



Australian Government

PMC552091B Prepare for, install and repair refractory brickwork/blockwork

Revision Number: 1

PMC552091B Prepare for, install and repair refractory brickwork/blockwork

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the installation of refractory brickwork. 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	This unit of competency applies to operators who install and/or repair refractory bricks and blocks. Brickwork/blockwork may be the total requirements for the job, or it may need to join to moulded or cast refractory. This unit does NOT cover the installation of mouldable or cast refractory, refer to <i>PMC552092B Prepare for and install mouldable refractory materials</i> or <i>PMC552093B Prepare for and cast refractory materials</i> This unit of competency also includes the mixing and application of refractory mortars as part of the installation. This competency will typically be performed by a team of operators working under direction and to a specification and/or procedures.
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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 1.2. Report any inaccuracies in information to the person in charge 1.3. Identify and select materials, components, tools and equipment 1.4. Identify hazards associated with materials, components, tools and equipment and take appropriate steps to minimise hazard
2. Prepare, repair and install refractory brickwork/blockwork	2.1. Carry out work practices to comply with the given information and achieve the required specification 2.2. Organise work practices to complete work within the allocated time and to comply with the given information 2.3. Correct any deficiencies in the quality of work 2.4. Carry out work practices to comply with the given information to minimise the risk of damage to the work and surrounding work area 2.5. Comply with organisational information when carrying out work practices to maintain safe working procedures
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 safely
- working in a team or individually, as required
- reading and numeracy to interpret workplace documents and technical information

Required knowledge

Required knowledge includes:

- how to prepare for and install refractory brickwork/blockwork
- the organisation's requirements relating to your responsibilities for installing refractory brickwork/blockwork
- types and characteristics of background surfaces
- methods of preparing background surfaces
- types, uses and operation of tools and equipment
- types of finishes to completed brickwork/blockwork
- types and uses of jointing materials
- methods of jointing
- reasons for avoiding voids in joints
- types of, and reasons for, expansion joints
- types and uses of temporary support
- 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

REQUIRED SKILLS AND KNOWLEDGE

- familiarity with variety of applications

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

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:

- 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

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.

Method of assessment

In all plants it may be appropriate to assess this unit concurrently with relevant teamwork and communication units.

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
Tools and equipment	Tools and equipment include: • mortar mixing equipment • trowels • lifting and placing equipment • equipment allowing access
Installation	Installation includes: • laying patterns (e.g. stretcher bond) • correct thickness of course • laying bricks/blocks to conform to required curves and angles • tying bricks/blocks to structure • keying bricks/blocks 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		