



Australian Government

Department of Education, Employment and Workplace Relations

PMC552055C Conduct benching operations

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the conducting of benching operations and the production of special purpose concrete, clay or refractory components. It involves ensuring the mould is correctly assembled, selecting the necessary tools and materials, ensuring correct inserts are available 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 in a plant who are responsible for looking after the manual production of special purpose products largely formed from moulds or templates including resolving routine problems. 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. 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.
2. Assemble and prepare the work piece	2.1. Establish a safe working environment which meets occupational health and safety (OHS) 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 OHS 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 4.4. Remove any separators, non-permanent inserts, plugs or blinds 4.5. Release work piece in accordance with safe working practice and procedures

ELEMENT	PERFORMANCE CRITERIA
	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

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
- conveying information relevant to the operation clearly and effectively
- reading and numeracy to interpret workplace documents and technical information

Required knowledge

Required knowledge includes:

- hazards associated with the operation and materials in use
- operational procedures and safe work practices relevant to the operation
- composition and nature of finished product
- construction and limitations of the equipment
- out of specification situations
- types of defects/faults
- mechanical and manual causes of malfunctions;
- appropriate safety procedures concerning the handling of work pieces
- procedures relating to the reporting of hazardous conditions

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 and process be understood and that the importance of critical material properties is known. Competence must be demonstrated in the ability to recognise and analyse potential situations requiring action and then in reporting the condition to the appropriate individual.

Consistent performance at the required standard should be demonstrated. In particular look to see that:

- types of concrete and finishing materials are able to be identified
- OHS and safe work practices are followed
- work piece transfer movements are monitored and appropriate safe working practices employed
- basic maintenance and inspection practices are carried out.

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 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.

EVIDENCE GUIDE	
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

Typical problems

Typical problems may include:

- maintaining correct sectional thicknesses and distribution of materials
- maintaining sectional profiles in accordance with specification
- correctly selecting and positioning/securing permanent or non-permanent inserts, plugs or blinds, and/or reinforcing in moulds

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

Competency field

Competency field

Co-requisite units

Co-requisite units		