

Title	Describe water, material considerations, and 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 describe:</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 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to:
- Building Act 2004;
 - Health and Safety at Work Act 2015;
 - Plumbers, Gasfitters, and Drainlayers Act 2006.

The following clauses, and any related compliance documents, are available at <https://www.building.govt.nz>:

New Zealand Building Code, Clause B2 Durability,
 New Zealand Building Code, Clause E1 Surface Water,
 New Zealand Building Code Clause G12 Water Supplies;
 New Zealand Building Code Clause G13 Foul Water.

The following standards which are available at <http://www.standards.govt.nz>:

AS/NZS 3500.1:2021 *Plumbing and drainage, Part 1: Water services*
 AS/NZS 3500.2:2021 *Plumbing and drainage, Part 2: Sanitary plumbing and drainage*
 AS/NZS 3500.3:2021 *Plumbing and drainage, Part 3: Stormwater drainage*
 AS/NZS 3500.4:2021 *Plumbing and drainage, Part 4: Heated water services.*

Any new, amended or replacement referenced standards, codes of practice, guidelines, Building Code Acceptable Solutions and Verification Methods, or authority requirements affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

Outcomes and performance criteria

Outcome 1

Describe water in relation to plumbing and drainlaying.

Performance criteria

1.1 Describe the properties of water.

Range properties include but are not limited to – density, energy transfer, surface tension, capillary action, the ability to dissolve substances, pressure, thermal properties.

1.2 Describe the qualities of different types of water.

Range water types include but are not limited to – potable, non-potable, stormwater, foul water, trade waste.

Outcome 2

Describe compatibility and protection considerations of materials used in plumbing and drainlaying.

Performance criteria

2.1 Describe compatibility considerations that arise when using dissimilar materials in conjunction with each other.

2.2 Describe considerations relating to protecting materials used in a plumbing and/or drainlaying project.

Outcome 3

Describe properties of less frequently used materials in plumbing and drainlaying.

Range includes but is not limited to – glass, cast iron, galvanised steel, lead, composites, ABS, vitrified clay (earthenware).

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, impact resistance, malleability.

Outcome 4

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

Range includes but is not limited to – glass, cast iron, galvanised steel, lead, composites, ABS, vitrified clay (earthenware).

Performance criteria

4.1 Describe the situations in which the materials are appropriate for use in a plumbing and/or drainlaying project.

4.2 Describe the situations in which the materials should not be used in a plumbing and/or drainlaying project.

Planned review date	31 December 2029
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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	31 December 2028
Review	2	30 May 2024	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 Waihangā Ara Rau Construction and Infrastructure Workforce Development Council Qualifications@WaihangāAraRau.nz if you wish to suggest changes to the content of this unit standard.