
MANUFACTURER'S SPECIFICATION

PRODUCT: **FIRESHELL® F1E**

SPECIFICATION CODE: **EXF1E_BRT**

DATE: **31/03/16**

// CONTACT INFORMATION

EXFIRE PTY LTD
Australasian Distributor of TPR2 Products
Phone: **1800 684 001**
Email: info@exfire.com.au
www.exfire.com.au

// PRODUCT DESCRIPTION

FIRESHELL® (F1E) is an exterior rated, 1-part, self-priming, flexible intumescent coating for timber. It meets the requirements for bushfire resisting timber on a variety of timbers under AS3959. F1E provides oxygen starvation when in contact with fire. F1E is a low VOC water based coating.

THINNER/ADDITIVES

Do not thin F1E

COLOURS

Dark Brown, Light Grey

SHEEN

Flat

// LIMITATIONS

Surfaces to be coated must be inspected prior to application to ensure that they are clean, dry and in sound condition.

Any repair work of the structure or substrate should be attended to prior to application of the system.

F1E has been tested over pine and western red cedar. It has also undergone CSIRO assessments for a variety of other timbers based on this testing and meets the requirements for bushfire-resisting timber specified in AS 3959:2009 Construction of Buildings in a bushfire-prone area Appendix F. Bushfire-resisting timber is timber that is deemed to be acceptable to withstand exposure up to a BAL-29 condition. (check Table 1 for list of tested and assessed timbers or contact EXFIRE for more information)

It is the responsibility of the applicator to confirm with the certifying body that the F1E system is suitable to meet the required performance requirements on your project.

EXFIRE recommends that FIRESHELL F1E be applied to bare timber where possible. Pre primed weatherboards and timbers should be sanded back to bare timber prior to the application of FIRESHELL F1E. EXFIRE will take no responsibility for loss of adhesion of the system over existing coatings.

// APPLICATIONS

- Timber framing, timber cladding, Structural deck and pergola timber, underfloor applications, Fences, Power poles, external timber, windows, any timber application where bushfire resistant timber is required.

// APPROVALS

Table 1:

Timber	Standard	Solution	BAL	Testing Laboratory	Certification	Accelerated Weathering	Thickness (DFT)
Pine	AS3959	Bushfire resistant timber application	BAL29	CSIRO	Test Certificate	✓	400microns (0.4mm)
Cedar	AS3959	Bushfire resistant timber application	BAL29	CSIRO	Test Certificate	✓ (A)	400microns (0.4mm)
Oregon	AS3959	Bushfire resistant timber application	BAL29	CSIRO	CSIRO Assessment	✓ (A)	400microns (0.4mm)
Douglas Fir	AS3959 ASTM E84	Bushfire resistant timber application	BAL29	CSIRO INTERTEK	CSIRO Assessment Test Certificate	✓ (A)	400microns (0.4mm)
Vic Ash	AS3959	Bushfire resistant timber application	BAL29	CSIRO	CSIRO Assessment	✓ (A)	400microns (0.4mm)
Jarrah	AS3959	Bushfire resistant timber application	BAL29	CSIRO	CSIRO Assessment	✓ (A)	400microns (0.4mm)
Tasmanian Oak	AS3959	Bushfire resistant timber application	BAL29	CSIRO	CSIRO Assessment	✓ (A)	400microns (0.4mm)

More timbers available. For a full list of assessed timbers contact EXFIRE for more information.

Bushfire-resisting timber is timber that is deemed to be acceptable to withstand exposure up to a BAL-29 condition.

Accelerated weathering reports and assessments to ASTM D 2898 (Method B) as required in AS3959.

All test reports, certificates and assessments are available on request.

Consult with your certifying body that the FIRESHELL F1E system meets your project requirements prior to application.

Always read the manufacturer's Specification in full prior to application. Contact EXFIRE with any questions.

(A) = CSIRO Weathering Assessment Report.

BAL = Bush Fire Attack Level

// SPECIFICATIONS

1.	Product	WFT Total	DFT Total	Coats	Theoretical Spread Rate
Non-Primed timber	F1E	750µm	400	Brush: 3 coats @ 250µm WFT per coat Spray: 2 coats @ 375 µm WFT per coat	1.6m ² /L @ 750µm WFT

- Spread rates are approximate and will vary for different timber surfaces. Reduced spread rates will occur on rough sawn timber.
- First coat: measure thickness immediately after brush stroke or pass with airless spray gun.
- Exterior grade finish coats can be applied to meet architectural colour and finish requirements. Topcoats must be thin film exterior rated water based acrylic paints. Contact EXFIRE for more information.

2.	Product	WFT Total	DFT Total	Coats	Theoretical Spread Rate
Pre-Primed Timber (contact EXFIRE to discuss suitability of pre primed surface's)	F1E	750µm	400	Brush: 3 coats @ 250µm WFT per coat Spray: 2 coats @ 375 µm WFT per coat	2m ² /L @ 750µm WFT

- Spread rates are approximate and will vary for different timber surfaces, reduced spread rates will occur on rough sawn timber.
- **Application over pre primed weatherboards are not recommended due to poor quality primers often being used on these materials. EXFIRE recommend any pre primed weatherboards and timbers to be sanded back to bare timber prior to application of FIRESHELL F1E**
- Exterior grade finish coats can be applied to meet architectural colour and finish requirements. Only thin film water based acrylic paints are recommended. Contact EXFIRE for more information.

// SURFACE PREPARATION

All surfaces must be clean, dry and sound. The substrate is to be free of any loose or flaking paint prior to the application of F1E.

If applying over oil based stains, undercoats or cedar surfaces where high bleed is expected an exterior grade oil based primer should be applied prior to application of F1E.

// APPLICATION

EQUIPMENT:

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

SPRAY – only recommended for experienced applicators of intumescent coatings and EXFIRE recognised applicators; Contact EXFIRE for more information on spray application.

- Pump: For best results use a piston pump airless spray with a minimum 1GPM rating at 3000psi. (the Graco 795, 1095 or equivalent are ideal)
- Tip: 521 - 623 or similar.

- Filters: Internal Filters can be removed. 30 mesh can be used as minimum.
- Pressure: 2100 PSI or higher.
- Hose: Use minimum size of 10mm (3/8") airless spray line for the first 15 metres from pump.
- Use of a dedicated spray line is required.

BRUSH

Use top quality polyester/nylon blend brush-ware 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 for finish purposes.

TEMPERATURE:

Temperature at time of application must be at least 12°C and rising, with a relative humidity no greater than 80%. Do not apply if temperature will fall below 12°C within two hours of application. Application should not proceed if surface or air temperatures exceed 34°C. Optimum application temperature is 24°C with a relative humidity of less than 50%. It is the sole responsibility of the applicator to ensure that F1E has been applied in accordance with the specification.

PRODUCT:

Prior to use, stir the contents of the pail thoroughly for at least 2 minutes using a power mixer, ensuring paint is mixed from bottom to top of the pail. Contents must be uniform at all times during the application process.

Apply in 2-3 coats to achieve the total Dry Film Thickness required.

EXFIRE recommends a maximum thickness of 450microns WFT per coat.

During application, the Wet Film Thickness (WFT) must be checked using a WFT gauge. A WFT gauge will be included with your shipment. To use the gauge insert the teeth into the wet coating. The WFT is between the last tooth to be coated and the first tooth not coated. Correct use of a WFT gauge is very important to ensure the required Dry Film Thickness (DFT) on the specific assembly is achieved. See WFT instruction page included with this specification. For more information on using a WFT gauge visit www.exfire.com.au or contact EXFIRE on 1800 684 001

CLEAN UP

Thoroughly rinse application tools with water before paint is cured.
Flush airless spray equipment out with water as soon as work ceases to ensure effective cleaning.

// RECOAT AND DRY TIMES

Recoat time is 4 hours in ideal drying conditions of 24°C with sufficient air flow and a relative humidity below 50%. Lower temperatures and/or higher humidity will increase dry time. Allow enough time between successive coats to permit proper drying. **Do not recoat surfaces until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure**, Failure to let the coating fully dry between coats may lead to cracking and peeling. Recoat times are quoted for 24°C and 50% relative humidity. These may vary under different conditions.

// GENERAL

All dry film thickness and spreading rates in this specification are theoretical. Notwithstanding good application practice, some minor DFT variance can be expected, with a greater thickness occurring in internal angles and on substrates with a textured profile.

F1E should be applied within 12 months of purchase.

// MAINTENANCE

EXFIRE recommends annual inspections of the applied product to identify any damage to the substrate that may occur over time.

REPAIR OF INSTALLED F1E SYSTEM

- Damaged areas exposing the uncoated 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 F1E to the damaged area at the originally specified thickness and as per the manufacturer's specification.

// HEALTH & SAFETY

All work carried out under this specification shall be in a tradesman like manner, with due regard to prevention of contamination of the site and associated work. Appropriate steps are to be taken to protect the health and safety of any person who has reason to be on the site. Ensure supply and appropriate use of protective clothing and equipment and ensure compliance with all Occupational Health and Safety regulations.

LEAD

Existing coatings may contain lead. Test surfaces accordingly. All necessary compliant precautions must be taken with existing painted surfaces that contain lead.

ASBESTOS

Contractors need to comply with local regulations and guidelines before commencing any work on surfaces and substrates that may contain asbestos

// APPLICATOR CHECKLIST

1800 684 001

- **Read the manufacturer's Specification in full. Ensure that you understand all aspects of the specification. Contact EXFIRE with any questions prior to application.**
- **Store product above 10°C**
- **Ensure substrate is structurally sound prior to the application**
- **Ensure all surfaces are clean dry and sound before application**
- **Ensure that the ambient temperature will not fall below 12 °C for at least 2 hours after application.**
- **Ensure relative humidity is below 80%**
- **Optimum conditions are 24°C and less than 50% relative humidity with sufficient air circulation**
- **Ensure application equipment meets the minimum requirements**
- **Mix coating for a minimum of 2 minutes with a power mixer prior to application**
- **Ensure sufficient airflow to aid dry time**
- **Do not recoat unless coating is completely dry,**
- **EXFIRE recommends a maximum of 450microns WFT per coat**
- **If you are unsure with any aspect of this checklist do not proceed, contact EXFIRE.**

// GLOSSARY:

WFT – Wet Film Thickness *‘the coating thickness of the paint when it is wet’*

DFT – Dry Film Thickness *‘the coating thickness once it has dried’*

WFT Gauge – *‘The measuring gauge used to measure the Wet Film Thickness of the coating during application’*

µm – Microns ‘ the thickness in relation to thousandths of a millimetre. 1 micron is one thousandths of a millimetre. 350µm (microns) = 0.35 of a millimetre

BAL – *Bushfire Attack Level*

Disclaimer

Any advice, recommendation, information, assistance or service provided by EXFIRE PTY LTD in relation to goods manufactured or distributed by EXFIRE PTY LTD or their use and application is given in good faith and is believed by to be appropriate and reliable. However, any advice, recommendation, information, assistance or service provided by EXFIRE PTY LTD is provided without liability or responsibility. EXFIRE products and/or systems can be expected to perform as indicated on the manufacturer’s specification so long as applications and application procedures of the individual products are followed as recommended on the appropriate Manufacturer’s Specification.

MATERIAL SAFETY DATA SHEET

PRODUCT: **FIRESHELL® (F1E)**

DATE: **01/07/2013**

MSDS Number: 00005 **Effective Date:** 01/07/2013 **Page:** 1 of 2

Weatherproof intumescent coating

SECTION 1 - COMPANY IDENTIFICATION

EXFIRE Pty Ltd - Australasian distributor of TPR2 products
1800 684 001
info@exfire.com.au

Manufacturer: TPR2
Address: 36 Plains Rd City: Essex
State: Ct Zip: 06426 USA.

Product Use: Flame Retardant

SECTION 2 – HAZARDOUS INGREDIENTS

% EXPOSURE LIMITS

No reportable quantities of hazardous ingredients are present

SECTION 3 – PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING RANGE: N/A **WPG (H20=8.33):** 111b
DENSITY: 1.2
VAPOUR DENSITY: Heavier than air
EVAPORATION RATE: N/A
APPEARANCE AND ODOUR: N/A
SOLUBILITY IN WATER: very
V.O.C.: below 50 g/l

SECTION 4 – FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A
METHOD USED: N/A
FLAMMABLE LIMITS IN AIR BY VOLUME - LOWER: N/A **UPPER:** N/A
EXTINGUISHING MEDIA: N/A.
HAZARDS: Closed containers may rupture when exposed to extreme heat.

SECTION 5 – REACTIVITY DATA

STABILITY: Stable
HAZARDOUS POLYMERIZATION: Will not occur
CONDITIONS TO AVOID: None
INCOMPATIBILITY: Oxidizing materials can cause reaction. 042507RE.

SECTION 6- HEALTH HAZARD DATA

HEALTH RISKS AND SYMPTOMS OF EXPOSURE:
Can irritate air passages and eyes slightly.

EYE CONTACT:
Direct contact irritates slightly with redness and swelling.

SKIN ABSORPTION:

Skin Contact: Can dry skin causing cracks, irritation and dermatitis

INJECTION:

Can cause gastrointestinal irritation.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Dermatitis, respiratory tract irritation.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation over-exposure: Move person to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration and get medical attention. Eye contact: Flush with large amounts of water for 15 minutes.

Skin contact: Wash thoroughly with soap and water. Remove contaminated clothing.

Ingestion: Do NOT induce vomiting.

SECTION 7 – PRECAUTIONS FOR SAFE HANDLING AND STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Mop with mild detergent or cleaning solution. Observe all State and local laws.

WASTE DISPOSAL METHOD:

Consult Local State waste regulations before disposing into approved waste landfills. Obey relevant laws.

DO NOT INCINERATE CLOSED CONTAINERS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Handling: no special precautions. Storage: No special precautions. Use reasonable care.

OTHER PRECAUTIONS:

BEFORE USING ANY PRODUCT, READ THE PRODUCTS LABEL

SECTION 8 – CONTROL MEASURES**VENTILATION:**

When working with this material, use in well ventilated area.

PROTECTIVE GLOVES:

Gloves may be worn for protection if skin is sensitive.

EYE PROTECTION:

Use chemical safety glasses, goggles or face shields for eye protection.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

N/A

RECOMMENDED EXPOSURE LIMITS:

N/A

SECTION 9 – DISCLAIMER

To the best of our knowledge, the information contained herein is accurate, obtained from sources believed by EXFIRE Pty Ltd to be accurate at the time of preparation. EXFIRE Pty Ltd does not assume any legal responsibility for use or reliance upon same.

Before using any product, read its label.