



Australian Government

Department of Education, Employment and Workplace Relations

ICPPR414C Produce specialised flexographic printed product

Revision Number: 1

ICPPR414C Produce specialised flexographic printed product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to produce specialised flexographic printing that requires a certain amount of problem solving and experimentation with the substrate and press settings.
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Application of the Unit

Application of the unit	This unit requires the individual to operate a reel-fed flexographic press ensuring an efficient production flow for specialised jobs 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 OHS guidelines.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain specialised flexographic printing process	1.1. Flexographic plate and plate cylinder or sleeve condition is monitored, evaluated and adjusted to ensure the quality of printed product meets the standard of the approved proof 1.2. Flexographic impression roller condition is monitored and evaluated to ensure the quality of printed product meets the standard of approved proof 1.3. Flexographic inking system and doctor blade condition is monitored, evaluated and adjusted to ensure quality of specialised printed product meets the standard of approved proof 1.4. Drying systems are monitored, evaluated and adjusted to ensure quality of the specialised printed product meets the standard of approved proof
2. Maintain specialised production process	2.1. Production process is maintained in association with fellow workers and according to enterprise procedures and planned daily schedule 2.2. Production is maintained according to OHS 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, adjusted 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
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. A test run confirms correct options and settings or the need for 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

ELEMENT	PERFORMANCE CRITERIA
	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. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements 5.3. Reels and cores are removed from press 5.4. Unused ink is drained back to containers and correctly labelled and stored according to manufacturer's/supplier's specifications and enterprise procedures 5.5. Solid and liquid waste is removed from operating area and recycled or disposed of, where required, according to regulatory requirements and enterprise procedures 5.6. All product is removed from operating area

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by providing feedback to internal and external clients
- collecting, analysing and organising information by identifying and recording specialised production practices
- planning and organising activities by adjusting the production process to achieve specialised printing requirements
- teamwork when communicating with work team members and workers involved in prior and subsequent processes to ensure efficient production
- mathematical ideas and techniques by calculating consumables and personnel requirements to meet production schedules
- problem-solving skills by adjusting machinery settings to determine the required tolerances to meet specialised requirements
- use of technology by using machinery to produce specialised flexographic printed product

Required knowledge

- causes of reel wander
- causes of the web breaking at the unwind unit
- difference between a "flying paster" and "zero speed" type reel-stand
- print fault that would result from the reel being run out of centre
- possible faults in the unwind section could that cause a web break
- OHS risks associated with rewinding and sheeting
- safety feature that is in the delivery system if the web jams up
- causes of sheet cut-off wander
- effect of poorly adjusted nip rollers when rewinding and sheeting
- result if the plate lifts on the leading edged during a print run
- effect on printed product of a build-up of ink on the impression cylinder
- cause of ink foaming in the ink tray
- effect of too much reducer in the ink
- action that reduces wear of the doctor blade
- need for all solvents to be removed from the final ink film
- link between driers and set off and marking
- causes of UV ink drying
- substrate to distortion
- effect in the chillers if the drying temperature was too low

REQUIRED SKILLS AND KNOWLEDGE

- effect of incorrect drying temperature on the finished product
- effect of eating or drinking near the machine when using UV inks?
- need to frequently examine the in-line components of the job
- consistency checks to be made of the punching unit checked
- result of excessive pressure on the slitters
- safety features within the organisation that aid in maintaining effective production
- legally responsibility for the removal of machine guards and/or disconnection of micro switches
- effect of inadequate communication within the work team on a flexographic printing machine
- ramifications if machine guards are removed and/or micro switches are disconnected on a machine
- other measurement besides optimum solid ink density that can be measured to assess print quality
- most accurate method of checking register during a production run
- need to take immediate action when production problems are anticipated
- action that is taken to eliminate further processing of unacceptable printed product
- result to the substrate if the relative humidity is increased in the press room
- procedure to care for a newly delivered substrate to the press room
- waste sorting
- advantage of keeping reusable waste
- industry standards that can be applied to enhance effective communication with the client
- necessary procedures that the client should follow to "OK" a printed product
- need to call service personnel to correct a machine problem
- enterprise procedures that are in place to report any machine operating problems
- result if correct shutdown procedures were not followed
- correct shutdown procedures conducted with fellow workers
- advantages that result from proper labelling and storage of excess inks and materials
- clear labelling of printed product prior to removal from the press room
- further operations that are required for printed reels upon removal from the printing machine
- storing of the printed job after removal from the printing machine
- use of completed records the final analysis of the job
- benefits of comprehensive records when considering the production of future jobs
- machine manuals, safety and other documentation that are relevant to this task and where are they kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- operate a reel-fed flexographic press ensuring an efficient 3 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 OHS guidelines
- demonstrate use of computerised control, monitoring and data entry systems if available and appropriate
- demonstrate an ability to find and use information relevant to the task from a variety of information sources
- monitor production output and make necessary adjustments to maintain print quality on a flexographic machine whilst 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, enterprise procedures and the Performance Criteria
- evidence for assessment may be gathered from assessment of the unit of competency alone or through an integrated assessment activity.

Context of and specific resources for assessment

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment
- flexographic press.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

EVIDENCE GUIDE**Guidance information for assessment**

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- ICPPR413C Set up for complex flexographic printing
- ICPPR314C Produce complex flexographic printed product.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Specialised</i> may include:	specialised within this context relates to the set up and production of print runs that involve new products, or a new mix of substrates and inks that requires a certain amount of problem solving and experimentation with the substrate and press settings. The set up of equipment and production involves the development of new set up and production approaches based on solving technical problems arising from new product or equipment combinations.
<i>Inks/coatings</i> may include:	range of inks commonly used in 4 or more colour printing, including standard and special colours.
<i>Machines</i> may include:	range of stack, in-line and central impression flexographic printing machines with manual, semi-automated, fully automated or computerised process control.
<i>Colour matching systems</i> may include:	use of viscosity controls, densitometers and spectrophotometry.
<i>Design</i> may include:	4 or more colours, complex graphics and text. Critical "tight" registration, fit and position, registration should be at least that required for four-colour process work.
<i>In-line processes</i> may include:	minor processes that are integral to this competency can include basic in-line operations such as perforating, numbering, date coding, slitting that do not in themselves constitute another defined unit of competency. Where a major in-line process is defined as a separate competency (eg flat-bed cutting, folding) it should be assessed as such.
<i>Substrate types</i> may include:	range of substrates within the major categories of paper, pressure sensitive material, board, corrugated board, plastics and related films, or metal.

RANGE STATEMENT

Substrate handling may include:	• wide and narrow reel delivery systems.
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		