

Title	Demonstrate knowledge of the fundamentals of passive fire protection systems		
Level	3	Credits	4

Purpose	<p>This unit standard covers the underpinning knowledge of passive fire protection (PFP) systems in buildings.</p> <p>People credited with this unit standard are able to demonstrate knowledge of: fire cells and Fire Resistance Ratings (FRR), PFP systems and associated products, smoke separation, the compliance pathway required for PFP products, and considerations before penetrating, altering, and/or disturbing PFP systems.</p>
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Classification	Mechanical Engineering > Passive Fire Protection
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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 the:
 - [New Zealand Building Code](#),
 - [Building \(Forms\) Regulations 2004](#),
 - [Health and Safety at Work Act 2015](#),
 - Ministry of Business, Innovation and Employment (MBIE) New Zealand Building Code Handbook. Available from: <https://www.building.govt.nz/>,
 - Ministry of Business, Innovation and Employment (MBIE). Compliance Schedule Handbook. Available from: <https://www.building.govt.nz/>, C Protection from Fire, Acceptable Solution C/AS2. Available from: <https://www.building.govt.nz/>.
 - BRANZ, (current edition). Guide to passive fire protection in buildings. Available from: <https://www.branz.co.nz/>.

Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

- 2 Definitions
 - NZBC* refers to the New Zealand Building Code.
 - Passive fire protection (PFP)* refers to components or systems of a building or structure that slows or impedes the spread of the effects of fire or smoke without system activation, and usually without movement. Examples of passive systems include floor-ceilings and roofs, fire doors, windows, and wall assemblies, fire-resistant coatings, and other fire and smoke control assemblies. Passive fire protection systems can include active components such as fire dampers.

Temporary solutions refer to components which can be easily removed or altered.
Workplace procedures – documented procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site safety procedures, equipment operating procedures, codes of practice, quality assurance procedures, housekeeping standards, charging of time and materials, management of drawings, and documentation, procedures to comply with legislative and local body requirements.

3 Assessment information

All activities must comply with – any policies, workplace procedures, business protocols, and requirements of the organisation/s involved, and ethical codes and standards of relevant professional bodies.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of fire cells and Fire Resistance Ratings (FRR).

Performance criteria

- 1.1 Passive fire protection and its purpose is defined.
- 1.2 The meaning of FRR is explained in relation to fire cells in accordance with the NZBC.
- 1.3 Fire cells are described in relation to the NZBC and clauses C1 to C6.
- 1.4 Source of FRR information is explained.

Outcome 2

Demonstrate knowledge of PFP systems and associated products.

Performance criteria

- 2.1 The various components that collectively make up a PFP system that must be approved and tested as a complete system are stated.

Range	components include but are not limited to various – fire separations, closures on openings, penetration seals, fire rated structural elements.
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- 2.2 The various components that form parts of a passive fire system that must be approved and tested as a complete system are described.

Range	types of passive fire systems include but are not limited to – combustible pipe seals, linear joint seals, large openings, multi-service penetrations, bulkheads, movement joints.
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2.3 The limitations of passive fire systems are described.

Range includes but is not limited to – dimensions, orientation, material types, environmental conditions, temporary solutions.

Outcome 3

Demonstrate knowledge of smoke separation.

Performance criteria

3.1 Materials, products and construction methods required to achieve a smoke separation as required by the NZBC are described.

Outcome 4

Demonstrate knowledge of the compliance pathway required for PFP products.

Performance criteria

4.1 Compliance pathway for compliant PFP systems is described.

Range includes but is not limited to – NZBC, acceptable solutions and cited Standards, independent laboratory testing and documentation.

Outcome 5

Demonstrate knowledge of considerations before penetrating, altering, and/or disturbing existing PFP systems.

Performance criteria

5.1 Considerations before penetrating, altering, and/or disturbing an existing PFP systems are described.

Range includes but is not limited to – identification of required FRR, smoke rating, existing products and systems, notification procedures.

Planned review date	31 December 2030
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	15 October 2015	31 December 2026
Review	2	28 March 2024	31 December 2027
Review	3	26 March 2026	N/A

Consent and Moderation Requirements (CMR) reference	0014
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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 Manufacturing and Engineering Industry Skills Board qualifications@maeisb.nz if you wish to suggest changes to the content of this unit standard.