

General Product Description

Protecta® Service Coat FR-1 is an acrylic based intumescent coating designed to increase the fire resistance of fire seals and protect cables, cable trays and metal pipes.

The coating protects the cables outer plastic or rubber sheath, and thereby protects the conductors to secure continued electrical supply in a fire situation. The product also protects and lowers temperatures in metal services passing through a fire seal, thereby increasing the overall fire resistance.

The coating is non-toxic, emission free, durable and can be applied in a thin coat, saving both time and money. It is a hardwearing coat, formulated to the highest specification and offering unsurpassed intensity of colour.

The coating can be tinted; all colours are water-based and provide a smooth, rich and non-reflective finish. Protecta® Service Coat FR-1 normally requires no primer and no top coat. The product also has the added benefit of being easy to use and very easy to clean up.

Properties & Precautions

- A high performance, fire resistant coating, designed to be applied as a thin film on services protecting cables, cable trays and metal pipes in a fire.
- Available either in a white base or in a range of colours, easily and quickly mixed via our in-house colour-tinting machine.
- Once a protective topcoat has been applied, Protecta® Service Coat FR-1 can be used in exterior applications.
- Non-toxic and emission free, with near zero volatile organic compounds (VOCs) and best possible emission classifications available, makes the coating perfect for anyone wishing to avoid breathing in toxic chemicals. Especially beneficial for people suffering from asthma, allergies or any other breathing related diseases.
- Durable, robust and designed to last; can be cleaned with a damp cloth without the risk of washing off the coating.
- Achieve excellent coverage with a spray applied thin coat system (the most cost effective option), saving paint and application time. Brush and roller applications can also be performed, often in only a few coats. Topcoat is normally not necessary.
- Suitable for most surfaces, including rubber, plastics, concrete, bricks, masonry, primed steel, wood, gypsum and most non-porous surfaces, in most cases without a primer.
- Halogen free with added preservatives that resist bacterial and fungal growth, providing extra protection to health in addition to the non-harmful emissions. The product also protects the underlying substrates.
- The coating's durability is expected to be at least 12 years, making it a cost effective option in comparison to normal paints with limited durability.
- The coating is not intended for application on bituminous substrates or substrates that can exude certain oils and plasticizers or solvents. This product is not recommended for use in constant humid areas without a topcoat.
- Please do not apply in very damp or humid conditions, or extreme temperatures.



Application

PREPARE

Before coating ensure the surface to be painted is clean, dry and free from grease, dirt, dust, and other contaminants. Remove any old or flaking paint until you have a sound surface; if in doubt remove all existing coatings.

ROLLER/BRUSH

The coating can be applied by brush or roller to the required loading. If desired the coating can be diluted by up to 10% (by volume), but 5% is typical. If diluted the WFT loading should be increased by the amount the coating was diluted. For example, if the fire protection loading was 1,300µ and the coating was diluted by 5%, the loading that now needs to be applied is ~1,370µ. Alternatively, to ensure the correct loading has been applied simply apply all of the FR-1 coating specified to coat a given area regardless of how much it was diluted.

Remove excess coating from the brush or roller on the rim of the paint pot and then wash brush/roller with water.

SPRAY

The coating can be applied using spray equipment, for example, the Graco X-Force Spray Gun with a tip size 17-21thou. The coating can also be diluted for spraying but the fire protection loading would need to be adjusted as described above.

FILM THICKNESS TABLE (FOR CABLE PROTECTION)

Description	Usage	Fire resistance
Service Coat FR-1 @ 900µ DFT on cables	Minimum 1,284µ WFT (or 1.284 litres per m ²)	105 minutes (90 minute flame plus 15 minute cool down)

When tested in accordance with the procedures specified in IEC 60331-21 and -11 at a rated voltage of 750 V-rms, the coated cable maintained it's circuit integrity for the full test duration which satisfy the performance requirement recommended in the standard.

Tested by Warringtonfire, test report no. 415038 & 415037 (reports are available upon request).

Exterior Use & Top-Coat

Protecta® Service Coat FR-1 can be top-coated for exterior use. The best weather resistance is provided by 2K PU (polyurethane) paints such as:

- Jotun Hardtop XP
- Temadur 50
- Acrolon 7300

Single pack solvent based exterior paints can also be used, such as:

- Dulux Weathershield Exterior Wood and Metal High Gloss
- Sandtex 10 Year Exterior Gloss

Colours

Protecta® Service Coat FR-1 is available either in a white base or in a range of colours mixed via our in-house colour tinting machine. White base can be used as white or as base in many colour tinting machines, including but not limited to Hero.

Please refer to our Colour Chart to see the range of in-house colours available.

Emission Data (indoor air quality)

Compound	Emission rate after 3 days	Emission rate after 4 weeks
TVOC	0.22 mg/m ³	< 0.005 mg/m ³
TSVOC	< 0.005 mg/m ³	< 0.005 mg/m ³
R-value (dimensionless)	0.38	0
Sum w/o NIK	< 0.005 mg/m ³	< 0.005 mg/m ³
Formaldehyde	< 0.003 mg/m ³	< 0.003 mg/m ³
Total carcinogens	< 0.001 mg/m ³	< 0.001 mg/m ³
Acetaldehyde	0.003 mg/m ³	< 0.003 mg/m ³
Propionaldehyde	< 0.003 mg/m ³	< 0.003 mg/m ³
Butyraldehyde	< 0.003 mg/m ³	< 0.003 mg/m ³

Regulation or Protocol	Conclusion
French VOC Regulation	A+
French CMR components	Pass
AgBB	Pass
Belgian Regulation	Pass
Indoor Air Comfort®	Pass
Indoor Air Comfort GOLD®	Pass
EN 717-1§	E1
BREEAM International	Compliant
BREEAM-NOR	Pass
LEED v4 (outside U.S.)	Compliant

Tested by Eurofins Product Testing; reports available upon request.

Technical Data

Type	Acrylic based intumescent coating
Cure system	Water loss
Health and safety	Non-hazardous
Tests standards	International Electrotechnical Commission 60331 and EuroNorm 1366
Classification standards	EN 13501-1 and Regulation (EU) 2016/364
Reaction to fire	B-s1,d0
Colour	White base, matt
Specific gravity	1.4g/cm ³
Solids (theoretical)	70.1%
VOC	0.0001 g/L
Touch dry	1 hour at ~22°C & 50% RH *
Hard dry	1.5 hour at ~22°C & 50% RH *
Application conditions	Minimum +10°C and humidity lower than 80%
Temperature range	-30°C to +80°C (when hardened)
Durability	Without topcoat: Type Z ₂ internal conditions with humidity lower than 85% R.H, excluding temperatures below 0°C. With topcoat: According to the chosen product
Shelf life	Up to 6 months when stored in cool dry well ventilated areas between +10 to +30 °C, with optimum of +20 to +25 °C
Work life	12 years
Packaging	3 litre pails, 200 litre drums, 1000 litre IBCs

* Drying times are dependent on temperature, RH & film thickness.

Health and Safety

Keep container tightly closed when not in use. Avoid contact with eyes and skin. Eyes and skin should be rinsed immediately with cold water. Dispose of contents and container in accordance with local, regional, national or international regulations. Contains 1,2-Benzisothiazolin-3-one. May produce an allergic reaction. Keep out of reach of children. More detailed information can be found in the relevant Protecta® Safety Data Sheet.