



Australian Government

ICPPRN322 Produce complex gravure 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 non-routine gravure printed product.

It applies to individuals who operate a gravure press and maintain product quality standards. Individuals may also provide leadership and guidance to members of their team.

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 positioning of web for efficient operation 1.3 Substrate is added to process according to job instructions
2. Maintain non-routine operation of reel delivery system	2.1 Reel rewind section is monitored and adjusted to maintain correct tension and to avoid marks, blemishes or damage to finished product 2.2 Substrate is removed from process according to 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 gravure printing process	3.1 Gravure cylinder condition is monitored and adjusted to ensure quality of printed product meets the sample sheet standard 3.2 Gravure impression roller condition is monitored and maintained to ensure quality of printed product meets the sample sheet standard 3.3 Gravure inking system and doctor blade are monitored and adjusted to ensure quality of printed product meets the sample sheet standard 3.4 Drying systems are monitored and adjusted to ensure quality of printed product meets the approved proof standard
4. Maintain operation of in-line processes	4.1 In-line printing/converting/binding/finishing processes are monitored 4.2 In-line printing/converting/binding/finishing process are adjusted to ensure quality of product meets the approved proof standard
5. Maintain non-routine production process	5.1 Production process is operated in association with fellow workers and according to company specifications and planned daily schedule 5.2 Production is maintained within work health and safety (WHS) requirements and company and manufacturer's specifications 5.3 Manual and/or automatic control is used as per specification 5.4 Performance is monitored and verified using the process control system according to enterprise procedures 5.5 Ink performance, colour, register and position of print are monitored and adjusted throughout production run 5.6 Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention 5.7 Process adjustments to eliminate problems are reported according to enterprise procedures 5.8 Waste is sorted according to enterprise procedures
6. Identify and rectify faults	6.1 Problems in gravure machine are identified and reported according to enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
	6.2 Adjustments or corrections are carried out according to specified procedures and consistent with operator's skill level 6.3 Gravure machine operation is checked to ensure correct operation 6.4 Faulty performance of equipment is identified and reported according to enterprise procedures
7. Conduct shutdown of production process	7.1 Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures 7.2 Shutdown is conducted in association with fellow workers and in compliance with WHS requirements 7.3 Unused ink is correctly labelled and stored according to manufacturer/supplier specifications and enterprise procedures 7.4 Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures 7.5 All product is removed from operating area 7.6 Machine faults requiring repair are identified and reported to designated person according to enterprise procedures 7.7 Repair/adjustment is verified prior to resumption of operations
8. Clean and wash up printing machine at end of print run	8.1 Cylinders, plate and roller surfaces are cleaned ready for next run 8.2 Inking system is washed ready for next run, and liquid waste is disposed of according to company and regulatory requirements 8.3 In-line printing/converting/binding/finishing units are cleaned ready for next run 8.4 Reel feed, transportation and delivery systems are disengaged and cleaned ready for next run 8.5 Sheet feed, transport and delivery systems are disengaged and cleaned ready for next run 8.6 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, 5.1-5.3, 6.2, 7.1, 7.3	Recognises and interprets text to establish job requirements from information contained within relevant procedures and specifications
Writing	5.7, 6.1, 6.4, 7.3, 7.6, 8.6	Enters routine data associated with production processes and enterprise procedures
Oral Communication	1.3, 2.2, 5.1, 5.2, 5.7, 6.1, 6.2, 6.4, 7.1-7.3, 7.6	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, 3.1-3.4, 4.2, 5.1-5.4, 5.7, 5.8, 6.1-6.4, 7.1-7.4, 7.6, 8.1-8.6	- 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, 5.1-5.3, 5.7, 6.1, 6.2, 6.4, 7.1-7.3, 7.6	- 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, 3.1-3.4, 4.1, 4.2, 5.1-5.8, 6.1-6.4, 7.1-7.7, 8.1-8.6	- 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
ICPPRN322 Produce complex gravure printed product	ICPPR322C Produce complex gravure 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 ICPPRN322 Produce complex gravure printed product

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Performance Evidence

Evidence of the ability to:

- operate a gravure press ensuring an efficient non-routine production flow that maintains product quality standards; any production problems are rectified with minimum downtime; and the machine is correctly shut down and cleaned according to work health and safety (WHS) guidelines
- monitor production output and make necessary adjustments to maintain print quality on a gravure 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

- identify what can cause the reel to wander
- describe what can cause the web to break at the unwind unit
- outline the difference between a “flying paster” and “zero speed” type reel-stand
- discuss what print fault results from the reel being run out of centre
- describe types of faults in the unwind section which can cause a web break

Reel delivery for rewinding and sheeting

- discuss WHS risks associated with rewinding and sheeting
- describe the safety feature in the delivery system for when the web jams
- discuss the cause of sheet cut-off wander
- outline effects of poorly adjusted nip rollers when rewinding and sheeting

Printing and drying unit

- discuss how a build-up of ink on the impression cylinder can affect printed product
- outline the cause of ink foaming in the ink tray
- describe the effect of too much reducer in the ink
- identify how to reduce doctor blade wear
- describe why it is necessary to remove all solvents from the final ink film
- discuss the link between driers and set-off and marking
- identify what causes the substrate to distort
- discuss what happens in the chillers if the drying temperature is too low
- outline the effect of incorrect drying temperature on finished product

In-line processes

- discuss why it is necessary to frequently examine in-line components of the job
- outline how consistency of the punching unit is checked
- describe the impact of excessive pressure on the slitters
- discuss the benefit of identification numbers on jobs with multiple similar images
- describe how the ratio of print to in-line speed is controlled

Maintaining production process

- discuss possible effects of inadequate communication within the work team on a gravure printing machine
- describe safety features within the organisation which aid in maintaining effective production
- identify ramifications if machine guards are removed and/or micro switches are disconnected on a machine
- name the person held legally responsible for the removal of machine guards and/or disconnection of micro switches
- discuss the most accurate method of checking register during a production run
- outline why it is necessary to take immediate action when production problems are anticipated
- describe what to do to eliminate further processing of unacceptable printed product
- discuss what happens to the substrate if the relative humidity increases in the press room
- outline the correct procedure to care for a newly delivered substrate to the press room
- discuss why waste should be sorted
- describe advantages of keeping reusable waste
- outline industry standards to enhance effective communication with clients
- discuss procedures a client should follow to OK a printed product

Gravure machine operating problems

- describe when it is necessary to call service personnel to correct a machine problem
- identify enterprise procedures to report machine operating problems

Shutdown procedures

- discuss what happens if correct shutdown procedures are not followed

- describe why it is necessary that correct shutdown procedures are conducted with fellow workers
- outline advantages of proper labelling and storage of excess inks and materials
- discuss why printed product should be clearly labelled prior to removal from the press room
- outline further operations required for printed reels after removal from the printing machine
- describe how printed jobs should be stored after removal from the printing machine

Cleaning and washing the printing unit

- list WHS concerns of handling ink
- outline safety precautions for cleaning the printing cylinders
- discuss why it is necessary to thoroughly clean and wash the printing unit prior to the next print run
- describe why the doctor blades should be thoroughly cleaned
- explain why doctor blades should be handled with extreme care
- describe how to store printing cylinders to minimise damage

Cleaning feed, transportation, delivery and in-line sections

- list WHS precautions for cleaning these sections of the machine
- discuss why it is necessary to maintain a clean substrate handling section of the machine

Completing production records

- outline how completed records are used in the final analysis of the job
- describe benefits of comprehensive records when considering production of future jobs
- identify what machine manuals, safety and other documentation are relevant to this task, where they are kept and describe 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
- gravure printing machines and in-line units.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

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