



Australian Government

Department of Education, Employment and Workplace Relations

ICPPR471C Set up for complex coating

Revision Number: 1

ICPPR471C Set up for complex coating

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to set up for non-routine coating.
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Application of the Unit

Application of the unit	This unit requires the individual to set up rollers and the reel or sheet systems for coating a range of carbon, carbonless, latex, wax, resin and metallic coatings, aqueous and UV varnishes and machine varnishes. The individual will conduct a proof run and adjust settings to ensure production speeds are attained.
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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. Confirm job specifications	1.1. Job requirements are read and interpreted from job documentation or production control system 1.2. Set up is planned and carried out correctly and in minimum time 1.3. Availability of all job related components is checked
2. Set up reel system (OR Element 3)	2.1. Unwind set up and adjusted according to job specifications 2.2. Webbing procedures are carried out and web-control system is set up and adjusted according to job specifications 2.3. Reels are spliced/joined according to job specifications 2.4. Printed web viewing devices are set up and adjusted according to job specifications 2.5. Set off/markings prevention devices are set up and adjusted according to job specifications
3. Set up sheet system (OR Element 2)	3.1. Feeder and delivery is set up and adjusted according to job specifications 3.2. Sheet pick-up and transportation system is set up and adjusted according to job specifications 3.3. Transfer and control systems are set up and adjusted according to job specifications 3.4. Substrate is added to and removed from process according to job instructions 3.5. Set off/markings prevention devices are set up and adjusted according to job specifications
4. Select and prepare coating	4.1. Coating is selected according to job specifications and end-user requirements 4.2. Quality and suitability of coating is checked and appropriate action is taken 4.3. Coatings and additives are prepared according to OHS requirements, and manufacturer's/supplier's instructions with suitable precautions to minimise waste 4.4. Correct weight/volume of coating is prepared to match the requirements of the job specification and the coating process 4.5. Check the viscosity of coating is correct for the job 4.6. Formulation of the coating is appropriately recorded

ELEMENT	PERFORMANCE CRITERIA
5. Set up machine for coating	5.1. Appropriate rollers/cylinders are selected and secured to the machine and set 5.2. Application system is set up and adjusted according to job specifications 5.3. Choose appropriate anilox roller and ensure it is installed to manufacturer's specifications 5.4. Set doctor blades to manufacturer's specifications 5.5. Coating delivery system is set up with correct flow and return flow determined by air pressure or pump speeds and adjusted according to job specifications 5.6. Cut a coating blanket or install a plate for non-image areas 5.7. Check that blanket or plate packing is suitable to the job 5.8. Check that the coating temperature is suitable for the job 5.9. Drying system is set up and adjusted according to job specifications
6. Conduct proof run	6.1. Material to be used for proof is organised correctly 6.2. Machine is set up and operated, and roller and pressure settings are checked, to produce a specified proof according to OHS requirements, manufacturer's specifications and enterprise procedures 6.3. Proof is visually inspected and/or tested or laboratory testing organised according to enterprise procedures 6.4. Production does not commence without client OK or authority where appropriate 6.5. Results are interpreted and adjustment changes are carried out according to product and machine specifications to determine adjustment requirements

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 interpreting the job brief and providing advice to internal and external clients about options and limitations
- collecting, analysing and organising information by collecting and analysing data about coating process, machine specifications and performance to calculate appropriate adjustments for the job
- planning and organising activities by providing information about time and materials requirements for production scheduling
- teamwork when cooperating with other workers and coordinating the production unit to ensure efficient operation
- mathematical ideas and techniques by calculating substrate requirements, plate or blanket position, and pressures
- problem-solving skills by recognising proofing faults and calculating adjustments necessary to meet job specifications
- use of technology by using monitoring equipment and computerised production records

Required knowledge

- information on the work ticket listing the type of coating required
- action taken if vital information were missing from the job ticket
- checks that should be undertaken prior to set up (availability of materials etc)
- major OHS concerns when setting up the sheet or reel transportation system
- choosing the coating side of the material
- effect of low web tension on the print
- effect of inefficient web splices
- determining the sheet or reel position for the job
- effect the side lay selection has on the job
- selecting the appropriate front lays
- carrying out a register check
- use of a two-sheet cut out on most feeders (sheet)
- checking of a sheet is missing or late
- checking of a web break
- safety risks associated with the rewind of the machine
- effect of excessive web tension at the rewind of the machine
- effect that too much vacuum on the slow-down wheels has on the job
- determining the position of register or bustle wheels

REQUIRED SKILLS AND KNOWLEDGE

- effect that excessive jogging would have on the stack
- OHS concerns that are relevant to the use of coatings
- types of coatings and their applications
- suitability of the coating for the job
- ability of the coat to adhere to the product
- amount of coating required
- range of viscosities that should you run with on an aqueous coating
- effect of incorrect viscosity on coating
- adjusting the viscosity of a coating
- methods that the coating use to solidify
- drying UV coating
- printing principle that is being utilised to apply aqueous coating
- importance that gluing tabs are not coated
- temperature the drier is set at to dry aqueous coating
- determining which image carrier (plate or blanket) to use
- position of the coating checked against the print
- effect that skeleton wheels could have on the surface of the coating
- measuring the amount of gloss on the surface
- responsibility for the final "OK" on the job
- effect that you get when you don't have enough coating on a sheet
- effect that a UV coating would have on a wet print
- effect that excessive temperature would have on the sheet
- effect that you would get if the viscosity were too high or too low
- effect that you would get if ink coverage were excessive, ie over 250%
- 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:

- set up rollers and the reel or sheet systems for coating a range of carbon, carbonless, latex, wax, resin and metallic coatings, aqueous and UV varnishes and machine varnishes. The individual will conduct a proof run and adjust settings to ensure production speeds are attained
- 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
- set up for THREE complex coating operations (one spot coating, one overall coating and one fine detail, using THREE different coatings of which one must be metallic) and if possible including at least ONE in-line process) according to manufacturer's and 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
- dedicated coating 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.

EVIDENCE GUIDE**Guidance information for assessment**

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

- ICPPR472C Produce complex coated 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>Substrate handling</i> may include:	narrow or wide reel handling, and small and large sheet systems.
<i>Coatings</i> may include:	a range of carbon, carbonless, latex, wax, resin and metallic coatings, aqueous and UV varnishes and machine varnishes.
<i>Machines</i> may include:	a range of dedicated coating machines with manual, semi-automated, fully automated or computerised process control.
<i>Colour matching systems</i> may include:	use of visual colour assessment and densitometry to match basic standard tints under controlled lighting conditions.
<i>Design</i> may include:	spot coating, overall coating and fine detail coating.
<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:	full range of substrates within the major categories of paper, pressure sensitive material, board, plastics and related films, or metal.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Printing
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Co-requisite units

Co-requisite units		