



# NAFFCO PSV-ISW-180

## FIRE PROTECTION COATING FOR STRUCTURAL STEEL SECTIONS

### TECHNICAL DATA SHEET

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- **Water-based.**
- **For indoor use/Refer to manufacturer for outdoor application.**
- Approved according to BS 476, Certifire No. CF 5627.  
(refer to the test report for minimum required thickness)
- Fire resistance rating: R15 - R180.
- Non-VOC, free from halogens, APEO, borates, fibres, silicones and plasticizers.

**LEED v4**



## TECHNICAL PERFORMANCE

- Smooth surface and low dry film thickness (DFT).
- Also suitable for galvanized steel profiles.
- Top coat in RAL/NCS or individual colour shades also available.
- Maintenance-free.
- Fire resistance rating: R15 - R180.
- For open steel profiles; R90 up to U/A 400 m<sup>1</sup>, R120 up to U/A 355m<sup>1</sup>.
- For hollow sections; R90 up to U/A 330 m<sup>1</sup>, R120 up to U/A 200m<sup>1</sup>.
- Also suitable for shop application. (Contact us for more information).

## QUALITY MARK



**LEED v4**

## TECHNICAL INFORMATION

Fire resistance rating: up to 180 minutes.

NAFFCO PSV-ISW-180 is a white thin film waterborne Intumescent coating for the fire protection of internal structural steelwork in combination with suitable Top Coat.

### 1. APPLICATION

The following instructions are for on-site application only. Seek our advice for off-site application.

#### Airless Spraying

- Material temperature of about +20°C is recommended for achieving an optimal spraying behaviour and result.
- If needed thinning, mix with max. 3% water.
- Recommended operating pressure 200bar – 250bar.
- Nozzle size 0.017” – 0.025”; flow rate > 4 l/min.
- All filters should be removed.
- Recommended coverage rate for the 1<sup>st</sup> layer on a primed surface 500g/m<sup>2</sup> (250µm DFT).
- Each further layer can be applied with up to 1.000g/m<sup>2</sup> (500µm DFT).
- The typical coverage rate of NAFFCO PSV-ISW-180 applied in one layer depends on the type of steel profile and the position within the construction.

#### Brushing and Rolling

- Use suitable brush or Lambskin roller.

### 2. SURFACE PREPARATION

NAFFCO PSV-ISW-180 should be applied onto a clean, undamaged, dry and primed steel surfaces only. Following Primers are not compatible: Chlorinated rubbers and Bitumen Primers.

***If you intend to use different Primer, please contact us for the compatibility of other Primers.***

Product Data	NAFFCO PSV-ISW-180
Specific Gravity	1.34 Kg/l
Colour	White
Volume Solids	72% ± 3% (ISO 3233:1998)
VOC	<1 g/l
Theoretical Coverage	1.4 l/m <sup>2</sup> at 1.0mm DFT

### 3. CONDITIONS DURING APPLICATION

NAFFCO PSV-ISW-180 is recommended for use and application on dry, protected structural steel only. If the primer is allowed to get wet, it is likely to be damaged. Blistering and wrinkling may occur.

## TECHNICAL INFORMATION

Steel surface should not be warmer than +35°C during application & drying time of NAFFCO PSV-ISW-180. Relative humidity should be below 80% for successful application. Steel surface temperature should be minimum of 5°C above the dew point. Ensure the steel is dry and free from contact with rain or condensation during the application and drying of NAFFCO PSV-ISW-180.

### 4. APPLICATION METHODS

NAFFCO PSV-ISW-180 is supplied ready for use and must not be thinned, but should be thoroughly & mechanically stirred prior to use.

#### **Airless Spray**

NAFFCO PSV-ISW-180 may be applied to a maximum wet film thickness (WFT) of 0.7mm or 700µm in a single spray coat comprising of several passes. Achievement of maximum loadings will depend on site conditions. Build up thickness to achieve loading required in several quick passes. It may be possible to apply two coats of NAFFCO PSV-ISW-180 in one day, particularly if the atmospheric temperature is above 20°C and relative humidity below 70%. However, before doing this, ensure that previously applied coat is dry, particularly in the web/flange junctions.

Airless spray equipment is recommended and should match these guidelines:

Data	
Tip size	17 - 25
Fan Angle	20° - 40°
Operating Pressure	2500 - 3000 Psi
Hose Diameter	max. 10mm (3/8") internal diameter
Hose Length	max. 60m at 310 bar

#### **Brush/Roller Application**

For brush application, use a laying on technique to avoid heavy brush marking. Maximum wet film per coat when using a brush or roller is 500µm. Rolling with lambskin roller or brushing with a suitable brush will produce a light textured finish.

### 5. THICKNESS REQUIREMENTS

During the application, measure the wet film thickness (WFT) frequently with the WFT gauge provided to ensure the correct thickness is being applied. To use the gauge, insert the teeth into the wet basecoat. The last tooth to be coated indicates the wet film thickness achieved. In an event of over or under applications, adjustments to the loading rates of subsequent coats will be required.

## TECHNICAL INFORMATION

### 6. DRYING TIME

Drying time of NAFFCO PSV-ISW-180 is depending upon a number of factors like:

- Temperature.
- Air Movement.
- Humidity.
- Method of Application.
- Thickness of coating.

High humidity and low air movement or low steel temperatures can result in condensation on the steel-work causing prolonged drying time and possibly poor basecoat adhesion.

### 7. OVER-COATING TIME IN HOURS

Below given figures state that it is crucial to perform positive fingernail test. Indication of re-coat or top sealing time taking into account, loading areas and application methods are given below:

Hours per application (0.3mm WFT or 220µm DFT) - thin coat.

Hours per application (0.5mm WFT or 360µm DFT) - medium coat.

Hours per application (0.7mm WFT or 500µm DFT) - thick coat.

- Brushing or rolling adds about 20% drying time, as compared to spraying.
- Drying time is doubled at 5°C or at over 75% relative humidity.
- Do not apply the top coat before NAFFCO PSV-ISW-180 coating is fully dried. At the earliest after 24 hours and a positive fingernail test.
- These figures are based on constant conditions, fluctuations will give variations to the drying time. If overnight condensation causes wetting a further full drying period should be allowed.

### 8. FINAL THICKNESS CHECK

Take a dry film thickness (DFT) readings as soon as the coating is sufficiently hard to allow reading to be made without indenting surface. DFT's may be taken using equipment such as an electronic electromagnetic type recorder. Ensure that the DFT of the primer is deducted from the reading of the Intumescent basecoat. Do not apply top seal until the readings are in accordance with the specified thickness.

### 9. APPLICATION OF TOP SEAL

Once DFT's have been achieved as specified, suitable top seal can be applied. Make sure that NAFFCO PSV-ISW-180 is completely dry and positive fingernail test is required before applying the top seal.

## TECHNICAL INFORMATION

### 10. MAINTENANCE

Damaged areas should be abraded back to a sound surface. That surface should be cleaned and dried before re-applying. Suitable Filler may be used for repairing scratches and chips. Once repaired, top seal should be re-applied.

### 11. STORAGE

NAFFCO PSV-ISW-180 should be stored internally between +5°C and +30°C. Do not store below +5°C. At temperatures above 25°C the shelf life will be reduced. Shelf life normally is 12 months in original sealed containers.

### 12. PACKAGING

25 kg plastic pails.

### 13. PRECAUTIONS FOR SAFETY USE

Use NAFFCO PSV-ISW-180 in accordance with all applicable local and national regulations.

### 14. ENVIRONMENT, HEALTH AND SAFETY

As regulations are often revised please request for the actual safety data sheet before using the product.

FIRE PROTECTION COATINGS & MATERIALS SECTION  
PASSIVE FIRE (PF) DIVISION, R&D DEPARTMENT  
NAFFCO Flow Control.

In case of any questions please contact our technical support team.  
For full product documentation and other information please visit our website [www.naffco.com](http://www.naffco.com)

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Email: [info@naffco.com](mailto:info@naffco.com)

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