



Australian Government

ICPPRN314 Produce complex flexographic printed product

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 machines for non-routine flexographic printing.

It applies to individuals who work as print machinists who 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. Maintain non-routine operation of reel transportation system	1.1 Reel stand is monitored and adjusted to ensure efficient, continuous operation 1.2 Web control system is monitored and adjusted to ensure correct tension and accurate continuous web positioning for efficient operation 1.3 Substrate is added to process according to job instructions
2. Maintain non-routine operation of reel delivery system on web-fed machine	2.1 Reel rewind section is monitored and adjusted to maintain correct tension and avoid marks, blemishes or damage to finished product 2.2 Substrate is removed from process according to non-routine job instructions

ELEMENT	PERFORMANCE CRITERIA
	2.3 Sheetting section is monitored and adjusted to ensure quality and efficient product delivery 2.4 Set-off / marking prevention system is monitored and adjusted to ensure quality of printed product without set-off or marking meets the approved proof standard
3. Maintain complex flexographic printing process	3.1 Flexographic plate and plate cylinder or sleeve condition is monitored and adjusted to ensure quality of printed product meets the approved proof standard 3.2 Flexographic impression roller condition is monitored to ensure the quality of printed product meets the approved proof standard 3.3 Flexographic inking system and doctor blade condition are monitored and adjusted to ensure quality of printed product meets the approved proof standard 3.4 Drying systems are monitored and adjusted to ensure quality of printed product meets the approved proof standard 3.5 In-line printing/converting/binding/finishing processes are monitored and adjusted to ensure quality of product meets the approved proof standard
4. Maintain non-routine production process	4.1 Production process is operated in association with fellow workers and according to company specifications and planned daily schedule 4.2 Production is maintained within work health and safety (WHS) requirements and company and manufacturer's specifications 4.3 Automatic control is used as per specification 4.4 Manual control is used as per specification 4.5 Ink performance, colour, register and position of print are monitored and adjusted throughout production run 4.6 Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 4.7 Process adjustments to eliminate problems are reported according to enterprise procedures 4.8 Faulty performance of equipment is identified and reported according to enterprise procedures 4.9 Waste is sorted according to enterprise procedures
5. Identify and rectify faults	5.1 Problems in flexographic machine are identified and reported according to enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
	5.2 Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level 5.3 Flexographic machine operation is checked to ensure correct operation 5.4 Machine faults requiring repair are identified and reported to designated person according to enterprise procedures
6. Conduct shutdown of production process	6.1 Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures 6.2 Shutdown is conducted in association with fellow workers and in compliance with WHS requirements 6.3 Reels and cores are removed from press 6.4 Unused ink is drained back into containers and correctly labelled and stored according to manufacturer's/supplier's specifications and enterprise procedures 6.5 Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures 6.6 All product is removed from operating area
7. Clean and wash up printing machine at end of print run	7.1 Cylinders or sleeves, plate and roller surfaces are cleaned ready for next run 7.2 Inking rollers and doctor blades or chamber blade systems are cleaned with correct solvents according to WHS guidelines 7.3 Ink pumps, tanks and hoses are cleaned correctly 7.4 Impression rollers/central impression and press rollers are cleaned 7.5 In-line printing/converting/binding/finishing units are cleaned ready for next run 7.6 Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run 7.7 Press is lubricated and protected according to duration of shutdown 7.8 Production records or other documentation are accurately completed where required by enterprise procedures

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, 2.2, 4.1-4.4, 5.2, 6.1, 6.4	Recognises and interprets text to establish job requirements from information contained within relevant procedures and specifications
Writing	4.7, 4.8, 5.1, 5.4, 6.4, 7.8	Enters routine data associated with production processes and enterprise procedures
Oral Communication	1.3, 2.2, 4.1-4.4, 4.7, 4.8, 5.1, 5.2, 5.4, 6.1, 6.2	Speaks clearly using appropriate vocabulary, tone and pace to report faults and discrepancies
Numeracy	1.3	Interprets and analyses a range of mathematical information used in familiar and routine tasks
Navigate the world of work	1.1-1.3, 2.1-2.4, 3.1-3.5, 4.1-4.4, 4.7-4.9, 5.1-5.4, 6.1, 6.2, 7.1-7.6, 7.8	- 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	1.3, 2.2, 4.1-4.4, 4.7, 4.8, 5.1, 5.2, 5.4, 6.1, 6.2	- 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	1.1-1.3, 2.1-2.4, 3.1-3.5, 4.1-4.6, 4.8, 4.9, 5.1-5.4, 6.1-6.3, 6.6, 7.1-7.7	- Determines priorities and sequences steps involved in clearly defined, familiar tasks - Recognises and anticipates an increasing range of familiar problems, their symptoms and causes, actively looking for early warning signs and implementing contingency plans - Follows routine procedures for using digital technology by reading data from electronic monitoring and control systems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

Code and title current version	Code and title previous version	Comments	Equivalence status
ICPPRN314 Produce complex flexographic printed product	ICPPR314C Produce complex flexographic printed product	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 ICPPRN314 Produce complex flexographic printed product

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Performance Evidence

Evidence of the ability to:

- operate a reel-fed flexographic press ensuring an efficient THREE or more colour production flow that maintains product quality standards. Any production problems are anticipated and rectified with minimum downtime. The machine is correctly shut down and cleaned according to work health and safety (WHS) guidelines
- demonstrate use of control, monitoring and data entry systems
- monitor production output and make necessary adjustments to maintain print quality on a flexographic machine while producing a complex print on TWO occasions (if possible using different substrates, and if possible including at least TWO in-line processes) according to job specifications and enterprise procedures.

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:

Reel transportation and web control

- explain what causes the reel to wander
- explain what causes web to break at the unwind unit
- describe the difference between a 'flying paster' and 'zero speed' type reel-stand
- explain what print fault results from the reel being run out of centre
- identify possible faults in the unwind section that could cause a web break

Reel delivery for rewinding and sheeting

- identify WHS risks associated with rewinding and sheeting
- identify the safety feature in the delivery system that helps if the web jams up
- explain why the sheet cut-off might wander

- describe the effect of poorly adjusted nip rollers when rewinding and sheeting

Printing and drying units

- explain what happens if the plate lifts on the leading edge during a print run
- explain how a build-up of ink on the impression cylinder affects the printed product
- explain what causes ink to foam in the ink tray
- explain the effect of too much reducer in the ink
- list actions that reduce wear of the doctor blade
- explain why it is necessary that all solvents be removed from the final ink film
- describe the link between driers and set off and marking
- explain what causes UV ink to dry
- explain what causes substrate to distort
- list the effect in the chillers if the drying temperature was too low
- explain the effect of incorrect drying temperature on the finished product
- discuss why it is advisable not to eat or drink near the machine when using UV inks

In-line processes

- explain why it is necessary to frequently examine in-line components of the job
- describe how consistency of the punching unit is checked
- explain the outcome of excessive pressure on the slitters

Maintaining production process

- describe safety features within the organisation that aid in maintaining effective production
- identify who is legally responsible if removal of machine guards and/or disconnection of micro switches occurs
- describe the effect of inadequate communication within the work team
- explain ramifications if machine guards are removed and/or micro switches are disconnected on a machine
- explain what other measurements besides optimum solid ink density can be measured to assess print quality
- determine the accurate method of checking register during a production run
- describe why it is necessary to take immediate action when anticipating production problems
- explain actions to eliminate further processing of unacceptable printed product
- determine result to the substrate if relative humidity is increased in the press room
- explain the procedure to care for a newly delivered substrate to the press room
- describe why waste should be sorted and the advantage of keeping reusable waste

Client liaison

- identify what industry standards that can be applied to enhance client communication
- describe necessary procedures clients should follow to OK a printed product

Flexographic machine operating problems

- explain when it is necessary to call service personnel to correct a machine problem
- describe enterprise procedures in place to report any machine operating problems

Shutdown procedures

- explain what happens if correct shutdown procedures are not followed
- explain why it is necessary that correct shutdown procedures are conducted with fellow workers
- list advantages of proper labelling and storage of excess inks and materials
- identify why printed product needs to be clearly labelled prior to removal from the press room
- determine what further operations are required for printed reels once they are removed from the printing machine
- explain how the printed job should be stored after removal from the printing machine
- detail cleaning and washing the printing unit
- explain what WHS concerns should be observed when handling ink
- identify safety precautions for cleaning the printing cylinders
- explain why it is necessary to thoroughly clean and wash the printing unit prior to the next print run
- explain why anilox cells should be thoroughly cleaned
- describe how plates can be stored to minimise damage

Cleaning feed, transportation, delivery and in-line sections

- explain work health and safety (WHS) precautions for cleaning these sections of the machine
- explain why it is necessary to maintain a clean substrate handling section of the machine

Completing production records

- identify what completed records are used in the final analysis of the job
- explain benefits of comprehensive records when considering production of future jobs
- identify machine manuals, safety and other documentation relevant to this task, 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 must satisfy NVR/AQTF assessor requirements.

Links

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