



Australian Government

PMC553050 Produce architectural precast concrete

Release: 1

PMC553050 Produce architectural precast concrete

Modification History

Release 1. Supersedes and is equivalent to PMC553050C Produce architectural precast concrete

Application

This unit of competency covers the skills and knowledge required to produce architectural precast concrete products.

This competency applies to operators who are required to prepare mould assemblies, fittings and reinforcement (not pre-stressed); mould, cure and strip the product; and solve problems within area of responsibility.

This unit of competency applies to an experienced operator demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The experienced operator may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Operations

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|----------------------------------|-----|--|
| 1 | Prepare mould for casting | 1.1 | Check casting schedule, drawings and job specification |
| | | 1.2 | Check finish and veneer requirements for any or all faces, edges or surfaces |
| | | 1.3 | Prepare veneering equipment and formwork to temporarily support veneers and backing concrete |
| | | | |
| 2 | Prepare reinforcement | 2.1 | Check quantities, type, size and shape of reinforcement supplied against drawings and schedules |
| | | 2.2 | Place reinforcement and check concrete covers |
| | | 2.3 | Complete mould assembly |
| | | 2.4 | Insert lifting devices, lugs, fixing and other fittings according to drawings and specifications |
| | | 2.5 | Seal mould |
| | | | |
| 3 | Cast concrete | 3.1 | Ensure that concretes are poured in correct sequence according to work schedule |
| | | 3.2 | Ensure adequate vibration |
| | | 3.3 | Complete casting process to plans and specification |
| | | 3.4 | Prepare test samples/cylinder as required by work instructions |
| | | 3.5 | Screed to a flat, accurate surface in preparation for finishing |
| | | 3.6 | Finish green concrete as required |
| | | 3.7 | Wet patch as required |

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| 4 | Cure product | 4.1 | Cover and cure mould in accordance with standard procedure and any special requirements |
| | | 4.2 | Monitor curing to achieve specified stripping strength |
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| 5 | Strip and store product | 5.1 | Remove mould parts at appropriate time, with care, and inspect for damage |
| | | 5.2 | Lift unit using appropriate lifting equipment and lifting methods |
| | | 5.3 | Use good work health and safety (WHS) practice |
| | | 5.4 | Arrange storage using protective pads to ensure against damage |
| | | | |
| 6 | Respond to problems | 6.1 | Identify possible routine and non-routine problems in the equipment or process |
| | | 6.2 | Determine problems needing action |
| | | 6.3 | Determine possible fault causes |
| | | 6.4 | Rectify problem using appropriate solution within area of responsibility |
| | | 6.5 | Report problems outside area of responsibility to designated person |
| | | | |
| 7 | Control hazards | 7.1 | Identify hazards from the job to be done |
| | | 7.2 | Identify other hazards in the work area |
| | | 7.3 | Assess the risks arising from those hazards |
| | | 7.4 | Implement measures to control those risks in line with procedures |

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, equipment and production processes and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or any combination of:

- manufacturer's technical information
- job cards
- drawings
- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Hazards Hazards must be identified and controlled. Identifying hazards requires consideration of:

- heat, smoke, dust, vapours or other atmospheric hazards
- weight, shape, volume of materials to be handled
- hazardous products and materials
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- electricity
- gas
- gases and liquids under pressure
- noise
- rotational equipment or vibration
- plant services (steam, condensate, cooling water, etc)
- structural hazards
- equipment failures
- machinery, equipment and product mass
- limited head spaces or overhangs
- working at heights
- working in restricted or confined spaces
- other hazards that might arise.

Problems Routine and non-routine problems must be resolved.

Routine problems are predictable and have known solutions and include one or more of:

- compact product with tight bends/clearances
- loss of fluids (concrete leakage)
- variations in cement/water ratio
- backing concrete that penetrates veneers
- raw materials supply
- product quality problems.

Non-routine problems are unexpected problems or variations of previous problems.

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action

- determine possible fault causes
- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person.

Operational knowledge includes one or more of:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Records and reports Records include one or more of:

- log books/sheets
- electronic records
- job/work sheets
- other records used for the smooth running of the plant.

Reports include one or more of:

- paper or electronic-based logs and reports
- verbal/radio reports
- reporting items found which require action.

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>