



Australian Government

ICPPRN432 Produce specialised 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 operate a lithographic press, ensuring an efficient, specialised 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.

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. Maintain specialised lithographic printing process	1.1 Lithographic plate and plate cylinder conditions are monitored, evaluated and adjusted to ensure quality of specialised printed product meets the sample sheet standard 1.2 Lithographic blanket and blanket cylinder conditions are monitored, evaluated and adjusted to ensure quality of specialised printed product meets the sample sheet standard 1.3 Lithographic impression cylinder condition is monitored, evaluated and adjusted to ensure quality of specialised printed

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	product meets the sample sheet standard 1.4 Lithographic inking system is checked and maintained to ensure quality of specialised printed product meets the sample sheet standard 1.5 Lithographic dampening system condition is monitored, evaluated and adjusted to ensure quality of specialised printed product meets the sample sheet standard 1.6 Set off / marking prevention and drying system is monitored, evaluated and adjusted to ensure quality of specialised printed product meets the sample sheet standard 1.7 Drying systems are monitored, evaluated and adjusted to ensure quality of specialised printed product meets the approved proof standard
2. Maintain specialised production process	2.1 Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 2.2 Production is maintained according to WHS requirements, manufacturer's specifications and enterprise procedures 2.3 Manual and/or automatic control is used according to job specifications 2.4 Performance is monitored, evaluated and verified using the process control system according to enterprise procedures 2.5 Ink performance, colour, register and position of print are monitored, evaluated and adjusted throughout production run 2.6 Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 2.7 Process adjustments to eliminate problems are reported according to enterprise procedures 2.8 Faulty performance of equipment is identified and reported according to enterprise procedures 2.9 Waste is sorted according to enterprise procedures
3. Tune and adjust machinery	3.1 Idiosyncrasies of machines are reviewed and adjustments or tuning undertaken to compensate, or to exploit the idiosyncrasy, within manufacturer's specifications 3.2 Options are assessed to determine most effective/efficient method of production, ensuring highest quality and yield from machinery 3.3 Test run confirms correct options and settings or need for

ELEMENT	PERFORMANCE CRITERIA
	further adjustment or tuning to meet quality standards 3.4 Options and recommendations are documented for future reference according to enterprise procedures 3.5 Instruction on new practices is provided to machine operator or finisher, if required
4. Troubleshoot machinery and material problems	4.1 Corrective or preventive action is recommended and implemented where appropriate 4.2 Changes are communicated to relevant personnel in a logical and easily understood manner 4.3 Changes are monitored to confirm improvement to production efficiency 4.4 Ongoing problems are reported according to enterprise procedures
5. Conduct shutdown of production process	5.1 Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures 5.2 Plate cylinder is set up and adjusted according to job specifications 5.3 Unused ink is correctly labelled and stored according to manufacturer's/supplier's specifications and enterprise procedures 5.4 Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures 5.5 All product is removed from operating area 5.6 Machine faults requiring repair are identified and reported to designated person according to enterprise procedures 5.7 Repair/adjustment is verified prior to resumption of operations

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	2.2, 2.3, 3.1, 5.1-5.3	Recognises and interprets text to establish job requirements from information contained within

		relevant procedures and specifications
Writing	2.7, 2.8, 3.1, 3.4, 4.4, 5.3, 5.6, 5.7	Completes records, forms and other documents accurately and according to workplace requirements
Oral Communication	2.1, 2.7, 2.8, 4.1, 4.2, 4.4, 5.6, 5.7	Participates effectively in discussions using appropriate vocabulary, questioning and listening skills
Navigate the world of work	2.1, 2.2, 2.4, 2.7-2.9, 3.4, 4.4, 5.1, 5.3, 5.4, 5.6	- Works independently and collectively within broad parameters, with a strong sense of responsibility and ownership of goals, plans, decisions and outcomes, as well as recognising and following explicit and implicit protocols - Complies with WHS, legislative requirements and follows organisational policies and procedures relevant to own role
Interact with others	2.1, 2.7, 2.8, 3.5, 4.1, 4.2, 4.4, 5.6, 5.7	- Collaborates and cooperates with others to achieve joint outcomes - Contributes to work group discussions using accepted conventions
Get the work done	1.1-1.7, 2.1-2.6, 2.8, 2.9, 3.1, 3.4, 3.5, 4.1-4.4, 5.1-5.7	- Determines priorities and sequences steps involved in clearly defined, familiar tasks and identifies and assembles required resources - Makes rapid decisions when required, drawing on in-depth understanding of a situation and decision-making experience - Responds to predictable problems and implements standard or logical solutions related to role in immediate work environment - Reads data from electronic monitoring and control systems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICPPRN432 Produce specialised lithographic printed product	ICPPR432C Produce specialised 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 ICPPRN432 Produce specialised lithographic printed product

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Performance Evidence

Evidence of the ability to:

- operate a lithographic press using an efficient, specialised production flow that maintains product quality standards, including rectifying production problems with minimum downtime, and cleaning and shutting down the machine according to work health and safety (WHS) guidelines
- monitor production output and make necessary adjustments to maintain print quality on a lithographic machine while producing a specialised print on TWO occasions (if possible using different types and sizes of substrates) according to job specifications, enterprise procedures and the performance criteria.

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:

- identify WHS concerns when operating the reel transportation system
- explain what can cause the reel to wander
- explain what can cause the web to break at the unwind unit
- describe the difference between a 'lying paster' and 'zero speed' type reel-stand
- list print faults that can result from the reel being run out of centre
- outline possible faults in the unwind section that can cause a web break
- identify WHS concerns of operating the sheet transportation system
- describe the result of worn suckers at the feeder suction head
- describe sheet detection types on this machine
- describe the amount of movement the sheet should have when being registered by the side lay
- explain what causes a miss-register of the sheet at the feeder
- outline visible signs of the sheet being registered in the feeder

- explain how gripper malfunction can affect sheet control and transfer
- describe when sheet transfer mechanisms require adjusting
- outline what can cause the feeder stack to become uneven
- describe the result of the feeder stack being loaded unevenly
- explain how unevenness of the feeder stack can be rectified
- identify WHS risks associated with rewinding and sheeting
- describe a safety feature in the delivery system for when the web jams up
- explain why a sheet cut-off might wander
- outline the effect of poorly adjusted nip rollers when rewinding and sheeting
- describe further operations required for printed reels on removal from the printing machine
- explain how the printed job should be stored after removal from the printing machine
- explain the need to label each printed reel
- outline the effect machine speed has on sheet delivery
- explain the advantage of spraying moving sheets with anti-set off powder in delivery
- identify items in delivery that cause marking of the printed image
- describe remedial steps to eliminate marking of the printed image
- describe the function of a sheet de-curler fitted to the delivery of some machines
- provide a list of faults from incorrectly set grippers in the transfer section of a machine
- describe what can happen if the plate develops a crack at the grip edge during a print run
- outline the effect of a sticky blanket surface
- list print faults from the blanket not being tensioned correctly
- explain the cause of blanket packing creep during printing
- describe the effect of ink build-up on the impression cylinder on the printed product
- explain what can cause ink to lie back in the duct
- explain what can cause ink stripping on the inking rollers
- describe print faults that result from excessive use of fountain solution on the plate
- demonstrate knowledge of the recommended pH range for fountain solutions
- explain what can cause conductivity of the fountain solution to change over an eight-hour shift
- identify problems that can be caused by excessive conductivity of the fountain solutions
- explain risks of eating or drinking near the machine when using UV inks
- describe link between driers and set off and marking
- explain what causes UV ink to dry
- explain what can cause the substrate to blister
- outline the effect in the chillers if the drying temperature is too low
- describe the effect of incorrect drying temperature on the finished product
- describe the effect of inadequate communication within the work team on a lithographic printing machine
- identify safety features within the organisation that aid in maintaining effective production
- outline the ramifications if machine guards are removed and/or micro switches are disconnected on a machine

- identify who is held legally responsible for removal of machine guards and/or disconnection of micro switches
- describe the disadvantage of using a closed looped system for automatic control of the printed product
- list alternative measurement, besides optimum solid ink density, to assess print quality
- explain the most accurate method of checking register during a production run
- explain the need to take immediate action when production problems are anticipated
- outline what to do to eliminate further processing of unacceptable printed product
- explain how a stack of paper is affected if the relative humidity is increased 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
- list advantages of keeping reusable waste
- list industry standards to enhance effective communication with clients
- describe the necessary procedures clients should follow to approve a printed product
- outline when to call service personnel to correct a machine problem
- describe enterprise procedures in place to report any machine operating problems
- outline the result if correct shutdown procedures are not followed
- explain the need for correct shutdown procedures conducted with fellow workers
- describe the advantages of proper labelling and storage of excess inks and materials
- explain the use of completed records in final analysis of the job
- outline the benefits of comprehensive records when considering production of future jobs
- locate machine manuals, safety and other documentation relevant to this task, and outline included information.

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 must satisfy NVR/AQTF assessor requirements.

Links

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