



Australian Government

MSMPMC317 Conduct benching operations

Release: 1

MSMPMC317 Conduct benching operations

Modification History

Release 1. New unit. Supersedes and is equivalent to PMC552055 Conduct benching operations

Application

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

This unit applies to operators who are required to take responsibility for own outputs and follow established procedures to assemble and prepare moulds; place reinforcement and fittings (such as plugs, blinds and inserts) and cast and finish the work piece. Operators are also required to work autonomously and apply their own judgement to interpret information; monitor processes; identify and address routine and non-routine problems and control hazards.

This unit applies to an individual working alone or as part of a team or group and in liaison with other shift team members, team leader and supervisor.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Operations

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
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 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

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Assemble and prepare the work piece	2.1 Establish and maintain 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 and 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
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 Check the work piece cures 4.4 Remove any separators, non-permanent inserts, plugs or blinds 4.5 Release work piece safely 4.6 Return mould segments for reuse or storage
5. Inspect and store products	5.1 Inspect work piece for defects 5.2 Make allowable repairs 5.3 Identify and mark work piece with appropriate brand or identification number 5.4 Apply appropriate surface coatings or coverings as required by the specification 5.5 Move work piece and store
6. Rectify routine	6.1 Identify and rectify faults and equipment failure

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
problems	6.2 Maintain records and log books of equipment operations 6.3 Identify non-routine problems and report to designated person
7. Control hazards	7.1 Identify benching hazards 7.2 Assess the risks arising from those hazards 7.3 Implement measures to control those risks

Foundation Skills

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

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

Unit Mapping Information

Release 1. New unit. Supersedes and is equivalent to PMC552055 Conduct benching operations

Links

Companion Volume Implementation Guides are available at VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMPMC317 Conduct benching operations

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- conducted benching operations to produce at least 1 work piece, including:
 - monitoring the following key variables to ensure product integrity and conformance to specification:
 - shape
 - dimensions
 - mounting and stability of base
 - placement and stability of reinforcing and fittings
 - supply of casting and finishing materials
 - recognising possible causes of the following routine problems:
 - raw material and mix variations
 - mould anomalies
 - casting and operating conditions
 - process errors.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- moulds and their application
- causes and impact of mould wear
- types of faults that can be repaired and related repair methods
- role of reinforcement, types of reinforcement and significance of concrete cover
- the potential effects of variations in raw materials and equipment operation and processes in relation to quality of product
- routine problems and factors which may affect product quality or production output, their probable causes and relevant corrective actions
- work health and safety (WHS) requirements relevant to work outcome
- benching hazards:
 - their possible causes
 - potential consequences

- risk control procedures.
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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - benching moulds, fittings, materials, equipment and ancillary equipment
 - specifications, procedures and job sheets
- modelling of industry operating conditions, including:
 - routine and non-routine problems.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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