



Australian Government

Department of Education, Employment and Workplace Relations

PMC552020C Operate slip casting equipment

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the operation of slip casting equipment used for production of clay and ceramic products, including the rectification of problems.
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Application of the Unit

Application of the unit	<p>This unit of competency applies to operators who are responsible for following procedures to make slip cast products.</p> <p>This competency includes the operation of all ancillary equipment.</p> <p>This unit was developed for larger production contexts but it may also be relevant to craft practitioners producing ceramic work.</p> <p>It does NOT include drying, firing or finishing operations.</p> <p>This unit of competency is typically performed by operators working either independently or as part of a team.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

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. Prepare the forming equipment	1.1. Determine the product formation requirements from the production program 1.2. Ensure the required moulds are in place 1.3. Ensure the equipment is set up and prepared as required 1.4. Ensure the required raw materials are selected and poured or connected to the equipment 1.5. Ensure the equipment is safe to use
2. Operate forming equipment	2.1. Operate equipment to produce product to requirements 2.2. Remove product from the mould 2.3. Monitor and adjust slip properties as required 2.4. Transfer product to drying racks/conveyor/trucks as required 2.5. Record production data as required
3. Control hazards	3.1. Identify hazards from the job to be done 3.2. Identify other hazards in the work area 3.3. Assess the risks arising from those hazards 3.4. Implement measures to control those risks in line with procedures
4. Rectify routine problems	4.1. Identify the range of faults that can occur during the operation 4.2. Determine and rectify fault causes by procedures 4.3. Identify and rectify equipment failure causes to procedures 4.4. Ensure appropriate records and log books of equipment operations are maintained to meet procedures 4.5. Identify non-routine problems and report to designated person

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 conditions which will lead to out of specification product and taking appropriate action
- implementing enterprise's procedures and relevant regulatory requirements within time constraints and in a manner relevant to the operation of the casting equipment
- reading and numeracy to interpret workplace documents and technical information

Required knowledge

Required knowledge includes:

- slip casting process
- mould purpose and fundamentals
- determining correct wall thickness
- slip consistency and properties
- distinguish between causes of faults such as:
 - mould condition
 - equipment malfunction
 - mould removal
 - slip consistency
 - product wall thickness

Evidence Guide

EVIDENCE GUIDE	
<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>	
Overview of assessment	<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>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<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"> • moulds are clean and ready • slip is applied correctly • excess slip is removed as required • cast is removed cleanly • mould life is preserved • formed product meets requirements • material handling methods and waste levels are consistent to standards.
Context of and specific resources for assessment	<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>
Method of assessment	<p>Individual enterprises may choose to add prerequisites and co-requisites relevant to their processes.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.</p>

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>	
Procedures	All operations are performed in accordance with standard procedures and work instructions
Operation of equipment	<p>This unit includes the operation of equipment used for the casting of clay and ceramic products. It includes the processes:</p> <ul style="list-style-type: none"> • casting (including medium pressure casting) • punching • palleting • sponging and fettling • use of hand tools <p>This competency includes the operation of all ancillary equipment and the operation of plant using PLCs where appropriate although the use of control panels is covered by another unit</p>
Product requirements	<p>Product requirements include:</p> <ul style="list-style-type: none"> • specified thickness is achieved • proper casting time is allowed • excess slip is removed
Removing product from mould	<p>Removing product from mould includes ensuring:</p> <ul style="list-style-type: none"> • condition of the product is acceptable • mould condition is acceptable for reuse • enterprise procedures are followed • equipment is cleaned and readied for reuse
Typical problems	<p>Typical problems may include:</p> <ul style="list-style-type: none"> • checking for mould deterioration • slip consistency • product wall thickness • identifying piece faults

Unit Sector(s)

Unit sector	Operational/technical
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		