

Title	Demonstrate knowledge of water, material properties, and of less frequently used materials in plumbing and drainlaying		
Level	3	Credits	3

Purpose	<p>This unit standard has been designed to be achieved in a plumbing and/or drainlaying context.</p> <p>People credited with this unit standard are able to demonstrate knowledge of:</p> <ul style="list-style-type: none"> – water in relation to plumbing and drainlaying; – compatibility and protection considerations of materials used in plumbing and drainlaying; – properties of less frequently used materials in plumbing and drainlaying; and – the application of less frequently used materials used in plumbing and drainlaying.
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Classification	Plumbing, Gasfitting and Drainlaying > Core Plumbing, Gasfitting, and Drainlaying
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Available grade	Achieved
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Guidance Information

- 1 References
Health and Safety at Work Act 2015;
Plumbers, Gasfitters, and Drainlayers Act 2006;
AS/NZS 3500.2:2015 *Plumbing and drainage – Sanitary plumbing and drainage*, available at <http://www.standards.govt.nz>;
and all subsequent amendments and replacements.
- 2 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 water in relation to plumbing and drainlaying.

Performance criteria

- 1.1 Describe water in terms of density and energy transfer properties.

- 1.2 Describe the qualities of potable, grey, recycled, and foul water in relation to plumbing and drainlaying.

Outcome 2

Demonstrate knowledge of compatibility and protection considerations of materials used in plumbing and drainlaying.

Performance criteria

- 2.1 Describe compatibility considerations that arise when using different materials in conjunction with each other.
- 2.2 Describe considerations relating to protecting materials used in a plumbing drainlaying project.

Outcome 3

Demonstrate knowledge of properties of less frequently used materials in plumbing and drainlaying.

Range stainless steel, glass, cast iron, lead.

Performance criteria

- 3.1 Describe the materials in terms of their general physical properties.
- Range may include but is not limited to strength, rigidity, malleability.
- 3.2 Describe the properties of the materials in terms of their use in plumbing and drainlaying.
- Range may include but is not limited to conduction of heat, response to temperature change, abrasion resistance, corrosion resistance, malleability.

Outcome 4

Demonstrate knowledge of the application of less frequently used materials used in plumbing and drainlaying.

Range stainless steel, glass, cast iron, lead, brass, bronze.

Performance criteria

- 4.1 Describe the situations in which the materials are appropriate for use in a plumbing or drainlaying project.
- 4.2 Describe the situations in which the materials should not be used in a plumbing or drainlaying project.

Planned review date	31 December 2022
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 October 2017	N/A

Consent and Moderation Requirements (CMR) reference	0003
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact The Skills Organisation reviewcomments@skills.org.nz if you wish to suggest changes to the content of this unit standard.