



Australian Government

ICPKNW314 Apply knowledge and requirements of the screen printing sector

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICP Printing and Graphic Arts Training Package Version 1.0.

Application

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 applies to individuals who may facilitate technical communication and who work as a member of a team.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Holistic knowledge

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
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 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, work health and safety (WHS), environmental protection, access and equity, and industrial awards are observed within workplace and in personal work practices

ELEMENT	PERFORMANCE CRITERIA
3. Apply knowledge of pre-press processes	3.1 Basic principles behind pre-press functions such as image production (typesetting, scanning, graphic arts camera), image combining (manual and electronic), image output (film, plates, direct to press) and digital workflow are used in production processes where applicable 3.2 Appropriate use of different types of images (line, half-tone) is investigated and general methods developed for printing 3.3 Different output settings (screen rulings, angles, shapes) and how they affect final product are researched to develop general methods for printing 3.4 Different types of output required for different printing processes are determined and general methods developed for printing 3.5 Different output devices (film setters, plate setters, analogue proofs, digital proofs) are identified and general processes developed for printing
4. Apply knowledge of printing processes	4.1 Basic principles of printing processes (lithography, relief, flexography, gravure, pad printing, screen printing, digital and electronic printing) are researched 4.2 Types of jobs and products for which each process is appropriate are identified 4.3 Capabilities and limitations of each process are investigated and general strategies developed to address client need
5. Apply knowledge of converting and finishing processes	5.1 Basic characteristics of converting and finishing processes (guillotining, flat-bed and rotary cutting, collating, folding, adhesive, mechanical and thermal fastening) are used to inform printing decisions 5.2 Types of jobs and products for which each process is appropriate are researched and used to inform printing decisions
6. Apply detailed knowledge of substrates and inks	6.1 Range of substrates for each printing process is used to inform printing decisions 6.2 Relationship of different paper sizes is used to inform printing decisions 6.3 Information about effects of different weights and callipers of substrates on screen printing operations is used to inform printing decisions 6.4 Effects of paper grain on pre-press, printing and finishing operations are researched and results used to inform production

ELEMENT	PERFORMANCE CRITERIA
	processes 6.5 Differences in printing on different substrates (paper, plastic, glass) are investigated to inform printing decisions 6.6 Effects of different properties of ink (drying properties, fastness, gloss) on screen printing operations are observed and results used to inform printing decisions 6.7 Inks and coatings that are appropriate and inappropriate for particular finishing processes are identified and considered in 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 identified and used to inform printing decisions 7.2 Criteria for selecting mesh count and stencil type are determined and used to inform printing decisions 7.3 Dot gain, trapping and minimising moire requirements for different meshes, stencils, inks and substrates are identified and used to inform printing decisions 7.4 Effects of different substrates on use and positioning of trimming and folding marks are investigated to inform printing decisions 7.5 Mechanisms and techniques for adjusting image registration and position are determined and used to inform printing decisions 7.6 Procedure for determining colour sequence is used to inform printing decisions 7.7 Adjustments that can be made so that product matches approved proof are determined and used to inform printing decisions
8. Apply knowledge of colour theory	8.1 Colour theory of additive colours (light), Red, Green, Blue (RGB), is used to inform printing decisions 8.2 Colour theory of subtractive colours (pigments), Cyan, Magenta, Yellow, Key (black) (CMYK), is used to inform printing decisions 8.3 Relationship between ranges of visual colour RGB and CMYK is used to inform printing decisions 8.4 Relationship between hue, greyness and substrate for tone and colour correction is used to inform printing decisions 8.5 Colour matching conditions and colour matching systems are used to inform printing decisions 8.6 Procedures that ensure effective colour management are

ELEMENT	PERFORMANCE CRITERIA
	implemented
9. Apply basic knowledge of costs of production	9.1 Types of information that need to be exchanged between different stages of production to facilitate production efficiency are used in personal work practices 9.2 Systems (manual and computerised) that can be used to exchange information are considered and used in workplace 9.3 Basic principles of efficient production management are used in personal work practices
10. Apply basic knowledge of production management requirements and systems	10.1 Types of information that need to be exchanged between different stages of production to facilitate production efficiency are identified and used to inform production decisions 10.2 Systems (manual and computerised) that can be used to exchange information are used in workplace 10.3 Basic principles of efficient production management are applied in workplace

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.3	Researches and comprehends information in a range of text types from various sources
Oral Communication	1.1	Uses appropriate vocabulary, including technical language relevant to role and context
Numeracy	6.2, 6.3	- Uses estimation and other assessment skills to check the outcomes and decide on the appropriate accuracy for the outcomes - Interprets and analyses a range of mathematical information that is used in familiar and routine tasks - Represents the mathematical information in a form that is personally useful as an aid to problem solving
Navigate the world of work	1.2, 1.3, 2.1	- Maintains knowledge of the printing industry required for current role - Complies with legislative requirements and follows organisational policies and procedures relevant to own

		role
Get the work done	1.2, 1.3, 3.1-3.5, 4.1-4.3, 6.1-6.7, 7.1-7.7, 8.1-8.6, 9.1-9.3, 10.1-10.3	• Takes responsibility for planning and organising own workload using analytical processes to decide on a course of action, and assembles the resources required • Recognises the potential of new approaches to enhance work practices and outcomes, and generates new ideas while regularly reviewing priorities and performance during implementation • Monitors trends and identifies concepts, principles and features of approaches in use in other contexts, and redesigns these to suit own situation • Applies formal problem-solving processes when tackling an unfamiliar problem • Uses a range of digitally based technology and applications to access and filter data, and extract, organise, integrate and share relevant information in increasingly effective ways

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICPKNW314 Apply knowledge and requirements of the screen printing sector	ICPKN314C Apply knowledge and requirements of the screen printing sector	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a74b7a0f-a253-47e3-8be0-5d426e24131d>

Assessment Requirements for ICPKNW314 Apply knowledge and requirements of the screen printing sector

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Performance Evidence

Evidence of the ability to:

- use appropriate vocabulary and terminology in written and oral communications with tradespeople, colleagues, management or clients
- apply relevant legislative and workplace requirements when completing tasks
- keep up to date with trends in the screen printing industry
- develop general methods for screen printing that consider image type and placement, colour, output devices and settings, and output requirements
- choose appropriate products and processes for a converting or finishing job
- choose appropriate substrate, mesh count, stencil and ink for different print jobs
- use a colour management system to determine colour requirements for a print job
- accurately plan, cost and document a print job.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- describe legislative and enterprise requirements that affect work practice
- describe designs that are appropriate for screen printing
- describe the procedure for determining colour sequence
- describe the basic principles of the following printing processes:
 - lithography
 - relief
 - flexography
 - gravure
 - pad printing
 - screen printing

- digital and electronic printing
- describe the basic characteristics of the following converting and finishing processes:
 - guillotining
 - flat-bed and rotary cutting
 - collating
 - folding
 - adhesive
 - mechanical and thermal fastening
- describe the range of substrates used for each printing process
- describe 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)
- describe the relationship between ranges of visual colour Red, Green, Blue (RGB) and Cyan, Magenta, Yellow, Key (black) (CMYK)
- explain the main cost elements in pre-press production
- explain the basic principles of efficient production management.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the printing industry and include access to:

- special purpose tools, equipment and materials
- industry software packages.

Assessors must satisfy NVR/AQTF assessor requirements.

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