



Australian Government

Department of Education, Employment and Workplace Relations

ICPKN314C Apply knowledge and requirements of the screen printing sector

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

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.
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Application of the Unit

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.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains Employability Skills
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

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

ELEMENT	PERFORMANCE CRITERIA
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

ELEMENT	PERFORMANCE CRITERIA
	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 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
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

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- 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

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

Evidence Guide

EVIDENCE GUIDE

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

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- 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.

Guidance information for assessment

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

Range Statement

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.

<i>Level of knowledge</i> may include:	knowledge required to intelligently discuss job procedures, requirements and modifications with a tradesperson, production manager or client
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Holistic Knowledge
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Co-requisite units

Co-requisite units		