



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **PMC553021C Set up and tune glazing equipment**

**Revision Number: 1**

## PMC553021C Set up and tune glazing equipment

### Modification History

Not applicable.

### Unit Descriptor

<b>Unit descriptor</b>	This unit of competency covers the setting up and tuning of glaze application equipment or process. It involves conducting pre-start checks, monitoring operations, making necessary adjustments and dealing with non-routine problems.
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### Application of the Unit

<b>Application of the unit</b>	This unit of competency applies to experienced operators, leading hands or supervisors who are responsible for setting up and adjusting glazing equipment from the requirements as set out in production schedules and specifications. The operator is able to run trials and adjust all of the equipment settings to have the production equipment perform satisfactorily.
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### Licensing/Regulatory Information

Not applicable.

### Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	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. Prepare for glazing equipment setup	1.1. Identify all safety and emergency procedures 1.2. Shut down equipment to procedures and manufacturer's specifications 1.3. Isolate equipment in accordance with procedures 1.4. Remove ancillary equipment to procedures and manufacturer's specifications 1.5. Complete records and logs for setup of equipment or changing of parts
2. Prepare the process for production	2.1. Consult the production schedule to determine the product to be manufactured 2.2. Ensure availability of raw materials as required 2.3. Identify and provide equipment/change parts, ancillaries and fixtures in accordance with production schedule 2.4. Perform equipment preparation to procedures 2.5. Monitor equipment condition and take corrective action if equipment is in an unsafe condition
3. Set up process	3.1. Perform checks and tests to product and equipment specifications 3.2. Align all equipment to product specifications and procedures 3.3. Set up process/equipment as required for the production schedule
4. Tune the process	4.1. Monitor operation and compare with procedures for appropriate operation 4.2. Identify any deviation from standard performance 4.3. Identify the cause of the deviation and take action 4.4. Make adjustments to the equipment settings, process conditions or raw materials to bring production into specification 4.5. Continue monitoring operation and making adjustments until product/equipment is within specification
5. Respond to problems	5.1. Identify possible routine and non-routine problems in the equipment or process 5.2. Determine problems needing action 5.3. Determine possible fault causes 5.4. Rectify problem using appropriate solution within area of responsibility

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
	5.5. Report problems outside area of responsibility to designated person
6. Control hazards	6.1. Identify hazards from the job to be done 6.2. Identify other hazards in the work area 6.3. Assess the risks arising from those hazards 6.4. Implement measures to control those risks in line with procedures

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

#### Required skills

Required skills include:

- recognising process conditions and situations that will lead to out of specification production and taking appropriate action
- implementing enterprise's standard procedures and work instructions and relevant regulatory requirements within appropriate time constraints and in a manner relevant to the operation of the process
- reading and numeracy to interpret workplace documents and technical information

#### Required knowledge

Required knowledge includes:

- glaze properties and composition
- product properties and requirements for glazing
- glaze application faults
- quality problems
- construction and limitations of the equipment
- setup and tuning of all equipment
- startup and shutdown processes
- glaze is application and specifications
- waste minimisation techniques
- process measurements required and their purpose
- adjustments required and permissible to equipment or process to remain within specifications
- distinguish between following causes of problems:
  - raw materials, including glaze and product
  - set up and tuning
  - mechanical
  - electrical/instrument

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>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.</p>	
<p><b>Overview of assessment</b></p>	<p>The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency.</p>
<p><b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b></p>	<p>Competence must be demonstrated in the ability to recognise situations requiring action and then in implementing appropriate corrective action. Consistent performance should be demonstrated. In particular look to see that:</p> <ul style="list-style-type: none"> <li>• setup/tuning are completed to specifications and within timeframe</li> <li>• glaze application parameters are maintained within limits</li> <li>• glaze is applied to specification</li> <li>• quality is monitored to minimise wastage</li> <li>• startup and shutdown occur first time</li> <li>• signals and alarms are responded to immediately</li> <li>• process measurements are continually made or observed</li> <li>• adjustments made are completed in a timely manner to procedures.</li> </ul> <p>The assessment activities should include responding to a range of problems.</p>
<p><b>Context of and specific resources for assessment</b></p>	<p>Assessment will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations.</p> <p>Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.</p> <p>Simulation or case studies/scenarios may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual plant and will include 'walk-throughs' of the relevant competency components. A bank of scenarios/case studies/what ifs and questions will be required to probe the reasoning behind observable actions.</p>

<b>EVIDENCE GUIDE</b>	
<b>Method of assessment</b>	Individual enterprises may choose to add prerequisites and co-requisites relevant to their processes.
<b>Guidance information for assessment</b>	Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.



## Range Statement

<b>RANGE STATEMENT</b>	
<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>	
<b>Procedures</b>	All operations are performed in accordance with standard procedures and work instructions
<b>Application of equipment</b>	<p>This unit includes equipment for application of glazes to ceramic or clay products, including:</p> <ul style="list-style-type: none"> <li>• automatic spray lines</li> <li>• robotic spray equipment</li> <li>• automatic dipping lines</li> <li>• PLCs, but not control panels</li> </ul>
<b>Tools and equipment</b>	<p>Tools and equipment may include:</p> <ul style="list-style-type: none"> <li>• changeover parts and equipment</li> <li>• computers</li> <li>• measuring and recording equipment</li> <li>• communication equipment</li> <li>• hand tools</li> <li>• safety clothing and equipment</li> </ul>
<b>Process</b>	<p>Process includes:</p> <ul style="list-style-type: none"> <li>• setting up and tuning equipment for startup, job change and equipment changes in preparation for production</li> </ul>
<b>Typical problems</b>	<p>Typical problems may include:</p> <ul style="list-style-type: none"> <li>• product feed to and from process</li> <li>• glaze composition and properties</li> <li>• equipment alignment</li> <li>• analysis of all plant data</li> <li>• product quality</li> <li>• equipment speed</li> <li>• taking corrective action</li> </ul>
<b>Plant data</b>	<p>Plant data may include:</p> <ul style="list-style-type: none"> <li>• test results</li> </ul>

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• instrument/control panel information</li> <li>• data from physical senses (sight, sound and hearing)</li> <li>• temperatures, pressures, material flow and discharge rates and effects</li> <li>• variations to glaze composition or behaviour</li> </ul>
<b>Occupational health and safety (OHS)</b>	All operations are subject to stringent OHS requirements and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and OHS requirements, the OHS requirements take precedence

### Unit Sector(s)

<b>Unit sector</b>	Operational/technical
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### Competency field

<b>Competency field</b>	
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### Co-requisite units

<b>Co-requisite units</b>		