

FIRESHELL®

IGNITION BARRIER COATING

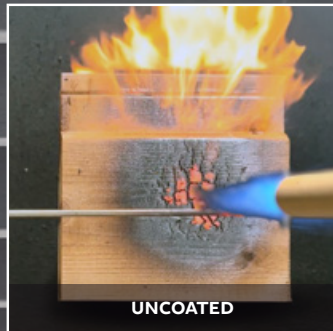
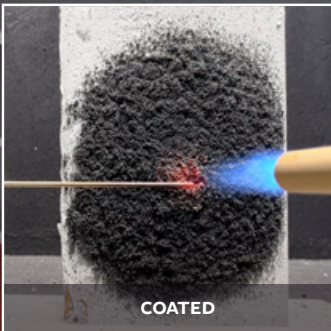
Exterior
water
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coating

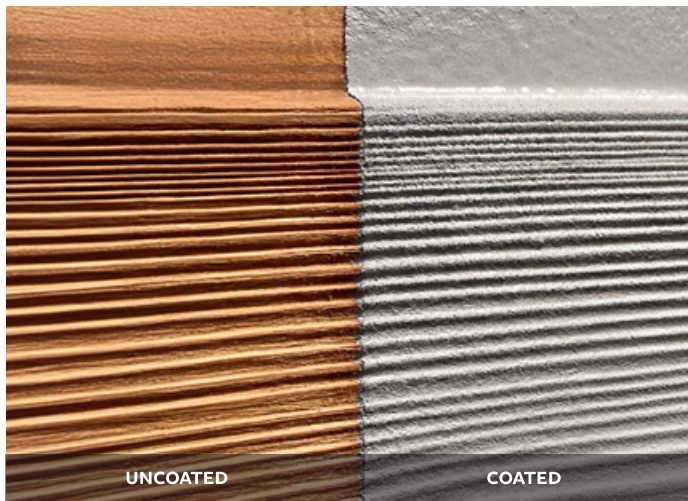
- AS 3959 COMPLIANT
- ACCELERATED WEATHERING
- ISO 5660 COMPLIANT
- GROUP 1 COATING
- WATER BASED LOWVOC

TECHNICAL DATA SHEET & PRODUCT INFORMATION

BAL29 compliance and risk reduction solutions

TDSF1E_RBM_6.24





PRODUCT DESCRIPTION

FIRESHELL® F1E is an exterior ignition barrier for timber cladding and external timber surfaces. It is a 1-part, self priming, durable, intumescent, water based coating.

RECOMMENDED USE

FIRESHELL® F1E meets AS3959: 2018 requirements for the reclassification of Pine, WR cedar, Weathertex and a range of non-compliant timber species as bushfire resistant timber. Suitable for BAL29 applications. It meets ISO5660 international standards for Type A, non-combustibility, and AS3837 group 1. It is a highly durable, flexible, environmentally friendly, pigmented intumescent coating.

It is appropriate for use when a pigmented/painted finish is desired to achieve either a BAL29, BAL19 or BAL12.5, Type A or Type B non-combustibility fire rating on timber subfloors, cladding or composite cladding such as Weathertex. ISO 5660 compliance for within 1m of a boundary, Multi-level buildings with a total height over 10m and S1 Risk Group Buildings.

SUSTAINABILITY

- Water-based, LOWVOC coating
- Allows for the use of renewable softwood timbers
- LOW Embodied carbon footprint

DURABILITY

FireshellF1E is a highly durable and flexible intumescent coating. Providing long term external ignition barrier performance. Extensive weathering and durability testing to ASTM Criteria.

NZBC C/AS1 And C/AS2 testing requirements for external cladding fire performance, Fireshell F1E has achieved the required fire performance for Type A and AS3959 bushfire resisting timber performance after an accelerated weathering regime to ASTM 2898 D Method B

TOPCOAT Durability testing has been achieved without a topcoat. Fireshell F1E is supplied limited colors, grey or brown, or as available. Compatible with the WattyL Solagard exterior acrylic to achieve color of choice. Fireshell F1E to be left for a minimum of 3 weeks prior to application of top coat.

TECHNICAL DATA

WATER BASED, NON HAZARDOUS, EXTERIOR GRADE

LOWVOC: >19g/L

VISCOSITY: High viscosity

THINNER/ADDITIVES: Max 2% water, thinning is not recommended for most applications.

COLOURS: Light Grey

PRIMERS: Not required, for instances where a primer may be used contact EXFIRE for more information.

TOP COAT: Can be top-coated for colour purposes with an approved water based acrylic.

EXFIRE recommends minimum of 21 days from final application of **FIRESHELL® F1E** to top coating with an approved water based acrylic.

SHEEN/FINISH: Flat with slight texture DRUM SIZE: 5L and 15L plastic pails.

STORAGE CONDITIONS: Secure dry indoor area, between 10°C and 35°C, protect from freezing, and extreme heat

SHELF LIFE: 24 Months from manufacture in original sealed containers under recommended storage conditions

SAFETY: Ensure Appropriate use of protective clothing and compliance with local occupational health and safety regulations. See product SDS for more information. Keep out of reach of children

FIRE PERFORMANCE - GENERAL

Testing in accordance with ASTM 2898 D Method B and ISO5660-1, AS3959:2018 and compliant with the requirements of C/AS1 and C/AS2 to achieve a Type A Non Combustibility classification under External Cladding, and BAL29 performance on pine, WR Cedar and Weathertex Claddings. Contact EXFIRE for a complete list of tested systems.

SUBSTRATE CHOICE

Pine species, Western Red Cedar and other non-compliant species with a minimum timber density of 450kg/m³ and a minimum thickness of 12mm is required.

Weathertex with a minimum thickness of 9.5mm and 5mm grooves.



APPLICATOR SPECIFICATION

WFT Total	DFT Total	Spread Rate (Theoretical)
750µm	400µm (0.4mm)	1.4m ² /L @ 750µm WFT

BRUSH: 3 coats @ 250µm WFT per coat

SPRAY: 2 coats @ 375µm WFT per coat

SURFACE PREPARATION

All surfaces must be clean, dry and sound. **FIRESHELL® F1E** is water based so will not adhere to oil based coatings stains or waxes. For most AS3959 and ISO 5660 compliant systems **FIRESHELL® F1E** should be applied to the bare timber surface.

Pre-primed boards must be sanded back to bare timber unless specific primer has been approved by certified test results. Contact **EXFIRE** to confirm primers and timber species prior. Surfaces should have a moisture content of 12% or below.

FIRESHELL ONTO TREATED PINE: LOSP DAR: Ensure surfaces are not oily to the touch and treatment has fully cured prior to application. Allow new LOSP to weather for at least 2 weeks. Allow tannin rich species to weather for 4-6 weeks prior to coating. **EXFIRE** recommend a water droplet test to see if water beads or absorbs. If water is beading on the surface **EXFIRE** recommends an Oxalic acid wash as a good prep method to remove any residues. Compatibility with any previously applied product should be checked before application of this product. Contact **EXFIRE** or **F1E DISTRIBUTORS** for more information.

APPLICATION

Fireshell F1E can be applied by brush, roller or airless spray.

Spray: recognised applicators only. Contact **EXFIRE** for local recognised applicators.

Pump: Piston pump, airless spray with a minimum 1GPM rating at 3000psi, i.e. Graco 795, 1095 or equivalent.

Tip Size: 521-623 or similar

Filters: Internal filters can be removed. 30 mesh can be used as a minimum

Pressure: 2100 PSI or higher Hose: Use minimum 10mm (3/8") airless spray line for first 15m from pump Use of dedicated spray line is required.

Brush: Use top quality polyester/nylon blend brush or similar

Roller: 10mm-20mm polyester blend nap roller or foam sleeves are recommended, subject to the type of substrate surface. Laying off a rolled surface immediately with a brush is recommended

Conditions: Minimum of 12°C and rising and maximum of 80% relative humidity. Ideal air temperature of 25°C and relative humidity of less than 50%.

Do not apply if air temperature will fall below 12°C within two hours of application, or above 36°C.

Product: Power stir for at least 4 minutes prior to application. Do not thin the product unless confirmed by **EXFIRE**.

Clean up: Thoroughly rinse application tools with water before paint is dry. Flush airless spray equipment with water as soon as work ceases.

Recoat and dry times: Recoat time is 4 hours with sufficient air flow at 25°C and relative humidity of 50%.

Do not recoat until paint has dried and feels firm, does not deform, or feel sticky under moderate thumb pressure. Failure to allow for proper drying may lead to cracking or peeling.

Storage Conditions: Secure dry indoor area, between 10°C and 35°C, protect from freezing, and extreme heat

Shelf and Pot Life: Shelf Life: 24 months unopened

Pot Life: 60 days from time of opening

Topcoat: Fireshell F1E does not require a topcoat for weathering performance but can be top-coated with the Watty Solagard for color purposes.

Fireshell F1E must be left for 3 weeks prior to application of approved topcoat.

MAINTENANCE

EXFIRE recommends an annual inspection of the coating by the building owner. If mechanical damage to the system is observed, please contact us to organise an inspection or applicator to touch up. Decorative topcoats will minimize the maintenance required to the intumescent system. For maintenance requirements of the decorative topcoat chosen, please refer to your chosen supplier guidelines.

REPAIR OF INSTALLED SYSTEM

- Damaged areas exposing bare timber should be repaired immediately
- Repair any damage to the substrate if required prior to re application of damaged area
- Remove any loose material and sand any rough edges
- Apply Fireshell F1E to the damaged area at the originally specified thickness and as per the manufacturer's specification

QUALITY ASSURANCE







Records must be kept during application of **Fireshell F1E**. Please contact **EXFIRE** for a standard QA template. Records must be kept of:

- Application location
- WFT readings
- Environmental conditions.

It is the sole responsibility of the applicator to ensure that **F1E** has been applied in accordance with the TDS and specification.

TERMS & CONDITIONS

Please refer to **EXFIRE** Pty Ltd standard Terms and Conditions available at www.exfire.com.au

FIRESHELL® F1E	Solution	Benefits	System & Coverage	Compliance	Weathering Compliance
	Decking subfloor and pergola framing. Joists posts bearers.	Utilise treated pine in BAL29 areas, and leave subfloor exposed.	Brush and roll: 400µm DFT total. Spray: 2 coats @ 375WFT Brush & roll: 3 coats @ 250WFT Total coverage 1.4m2/L	AS3959: BAL29 Type A Group1-S	Accelerated weathering compliance ASTM 2898 D Method B
	Application of joists, post and bearers prior to construction	Efficient simple process. Cost effective compared to alternatives of hardwood, steel	Brush and roll: 400µm DFT total. Spray: 2 coats @ 375WFT Brush & roll: 3 coats @ 250WFT Total coverage 1.4m2/L	AS3959: BAL29 Type A Group1-S	Accelerated weathering compliance ASTM 2898 D Method B
	Utilise weatherboards 400mm from ground or deck surface. BAL29 applications for weather-board and timber cladding	Match existing timber cladding. Utilise pine and cedar weatherboards	Brush and roll: 400µm DFT total. Spray: 2 coats @ 375WFT Brush & roll: 3 coats @ 250WFT Total coverage 1.4m2/L	AS3959: BAL29 Type A Group1-S	Accelerated weathering compliance ASTM 2898 D Method B
	Stair stringers, beams, exposed rafters, retaining walls and fences	Utilise treated pine in BAL12.5, BAL19 and BAL 29 applications Logical efficient solution to meet code compliance	Brush and roll: 400µm DFT total. Spray: 2 coats @ 375WFT Brush & roll: 3 coats @ 250WFT Total coverage 1.4m2/L	AS3959: BAL29 Type A Group1-S	Accelerated weathering compliance ASTM 2898 D Method B
	General Risk Reduction Solutions for new and existing timber surfaces and heritage applications	Treat new and existing timber surfaces to reduce risk of ignition and flame spread	Brush and roll: 400µm DFT total. Spray: 2 coats @ 375WFT Brush & roll: 3 coats @ 250WFT Total coverage 1.4m2/L	AS3959: BAL29 Type A Group1-S	Accelerated weathering compliance ASTM 2898 D Method B
	ISO 5660 external timber cladding compliance and alternate solution for proximity to boundary and combustibility requirements	Logical solution for ignition and flame spread risk of timber cladding. Retain existing substrates. Utilise timber	Brush and roll: 400µm DFT total. Spray: 2 coats @ 375WFT Brush & roll: 3 coats @ 250WFT Total coverage 1.4m2/L	AS3959: BAL29 Type A Group1-S	Accelerated weathering compliance ASTM 2898 D Method B

For any code compliance solutions always confirm with the certifying body prior that the **FIRESHELL® F1E** will meet their performance requirements. It is the responsibility of the purchaser to ensure the system is fit for purpose. **EXFIRE** can provide test reports, assessments to the certifying body and provide advice on the suitability of the system for your project. It is the responsibility of the applicator to ensure all application guidelines are adhered to.

Airless spray applications are by **EXFIRE** recognised applicators only. Contact **EXFIRE** for Airless spray application requirements, becoming recognised or to find your closest recognised applicator. **FIRESHELL® F1E** is also utilised on Government and large infrastructure applications as well as a wide range of PU foams, plastics and composite materials to reduce risk of ignition and flame spread. Contact **EXFIRE** to discuss any specific substrate protection or project requirements.

APPLICATOR CHECKLIST

- Read the TDS in full. Ensure that you understand all aspects. Contact **EXFIRE** with questions prior to application.
- For AS3959, ISO 5660 and any Building Code Compliance ensure certifier approval of the system prior to application.
- Ensure all surfaces are clean, dry (below 12% moisture) and sound before application.
- Temperature and humidity are within recommended guidelines and the ambient temperature will not fall below 10°C for at least 2 hours after application.
- Mix coating for a minim of 3-4 minutes with powered mixer until product is uniform in colour and consistency.
- Ensure application equipment meets the minimum requirements.
- Ensure sufficient airflow to aid dry time
- Do not re-coat unless coating is completely dry.
- Allow 21 days prior to top coating **FIRESHELL** with approved water based acrylics.
- If you are unsure with this checklist do not proceed, contact **EXFIRE** or your **FIRESHELL** distributor.

DISTRIBUTOR

See the contacts page of the **EXFIRE** website for your closest **FIRESHELL® F1E** distributor.
www.exfire.com.au/contact/

For compliance projects always confirm the suitability of the system with the certifying body prior to order and application.

For more information, test reports, specifications and advice contact the **EXFIRE** team to discuss your project.