suit
4. Run job and monitor print quality	4.1	Printing speed production is adjusted to maximise quality and output
	4.2	Print quality is continuously evaluated and adjusted as required
	4.3	Effects of ink alterations during run are monitored and appropriate action taken according to manufacturer's / supplier's and job specifications
	4.4	Workplace documentation on job is completed as required
	4.5	Curing and drying are constantly monitored and adjusted according to manufacturer's / supplier's and job specifications
5. Carry out routine user maintenance	5.1	Equipment is lubricated, cleaned and adjusted according to manufacturer's / supplier's specifications
	5.2	Fault conditions are identified, reported and / or rectified according to enterprise procedures

6.	Stack production output	6.1	Output is checked for thorough drying / curing before stacking
		6.2	Job status and progress are checked for conformance to job specifications and any necessary action is taken
7.	Shut down machine	7.1	Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's / supplier's specifications
		7.2	Waste materials are disposed of according to manufacturer's / supplier's specifications, regulatory requirements and enterprise procedures
		7.3	Equipment and surrounding areas are cleaned according to manufacturer's / supplier's 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 obtaining approval to commence a production run
- Collecting, analysing and organising information by checking the substrate for conformance to the job specifications
- Planning and organising activities by producing a proof print prior to running a job
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by setting the belt speed and required energy
- Problem-solving skills by continuously evaluating and adjusting print quality
- Use of technology by using semi-automatic and computerised machines to produce screen prints

Required knowledge:

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

Substrate and ink compatibility

- What are the criteria for selecting the right substrate for the job?
- How do you determine ink and substrate compatibility?
- What are the characteristics of solvents and ink additives and how is compatibility to this ink system determined?
- What adjustments are necessary to the machine prior to setting up?

Preparing for printing and routine user maintenance

- What maintenance is required on this machine prior to the commencement of printing?
- What procedure do you use for checking the screen sequence of colours, ink, substrate and squeegee / flood coater prior to printing?

Positioning and registering the screen and setting up the machine

- What is the function of the printing base and what maintenance is required?
- How is the lay edge and gripper / take-off edge of the substrate determined?
- Describe how you correctly position, register and lock the screen in position.
- How do you determine which squeegee / shore hardness and flood coater to use?
- Why is it necessary to adjust the off contact / peel-off requirements of the screen?

Maintaining and adjusting the drying / curing unit

- What are the OHS requirements when working with infra red / UV curing units?
- What is the relationship between ink deposit, squeegee speed and belt speed / temperature?
- What routine user maintenance is required on this unit?

Proofing and running the job and monitoring print quality

- What OHS concerns are there when using a semi-automatic machine?
- What effect does humidity level have on print procedure?
- How do you determine the correct viscosity of the ink prior to printing?
- How do you rectify the change in the viscosity of the ink during a production run?

- How do you evaluate and maintain print quality during the run?
- What is the ideal printing rate for this substrate on this machine?

Checking and stacking production output

- What determines how production output is stacked (ie flat or on-edge)?
- What effect do environmental conditions have on output capacity?
- Why is it necessary to determine the exact count and to record production details on the job sheet?

Post-production cleaning and routine maintenance

- What are the health hazards associated with inks and solvents?
- What is the correct procedure for removing ink without damaging the screen?
- What is the correct method of cleaning squeegees / flood coater machine and surrounding area?
- What maintenance is required on this machine after printing?

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?
- 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 machine	• Semi-automatic and computerised screen printing machines relative to the industry sector
Drying / curing unit	• Drying / curing units commonly used relative to the industry sector
Degree of autonomy	• Working to defined procedures and in consultation with other relevant persons to ensure production requirements are met
Enterprise procedures	• Tasks must be performed according to enterprise procedures
Quality standards	• Tasks must meet workplace quality 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:

Evidence of the following is essential:

- Produce a complex print of more than two colours containing line and tone using a semi-automatic machine according to job specifications
- Demonstrate use of computerised control, monitoring and data entry systems if available and appropriate
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Produce a complex print of more than two colours containing line and tone using a semi-automatic machine according to manufacturer's and job specifications, enterprise procedures and 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

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.

ICPSP374B   Operate a semi-automatic screen printing machine

Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a print on a range of common substrates, using semi-automatic equipment and screening techniques.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to produce a print on a range of common substrates, using semi-automatic equipment and screening techniques.
Unit Sector	Screen Printing

ELEMENT	PERFORMANCE CRITERIA
1. Identify job requirements	1.1 Substrate is checked for conformance to job specifications with any irregularities reported and / or rectified 1.2 Ink is checked for conformance to job specifications 1.3 Stencil is checked for conformance to job specifications
2. Prepare machine to print	2.1 Substrate position and stencil registration are adjusted according to job specifications 2.2 Ink is applied to the screen in the quantity required for the screen size 2.3 Equipment is kept clean and spillage is minimised
3. Produce proof print	3.1 A proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying / curing, artwork detail and other technical aspects according to job specifications 3.2 Adjustments are made according to product and machine specifications 3.3 Belt speed and energy required are set to achieve desired curing or drying properties 3.4 Appropriate approval to commence production is sought prior to commencement
4. Run job and monitor print quality	4.1 Printing speed production is adjusted to maximise quality and output 4.2 Print quality is continuously evaluated and adjusted as required 4.3 Effects of ink alterations during run are monitored and any discrepancy is notified according to enterprise procedures 4.4 Workplace documentation on job is completed as required 4.5 Curing and drying are constantly monitored and adjusted according to manufacturer's / supplier's and job specifications
5. Carry out routine user maintenance	5.1 Equipment is cleaned according to enterprise procedures 5.2 Fault conditions are identified and reported according to enterprise procedures

6.	Stack production output	6.1	Output is checked for thorough drying / curing before stacking
		6.2	Job identification is labelled and recorded
		6.3	Job status and progress are checked for conformance to job specifications and any necessary action is taken
7.	Conduct shutdown of the production process	7.1	Material is transferred to correct destination in a safe manner
		7.2	Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's / supplier's specifications
		7.3	Waste materials and chemicals are disposed of according to manufacturer's / supplier's specifications, regulatory requirements and enterprise procedures
		7.4	Equipment and surrounding areas are cleaned according to manufacturer's / supplier's specifications and enterprise procedures
		7.5	Tools and equipment are stored and maintained according to manufacturer's specifications to ensure ease of access and operator safety
		7.6	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 completing workplace documentation
- Collecting, analysing and organising information by checking technical aspects of the proof print
- Planning and organising activities by organising materials and equipment in the correct order for the print run
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by making adjustments according to product and machine specifications
- Problem-solving skills by applying procedural checks throughout the print run
- Use of technology by using semi-automatic screen printing machines

Required knowledge:

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

Identify job requirements

- What is the process of recording and reporting any substrate irregularities?
- How do you check for ink compatibility?
- What criteria are used to check the stencil compatibility?

Prepare machine to print

- What limitations do you have when setting the substrate position?
- What precautions need to be undertaken when applying ink to the screen?

What Produce proof print

- What OHS concerns are there when producing a semi-automatic print?
- What quality control devices are used to check the print standards?
- What variables / tolerances do you need to be aware of when checking the print to the proof?
- What is the relationship between ink film thickness and ink density?
- What are the maximum and minimum ink densities permissible?
- What properties determine belt speed?
- What properties determine heat unit setting for curing?
- Who gives the final approval before commencing the production run?

Run job and monitor print quality

- What quality inspection occurs during printing?
- How often would you inspect for quality?
- How is ink monitored during the print run?
- What is the purpose of workplace documentation?
- What OHS concerns are there in relationship to monitoring drying / curing systems?

Carry out routine maintenance

- What maintenance should be carried out on this machine?
- What would be the expected result of not reporting faulty equipment?

Stack production output

- What would be the result of stacking while the ink film is still wet?
- What are the advantages of labelling prior to removal?
- What would be the result of not taking action if problems occur with the progress of the job?

Conduct shutdown of the production process

- What advantages result from proper labelling and storage of excess inks and materials?
- What OHS practices must be adhered to when reclaiming screens?
- What would be the result of not keeping screens and squeegees clean?
- What would be the result of not following correct procedures when disposing of liquid waste?
- What would be the result of not keeping equipment and surrounding areas clean?
- How can screens be stored so as to minimise damage?
- Where would you find documentation dealing with spilt chemicals?

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.

Substrate	• Material or substance that will hold an image
Job specifications	• Job sheets, work tickets or processing orders
Drying / curing	• Semi-automatic drying systems commonly used in industry sector
Workplace documentation	• Enterprise procedural documents
Appropriate approval	• Enterprise or client approval from supervising personnel

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: • Set up screen printing machinery and produce a print on a range of common substrates using semi-automatic equipment according to job specifications • Complete TWO different jobs on a semi- automatic machine according to manufacturer's and job specifications, enterprise procedures 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 both 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, for example: • ICPSU203B Prepare and maintain the work area • ICPSU216B Inspect quality against required standards • ICPSU261B Follow OHS practices and identify environmental hazards • any basic set up unit.

ICPSP375B	**Automatically produce complex screen prints**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to automatically produce complex screen prints.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to produce complex screen prints using automatic machines.
Unit Sector	Screen Printing

ELEMENT	**PERFORMANCE CRITERIA**
1. Load substrate	1.1 Substrate is checked for conformance to job specifications with any irregularities reported and / or rectified
	1.2 Substrate position and stencil registration are adjusted according to job specifications
2. Apply ink to screen	2.1 Ink is applied to the screen in the quantity required for the screen size
	2.2 Equipment is kept clean and spillage is minimised
	2.3 Colour is mixed and ink is checked for conformance to job specifications
	2.4 Feeder is set and adjusted to suit substrate
3. Produce proof print	3.1 Proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying / curing, artwork detail and other technical aspects according to job specifications
	3.2 Adjustments are made as required
	3.3 Appropriate approval to commence production is sought prior to commencement
	3.4 Belt speed and energy required are set to achieve desired properties and then printing speeds are adjusted to suit
4. Run job and monitor print quality	4.1 Printing speed production is adjusted to maximise quality and output
	4.2 Print quality and sheet feeding are continuously evaluated and adjusted as required
	4.3 Effects of ink alterations during run are monitored and appropriate action taken according to manufacturer's / supplier's and job specifications
	4.4 Workplace documentation on job is completed as required
	4.5 Curing and drying are constantly monitored and adjusted according to manufacturer's / supplier's and job specifications
5. Carry out routine user maintenance	5.1 Equipment is cleaned according to manufacturer's / supplier's specifications
	5.2 Fault conditions are identified, reported and / or rectified according to enterprise procedures

6.	Handle production output	6.1	Output is checked for thorough drying / curing before handling
		6.2	Job status and progress are checked for conformance to job specifications and any necessary action is taken
7.	Shut down machine	7.1	Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's / supplier's specifications
		7.2	Waste materials are disposed of according to manufacturer's / supplier's specifications, regulatory requirements and enterprise procedures
		7.3	Equipment and surrounding areas are cleaned according to manufacturer's / supplier's 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 gaining approval to commence a production run
- Collecting, analysing and organising information by checking job status and progress according to job specifications
- Planning and organising activities by following machine shutdown procedures
- Teamwork when completing workplace documentation as required
- Mathematical ideas and techniques by adjusting print speed to maximise quality
- Problem-solving skills by monitoring and responding to the effect of ink alterations
- Use of technology by operating automatic and computerised screen printing machines

Required knowledge:

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

Preparing for printing and machine / feeder user maintenance

- What adjustments are necessary to the machine prior to setting up?
- What maintenance is required on the machine and feeder prior to the commencement of printing?
- What adjustments need to be made to the machine / feeder to allow for characteristics of the substrate?
- What procedure is in place to confirm the screen sequence of colour, ink, substrate and squeegee / flood coater prior to printing?

Adjusting the feeder system to suit substrate

- Describe the system for setting the feed board and loading substrate.
- Why is it necessary to prepare substrate or item when loading the feeder?
- Describe how to adjust the stock feed system for this machine.
- What system is in place to check the substrate is fed into the machine at the required production speed without damage, distortion or variation in position?

Substrate and ink compatibility

- What are the criteria for selecting the right substrate for the job?
- How do you determine ink and substrate compatibility?
- What are the characteristics of solvents and ink additives and how is compatibility to this ink system determined?

Positioning and registering the screen and setting up the machine

- Describe how the frame is correctly positioned, registered and the screen locked into position.
- Describe how to position the squeegee / flood coater.
- How are the on / off contact / peel-off requirements of the frame adjusted?
- What is the shore hardness of the squeegee blade and why have you chosen it?

Maintaining and adjusting the drying / curing unit

- What is the relationship between ink deposit, squeegee speed and belt speed /

temperature of the drying / curing unit?
- What are the OHS requirements when working with infra-red / UV curing units?
- Describe the routine maintenance you undertake on this drying / curing unit.
- How are ink drying / ink curing characteristics determined?

Proofing and running the job and monitoring print quality

- What OHS concerns are there when using an automatic machine?
- How do you assess that colour conforms to job specifications?
- What do you check on the initial proof run before continuing?
- How do you evaluate print quality and substrate feeding during the run?
- What is the ideal printing speed for this substrate on this machine?
- What is the effect of humidity on the substrate?
- How do you maintain the correct viscosity of ink during the run?

Checking and handling production output

- How do you determine if print is dried / cured before handling?
- How is production output handled to prevent offsetting of ink, blocking, sweating or rewetting of ink?
- What effect could weather conditions have on output capacity?
- Why is it necessary to determine the exact count and to record production details on the job sheet?

Post-production cleaning and routine maintenance

- What are the health hazards associated with ink / solvents?
- What is the correct procedure for removing the ink without damaging the screen?
- What is the correct method of cleaning squeegees / flood coaters, machine and surrounding area?
- What maintenance is required on this machine after printing is completed?

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?
- 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 machine	• Automatic and computerised screen printing machines with three or more colours relative to the industry sector
Drying / curing unit	• Drying / curing units commonly used relative to the industry sector

Degree of autonomy	• Initiative and judgement in working in consultation with other persons to ensure production requirements are met
Enterprise procedures	• Tasks must be performed according to enterprise procedures
Quality standards	• Tasks must meet workplace quality 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: • Produce a complex print of more than two colours containing line and tone using an automatic machine according to job specifications • Demonstrate an ability to find and use information relevant to the task from a variety of information sources • Produce a complex print of more than two colours containing line and tone using an automatic machine according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria • Demonstrate use of computerised control, monitoring and data entry systems if available and appropriate • 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.

ICPSP376B	**Operate an automatic screen printing machine**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to produce a print on a range of common substrates, using automatic equipment and screening techniques.
Employability Skills	This unit contains employability skills.
Application of the Unit	This unit requires the individual to produce a print on a range of common substrates, using automatic equipment and screening techniques.
Unit Sector	Screen Printing

ELEMENT	**PERFORMANCE CRITERIA**
1. Identify job requirements	1.1 Substrate is checked for conformance to job specifications with any irregularities reported and / or rectified
	1.2 Ink is checked for conformance to job specifications
	1.3 Artwork is checked for conformance to job specifications
2. Prepare machine to print	2.1 Correct film / emulsion exposure is set and correctly completed according to job specifications
	2.2 Substrate position and screen alignment are set according to job specifications
	2.3 Ink is applied to the screen in the quantity required for the screen size
	2.4 Equipment is kept clean and spillage is minimised
3. Produce proof print	3.1 A proof print is run off and checked for colour, strength, registration, adhesion, clarity, gloss level, drying / curing, artwork detail and other technical aspects according to job specifications
	3.2 Adjustments are made according to product and machine specifications
	3.3 Belt speed and temperature required are set to achieve desired curing or drying properties
	3.4 Appropriate approval to commence production is sought prior to commencement
4. Run job and monitor print quality	4.1 Printing speed production is adjusted to maximise quality and output
	4.2 Print quality is continuously evaluated and adjusted as required
	4.3 Effects of ink alterations during run are monitored and any discrepancy is rectified
	4.4 Workplace documentation on job is completed as required
	4.5 Curing and drying are constantly monitored and adjusted according to manufacturer's / supplier's and job specifications

5.	Carry out routine user maintenance	5.1	Equipment is cleaned according to enterprise procedures
		5.2	Lights are replaced as necessary and alerts / alarms are tested
		5.3	Fault conditions are identified and reported according to enterprise procedures
6.	Stack production output	6.1	Output is checked for thorough drying / curing before stacking
		6.2	Job is labelled and recorded according to enterprise procedures
		6.3	Job status and progress are checked for conformance to job specifications and any necessary action is taken
7.	Conduct shutdown of the production process	7.1	Material is transferred to correct destination in a safe manner
		7.2	Excess ink, screens, squeegees and flood coaters are removed and cleaned according to OHS requirements and manufacturer's / supplier's specifications
		7.3	Waste materials and chemicals are disposed of according to manufacturer's / supplier's specifications, regulatory requirements and enterprise procedures
		7.4	Equipment and surrounding areas are cleaned according to manufacturer's / supplier's specifications and enterprise procedures
		7.5	Tools and equipment are stored and maintained according to manufacturer's specifications to ensure ease of access and operator safety
		7.6	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 seeking appropriate approval to commence production
- Collecting, analysing and organising information by checking technical aspects of the proof print
- Planning and organising activities by organising materials and equipment in the correct order for the print run
- Teamwork when maintaining the production process in association with others
- Mathematical ideas and techniques by making adjustments according to product and machine specifications
- Problem-solving skills by monitoring and responding to the effect of ink alterations
- Use of technology by operating automatic screen printing machines

Required knowledge:

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

Identify job requirements

- What is the process of recording and reporting any substrate irregularities?
- How do you check for ink compatibility?
- What criteria are used to check the stencil compatibilit y?

Prepare machine to print

- What limitations do you have when setting the substrate position?
- What precautions need to be undertaken when applying ink to the screen?
- What products and materials are used to keep the equipment clean?

Produce proof print

- What OHS concerns are there when producing an automated print run?
- What quality control devices are used to check the print standards?
- What variables / tolerances do you need to be aware of when checking the print to the proof?
- What is the relationship between ink film thickness and ink density?
- What are the maximum and minimum ink densities permissible?
- What properties determine belt speed?
- What properties determine heat unit setting for curing?
- Who gives the final approval before commencing the production run?

Run job and monitor print quality

- What quality inspection occurs during printing?
- How often would you inspect for quality?
- How is ink monitored during the print run?
- What is the purpose of workplace documentations?
- What OHS concerns are there in relationship to monitoring drying / curing systems?

Carry out routine maintenance

- What maintenance should be carried out on this machine?
- What would be the expected result of not reporting faulty equipment?

Stack production output

- What would be the result of stacking while the ink film is still wet?
- What are the advantages of labeling prior to removal?
- What would be the result of not taking action if problems occur with the progress of the job?

Conduct shutdown of the production process

- What advantages result from proper labelling and storage of excess inks and materials?
- What OHS practices must be adhered to when reclaiming screens?
- What would be the result of not keeping screens and squeegees clean?
- What would be the result of not following correct procedures when disposing of liquid waste?
- What would be the result of not keeping equipment and surrounding areas clean?
- How can screens be stored so as to minimise damage?
- Where would you find documentation dealing with spilt chemicals?

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.

Automatic equipment	• Up to six colours, with exposure unit, curing unit, screen alignment system and conveyor drying system
Substrate	• T-shirts, tote bags, binders, hats, boxes, CD-ROMs, DVDs
Job specifications	• Job sheets, work tickets or processing orders
Drying / curing unit	• Manual / semi-automatic drying systems commonly used in specific industry sections
Workplace documentation	• Enterprise procedural documents
Appropriate approval	• Enterprise or client approval from supervising personnel

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: • Set up screen printing machinery and produce a print on a range of common substrates using automatic equipment according to job specifications • Complete TWO different jobs on an automatic machine according to manufacturer's and job specifications, enterprise procedures 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 both 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.

ICPSP382B   Produce computer image for screen printing

Unit Descriptor   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   Screen Printing

ELEMENT		PERFORMANCE CRITERIA	
1.	Prepare for scanning	1.1	The original is scaled to conform to job specifications
		1.2	The original is assessed to determine scanner settings
		1.3	The original is cleaned and correctly mounted according to job specifications
		1.4	The correct settings are selected for the original to be scanned
2.	Scan and check the image	2.1	The original is scanned according to quality requirements
		2.2	The quality of the scanned image is checked for conformance to the job specifications
		2.3	The appropriate software is applied for any processing of text if necessary
3.	Prepare the combining strategy	3.1	The required data from electronic files is accessed
		3.2	The appropriate application is opened to undertake combining tasks
		3.3	The required fonts are accessed according to job specifications
4.	Combine data	4.1	Page layout size is created according to job specifications
		4.2	Elements are placed in the page according to job specifications
		4.3	Trapping (spread and chokes) is applied according to job specifications
		4.4	Step and repeat function is accessed according to job specifications
		4.5	Elements are stepped according to job specifications
		4.6	The output menu is configured according to job specifications
5.	Access and maintain the output device	5.1	Output devices are set up and maintained according to manufacturer's / supplier's specifications and enterprise procedures
		5.2	Suitable material is identified and loaded into the output device
6.	Output the image	6.1	The system is activated to initiate the output according to job specifications
		6.2	Quality is monitored 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 specifications
- 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 during 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 files 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	• Line graphic or text
Job specifications	• Job sheets, work tickets or processing orders
Elements	• Text, headings, rules, pictures, graphics, tints, vignettes, components and shapes
Material	• Electronic storage, film, papers, fabric or other substrates

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: • Scan, electronically combine and attribute outputs to designated devices according to job specifications and client standards • Produce TWO separate images on film and /or stencil according to manufacturer's and job specifications, enterprise procedures and 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 both 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.

ICP05 Printing and Graphic Arts Training Package
Printing and Graphic Arts Training Package (Volume 5 - Screen Printing, Ink Manfacture and Holistic Knowledge Units of Competency)

Volume 5 of 6

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