



Australian Government

Department of Education, Employment and Workplace Relations

ICPIM335C Manufacture varnish and resin

Revision Number: 1

ICPIM335C Manufacture varnish and resin

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to manufacture varnishes and resins.
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Application of the Unit

Application of the unit	This unit requires the individual to manufacture varnishes and resins.
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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. Read and interpret job requirements from documentation	1.1. Appropriate processes are identified and confirmed 1.2. Appropriate materials and/or equipment are selected according to job specifications
2. Start up machines/equipment	2.1. Pre-startup checks are completed and documented according to enterprise procedures 2.2. Utilities are checked 2.3. Raw materials/feed lines are checked to ensure availability 2.4. Pre-startup conditions are reported according to enterprise procedures 2.5. Startup is conducted according to enterprise procedures 2.6. Machine/equipment operation is verified according to enterprise procedures
3. Maintain varnish/resin 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 and enterprise procedures 3.3. Process and equipment are monitored during batch manufacture to ensure operation is maintained 3.4. Records/log/checklists are completed according to enterprise procedures 3.5. Machines/equipment are inspected and readouts recorded and interpreted 3.6. Quality inspections/sampling are undertaken according to enterprise procedures 3.7. Consumables are monitored and added to the process according to job specifications
4. Maintain operation of equipment/process conditions	4.1. Variations/irregularities of equipment operation or process conditions are identified and reported 4.2. Production difficulties are anticipated and preventive action is taken to prevent occurrence by timely intervention according to enterprise procedures 4.3. Corrective action is documented and reported according to enterprise procedures
5. Shut down varnish/resin	5.1. Pre-shutdown checks are carried out and documented according to enterprise procedures

ELEMENT	PERFORMANCE CRITERIA
manufacture process	<p>5.2. Correct shutdown sequence is followed according to manufacturer's specifications and enterprise procedures</p> <p>5.3. Shutdown is conducted in association with fellow workers and in compliance with OHS requirements</p> <p>5.4. Product/materials used in manufacture are removed from operating area where appropriate</p> <p>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</p>
6. Clean up	<p>6.1. Equipment cleaning requirements are identified</p> <p>6.2. Correct equipment/materials for manual or mechanical cleaning are selected</p> <p>6.3. Cleaning is undertaken according to enterprise procedures</p>

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
- communicating ideas and information by completing logs and checklists during manufacturing
- collecting, analysing and organising information by sampling the mix to maintain quality standards
- planning and organising activities by completing startup checks prior to manufacture
- teamwork when completing the mix in association with fellow workers
- mathematical ideas and techniques by correctly measuring materials required for the mix
- problem-solving skills by anticipating production difficulties and taking preventive action
- use of technology by using manufacturing and measuring equipment

Required knowledge

- OHS concerns that are related to the production of varnish/resin
- manual handling issues that arise in the manufacture of varnish/resin
- safety equipment that is required and what do you need to check when fitting and using
- equipment that is required for the manufacture of varnish
- batch coding system used in the work area and the recording procedures used
- checks to be made when measuring materials
- properties that ink gains from the two basic components of varnish, resins and solvents
- characteristics and end use of gelled and non-gelled varnishes
- check to be made when preparing for filtration
- ideal conditions for filtration of varnish/resin product
- pre-startup checks that are required for TWO processes in varnish or resin manufacture
- effect that water contamination has on the manufacture of varnish/resin and what steps should be taken to avoid it
- procedures for adding liquids or solids to a varnish/resin mix
- system that is in place for labelling containers of varnish/resin
- monitoring requirements for energy plant operation
- inspections/monitoring that is carried out during varnish/resin production
- quality checks that are required during the filtration process

REQUIRED SKILLS AND KNOWLEDGE

- methods that are available for testing viscosity of varnish/resin
- manner in which the viscosity of a batch of varnish/resin increased
- procedure if the viscosity is too low
- procedures for recording details about the formulations, and in-process testing where required
- system for the disposal of liquid and solid waste
- environmental issues that need to be considered when working with varnish, resin, and chemicals/additives used in their manufacture
- 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 following is essential:

- In the range from planned shutdown to emergency response
- Demonstrate an ability to find and use information relevant to the task from a variety of information sources
- Use EITHER fusion cooking OR reaction to manufacture TWO batches of varnish/resin, including in-process testing, according to manufacturer's and job specifications, OHS requirements, enterprise procedures and the listed Performance Criteria.

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.

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.

Range Statement

RANGE STATEMENT	
<p>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.</p>	
<i>Processes</i> may include:	<ul style="list-style-type: none"> Fusion cooking or reaction.
<i>Materials</i> may include:	<ul style="list-style-type: none"> Range of raw materials/consumables, pigment, varnish, inks, chemicals used in cleaning.
<i>Enterprise procedures</i> may include:	<ul style="list-style-type: none"> Range of enterprise procedures within defined work area as documented in enterprise procedures (SOPs).
<i>OHS</i> may include:	<ul style="list-style-type: none"> Includes relevant legislation, regulations and enterprise policies/guidelines.
<i>Machines/equipment</i> may include:	<ul style="list-style-type: none"> Machines/equipment may include gel tanks, reactors, tanks, refrigeration units, air compressor, pan washer/scrubbers, pumps, valves, other vessels.
<i>Shutdown</i> may include:	<ul style="list-style-type: none"> In the range from planned shutdown to emergency response.
<i>Application</i> may include:	<ul style="list-style-type: none"> Varnish/resin manufacture and associated tasks are typically performed by operators working under limited supervision to ensure production requirements are met.
<i>Documentation</i> may include:	<ul style="list-style-type: none"> Range of work instructions including formulae, job dockets, work sheets, specifications, labels, material safety data sheets.
<i>Adjustments/corrections</i> may include:	<ul style="list-style-type: none"> In the range from normal operating to emergency response.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Ink Manufacture
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Co-requisite units

Co-requisite units		