



Australian Government

Department of Education, Employment and Workplace Relations

ICPPR442C Produce specialised pad printed product

Revision Number: 1

ICPPR442C Produce specialised pad printed product

Modification History

Not applicable.

Unit Descriptor

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

Application of the Unit

Application of the unit	This unit requires the individual to operate a pad printing machine to produce specialised printed products that meet required quality standards. Any production problems are rectified with minimum downtime. The machine is correctly shut down and cleaned according to OHS guidelines.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

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.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain specialised pad printing process	1.1. Location of objects into fixtures is monitored, evaluated and adjusted if necessary 1.2. Printing plates condition is monitored and evaluated to ensure the quality of printed product meets the standard of the approved proof 1.3. Printing pads condition is monitored, evaluated and maintained to ensure the quality of printed product meets the standard of approved proof 1.4. Spatulas and doctor blades are monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof OR 1.5. Ink cups are monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof 1.6. Printing ink viscosity is monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof
2. Maintain in-line systems	2.1. In-line loading is monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof 2.2. In-line pre-treatment is monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof 2.3. In-line drying is monitored, evaluated and adjusted to ensure quality of printed product meets the standard of approved proof
3. Maintain production process	3.1. Production process is operated in association with fellow workers and according to enterprise procedures and planned daily schedule 3.2. Production is maintained according to OHS requirements, manufacturer's specifications and enterprise procedures 3.3. Manual and/or automatic control is used as required according to job specifications 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

ELEMENT	PERFORMANCE CRITERIA
	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.Waste is sorted according to enterprise procedures
4. Tune and adjust machinery	4.1.Idiosyncrasies of <i>machines</i> are reviewed and adjustments or tuning undertaken to compensate or to exploit the idiosyncrasy, within manufacturer's specifications 4.2.Options are assessed to determine most effective/efficient method of production, ensuring highest quality and yield from machinery 4.3.A test run confirms correct options and settings or the need for further adjustment or tuning to meet quality standards 4.4.Options and recommendations are documented for future reference according to enterprise procedures 4.5.Instruction on new practices is provided to machine operator or finisher, if required
5. Troubleshoot machinery and material problems	5.1.Corrective or preventive action is recommended and implemented where appropriate 5.2.Changes are communicated to relevant personnel in a logical and easily understood manner 5.3.Changes are monitored to confirm improvement to production efficiency 5.4.Ongoing problems are reported 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 OHS 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

ELEMENT	PERFORMANCE CRITERIA
	reported, according to enterprise procedures 6.7.Repair/adjustment is verified prior to resumption of operations

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 about printing processes and job specifications
- 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 pad printed product

Required knowledge

- major OHS concerns when operating this machine
- MSDSs that are stored and the information do they contain
- improvement of the colour density of a light image on a dark substrate by selection of a different machine cycle mode
- selection of the appropriate machine cycle mode to provide the highest production output for a particular product
- special cycle modes that are available on your machine and their application
- determining that the ink has been mixed to the correct viscosity
- correcting ink viscosity during production
- causes of unreleased ink remaining on the printing pad and how do you identify them
- effect of adding a catalyst on the pot life of ink and other factors that affect pot life
- recognising a damaged pad
- correct method of cleaning a pad during production
- effect of different pad shapes for different colours In multicoloured printing
- determining the time the ink should take to cure before scratch and adhesion tests can be performed
- method that can be used to check for correct pre-treatment of polypropylene during production
- ensuring the correct drying conditions for the product

REQUIRED SKILLS AND KNOWLEDGE

- effects that will be visible in the image if the ink viscosity is incorrect
- identifying the cause of incorrect registration and preventing its recurrence
- cause of a fine coating of ink over the whole cliché surface
- machine manuals, safety and other documentation that are relevant to this task and where they are 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 pad printing machine ensuring an efficient specialised production flow that maintains product quality standards. Any production problems are 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
- produce TWO complex pad printing jobs (if possible on different substrates) 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
- a pad printing machine.

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.

Guidance information for assessment

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

EVIDENCE GUIDE

- | | |
|--|--|
| | <ul style="list-style-type: none">• ICPPR342C Produce complex pad printed product• ICPPR441C Set up for complex pad printing. |
|--|--|

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>Inks/coatings</i> may include:	range of standard inks commonly used in multicoloured printing.
<i>Machines</i> may include:	a range of pad printing machines with manual, semi-automated, fully automated or computerised operation.
<i>Colour matching systems</i> may include:	use of visual colour assessment to match basic standard colours and/or Pantone shades under controlled lighting conditions.
<i>Design</i> may include:	- multicoloured, complex graphics and text. Critical tight registration, fit and position - pre- and post-treatment processes - range of pre- and post-treatment techniques used in pad printing.
<i>Substrate types</i> may include:	range of substrates within the major categories of paper, wood, glass (ceramics), plastics, metal.
<i>Substrate handling</i> may include:	manual handling.
<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.

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Printing
------------------	----------

Co-requisite units

Co-requisite units		