

Title	Describe the requirements for maintaining building integrity and weather tightness of building penetrations		
Level	4	Credits	8

Purpose	<p>This unit standard is for people who work in the plumbing or gasfitting industries.</p> <p>People credited with this unit standard are able to describe:</p> <ul style="list-style-type: none"> – the requirements for maintaining building integrity and weather tightness when making penetrations through building elements; and – how to meet the requirements of applicable codes and standards when making penetrations through building elements.
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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;

New Zealand Building Code (Building Regulations 1992 – Schedule 1);

Health and Safety at Work Act 2015;

Plumbers, Gasfitters, and Drainlayers Act 2006;

Plumbers, Gasfitters, and Drainlayers Regulations 2010;

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

NZS 3604:2011, *Timber-framed buildings*

NZS 4219:2009, *Seismic performance of engineering systems in buildings*.

The following standard, which is available at <http://www.standards.org.au/>:

AS 4072.1-2005, *Components for the protection of openings in fire-resistant separating elements, Part 1: Service penetrations and control joints*.

The following Building Code clauses, and any related Acceptable Solution and Verification Method documents, which are available at <https://www.building.govt.nz>:

New Zealand Building Code Clause B1 Structure,

New Zealand Building Code Clause B2 Durability,

New Zealand Building Code Clause C1 – C6 Protection from fire,

New Zealand Building Code Clause E2 External moisture,

New Zealand Building Code Clause E3 Internal moisture,

New Zealand Building Code Clause G6 Airborne and impact sound,

New Zealand Building Code Clause G11 Gas as an energy source.

The following guide, which is available at [https://nashnz.org.nz/The National Association of Steel Framed Housing Inc \(NASH\) Standard Part 2:2019 Light Steel Framed Buildings](https://nashnz.org.nz/The-National-Association-of-Steel-Framed-Housing-Inc-(NASH)-Standard-Part-2:2019-Light-Steel-Framed-Buildings).

The following guide, which is available at [http://www.branz.co.nz/Guide to Passive Fire Protection in Buildings 2017](http://www.branz.co.nz/Guide-to-Passive-Fire-Protection-in-Buildings-2017).

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.

2 Definition

Job specifications refer to instructions (oral, written, graphic) and may include any of the following: manufacturer instructions; design drawing detail specifications; specifications from a specialist source such as an architect, designer, engineer, or a supervisor; and site or work specific requirements.

- 3 Candidates must hold a current limited trainee authorisation or exemption under supervision as issued under the Plumbers, Gasfitters, and Drainlayers Act 2006.

Outcomes and performance criteria

Outcome 1

Describe the requirements for maintaining building integrity and weather tightness when making penetrations through building elements.

Performance criteria

- 1.1 Describe the requirements for preventing moisture ingress in accordance with New Zealand Building Code Clauses E2 and E3.
- Range must include but is not limited to – roof, exterior wall, sub floor moisture barrier, internal wet areas.
- 1.2 Describe the requirements for maintaining structural integrity and durability in accordance with New Zealand Building Code Clauses B1 and B2, and with NZS 3604.
- Range must include but is not limited to – slab footings, joists, studs, top/bottom plate, roof purlins, rafters, trusses.
- 1.3 Describe the requirements for maintaining seismic clearances in accordance with NZS 4219.

1.4 Describe the requirements for maintaining fire rating and smoke separations in accordance with New Zealand Building Code Clauses C1 – C6.

Range includes identifying fire cells and separations, the meaning of Fire Resistance Rating (FRR) in relation to fire cells and separations, identifying suitable fire and smoke stopping products for a given situation.

1.5 Describe the requirements for achieving acoustic performance in accordance with job specifications and New Zealand Building Code Clause G6.

Outcome 2

Describe how to meet the requirements of applicable codes and standards when making penetrations through building elements.

Performance criteria

2.1 Describe how to prevent moisture ingress in accordance with New Zealand Building Code Clauses E2 and E3.

Range must include but is not limited to – roof, exterior wall, sub-floor moisture barrier, internal wet area; roof types – profiled metal roofing, and one other roof type; exterior wall cladding types include – material: timber weatherboard, fibre cement sheet, profiled metal, brick or block veneer, reinforced concrete masonry, solid plaster, exterior insulation finishing system (EIFS).

2.2 Describe how to meet the requirements for maintaining structural integrity in accordance with New Zealand Building Code Clause B1 and NZS 3604.

2.3 Describe how to meet the requirements for maintaining seismic clearances in accordance with NZS 4219.

2.4 Describe how to meet the requirements for maintaining fire rating and smoke separations in accordance with New Zealand Building Code Clauses C1 – C6.

Range must include but is not limited to – selection and use of fire stopping and smoke sealing materials in accordance with the job specifications and manufacturers' instructions; fire stopping and smoke sealing materials for sealing service penetrations may include but is not limited to – collars, wraps, intumescent sealants.

2.5 Describe how to meet the requirements for achieving acoustic performance in accordance with job specifications and New Zealand Building Code Clause G6.

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	28 September 2017	31 December 2028
Review	2	30 May 2024	N/A

Consent and Moderation Requirements (CMR) reference

0003

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

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council qualifications@waihangaararau.nz if you wish to suggest changes to the content of this unit standard.