



Australian Government

ICPPRN4310 Set up for complex lithographic 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 options, and then set up either wide or narrow reel or sheet-fed lithographic printing machines for non-routine print jobs. It includes the ability to conduct a proof run and adjust settings to ensure production speeds are attained in minimum time with minimum wastage.

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 Set up and adjust delivery systems 1.5 Add substrate to and remove substrate from process according to job specifications

ELEMENT	PERFORMANCE CRITERIA
2. Select and prepare inks and additives	2.1 Select inks, dyes and additives required according to job specifications and end-user requirements and confirm they meet quality requirements 2.2 Prepare inks, dyes and additives according to work health and safety (WHS) requirements, and manufacturer specifications 2.3 Mix and prepare colour and volume of ink to match requirements of the printing process and job specifications 2.4 Approve and record formulation of ink, colour match and approved colour 2.5 Label, handle and store inks, dyes and additives
3. Set up machine for complex lithographic printing	3.1 Prepare and adjust plate cylinder 3.2 Mount plates according to machine specifications 3.3 Prepare and adjust blanket and blanket cylinder 3.4 Prepare and adjust impression cylinder 3.5 Set up and adjust inking system 3.6 Set up and adjust dampening system 3.7 Set up and adjust drying system
4. Conduct proof run	4.1 Operate machine according to manufacturer specifications and enterprise procedures to produce specified proof 4.2 Inspect and test proof as required according to enterprise procedures 4.3 Seek client approval and authority prior to the production run as required 4.4 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
Writing	Completes forms and labels according to workplace requirements
Self-management	Complies with enterprise procedures relevant to own role

Teamwork	Follows accepted communication practices and protocols when seeking approval
Planning and organising	With assistance, determines priorities and sequences steps involved in clearly defined, familiar tasks and identifies and assembles required resources
Problem solving	Responds to predictable problems and implements standard or logical solutions related to role in immediate work environment
Technology	Reads data from electronic monitoring and control systems

Range of Conditions

This section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Delivery systems must include either:	- reel or - sheet
Setting and adjusting must include either:	- set up options for unwind and rewind reels - webbing procedures and web control system - splicing/joining reels - printed web viewing devices - folder and sheeter - set off / marking prevention devices or - feeder and delivery sections - sheet pick-up, transportation and control and transfer systems - set off / marking prevention devices

Unit Mapping Information

Supersedes and is equivalent to ICPPRN431 Set up for complex lithographic 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 ICPPRN4310 Set up for complex lithographic 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 lithographic printing machine for a complex job on two occasions according to job and manufacturer 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:

- enterprise procedures, manufacturer specifications, and work health and safety (WHS) requirements for:
 - setting up and operating reel and sheet transportation and delivery systems
 - setting up, operating and slitting on the machine
 - webbing up the machine
 - preparation and handling of inks and additives
- enterprise escalation procedures and required personnel, including those with responsibility for final job approval
- safety features on the machine and their purposes
- components of a web-fed system, their functions, issues and adjustment procedures, including:
 - plates, blankets and cylinders
 - rollers
 - the folder
 - the rewind unit
 - silicone applicators
- inks and additives required for the job, their applications, key features, storage and labelling procedures, and common issues
- ink suitability and quality requirements, and adjustment procedures

- common issues and adjustment procedures for:
 - incorrect brake tension
 - using a blunt knife when sheeting
 - excess vacuum on the slow-down wheels
 - excessive use of anti-set off spray powder
 - excessive pressure on machine components
- the purpose or function of:
 - the web viewing device
 - spectrophotometers in assessing ink colour
 - punching a printed product
 - densitometers and polarisation filters
- procedures for:
 - determining reel and bustle wheel position
 - adjusting print length on the required type of press
 - determining ink duct and ink duct sweep settings
- causes of incorrect sheet delivery and set off in printed sheets, and correction methods
- key considerations in deciding colour sequence and effects of changes in sequence
- heat-set machines, their processes, and issues that may arise
- front lays, their function and selection for jobs
- required adjustments for changes in stock weights
- special end-use requirements
- waste management procedures
- fountain solutions, their required conductivity, and check and adjustment procedures
- in-line units, their set-up procedures and operations
- factors to consider when setting hole punching in relation to repeat length
- problems that may cause the machine to keep stopping
- checks performed when running the machine and engaging the impression
- communication protocols for machine operation to other team members
- proof testing, inspection procedures, and available aids and required conditions
- adjustments that may cause mis-register
- adjustments required to position the image laterally, circumferentially and diagonally
- mechanical and optical dot gain and correction methods
- cleaning procedures for machine components and materials used
- 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

- lithographic printing machine with in-line units.

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

Links

Companion Volume Implementation Guide is found on VETNet -

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