

Title	Demonstrate knowledge of substrate specifications for passive fire protection		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to demonstrate knowledge of substrate specifications for passive fire protection.
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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

Legislation, regulations and/or industry standards include but are not limited to the:

[Building Act 2004](#),

[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](#),

[MBIE Acceptable Solutions \(AS\) and Verification Methods \(VM\)](#),

AS 1530.4-2014, *Methods for fire tests on building materials, components and structures – Fire-resistance test of elements of construction*,

NZS/BS 476.20:1987, *Fire tests on building materials and structures – Method for determination of the fire resistance of elements of construction (general principles)*,

[BRANZ, Guide to Passive Fire Protection in Buildings 2022](#).

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

Aerated Encased Concrete (AEC) panels are also referred to as Speed panels and Korok panels.

Composite flooring is also referred to as Comflor or Tray deck.

Passive fire protection (PFP) refers to components or systems of a building or structure that slow or impede 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.

- 3 Range
Substrates must include – plasterboard systems (lightweight construction), reinforced concrete, composite, flooring systems.
Substrates may include but are not limited to – CLT (cross-laminated timber), PLT (parallel laminated timber), AEC (aerated encased concrete), AAC (Autoclave aerated concrete), insulated panel systems, calcium silicate board.
At least 5 substrates to be assessed
- 4 Assessment information
All activities must comply with any policies, 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 substrate specifications for passive fire protection.

Performance criteria

- 1.1 Substrate types are described.
Range horizontal, vertical, load bearing, non-load bearing.
- 1.2 Substrate systems measurements are explained.
- 1.3 Substrate systems orientations are described.
- 1.4 Load bearing non-load bearing substrate types are described in relation to fire performance.
- 1.5 Hollow construction and solid constructions are described in relation to fire performance.
- 1.6 One-way and two-way systems are described in relation to fire performance.
- 1.7 Manufacturer's specifications are described in relation to installations and repair.
Range may include but is not limited to – junctions, fasteners, substrates, and accepted repair procedures.
- 1.8 Structural steel protection is explained as used in PFP systems in accordance with manufacturer's specifications.

Planned review date	31 December 2028
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 March 2024	N/A

Consent and Moderation Requirements (CMR) reference	0013
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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 Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.