

Title	Demonstrate knowledge of concepts and principles, and the properties of less frequently used materials for gasfitting		
Level	4	Credits	5

Purpose	<p>This unit standard is for people who work in the gasfitting industry.</p> <p>People credited with this unit standard are able to demonstrate knowledge of:</p> <ul style="list-style-type: none"> – concepts and principles encountered in gasfitting work; – properties of less frequently used materials used in gasfitting; and – the applications and limitations of materials used in gasfitting.
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Classification	Plumbing, Gasfitting and Drainlaying > Gasfitting
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Available grade	Achieved
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Guidance Information

- 1 **References**
 Building Act 2004;
 Gas Act 1992;
 Gas (Safety and Measurement) Regulations 2010;
 Health and Safety at Work Act 2015;
 Plumbers, Gasfitters, and Drainlayers Act 2006;
 Plumbers, Gasfitters, and Drainlayers Regulations 2010;
 The following standard, which is available at <http://www.standards.govt.nz>:
 AS/NZS5601.1:2013 *Gas installation*;
 The following clause, and any related compliance documents, which are available at <https://www.building.govt.nz/>:
 New Zealand Building Code Clause G11 Gas as an Energy Source;
 and all subsequent amendments and replacements.
- 2 **Range**
 Less frequently used materials include but are not limited to – cast iron, aluminium, polyvinylchloride (PVC), cross-linked polyethylene, brass/bronze.
- 3 Credit for this unit standard does not entitle the candidate to legally perform certain electrical aspects of this work unless registered or supervised by a registered person under the provisions of the Electricity Act 1992.
- 4 Candidates must hold a current limited certificate or exemption under supervision as issued under the Plumbers, Gasfitters, and Drainlayers Act 2006.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of concepts and principles encountered in gasfitting work.

Performance criteria

1.1 Explain underpinning concepts and principles in terms of their application to gasfitting.

Range heat input and output, flame characteristics, burners, fire rated materials, flammability limits.

Outcome 2

Demonstrate knowledge of the properties of less frequently used materials used in gasfitting.

Performance criteria

2.1 Describe the physical properties of materials.

Range strength, rigidity, malleability.

2.2 Describe the utility properties of materials.

Range conduction of heat, response to temperature change, abrasion resistance, corrosion resistance, malleability.

2.3 Identify the capabilities and limitations of materials.

Outcome 3

Demonstrate knowledge of the applications and limitations of materials used in gasfitting.

Performance criteria

3.1 Describe the situations in which particular materials are used in a gasfitting project.

3.2 Describe the situations in which particular materials should not be used in a gasfitting project.

3.3 Describe compatibility considerations that arise when using components of different materials in conjunction with each other.

- 3.4 Describe considerations relating to protecting different materials used in gasfitting work.

Range corrosion, UV resistance, buried pipework and fittings.

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	23 November 2017	31 December 2028
Review	2	25 July 2024	31 December 2028

Consent and Moderation Requirements (CMR) reference

0003

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.