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Promat



Cafco SPRAYFILM® WB3

Water Based Intumescent Coating

construction applications



www.promat-spray.com

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INTRODUCTION

Cafoo SPRAYFILM® WB3 is a water based intumescent coating consisting of polyvinyl acetate resins and fillers for the fire protection of structural steel. It can be sealed and protected with a decorative top coat.

Cafoo SPRAYFILM® WB3 is applied directly to the contour of primed I and H-section columns, angles, channels and beams, and hollow sections, to provide fire protection for up to 120 minutes. In a fire, a chemical reaction takes place, causing the Cafoo SPRAYFILM® WB3 to expand and form an insulating layer which prevents the temperature of the steel rising above a critical level.

ADVANTAGES

- Provides fire resistance for up to 120 minutes in accordance with BS 476: Part 21 and up to 180 minutes in accordance with ASTM E119, NFPA 251, AS 1530: Part 4 and AS 4100.
- Durable and decorative finish.
- Steelwork may be left exposed to view.
- Chemical and abuse resistant.
- Can be top coated to match surroundings.
- Easy application and clean up with water.
- Fast drying time.

QUALITY ASSURANCE

Promat operates a quality system in accordance with BS EN ISO 9001: 2000 and has received full accreditation to these standards.

Operating to these standards means that all activities, which have a bearing upon quality, are set out in written procedures.

Systematic and thorough checks are made on all materials and their usage. Test equipment is subjected to regular checks and is referred back to national standards.

The information given in this data sheet is based on actual tests and is believed to be typical of the product. No guarantee of results is implied however, since conditions of use are beyond our control.



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PROPERTIES AND PERFORMANCE

Colour and finish	White with a slight sheen. Preferably spray applied with airless paint equipment for speed and quality of finish. Brush and roller application is also possible
Maximum thickness per coat	1.6mm wet film thickness (WFT) using spray and 0.76mm using brush. For airless spraying, several thin coats as opposed to one heavy coat will give greater control over finish and thickness
Practical coverage	Dependent on surface texture, substrate, application method and technique
Theoretical coverage	Approximately 27m ² /pail (25kg) at 0.5mm dry film thickness (DFT)
Number of coats	One or more as required
Cure	By air drying
Drying time	Approximately 6 hours at 20°C and 50% RH for 0.4mm WFT
Solids by weight	72% ± 2
Weight	1.33kg/litre
Surface burning	Flame spread 5, smoke development 35 when tested to ASTM E84
Durometer hardness	80 shore D when tested to ASTM D2240
Impact resistance	18kg/m when tested to ASTM D2794
Abrasion resistance	0.6505g/1000 cycles when tested to ASTM D4060
pH value	7.8 - 8.2
Fire resistance	Structures protected with Cafco SPRAYFILM® WB3 have undergone fire resistance tests at approved independent laboratories to recognised standards throughout the world, including: <ul style="list-style-type: none">• UK (BS 476: Part 21)• Canada and USA (ASTM E119 and ASTM E84) Assessed in accordance with ASFP "Fire protection for structural steel in buildings" procedures as referenced in Approved Document B of the Building Regulations

HEALTH AND SAFETY

Adequate ventilation must be provided during use. Avoid contact with the skin and eyes by using eye protection, gloves, barrier cream and a face mask.

If the product comes into contact with the skin, wash immediately with soap and water. If the eyes are affected, flush with plenty of water and seek medical attention immediately.

A safety data sheet is available from Promat upon request.

Promat activities are conducted with due regard to all statutory requirements with appropriate safeguards against exposing employees and the public to health and safety risks.



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PREPARATION

Typical substrates	Primed steel
Substrate preparation	<p>The substrate shall be clean, dry and free from dust, oil and any other condition preventing good adhesion</p> <p>Before applying Cafco SPRAYFILM® WB3 to structural steel, the steel must be blast clean to SA 2.5 (ISO 8501-1: 1998), primed with a compatible primer, approved by Promat and applied in full compliance with the manufacturer's recommendations</p> <p>Primers compatible with Cafco SPRAYFILM® WB3 are generally of the following types:</p> <ul style="list-style-type: none"> ● Epoxypolyamide ● Zinc rich epoxy ● Vinyl modified epoxy ● Alkyd ● Phenolic resin modified alkyd <p>If left exposed for long periods, zinc rich epoxies may form a layer of zinc salts on the surface. These salts must be completely removed before applying Cafco SPRAYFILM® WB3</p>

APPLICATION

Methods	<p>Cafco SPRAYFILM® WB3 is supplied ready for use and should not be diluted. The primer thickness should be measured and recorded prior to the application of Cafco SPRAYFILM® WB3, in order to accurately check the thickness of Cafco SPRAYFILM® WB3 during and after application</p> <p>Stir Cafco SPRAYFILM® WB3 thoroughly with a drill type mixer prior to application by either airless spray, brush or roller</p> <p>Protect from rain and high humidity during application and drying</p>
Thickness checking during application	<p>To ensure the correct thickness is being applied, frequent measurements should be taken using a wet film thickness gauge. To determine approximate dry film thickness (DFT) based on wet film thickness (WFT), multiply WFT by 0.72</p> <p>For example: 1.3mm WFT x 0.72 = 0.936mm DFT</p>
Limitations	<p>Take a dry film thickness reading as soon as the coating is fully cured. An Elecometer 211 permanent magnetic banana gauge or Elecometer 456 electromagnetic (electronic gauge) type may be used. Ensure primer thickness is deducted from final thickness reading</p> <p>If Cafco SPRAYFILM® WB3 is left exposed for extended periods, it must be protected from rain and high humidity or sealed with a topcoat appropriate for the environmental conditions</p>





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FIRE PROTECTION THICKNESS

The thickness of the fire protection for a given period of fire resistance in a cellulosic type fire, relates to the A/V ratio of the section.

All column and beam sections have their own specific A/V ratio. Please consult Promat Technical Services Department to establish the A/V ratio for a particular beam or column section and to ascertain the required thickness of Cafco SPRAYFILM® WB3.

For advice on thickness calculations for I and H section beams and columns, castellated sections, composite floors, upgrading of concrete slabs and more complex situations, please contact Promat Technical Services Department.

TOP COATING

In exposed and semi-exposed interior environments, the applied Cafco SPRAYFILM® WB3 should be coated with a compatible finish coat, in order to give the desired colour and seal the Cafco SPRAYFILM® WB3.

The topcoat system must be suitable for the environment in which it is to be used and should be a good quality, long oil alkyd, silicone, acrylic latex or polyurethane type. All topcoats should be applied in accordance with the topcoat manufacturer's recommendations.

Ensure that the Cafco SPRAYFILM® WB3 is thoroughly dry before application of top coat.

Typically, allow a minimum of 7 days for the Cafco SPRAYFILM® WB3 to fully cure before application of any top coat system.

For the top coat compatibility, please consult Promat Technical Services Department.

PACKAGING

25kg plastic pails.

STORAGE

- Indoors in dry conditions between 10°C and 38°C.
- Protect from frost, excessive heat (above 45°C) and strong radiant sunlight.

SHELF LIFE

Maximum 10 months in original sealed containers.

ENVIRONMENTAL

Do not discharge into drains, watercourses or soil.



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