

Title	Install refractory gunning mixes		
Level	3	Credits	8

Purpose	People credited with this unit standard are able to: set up work area for installation; install refractory gunning mixes; repair existing linings with refractory gunning mixes; and complete work operations.
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Classification	Masonry > Refractory Installation
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Available grade	Achieved
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Guidance Information

1 Definitions

Industry practice refers to the expected standard required at the enterprise in which credit for this standard is sought, such standards may be set down in: industry codes of practice, enterprise procedures, which refer to documented procedures specific to the enterprise and set out the standard business practice, and activities of that enterprise.

Site safety plan refers to the documented safety plan which is required by law to ensure compliance with the Health and Safety in Employment Act, 1992.

Specifications refer to any, or all of the following:
 manufacturer's specifications and/or recommendations;
 site and/or workplace specific requirements.

Plant refers to appliances, equipment, fittings, furniture, implements, machinery, tools, vehicles, plus parts, controls, and anything connected to such plant.

2 Legislation and Codes of Practice relevant to this unit standard include the following:

Health and Safety in Employment Act, 1992;

Resource Management Act, 1991;

Best Practice Guideline for Scaffolding, 2003 Department of Labour available from <http://www.osh.dol.govt.nz/order/catalogue/scaffolding.shtml>.

Outcomes and performance criteria

Outcome 1

Set up refractory work area.

Performance criteria

- 1.1 Site is verified as safe to enter prior to entry in accordance with the specifications.

- 1.2 Site safety procedures are complied with as set down in the site safety plan.
- 1.3 Area of installation is confirmed as being in accordance with the specifications.
- 1.4 Actions taken in the event that area is unsuitable for installation are in accordance with industry practice.
- 1.5 Materials used are in accordance with the specifications.
- 1.6 Anchorage and formwork are completed in accordance with the specifications.
- 1.7 Plant and materials are set up to ensure safe access for work operations.
- 1.8 Safety equipment selected for specific work operations is accessible and operational.
- 1.9 Substrate is prepared in accordance with the specifications.
- 1.10 Access equipment is erected to comply with legislative requirements.

Outcome 2

Install refractory gunning mixes.

Performance criteria

- 2.1 Gunning mix is prepared in accordance with the specifications.
- 2.2 Material is gunned into place in accordance with the specifications.
- 2.3 Installed materials are finished in accordance with the specifications.
- 2.4 Surface finishing is completed in accordance with the specifications.
- 2.5 Curing is completed in accordance with the specifications.
- 2.6 Formwork is stripped without damage to refractory material.

Outcome 3

Repair existing linings with gunning mixes.

Performance criteria

- 3.1 Area is prepared to provide surface which meets installation requirements.
- 3.2 Repair is gunned, finished and cured in accordance with the specifications.

Outcome 4

Repair existing linings with gunning mixes.

Performance criteria

- 4.1 All operations are completed without damage to project, plant, or materials or injury to staff.
- 4.2 All activities comply with safety requirements set down in the site safety plan.
- 4.3 All plant is used, maintained, cleaned, and stored and work site left as specified in accordance with manufacturers, and/or legislative requirements.
- 4.4 All documentation is completed in accordance with industry practice.
- 4.5 Surplus materials are dealt with in accordance with industry practice and legislative requirements.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	16 January 1997	31 December 2011
Revision	2	8 April 1999	31 December 2011
Review	3	21 September 2007	31 December 2011
Revision	4	21 July 2011	31 December 2024
Review	5	30 June 2022	31 December 2024

Consent and Moderation Requirements (CMR) reference	0048
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.