



Australian Government

ICPPRN313 Set up for basic flexographic printing

Release: 2

ICPPRN313 Set up for basic flexographic printing

Modification History

Release	Comments
Release 2	This version released with ICP Printing and Graphic Arts Training Package Version 2.0. Version created to amend outdated application section.
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 machines for routine flexographic printing.

It applies to individuals who work as print machinists and prepare material, and monitor and run equipment and machinery, and apply solutions to printing difficulties as they arise.

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 routine job specifications	1.1 Job requirements are read and interpreted from job documentation or production control system 1.2 Set up is carried out correctly in minimum time with minimum wastage 1.3 Availability of all job-related components are checked 1.4 Proofed job is checked for conformance with job specifications

ELEMENT	PERFORMANCE CRITERIA
2. Set up delivery systems	2.1 Delivery systems are correctly set up and adjusted according to job specifications 2.2 Substrate is added to and removed from process according to job specifications
3. Select and prepare inks and solvents	3.1 Inks and solvents are selected according to routine job specifications and end-user requirements 3.2 Quality and suitability of inks and solvents are checked and appropriate action taken 3.3 Inks and solvents are prepared according to work health and safety (WHS) requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 3.4 Correct colour and weight/volume of ink are mixed and viscosities checked and modified according to press requirements and routine job specifications 3.5 Ink formula and approved colour drawdowns are appropriately recorded 3.6 Inks and solvents are appropriately labelled, handled and stored according to manufacturer's/supplier's instructions and relevant hazardous liquids storage regulations
4. Set up machine for basic flexographic printing	4.1 Flexographic plate cylinders are installed and register adjustments centred OR 4.2 Sleeves are installed in press and register adjustments made OR 4.3 Plate mounting sheets are mounted on cylinders in press and register adjustments made 4.4 Plate cylinders are gauged up or pre-set to impression 4.5 Inking system is set up and roller nips/blades are set correctly 4.6 Ink circulation is maintained at correct level and flow for machine requirements 4.7 Viscosities are adjusted according to job specifications 4.8 Air volume and drier temperatures or curing systems are selected to suit inks, substrate, solvents and according to job specifications 4.9 Air volume is adjusted between colours to maximise drying and minimise air overspill

ELEMENT	PERFORMANCE CRITERIA
5. Set up in-line units for basic process(es)	5.1 Minor in-line printing/converting/binding units are set up for basic process(es) and adjusted to suit machine requirements and job specifications 5.2 Assistance is given in set-up of major in-line printing/converting/binding units.
6. Conduct print run	6.1 Material to be used for print is organised correctly 6.2 Press is set up and operated according to WHS guidelines 6.3 Print impressions are set to minimum kiss impression 6.4 Web tensions are correctly set at unwind, between stations and rewind 6.5 Print is checked for register 6.6 Drying is checked as sufficient to key ink to the substrate 6.7 Viscosities are adjusted to obtain correct colour at proof speed and checked against colour matching system 6.8 Substrate is checked against job specifications
7. Organise print inspection and/or testing	7.1 Print is visually inspected and/or tested, or laboratory testing is organised according to enterprise procedures 7.2 Production does not commence without client OK where appropriate
8. Readjust settings to production speed	8.1 Production speed print results are interpreted and appropriate adjustments are made to press, ink and substrate settings 8.2 Adjustments are made according to product specifications and press performance 8.3 Web is spliced at production speed and further samples are obtained for quality inspections at appropriate intervals where applicable 8.4 Press setting is documented and samples are retained

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, 1.4, 3.1, 3.3, 3.4, 3.6, 4.7, 4.8, 5.1, 6.8, 8.2	Recognises and interprets text to establish job requirements from information contained within relevant procedures and specifications
Writing	3.5, 3.6, 8.4	Enters routine data associated with production processes and enterprise procedures
Oral Communication	1.4, 3.4, 4.7, 4.8, 5.1, 5.2, 6.8, 7.1, 7.2, 8.3	Speaks clearly using appropriate vocabulary, tone and pace to report faults and discrepancies
Numeracy	3.4, 4.6, 4.8, 6.8, 8.1	Interprets and analyses a range of mathematical information used in familiar and routine tasks
Navigate the world of work	1.1, 1.2, 1.4, 3.1-3.6, 4.1-4.8, 5.1, 6.1-6.8, 7.1, 8.1-8.3	- Recognises and follows explicit and implicit protocols and meets expectations associated with own role - Recognises and follows all procedures for cleaning and maintenance of equipment, incorporating regulatory requirements and enterprise procedures
Interact with others	1.4, 3.4, 4.7, 4.8, 5.1, 5.2, 6.8, 7.1, 7.2, 8.3, 8.4	- Cooperates with others as part of familiar routine activities, and contributes to specific activities requiring joint responsibility and accountability - Understands what to communicate, with whom and how, in routine work situations
Get the work done	1.1-1.4, 2.1, 2.2, 3.1-3.4, 3.6, 4.1-4.9, 5.1, 5.2, 6.1-6.8, 7.1, 7.2, 8.1-8.4	- Determines priorities and sequences steps involved in clearly defined, familiar tasks - Recognises and takes responsibility for addressing predictable, and some less predictable, problems in familiar work contexts - Follows routine procedures for using digital technology by reading 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 up and adjusting MUST	checking reels for treatment levels, coatings,

include EITHER:	printing side and age of product • securing reels on reel shaft • correctly positioning reels on unwind stand • positioning and mounting correctly cut cores on rewind shafts • centring and setting edge guide • setting unwind and rewind tension to suit substrate • setting nip rollers OR • feeder • sheet pick-up and transportation system • transfer system • delivery • sheet transfer and control system • set off / marking prevention devices
-----------------	---

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICPPRN313 Set up for basic flexographic printing Release 2	ICPPRN313 Set up for basic flexographic printing Release 1	Updated to amend application	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 ICPPRN313 Set up for basic flexographic printing

Modification History

Release	Comments
Release 2	This version released with ICP Printing and Graphic Arts Training Package Version 2.0. Version created to amend outdated application section.
Release 1	This version first released with ICP Printing and Graphic Arts Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- demonstrate all safety devices on the machine
- demonstrate use of control, monitoring and data entry systems
- set up a press on TWO occasions for basic flexographic printing (if possible including at least ONE in-line process), according to manufacturer's specifications and enterprise procedures. The individual will also 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:

Job requirements

- describe what to do if vital information is missing from the job ticket
- ensure all required materials are available prior to set up

Flexographic printing plates and cylinders or sleeves OR plate mounting sheets

- identify precautions to avoid damaging plates and cylinders

For reel systems only

Reel in-feed

- explain work health and safety (WHS) factors to consider when operating the reel in-feed and delivery system
- explain how to correctly select printing side of the material
- describe the effect of low web tension on the print
- name types of web splices that could be used appropriately for the job

Reel delivery system

- describe effect of excessive web tension at the rewind of the machine
- discuss how to minimise three risks associated with the rewind

For sheet systems only

Sheet in-feed

- explain WHS factors to consider when operating the sheet in-feed and delivery system
- describe why the sheet is normally set up in the middle of the machine
- describe effect side-lay selection has on the job
- describe how appropriate front lays should be selected
- describe what determines position of the sheet before it is transported to the printing unit
- explain how a register check is carried out
- discuss why a two-sheet cut is used on most feeders
- discuss how the machine recognises if a sheet is missing or late

Sheet delivery system

- describe why application of spray powder is sometimes advisable
- discuss effects of too much spray powder
- show how slowdown devices may be used in delivery
- identify effect of excessive jogging on the stack

Selection and preparation of inks and additives

- name major environmental and WHS concerns with regard to inks and additives
- describe how ink suitability is matched to a particular job
- describe implications if ink is too viscose
- describe how an ink that is slightly light can be modified to meet the job needs
- identify methods to check ink for correct colour
- name the person who passes the colour prior to running the job

Machine set-up

- discuss all WHS factors to consider when setting up the machine
- show how machine specifications are determined, relating to a specific job

- discuss steps to ensure the inking system is adjusted correctly
- describe why inking system ink level is maintained at a certain level
- list necessary precautions when handling doctor/chamber blades
- identify optimum make-ready-speed for the job
- explain basic in-line processes
- list steps to incorporate the in-line processes into the make-ready
- describe how equipment used in in-line processing is protected against damage during set-up
- list precautions to take if uv drying is utilised to dry the ink film

Proofing and adjustment

- identify methods to minimise waste during make-ready
- list procedures required to have the print approved
- describe quality control measurements to apply to the proof to test against known standards
- outline how to check on initial print prior to running
- describe how setting adjustments are determined
- identify processes to plot success of the machine adjustment
- describe how final results are recorded for future reference

Relevant test procedures

- identify and describe tests for scuffing and coefficient of friction
- show circumstances in which these tests should be applied

Leaching

- discuss leaching

Information sources

- identify machine manuals, safety and other documentation relevant to this task and where are they kept, and information contained.

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
- a range of standard inks and substrates
- a variety of stack, in-line and central impression flexographic printing machines.

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 guides are found in VETNet -

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