



Australian Government

ICPPRN441 Set up for complex pad printing

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 skills and knowledge required to set up complex pad printing machines for multi-coloured or non-routine print jobs. It includes the ability to set up manual pre- and post-treatment processes, conduct a proof run and adjust settings to ensure production speeds are attained.

It applies to individuals working as print machinists in the printing and graphic arts industry. They prepare material, set up, monitor and operate equipment and machinery, apply solutions to a defined range of problems associated with the print medium, and analyse and evaluate information from a variety of sources. They may also provide leadership and guidance to others with some limited responsibility for the output of others.

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

Unit Sector

Printing

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. Confirm non-routine job specifications	1.1 Job requirements are read and interpreted from job documentation or production control system 1.2 Set up is planned and carried out correctly in minimum time with minimum wastage 1.3 Availability of all job related components is checked
2. Install tampons (printing pads) into	2.1 Appropriate tampons are selected according to non-routine job specifications/requirements

ELEMENT	PERFORMANCE CRITERIA
machine	2.2 Tampons are secured into machine
3. Set up fixtures onto machine bed or conveyor	3.1 Appropriate fixtures are selected and secured to X-Y table or conveyor jig plates 3.2 Adjustments are made to height of machine bed to suit size of object to be printed 3.3 Adjustments are made to X-Y table of machine bed to suit position of image on object
4. Select and prepare inks and additives	4.1 Inks, and additives are selected according to non-routine job specifications and end-user requirements 4.2 Quality and suitability of inks and additives are checked and appropriate action is taken 4.3 Inks and additives are prepared according to work health and safety (WHS) requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 4.4 Correct colour and weight/volume of ink is mixed and prepared to match requirements of the non-routine job specification and the printing process 4.5 Formulation of ink, colour match and approved colour are appropriately recorded 4.6 Inks and additives are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions to prevent damage and hazards to personnel and to prolong shelf life
5. Set up machine for complex pad printing	5.1 Plate holders are set up and adjusted for register according to job specifications 5.2 Appropriate plates and plate holders are selected and plates are secured into plate holders 5.3 Tampons are set up and adjusted according to job specifications 5.4 Spatula and doctor blade or ink cups are set up and adjusted according to printing process and job specifications
6. Set up pre- and post-treatment in-line processes	6.1 In-line loading is set up to suit non-routine object and according to job specifications 6.2 In-line pre-treatment is set up to suit non-routine object and according to job specifications 6.3 In-line drying is set up to suit non-routine object and according to job specifications 6.4 In-line ejection is set up to suit non-routine object and

ELEMENT	PERFORMANCE CRITERIA
	according to job specifications
7. Conduct proof run	7.1 Material to be used for proof is organised correctly 7.2 Machine is operated according to manufacturer's and enterprise procedures to produce a specified proof 7.3 Proof is visually inspected and/or tested or laboratory testing organised according to enterprise procedures 7.4 Production does not commence without client approval or authority, where appropriate 7.5 Results are interpreted and adjustments are carried out according to product and machine specifications to determine adjustment requirements

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	1.1, 2.1, 4.1, 4.3, 4.4, 4.6, 5.1, 5.3, 5.4, 6.1-6.4, 7.5	Recognises and interprets text to establish job requirements from information contained within relevant instructions, procedures and specifications
Writing	4.5, 4.6, 7.4	Completes records accurately and according to workplace requirements
Oral Communication	7.4	Participates effectively in spoken interactions using appropriate vocabulary, questioning and listening techniques to gain approvals
Numeracy	4.4	Uses basic mathematical calculations to calculate weight, volume and formula ratios
Navigate the world of work	4.3, 4.6, 7.2-7.4	Complies with legislative requirements and follows organisational policies and procedures relevant to own role
Interact with others	7.4	Follows accepted communication practices and protocols when seeking approval
Get the work done	1.1-1.3, 2.1, 2.2, 3.1-3.3, 4.1-4.6, 5.1-5.4, 6.1-6.4,	Takes responsibility for planning and organising own workload using analytical processes to decide on a course of action, and assembles required resources

	7.1-7.3, 7.5	• Recognises and addresses some unfamiliar problems of increasing complexity within own scope, • Reads data from electronic monitoring and control systems
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICPPRN441 Set up for complex pad printing	ICPPR441C Set up for complex pad printing	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 ICPPRN441 Set up for complex pad printing

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Performance Evidence

Evidence of the ability to:

- set up a machine for complex pad printing on TWO occasions (if possible, on different substrates) according to manufacturer's and job specifications, enterprise procedures and the performance criteria.
- set up pad printing machines for non-routine print jobs, including for manual pre- and post-treatment processes
- conduct a proof run and adjust settings to ensure production speeds are attained

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:

- identify different substrate groups and suggest correct ink type for each group
- identify plastic subgroups for purpose of ink selection
- explain how adjustments are made to process colour inks for correct colour balance
- describe methods of improving opacity of a light coloured ink on a dark substrate
- determine correct pad shape for (given) applications
- describe the effect pad shape and hardness have on print quality
- describe the effect commonly seen at the contact point of the nipple of a pad in a large solid print, and how can it be avoided
- explain how to prepare a new pad for its first printing
- determine the correct plate type for (given) applications
- outline the difference between steel and photopolymer plates for process printing
- provide reasons for mis-registered images and how can they be corrected
- identify work health and safety (WHS) concerns of setting presses and doctor blades
- describe adjustments made to the machine so the doctor blade operates correctly

- outline consequences of a damaged doctor blade
- identify different types of doctor blades and explain their applications
- identify WHS concerns of pre- and post-treating substrates
- describe common pre- and post-treatment methods for different substrates and their importance
- identify causes of, and solutions for, common print problems (e.g. hairlines around image, loss of density in the centre of a solid image, fine lines of ink running through image, distortion of image, picking up ink from substrate by subsequent pads, washed out images, loss of fine lines in images, inconsistent colour)
- locate machine manuals, safety and other documentation relevant to this task and outline the information included in them.

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 field of work and include access to special purpose tools, equipment and materials, including a pad printing machine.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

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