

FIREFREE 88® Water-based Intumescent Coating

Product Name: FIREFREE 88®

Description: FIREFREE 88® is a fire-resistant intumescent coating.

Product description and its intended use:

FIREFREE 88® is a water-based intumescent coating. When applied at quoted dry film thickness, **FIREFREE 88®** will

1. Improve the fire resistance of internal surface linings – timber less than & greater than 12mm including plywood, hardboard, fibre/particle board, paper faced & non-paper faced gypsum, fibre-reinforced cement board and concrete masonry materials;
2. Improve the fire resistance rating of metal ceiling tiles;
3. Improve the fire resistance rating for 20mm hardwood plywood.

Please refer to installation requirements on page 3.

Key Technical Specifications:

Appearance:	White Liquid
Finish/Sheen:	Flat 1.9-2.2 @ 60.5-1 @ 85
VOC:	<36 g/L (test method ASTM D3960)
Percent Volume Solids:	67%
Viscosity:	115 @ 77°F (25°C) kU (test method ASTM D-562)
Specific Gravity/Density, g/ml:	1.272+ 0.05 (test method ASTM D1475)
Thinning:	Not Recommended
Packaging:	5 gallon pails (60 lbs)
Shelf-Life:	2 years (unopened) from date of manufacture

Product Identifier: FIREFREE 88® intumescent coating

Place of manufacture: New Zealand Overseas

Legal & trading name of the manufacturer: Firefree Coatings, Inc.

Address: 8 Commercial Blvd, Suite E Novato, CA 94949 USA

Web Site: www.firefree.com

Email Address: info@firefree.com

Importer: Polymer Group Ltd

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NZBN: 9429033259505

Relevant Building Code Clauses:

B2 Durability: Performance B2.3.1(c) not less than 5 years (being a renewable protective coating).

C Protection from Fire.

E2 & E3 Moisture.

F2 Hazardous Building Materials: Performance clause F2.3.1.

Firefree 88® will meet the above requirements.

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Statement on how the building product is expected to contribute to compliance the New Zealand Building Code

B2 Durability:

Performance B2.3.1(c) - minimum of 5 years (**FIREFREE 88®** being a renewable protective coating).

The incorporation of a colour coded primer over the **FIREFREE 88®** intumescent coating followed by the chosen decorative paint system (**FIREFREE Exterior Topcoat®** or other approved topcoat) will provide a **wear indicator layer** indicating when to repaint the decorative paint system.

The **Firefree 88®** will have an extended life if the topcoat (decorative paint system) is maintained, and the **FIREFREE 88®** coating is not damaged by impact or abrasion and is protected from exposure to external moisture by the chosen decorative paint system (**FIREFREE Exterior Topcoat®** or other approved topcoat).

C3 Fire affecting areas beyond the fire source:

FIREFREE 88® when applied as per recommended instructions will

- a) provide a low probability of fire spread to other property vertically or horizontally across a relevant boundary;
- b) when used as internal surface linings in the following areas of buildings will meet the following performance criteria:

Test Method	Test Lab	Test	NZ Group Number	DFT (microns)
EN 13501-1:2007 + A1:2010	Fire Research Dept – ITB Building Research Institute (Poland)	Fire behaviour B Smoke Production s 2 Flaming Droplets d 0 (Hardwood plywood 9mm)	Equivalent to 1-S (ref C4.1.1 & C4.1.2)	2200-2300

Disclaimer: Please note that the above approvals are prepared as a guide only. Consult professional advice from a registered Fire Engineer and refer to the Building Code for detailed requirements. Original test reports available from importer.

- c) provide external walls of buildings that are located closer than 1 m to the relevant boundary of the property on which the building stands, an improved non-combustibility of those building materials, including the following performance criteria:

Fire Resistance Rating (FRR):

Test Method	Test Lab	Test	FRR	DFT
AS1530.4 Fire Resistance	CSIRO (Australia)	Pine timber 20mm	-/30/30	Min 762 microns
UBC Standard 26-2 & UBC Standard 7-1 (Assessed against AS 1530.4)	CSIRO Assessment (Australia)	Pressed metal ceiling attached to 50mm x 25mm battens	60/60/60	Min 1250 microns

Disclaimer: Please note that the above approvals are prepared as a guide only. Consult professional advice from a registered Fire Engineer and refer to the Building Code for detailed requirements. Original test reports available from importer.

E2 External Moisture:

Exterior surfaces of building elements coated with **FIREFREE 88®** intumescent coating must be protected from moisture with **FIREFREE Exterior Topcoat®** thus preventing the penetration of water that could cause undue dampness, damage to building elements, or both.

E3 Internal Moisture:

Internal surfaces of building elements coated with **FIREFREE 88®** intumescent coating must not be in direct contact with water and must be protected from incidental moisture with **FIREFREE Exterior Topcoat®** resulting in an impervious and easily cleaned surface.

F2 Hazardous Building Materials:

Performance clause F2.3.1: **FIREFREE 88®** does not emit toxic fumes or leach toxic material during life of the coating. Safety of applicators - refer to VOC test result.

Limitations on the use of the building product

Adequate ventilation must be maintained to ensure that moisture does not accumulate on the **FIREFREE 88®** coated wall and ceiling surfaces.

FIREFREE 88® coated wall surfaces adjacent to sanitary fixtures or sanitary appliances must be protected from contact with water.

FIREFREE 88® coated surfaces must be protected from splashes in the course of the intended use of the building.

Design requirements that would support the appropriate use of the building product:

FIREFREE 88® is a water-based latex paint and its application is similar to applying a regular water-based latex paint except for the recommended thickness which needs to be precisely complied with for adequate fire performance.

FIREFREE 88® may be applied by airless sprayer, roller or brush. DO NOT THIN **FIREFREE 88®**.

Airless Spray: Capable of a pressure range of 780 to 3300 psi. Tip .017 to .023 heavy duty 4" to 12" (10.16 cm to 30.48 cm) fan width recommended.

Roller: Use a 1-1/4" (20-25mm) nap synthetic cover for heavy application. Other rollers may be used depending on desired finish.

Brush: For brush application, a nylon/fully loaded brush should be used. A laying on technique will reduce the brush marking.

Maximum wet film thickness of **FIREFREE 88®** is 500 microns WFT per coat. Multiple coats may be required to achieved desired dry film builds. If multiple coats of **FIREFREE 88®** are required or if a top coat is to be applied over **FIREFREE 88®** make sure that each coat of **FIREFREE 88®** is thoroughly dry to the touch before applying the next coat.

THIRD PARTY INSPECTION: All surfaces to which **FIREFREE 88®** have been applied should be inspected *during application* by an accredited inspection agency to verify that **FIREFREE 88®** has been properly applied in the required uniform thickness. If an independent testing agency is retained, they should also ensure that the substrate preparation is in accordance with manufacturer's recommendations. *The independent testing agency should randomly obtain test samples during application to verify that wet/dry film thickness of the intumescent coating/paint complies with Firefree Coatings, Inc requirements.*

Installation Requirements

1. Improving fire rating for Hardwood Plywood

Hardwood plywood of minimum thickness 9mm is capable of achieving **Group classification Number 1-S** based on test EN 13501-1:2007 + A1:2010 (*non-combustible*) provided that –

- The plywood surface to be protected is primed and coated with at least 2200 microns DFT (3300 microns WFT) of **FIREFREE 88®** and
- The **FIREFREE 88®** is applied in multiple coats of not more than 500 microns WFT per coat.

Web link to the ITB Building Research Institute report (No: 1024/14/Z00NP):

<https://polymer.co.nz/wp-content/uploads/2024/06/Classification-Report-2185-15-Z00NP.pdf>

2. Improving fire rating for exterior Timber

A 20mm timber weather board external lining over a timber stud wall system lined with nailed pine weather boards, punched and filled with Ramset BlazeBreak 201, primed and then coated with **FIREFREE 88®** is capable of achieving **fire-resistance levels (FRL) of -/30/30** when tested in accordance with AS 1530.4-1997 provided –

that the pine weather boards are primed and then coated with at least 762 microns DFT (1143 microns WFT) of **FIREFREE 88®** followed by **FIREFREE Exterior Topcoat®** for exterior exposure.

Web link to the CSIRO test documents (report No: 1570):

<https://polymer.co.nz/wp-content/uploads/2024/06/AS-1530.4-30-30-No.-1570.pdf>

3. Improving fire rating for Metal Ceiling Tiles

A timber-framed floor/ceiling system comprising a pressed metal ceiling attached to the underside of a structurally sound system by means of minimum 50mm x 25mm timber battens is capable of **achieving fire-resistance levels (FRL) of 60/60/60** when tested in accordance with AS 1530.4-1997 provided that –

- a) The underside of the pressed metal ceiling is primed and then coated with at least 1250 microns DFT (1875 microns WFT) of **FIREFREE 88®** and
- b) The pressed metal ceiling, fixings and the timber battens are in good condition.

Web link to the CSIRO assessment report (report number FCO-2278):

<https://polymer.co.nz/wp-content/uploads/2024/06/AS-1530.4-Pressed-metal-ceiling-tiles-to-floor-FRL-60-60-60.pdf>

Installation Requirements:

Web link to Installation:

<https://polymer.co.nz/wp-content/uploads/2024/06/Ff88App11-13-2021-003.pdf>

Maintenance Requirements

Surfaces which have been coated with **FIREFREE 88®** must be protected from abuse and abrasion. Any damaged surfaces should be repaired and **FIREFREE 88®** should be reapplied to the original specified dry film thickness by an approved applicator to maintain the specific fire rating.

Inspections must be carried out by a **FIREFREE 88®** Registered Applicator or a suitably qualified and experienced Inspector with a full understanding of the **FIREFREE 88®** coating systems. These inspections should be undertaken at least every 12 months and records kept. Refer to the **FIREFREE 88®** Maintenance Guide.

Web link to Maintenance Guide:

<https://polymer.co.nz/wp-content/uploads/2024/06/Firefree-88-Maintenance-Guide-Rev1.pdf>

Is the building product/building product line subject to a warning or ban under section 26 of the Building Act 2004? Yes / No

Version: Rev 10

Date: Feb 2025

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