



Australian Government

Department of Education, Employment and Workplace Relations

PMC552052C Cast moulded concrete products

Revision Number: 1

PMC552052C Cast moulded concrete products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the casting of complex concrete product moulds. It involves preparing the mould for reinforcement, selecting the necessary tools and equipment, ensuring reinforcing and fittings are correctly placed and ensuring finished product is to specification.
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Application of the Unit

Application of the unit	This unit of competency applies to operators who are responsible for casting complex concrete moulds for use in the production of concrete products. This unit includes: • timber, glass fibre, metal casing, latex rubber, plaster and other moulds • use of hand tools as required • interpretation of production schedules/work cards as appropriate • interpreting plans or specifications • placement of reinforcing and accessories • placement and stressing of strands • compaction using vibrating tables and immersion vibrators as appropriate to the enterprise • the operation of all ancillary equipment. This competency is typically performed by operators working either independently or as part of a work team.
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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. Set up mould and accessories	1.1. Fit reinforcement and fittings according to work instructions 1.2. Pre-stress reinforcement as required 1.3. Strap pipes/accessories down as required 1.4. Inspect mould assembly is to specification 1.5. Check mould for defects and correct if required
2. Prepare equipment for the mix	2.1. Set up tools required 2.2. Set up vibrators to standard 2.3. Ensure concrete dispenser is in action 2.4. Ensure mix is to standard consistency
3. Cast concrete into moulds	3.1. Check casting schedule, job specification and drawings 3.2. Clean, seal and oil moulds as required 3.3. Pour mix into mould at correct speed 3.4. Vibrate according to standard operating procedures 3.5. Finish and cover mould as required 3.6. Clean mould and work site as required by good occupational hygiene practices
4. Rectify routine problems	4.1. Identify the range of faults that can occur during the operation 4.2. Determine and rectify fault causes in accordance with procedures/work instructions 4.3. Identify and rectify equipment failure causes in accordance with procedures/work instructions 4.4. Make sure appropriate records and log books of equipment operations are maintained to meet procedures/work instructions 4.5. Identify non-routine problems and report to designated person
5. Control hazards	5.1. Identify hazards from the job to be done 5.2. Identify other hazards in the work area 5.3. Assess the risks arising from those hazards 5.4. 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 conditions which will lead to out of specification product and taking appropriate action
- implementing the enterprise's procedures within time constraints and in a manner relevant to the correct use of the equipment and placement of reinforcing
- conveying information relevant to the operation clearly and effectively
- maintaining appropriate levels of quality assurance
- reading and numeracy to interpret workplace documents and technical information

Required knowledge

Required knowledge includes:

- causes of mould wear
- results of using worn moulds
- problems resulting from mould leakage
- importance of vibration on compaction
- required concrete cover of reinforcing
- hazards from pre-stressed reinforcement
- underlying causes of faults such as precipitated by:
 - mould anomalies
 - casting/operating conditions
 - concrete mix variations
 - vibration

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

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.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that the equipment be understood and that the importance of critical mould properties and dimensions is known. Competence must be demonstrated in the ability to recognise and analyse potential situations requiring action and then in implementing appropriate corrective action.

Consistent performance should be demonstrated. In particular look to see that:

- moulds are withdrawn for repair as required
- moulds drawn from the mould store are in good order
- stocks of spares are kept at appropriate levels
- correct moulds are available for required jobs
- product is cast with correct amount and grade of concrete
- product is vibrated to give a consistent product without air holes
- products are made consistently in minimum time and with minimum patching
- finishing is within specifications
- good OHS practice is used consistently.

Competence must be demonstrated in the operation of all ancillary equipment to the level required for this unit of competency.

Context of and specific resources for assessment

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.

Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.

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

EVIDENCE GUIDE	
	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.
Method of assessment	Individual enterprises may choose to add prerequisites and co-requisites relevant to their processes.
Guidance information for assessment	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

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.

Procedures	All operations are performed in accordance with standard procedures and work instructions
Accessories	Accessories may include: • pipes/tubing • hooks • cones
Typical problems	Typical problems may include: • interpretation of drawings and matching reinforcement and moulds to drawing • slippage, breaking of tensioned strands • compacting product and tight bends/clearances • wear and tear on mould parts • loose or missing bolts • bolt holes • stretched rubber • moulds coming apart
Occupational health and safety (OHS)	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)

Unit sector	Operational/technical
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		