



Australian Government

Department of Education, Employment and Workplace Relations

PMC552092B Prepare for and install mouldable refractory materials

Revision Number: 1

PMC552092B Prepare for and install mouldable refractory materials

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the installation of mouldable refractory. It includes the use of tools and ancillary equipment and the mixing and application of appropriate mortars.
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Application of the Unit

Application of the unit	<p>This unit of competency applies to operators who install and/or repair mouldable refractory materials. Moulded refractory may be the total requirements for the job, or it may need to join to brick/block or cast refractory.</p> <p>This unit does NOT cover the installation of brick/block or cast refractory, refer to <i>PMC552091B Prepare for, install and repair refractory brickwork/blockwork or PMC552093B Prepare for and cast refractory materials</i>.</p> <p>This competency also includes the mixing and application of refractory mortars as part of the installation.</p> <p>This competency will typically be performed by a team of operators working under direction and to a specification and/or procedures.</p>
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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. Establish the suitability of resources	1.1. Check all information conforms with resources and pneumatic ramming equipment
2. Prepare for and install mouldable refractory materials	2.1. Prepare backgrounds, such as cutting out, demolition and keying 2.2. Organise work to meet work deadlines 2.3. Install refractory to appropriate procedures 2.4. Carry out remedial work to meet the specifications 2.5. Inform the person in charge that installation and any remedial work have been completed 2.6. Store tools and equipment following organisational requirements for current legislation and official guidance
3. Contribute to controlling hazards in work area	3.1. Identify hazards in work area 3.2. Assess risks arising from those hazards 3.3. Take appropriate action to control risks to procedures and duty of care

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- adjusting/correcting/responding to work procedures
- identifying and solving problems
- manual skills
- physical handling skills
- using tools and equipment correctly and safely
- working in a team or individually, as required
- reading and numeracy to interpret workplace documents and technical information

Required knowledge

Required knowledge includes:

- the organisation's requirements relating to responsibilities for installing mouldable refractory materials
- types and characteristics of background surfaces
- methods of preparing background surfaces
- types, uses and operation of tools and equipment
- methods of compacting mouldable materials
- effects of under- or over-ramming mouldable materials
- reasons for anchors and methods of ensuring compaction of mouldable refractory around the anchors
- types and methods of finishing the surface of the installed mouldables
- types and uses of temporary support/formwork
- methods of protecting work during installation
- reasons for, and methods of, providing test panels
- methods of cutting
- safeguards to take during reinstatement work
- methods of removing damaged refractory
- methods of keying and bonding new to existing refractories
- reasons for, and methods of, obtaining seals between new and existing refractory
- materials sources
- materials types/categorisation
- methods of production
- familiarity with installation techniques
- familiarity with principles of selection
- familiarity with variety of applications

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
Overview of assessment	<p>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.</p>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Competence must be demonstrated in the ability to recognise situations requiring action and then in implementing appropriate corrective action. Consistent performance should be demonstrated. In particular look to see that:</p> <ul style="list-style-type: none"> • signs of problems or potential problems with the equipment/processes are recognised • appropriate action is taken in a timely manner • hazards are recognised and appropriate action is taken to control risks arising from such hazards.
Context of and specific resources for assessment	<p>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.</p> <p>Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.</p> <p>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.</p>
Method of assessment	<p>In all plants it may be appropriate to assess this unit concurrently with relevant teamwork and communication units.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

RANGE STATEMENT	
<p>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.</p>	
Procedures	All operations are performed in accordance with standard procedures and work instructions
Tools and equipment	<p>Tools and equipment include:</p> <ul style="list-style-type: none"> • moulding tools • refractory mixing equipment • lifting and placing equipment • equipment allowing access
Installation	<p>Installation includes:</p> <ul style="list-style-type: none"> • moulding to shape • correct thickness/cover • conforming to required curves and angles while maintain cover • tying mouldable to structure • keying to existing refractory
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		