



Australian Government

ICPPRN332 Produce complex lithographic 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 produce complex lithographic printed product, ensuring an efficient non-routine production flow that maintains product quality standards.

It applies to individuals who work under direct supervision and have some responsibility in ensuring production process is maintained by anticipating production problems and monitoring equipment and machinery.

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 delivery system	1.1 Delivery systems are monitored and adjusted to ensure efficient and continuous operation and ensure no damage to finished product 1.2 Substrate is added to and removed from process according to job specifications
2. Maintain complex lithographic printing process	2.1 Non-routine lithographic plate and plate cylinder condition are monitored and adjusted to ensure quality of printed product meets the sample sheet standard 2.2 Non-routine lithographic blanket and blanket cylinder condition are monitored and adjusted to ensure quality of printed

ELEMENT	PERFORMANCE CRITERIA
	product meets the sample sheet standard 2.3 Non-routine lithographic impression cylinder condition is monitored and adjusted to ensure quality of printed product meets the sample sheet standard 2.4 Non-routine lithographic inking system is checked and maintained to ensure quality of printed product meets the sample sheet standard 2.5 Non-routine lithographic dampening system condition is monitored and adjusted to ensure quality of printed product meets the sample sheet standard 2.6 Set off / marking prevention and drying system is monitored and adjusted to ensure quality of printed product meets the sample sheet standard 2.7 Drying systems are monitored and adjusted to ensure quality of printed product meets the approved proof standard
3. Maintain production process	3.1 Production process is operated in association with fellow workers and according to company specifications and planned daily schedule 3.2 Production is maintained within work health and safety (WHS) requirements and company and manufacturer's specifications 3.3 Manual and/or automatic control is used as per specification 3.4 Performance is monitored and verified using the process control system according to enterprise procedures 3.5 Ink performance, colour, register and position of print are monitored and adjusted throughout production run 3.6 Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 3.7 Process adjustments to eliminate problems are reported according to enterprise procedures 3.8 Faulty performance of equipment is identified and reported according to enterprise procedures 3.9 Waste is sorted according to enterprise procedures
4. Identify and investigate lithographic machine operating problem	4.1 Problem in lithographic machine operation is investigated 4.2 Problem in lithographic machine is identified and reported according to enterprise procedures
5. Rectify minor lithographic machine	5.1 Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level

ELEMENT	PERFORMANCE CRITERIA
faults	5.2 Lithographic machine operation is checked to ensure correct operation
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 Unused ink is correctly labelled and stored according to manufacturer's/supplier's specifications and enterprise procedures 6.4 Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures 6.5 All product is removed from operating area 6.6 Machine faults requiring repair are identified and reported to designated person according to enterprise procedures 6.7 Repair/adjustment is verified prior to resumption of operations
7. Clean and wash up printing machine at end of print run	7.1 Cylinders, plate and roller surfaces are cleaned ready for next run 7.2 Inking system and dampening system are washed ready for next run, and liquid waste is disposed of according to company and regulatory requirements 7.3 In-line printing/converting/binding/finishing units are cleaned ready for next run 7.4 Transportation and delivery systems are disengaged and cleaned ready for next run
8. Complete records	8.1 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	3.1-3.4, 6.1, 6.3	Recognises and interprets text to establish job requirements from information contained within

		relevant procedures and specifications
Writing	3.7, 3.8, 4.2, 6.3, 6.6, 6.7, 8.1	Enters routine data associated with production processes and enterprise procedures
Oral Communication	3.1-3.3, 3.7, 3.8, 4.2, 6.1-6.3, 6.6, 6.7	Speaks clearly using appropriate vocabulary, tone and pace to report faults and discrepancies
Numeracy	1.2	Interprets and analyses a range of mathematical information that is used in familiar and routine tasks
Navigate the world of work	1.1, 1.2, 2.1-2.7, 3.1-3.5, 3.7-3.9, 4.1, 4.2, 5.1, 5.2, 6.1-6.4, 6.6, 7.1-7.5, 8.1	- 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	3.1-3.3, 3.7, 3.8, 4.2, 6.1-6.3, 6.6, 6.7	- 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, 1.2, 2.1-2.7, 3.1-3.9, 4.1, 4.2, 5.1, 5.2, 6.1-6.7, 7.1-7.5	- 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

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
Monitoring and adjusting MUST include EITHER:	- reel stand and rewind sections - web control system - sheeting section - set off / marking prevention systems

	OR • feeder and delivery systems • sheet pick-up and transportation system • transfer systems • set/ off/marking prevention system
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICPPRN332 Produce complex lithographic printed product	ICPPRN332C Produce complex lithographic 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 ICPPRN332 Produce complex lithographic printed product

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Performance Evidence

Evidence of the ability to:

- operate a lithographic press ensuring an efficient non-routine production flow that maintains product quality standards; production problems are anticipated and rectified with minimum downtime; and 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 lithographic machine while producing a complex print on TWO occasions (if possible using different types and sizes of 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:

For reel systems only

Reel transportation and web control

- explain WHS requirements for operating the reel transportation system
- explain what can cause the reel to wander
- describe what can cause the web to break at the unwind unit
- explain the difference between a “flying paster” and “zero speed” type reel-stand
- identify the print fault that results from the reel being run out of centre
- list faults in the unwind section that can cause a web break

Reel delivery for rewinding and sheeting

- explain WHS risks associated with rewinding

- identify what safety feature is in the delivery system for when the web jams
- explain why the sheet cut-off wanders
- describe the effect of poorly adjusted nip rollers when rewinding and sheeting
- outline further operations required for printed reels after removal from the printing machine
- explain how to store the printed job after removal from the printing machine
- explain why it is necessary to label each printed reel

For Sheet Systems Only

Sheet transportation and transfer system

- explain WHS requirements associated with operating the sheet transportation system
- explain the result of worn suckers at the feeder suction head
- identify the type of two sheet detection on this machine
- discuss how much movement the sheet should have when being registered by the side lay
- explain possible causes of mis-register of the sheet at the feeder
- explain visible signs of the sheet being registered in the feeder
- explain how gripper malfunction can affect sheet control and transfer
- explain when to adjust sheet transfer mechanisms
- list causes of the feeder stack becoming uneven
- explain what happens if the feeder stack is not loaded levelly
- explain how unevenness of the feeder stack can be rectified

In-line processes

- explain how consistency of the punching unit is checked
- describe the outcome of excessive pressure on the slitters
- describe the outcome of a dirty former
- describe the outcome of defective pins in the folder
- describe the outcome of adjusting rollers at the base of the former
- list causes of the web jamming up in the folder

Sheet delivery

- explain WHS risks associated with sheeting
- describe the effect machine speed has on sheet delivery
- explain advantages of spraying moving sheets with anti-set-off powder in the delivery
- name items in the delivery that can mark the printed image
- outline remedial steps that may be necessary to eliminate marking on the printed image
- explain the function of a sheet decurler fitted to the delivery of some machines
- list faults that can result from incorrectly set grippers in the transfer section of a machine
- describe how the printed job should be stored after removal from the printing machine

Printing unit

- explain the result if the plate develops a crack at the grip edge during a print run
- explain the effect of a sticky blanket surface
- list print faults that result from the blanket not being tensioned correctly
- outline causes of blanket packing-creep during printing
- explain how a build-up of ink on the impression cylinder can affect the printed product
- describe the cause of ink lying back in the duct
- list causes of ink stripping on the inking rollers
- explain print faults that result from excessive use of fountain solution on the plate
- describe the recommended pH range for fountain solutions
- list causes of conductivity of the fountain solution changing over an eight-hour shift
- outline problems caused by excessive conductivity of the fountain solutions

Drying unit

- explain the link between driers and set-off and marking
- identify what causes UV ink to dry
- identify what causes the substrate to blister
- describe what happens in the chillers if the drying temperature was too low
- outline the effect of incorrect drying temperature on the finished product

Maintaining production process

- explain the effect of inadequate communication within the work team
- identify safety features within the organisation that help maintain effective production
- explain ramifications of machine guards being removed and/or micro switches being disconnected on a machine
- identify who is held legally responsible for the removal of machine guards and/or disconnection of micro switches
- explain disadvantages of using a closed looped system for automatic control of the printed product
- describe what other measurements besides optimum solid ink density can be measured to assess print quality
- outline the most accurate method of checking register during a production run
- explain why it is important to take immediate action when production problems are anticipated
- explain what action is taken to eliminate further processing of unacceptable printed product
- outline the effect of increases in relative humidity in the press room
- explain the procedure to care for a newly delivered skid of paper to the press room
- explain why waste should be sorted and the advantages of keeping reusable waste
- explain industry standards to enhance effective communication with the client
- discuss necessary procedures the client should follow to OK a printed product

Lithographic machine operating problems

- explain when it is necessary to call service personnel to correct a machine problem

- identify enterprise procedures in place to report any machine operating problems

Shutdown procedures

- list advantages of proper labelling and storage of excess inks and materials
- explain why printed product must be clearly labelled prior to removal from the press room

Cleaning and washing the printing unit

- explain work health and safety (WHS) requirements for handling ink
- explain safety precautions for cleaning the printing cylinders
- describe the washing procedure for offset rubber blanket
- determine how plates can be stored to minimise damage

Cleaning feed, transportation, delivery and in line sections

- explain WHS precautions for cleaning these sections of the machine

Completing production records

- explain how completed records are used in the final analysis of the job
- outline benefits of comprehensive records when considering the production of future jobs

Information sources

- identify machine manuals, safety and other documentation relevant to this task, where they are kept and the 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
- lithographic printing machine.

Assessment processes and techniques must be able to be modified for distance-based learners and be culturally appropriate and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.

Additional support may be needed for the Indigenous community and others from a non-English speaking background.

Where applicable, physical resources should include equipment modified for people with special needs as well as assistance to support their participation in the assessment process.

Assessors must satisfy NVR/AQTF assessor requirements.

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