

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.

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Relevant Building Code Clauses:

B2 Durability: Performance clause B2.3.1(c) (i) & (ii)

C Protection from Fire

E Moisture

F2 Hazardous Building Materials: Performance clause F2.3.1

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

B2 Durability: Performance clause B2.3.1(c) (i) & (ii): **FIREFREE 88®** has a durability of at least 5 years where the coating is not damaged due to abrasion and impact or when exposed to external moisture when protected with **FIREFREE Exterior Topcoat®**. Refer to the design and installation requirements and normal maintenance requirement sections for further information.

C3 Fire affecting areas beyond the fire source:

FIREFREE 88® when applied as per recommended instructions will

- provide a low probability of fire spread to other property vertically or horizontally across a relevant boundary;
- 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.

- 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 walls must prevent the penetration of water that could cause undue dampness, damage to building elements, or both.

E3 Internal Moisture

Surfaces of building elements likely to be splashed or become contaminated in the course of the intended use of the building, when protected with **FIREFREE Exterior Topcoat®** will be impervious and easily cleaned.

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.

Ff88 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 –

- a) The plywood surface to be protected is primed and coated with at least 2200 microns DFT (3300 microns WFT) of **FIREFREE 88®** and
- b) 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://www.polymer.co.nz/product/fireproofing/#1714080012106-f609d4ea-beff>

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://www.polymer.co.nz/product/fireproofing/#1714080053250-da02e0b6-5fcf>

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://www.polymer.co.nz/product/fireproofing/#1714080053250-da02e0b6-5fcf>

Installation Requirements:

Web link to Installation: <https://www.polymer.co.nz/product/fireproofing/#1714088939512-466b5f4e-9486>

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 to maintain the specific rating.

Web link to maintenance guide: <https://www.polymer.co.nz/product/fireproofing/#1714084913258-4e3e32ba-7e99>

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

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