



**Australian Government**

# **PMC557090 Select refractory materials for an application**

**Release: 1**

# **PMC557090 Select refractory materials for an application**

## **Modification History**

Release 1. Supersedes and is equivalent to PMC557090A Select refractory materials for an application

## **Application**

This unit of competency covers the skills and knowledge required to select refractory materials for an application.

This unit of competency applies to operators who are required to negotiate agreed requirements for the refractory material, recommend the optimum material/s and develop agreed specifications for the material/s to meet the requirements.

This unit of competency applies to senior technicians or those in similar roles who are required to analyse and synthesise advanced theoretical and technical knowledge and apply independent judgement to high-level technical issues and complex problems. The individual may work in liaison with other refractory specialists or they may be the sole refractory specialist for this job or in their organisation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

## **Pre-requisite Unit**

Nil

## **Competency Field**

Technical

## **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 | <b>Confirm required end use</b>                                            | 1.1 Liaise with relevant stakeholders<br>1.2 Confirm the end use conditions for the refractory<br>1.3 Identify discrepancies or conflicts in requirements<br>1.4 Negotiate a consistent set of requirements for the refractory material                                                                                                                                              |
| 2 | <b>Short list appropriate refractory materials</b>                         | 2.1 Compare the properties of refractory materials with the set of requirements<br>2.2 Identify situations where the use of more than one material may be desirable<br>2.3 Rank possible materials solutions<br>2.4 Identify health, safety and environment (HSE) risks of top ranked possible material solutions<br>2.5 Estimate the cost of top ranked possible material solutions |
| 3 | <b>Recommend a refractory material/combination of refractory materials</b> | 3.1 Liaise with relevant stakeholders<br>3.2 Determine installation, repair or removal issues of relevance to the material selection<br>3.3 Review shortlist ranking<br>3.4 Recommend optimum material/combination of materials for the end use                                                                                                                                      |
| 4 | <b>Develop technical specification for recommended materials</b>           | 4.1 Determine suitable format for specification<br>4.2 Prepare specification<br>4.3 Review specification with refractory designers and installer                                                                                                                                                                                                                                     |

- 4.4 Modify specification if required
- 4.5 Publish specification in required format to required people/organisations

## **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:

- 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.

**HSE and other risks** Identification of HSE and other risks includes consideration of:

- health and safety risks
- sustainability risks
- regulatory risks
- business risks.

## Unit Mapping Information

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## Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>