



CAFCO SprayFilm WB3 APPLICATION GUIDE

1. Introduction

Cafco SprayFilm WB3 is a single component, quick drying, water borne intumescent coatings for the fire protection of structural steel.

Cafco SprayFilm WB3 Intumescent coatings are part of a complex intumescent system and should be applied only by suitably qualified coating applicators able to certify work performed.

Cafco SprayFilm WB3 can be used for up to 120 minute's protection on 'I' and 'Hollow' Sections.

The following application advice should be followed to ensure that Cafco SprayFilm WB3 is applied to the correct thickness and finish in order to comply with the independent fire evidence which supports it (AS1530.4 and BS476 part 21)

A full copy of the product technical data sheet is available on request

2. Material Storage

Cafco SprayFilm WB3 should be stored in the original unopened container, protected from rain, direct sunlight, and frost and maintained at a temperature between 10 and 35 Deg C.

3. Site Requirements

Prior to application of Cafco SprayFilm WB3 the applicator should ensure that adequate services are available for the application process and site conditions are within the given parameters.

These requirements may include some or all of the following:

Power, Ventilation, Water, Scaffolding, Masking, Lighting, Waste Disposal,

Serviced spray equipment and adequate spares, High Quality latex brushes and Short Mo-Hair Rollers.

Application conditions should be within the following limits during application and drying of the material with readings recorded a minimum of twice daily, at the beginning and end of the working day.

Ambient air temperature between 10 and 35 Deg Celsius.

Humidity should not exceed 80%

Steel temperature should remain 3 Deg above the dew point.

A ventilated air speed of 2 meters per second will improve drying characteristics, especially in a high humidity environment.

Do not apply materials if condensation is present.

4. Health & Safety Precautions

Avoid ingestion and contact with skin and eyes.

Eye contact, hold the eye lids apart and flush with large amounts of clean fresh water for at least 15 minutes. If irritation persists, seek medical advice.

Skin contact; wash affected areas with soap and water. Consult a doctor if irritation persists.

Ingestion, do not induce vomiting, drink copious amount of water and seek medical attention immediately.

A full copy of the Material Safety Data Sheet is available on request

5. Application Equipment

Spray equipment is the preferred method for speed and uniformity of finish.

A pneumatic, electric or diesel powered airless spray pump should be used, operating with a minimum of 3000 psi fluid output pressure at the tip.

Tip size ranges from 17-25 thou.

In line gun or pump filters should not normally be used and if present should be removed.

Materials are also able to be applied by a high quality latex type brush or short mo-hair roller, but due to the nature of the material a ribbed uneven appearance will be achieved by this method.

6. Surface Preparation

All structural steel to be painted with Cafco SprayFilm WB3 should have been previously blast cleaned to Sa2.5 and primed within 4 hours with a PROMAT approved material, such as PROTEC BARRIER-PRIME AU115 at 75 microns DFT

If the steel has been primed with an Organic Zinc Rich Epoxy or Inorganic Zinc Silicate, this should be free from any contamination and sealed with a Promat approved material i.e. Luxepoxy 4 White Primer.

Primed surfaces must be free from any grease oil, dirt, loose mill scale or any other contamination that may inhibit the bonding of Cafco SprayFilm WB3 with the approved PROMAT primer.

New galvanized steel should be fully mechanically abraded using an electric / pneumatic attachment (Care should be taken not to remove the galvanising) and following this should be clean, dry and free from any contamination including Zinc salts prior to painting. This can be achieved by using a biodegradable detergent wash and Protec 971 Metal Conditioner and Degreaser.

The new galvanised steel should then have an etch primer coat of PROTEC 426 ETCHPRO at 20 microns DFT (The DFT should be tightly adhered to as excessive thicknesses of etch primers can result in adhesion failure)

7. Application

The dry film thickness and quantity of material required is dependant upon various factors including fire resistance level required (30, 60, 90 or 120 minutes), type of section, orientation, application method etc.

A calculation of the required wet and dry film thickness should be obtained prior to application.

A test area should be completed by the applicator to establish the acceptance degree of finish for the project and should be agreed by all relevant parties.

The primer thickness should be measured and recorded prior to application of the Cafco SprayFilm WB3 in order to accurately check the thickness of the intumescent after application.

Cafco SprayFilm WB3 is supplied ready for use in sealed containers and generally do not need to be diluted, but a maximum of 5% fresh clean water may be added depending upon application conditions. The material should be thoroughly stirred with a drill type mixer prior to application.

Maximum thickness per application at 20 Deg Celsius and 50% Humidity. This is also dependent upon steel section shape, degree of cosmetic finish required and skill of the applicator.

| | | |
|----------------|------------------|------------------|
| Spray | 1430 Microns WFT | 1000 Microns DFT |
| Brush / Roller | 715 Microns WFT | 500 Microns DFT |

Drying times are dependent on temperature, air movement and relative humidity.

Brush or roller application increases drying time by approximately 20%. As a guideline applicators may allow around 20 and 40% wastage for brush / roller and spray application respectively. Again this is dependent upon application conditions, the steel section size and the skill of the applicator.

8. Thickness Checks During Application

During the application of Cafco SprayFilm WB3 measure the wet film thickness (WFT) frequently with a wet film thickness gauge.

To use the wet film thickness gauge insert the teeth into the wet Cafco SprayFilm WB3 being careful not to press the gauge into any previously applied coats that may still be soft. The highest reading indicated on the last tooth showing paint on its tip is the wet film thickness of the most recent coat.

To determine dry film thickness based on the wet film thickness, multiply wet film thickness by 0.70 for Cafco SprayFilm WB3

9. Final Thickness Check

Take dry film thickness reading as soon as the coating is sufficiently hard to allow a reading to be made without indenting the surface. Readings may be taken using equipment such as Elecometer 456 gauge.

Dft's should be measured and recorded for each coat as per ASFP guidelines TGN003: Part1:1996 (This guideline is available on request)

Do not apply any top seal until the dry film thickness has been checked and passed as correct.

10. Protective and or Decorative Top Seal

C1 Internal dry environments do not require a top seal unless a decorative appearance is required, then up to 2 coats may be required dependent upon the colour chosen

C2 Internal potential damp environments require 2 coats of top seal, such as PROTEC MaxCoat 'A'. This should be applied in two separate coats at 40 microns dft per coat; this is not just a decorative but a protective coating in areas subject to moisture. Any damage to the top seals should be repaired immediately in a C2 environment.

For other environments i.e. External, please consult with PROMAT technical department.

11. Repair

Any areas of steel surface corrosion should be rectified and primed with a compatible material

Damaged areas should be abraded back to a firm sound surface.

The surface should then be clean dry and free from any contamination prior to painting.

The Cafco SprayFilm WB3 should be reapplied at the correct dry film thickness loading.

Top seal should then be applied over the repaired section

Cafco SprayFilm WB3 should not be applied over existing top seal.

12. Trouble Shooting.

Product not adhering to the substrate:

Non compatible primer, over or under cured.

Temperature, humidity, dew point and condensation outside specification

Too much material applied in one coat.

Contamination on the substrate.

Product used has been thinned too much

Previous coat not cured.

Slow drying time

Temperature and humidity level outside specification
Material applied too thick per coat
Product used has been thinned too much
Top coat applied too soon, previous coat not dry
Additional coats of Caico SprayFilm WB3 applied too soon, previous coat not dry

Product not spraying or flowing

Check equipment tips, pressure, blockages, hose diameter/length
Equipment may not have been cleaned
Product too cold
Shelf life of product expired
Lid left of container for too long
Material not adequately stirred prior to use

Bubbles and blistering within coating

Primer contaminated or not compatible
Caico SprayFilm WB3 applied before primer is cured
Substrate temperature too high
Spraying pressure too high or gun held too close to substrate surface
Roller application too vigorous
Product used has been thinned too much
Equipment not clean
Temperature, humidity, dew point and condensation outside specification

Adhesion Failure

Water damage i.e. exposed to inappropriate weather
Condensation entrapment
Product applied over incompatible surface or primer
Contamination of substrate or product
Temperature, humidity, dew point and condensation outside specification