



Australian Government

PMC552055 Conduct benching operations

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to PMC552055C Conduct benching operations

Application

This unit of competency covers the skills and knowledge required to conduct benching operations as typically used to produce special-purpose concrete, clay or refractory components.

This unit of competency applies to operators who are required to assemble and prepare moulds; place reinforcement and fittings, such as plugs, blinds and inserts; cast and finish the work piece and rectify routine problems.

This unit of competency applies to an individual working alone or as part of a team or group and working 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.

1	Determine the shape of the work piece	1.1	Check the specification, drawing or client instructions
		1.2	Calculate the angle of decline to be applied to the work piece

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| | | 1.3 | Determine the number of access and egress points to facilitate movement of liquids through the work piece |
| | | 1.4 | Identify and obtain components, reinforcing and/or other fitments as required by the specification |
| 2 | Assemble and prepare the work piece | 2.1 | Establish a safe working environment which meets work health and safety (WHS) and enterprise requirements |
| | | 2.2 | Identify and prepare the appropriate liner or cover |
| | | 2.3 | Secure and level in accordance with procedures/work instructions |
| | | 2.4 | Check that the base is stabilised and correctly mounted as required to facilitate lifting or moving |
| | | 2.5 | Position components, reinforcing and/or other fitments as required by the specification |
| 3 | Rough cast the work piece | 3.1 | Prepare the concrete mix or obtain the material from the batch preparation unit |
| | | 3.2 | Ensure an adequate supply of material is available to meet production requirements |
| | | 3.3 | Free form the concrete inside the work piece to meet the rough dimensions required by the specification |
| | | 3.4 | Ensure that components, reinforcing and/or other fitments do not move during rough casting |
| | | 3.5 | Employ safe working practices which conform to WHS and enterprise requirements |
| 4 | Finish the work piece | 4.1 | Prepare a finishing mixture for application to the work piece |
| | | 4.2 | Apply the finishing coating, trowelling and sleeking the surface to specification |
| | | 4.3 | Ensure the work piece cures according to procedures/work practices |

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| | | 4.4 | Remove any separators, non-permanent inserts, plugs or blinds |
| | | 4.5 | Release work piece in accordance with safe working practice and procedures |
| | | 4.6 | Return mould segments for reuse or storage in accordance with enterprise storage quality requirements |
| 5 | Rectify routine problems | 5.1 | Identify the range of faults that can occur during the operation |
| | | 5.2 | Determine and rectify fault causes procedures/work instructions |
| | | 5.3 | Identify and rectify equipment failure causes in accordance with procedures/work instructions |
| | | 5.4 | Ensure appropriate records and log books of equipment operations are maintained to meet procedures/work instructions |
| | | 5.5 | Identify non-routine problems and report to designated person |
| 6 | Inspect and store products | 6.1 | Inspect work piece for defects |
| | | 6.2 | Make allowable repairs in accordance with specifications and procedures/work instructions |
| | | 6.3 | Identify and mark work piece with appropriate brand or identification number |
| | | 6.4 | Apply appropriate surface coatings or coverings as required by the specification |
| | | 6.5 | Move work piece and store in compliance with enterprise storage quality/quantity requirements |
| 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:

- 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.

Problems Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of:

- variations in sectional thickness/distribution of materials
- variations in sectional profiles
- incorrect type, positioning, securing of reinforcing and fittings in moulds
- mould problems.

Known solutions are drawn from one or more of:

- procedures
- training
- remembered experience.

Non-routine problems must be reported according to according to relevant procedures.

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.

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/>