



Australian Government

ICPPRN4410 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 4.0.

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. Prepare for job	1.1 Identify job requirements 1.2 Set up required printing machinery according to manufacturer specifications 1.3 Confirm availability of all job components 1.4 Select and secure tampons into machine
2. Set up fixtures onto	2.1 Select and secure fixtures to xy table

ELEMENT	PERFORMANCE CRITERIA
machine bed or conveyor	2.2 Adjust height of machine bed according to object size 2.3 Adjust xy table of machine bed according to image position
3. Select and prepare inks and additives	3.1 Select inks and additives according to non-routine specifications and end-user requirements and confirm they meet quality requirements 3.2 Prepare inks and additives according to work health and safety (WHS) requirements and manufacturer specifications 3.3 Mix and prepare colour and volume of ink to match requirements of the printing process 3.4 Record formulation of ink, colour match and approved colour 3.5 Label, handle and store inks and additives according to manufacturer specifications and hazardous liquids storage regulations
4. Set up machine for complex pad printing	4.1 Set up and adjust plate holders for register 4.2 Select plates and plate holders and secure into plate holders 4.3 Set up and adjust tampons 4.4 Set up and adjust spatula, doctor blade and ink cup as required according to machine requirements 4.5 Set up in-line loading, pre-treatment, drying and ejection to suit non-routine object requirements
5. Conduct proof run	5.1 Operate machine according to manufacturer specifications and enterprise procedures to produce specified proof 5.2 Inspect and test sample as required according to enterprise procedures 5.3 Seek client approval and authority prior to the production run as required 5.4 Interpret results and make adjustments according to product and machine specifications as required

Foundation Skills

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

Skill	Description
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Writing	• Completes records according to workplace requirements
Numeracy	• Uses basic mathematical calculations to calculate weight, volume and formula ratios
Self-management	• Complies with enterprise procedures relevant to own role
Teamwork	• Follows accepted communication practices and protocols when seeking approval
Planning and organising	• Takes responsibility for planning and organising own workload using analytical processes to decide on a course of action, and assembles required resources
Problem solving	• Identifies and addresses some unfamiliar problems of increasing complexity within own scope
Technology	• Reads data from electronic monitoring and control systems

Unit Mapping Information

Supersedes and is equivalent to ICPPRN441 Set up for complex pad printing.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for ICPPRN4410 Set up for complex pad printing

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- set up a machine for complex pad printing on two occasions according to manufacturer and job specifications and enterprise procedures.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- work health and safety (WHS) risks and requirements for:
 - setting up and operating machinery
 - handling setting presses and doctor blades
 - pre- and post-treating substrates
 - handling inks and additives
- different substrate groups and the ink type for each group
- quality requirements for inks and additives
- plastic subgroups and their required ink selection
- adjustments required to process colour inks for required colour balance
- methods to improve opacity of a light coloured ink on a dark substrate
- the required pad shape and plate type for different applications
- the effect pad shape and hardness have on print quality
- the effect commonly seen at the contact point of the nipple of a pad in a large solid print, and methods for avoiding it
- the procedure for preparing a new pad for its first printing
- the difference between steel and photopolymer plates for process printing
- reasons for mis-registered images and correction methods
- machine adjustment procedures ensuring the doctor blade operates
- different types of doctor blades, their applications and consequences of a damaged blade

- common pre- and post-treatment methods for different substrates and their importance
- causes of and solutions for common print problems, including:
 - hairlines around image
 - loss of density in the centre of a solid image
 - fine lines of ink running through image and loss of fine lines
 - distortion of image
 - picking up ink from substrate by subsequent pads
 - washed out images and inconsistent colour
- manufacturer manuals, enterprise procedures and work health and safety documentation, including their location and purpose.

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
- pad printing machinery.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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