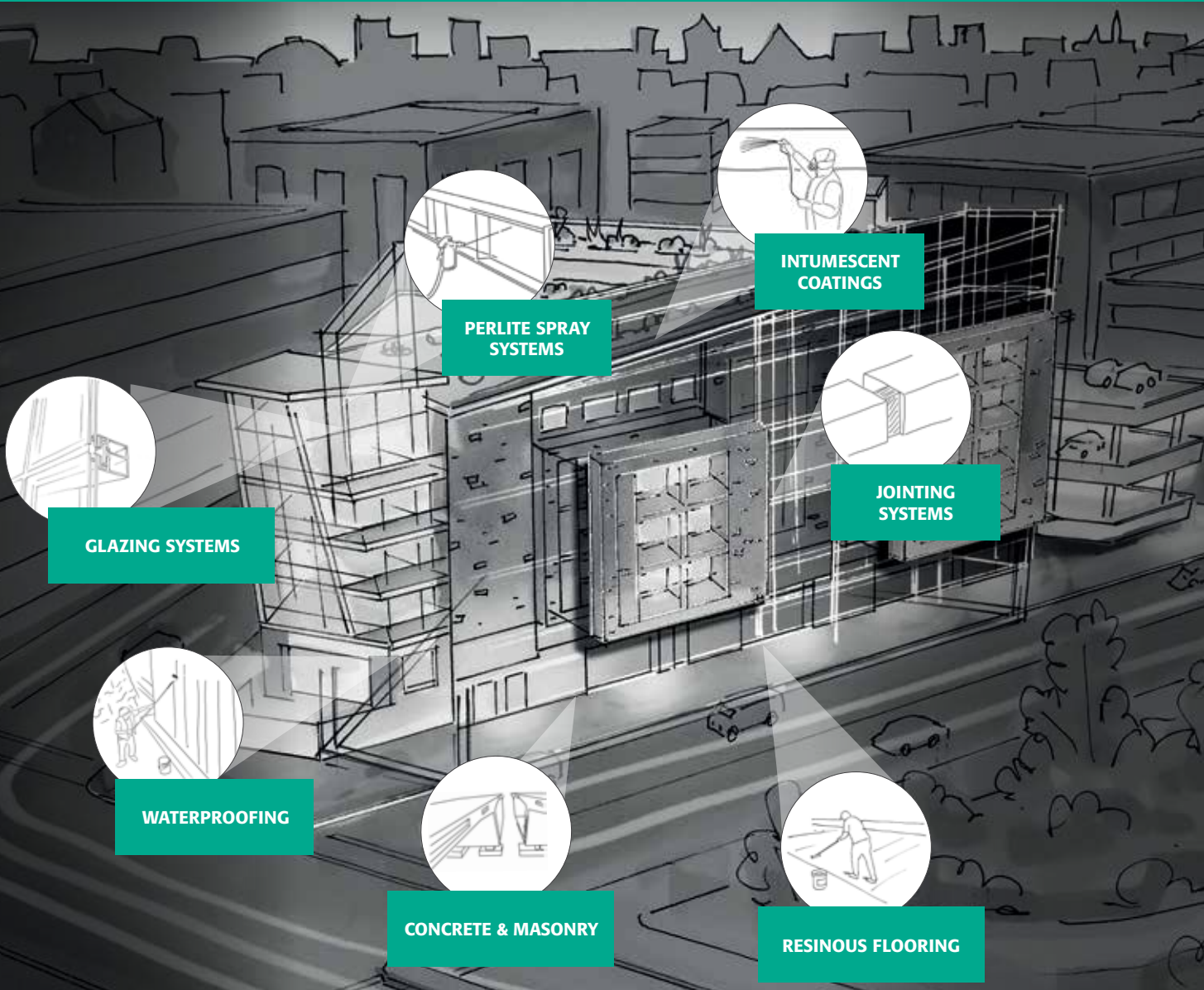


# PRODUCT SELECTION GUIDE

## Structural Steel and Concrete Fire Protection



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# PRODUCT SELECTION GUIDE STRUCTURAL STEEL & CONCRETE FIRE PROTECTION



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**This document is applicable to Tremco CPG Asia structural steel and concrete fire protection solutions for new construction and/or remedial purposes. Applicable areas may vary.**

**The information contained within this document should be read in accordance with the information listed on the relevant Product Data Sheet, and Application Manual.**

**All text contained in this document is provided as guidance by Tremco CPG Asia for developing the appropriate work section and relevant construction documents. Consult with Tremco CPG Asia for project specific advice and product suggestions.**

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PRIMERESINS



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NUFINS

PITCHMASTIC PmB



# PRODUCT SELECTOR



1. Nullifire SC902 Fast Track Hybrid Intumescent Coating



2. Nullifire SC800 series Water Based Intumescent Coating



3. Perlifoc HP Eco+ Sustainable Fire Protection Mortar



4. Perlifoc T Concrete Tunnel Fire Protection

Tremco CPG has developed this fire protection product selection guide to enhance the specification and procurement of Tremco CPG systems. This document details Tremco CPG's recommended fire protection systems, for various project elements.

# STRUCTURAL STEEL & CONCRETE FIRE PROTECTION



## NULLIFIRE SC902

Nullifire SC902 is a fast track on-site low VOC, single application, high build system, based on patented technology for hybrid on-site or factory steelwork up to 120 minutes fire rating and including C5 environment.

Low VOC and no solvent entrapment or prolonged solvent odour once fully cured.

### KEY BENEFITS

- Fast cure, early weather resistance, shower proof within 1 hour.
- Achieves external durability with an approved top seal.
- Cures below 0° and fully dry by the following day.
- High build potential with all ratings in one application.
- Fire rating up to 120 minutes assessed in accordance with BS476 Part 20-22, EN13381 Parts 8, AS1530.4-2014 and AS4100-2020.



| FACTORY OR SITE INTUMESCENT COATING APPLICATION |  |  |                                |           |                            |                       |                  |
|---|--|--|--------------------------------|-----------|----------------------------|-----------------------|------------------|
| Nullifire SC902 Finish<br>Standard Required     |  | Location   |                                |           | Finish Required            |                       |                  |
|   |  | Internal Steelwork Non-Visible<br>FRL up to 120 minutes C1 |                                |           | To Be Confirmed by Client. |                       |                  |
|   | Product  | Data Sheet No.   | Dry Film Thickness (Microns)   | FRL       | Application Method         | Spot/Full/Stripe Coat | Thinner Required |
| Primer Coat                                     | Carboguard 635   | Carboguard 635   | 75 Microns Dry Film Thickness  | N/A       | Airless Spray              | FULL                  | As per TDS       |
| Intumescent Coat                                | Nullifire SC902  | Nullifire SC902  | AS PER LOADING SCHEDULE        | 120/--/-- | Airless Spray              | FULL                  | As per TDS       |
| Optional Topcoats                               | Carbothane 133LH   | Carbothane 133LH   | 100 Microns Dry Film Thickness | N/A       | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Notes   | Level of Finish to be approved by the Architect prior to the start of the project. Optional topcoat required if the steelwork is to be left in an open construction phase for longer than 4 months. A Stripe coat of Carboguard 635 at 75 microns dft should be applied over the primer coat to all corners, edges, joints etc.<br>Topcoat thicknesses are minimum requirement |  |                                |           |                            |                       |                  |

# STRUCTURAL STEEL & CONCRETE FIRE PROTECTION



| FACTORY OR SITE INTUMESCENT COATING APPLICATION |   |  |                               |           |                            |                       |                  |
|---|---|--|-------------------------------|-----------|----------------------------|-----------------------|------------------|
| Nullifire SC902 Finish Standard Required        |   | Location   |                               |           | Finish Required            |                       |                  |
|   |   | Internal Steelwork Visible<br>FRL up to 120 minutes up to C2 |                               |           | To Be Confirmed by Client. |                       |                  |
|   | Product   | Data Sheet No.   | Dry Film Thickness (Microns)  | FRL       | Application Method         | Spot/Full/Stripe Coat | Thinner Required |
| Primer Coat                                     | Carboguard 635  | Carboguard 635   | 75 Microns Dry Film Thickness | N/A       | Airless Spray              | FULL                  | As per TDS       |
| Intumescent Coat                                | Nullifire SC902   | Nullifire SC902  | AS PER LOADING SCHEDULE       | 120/--/-- | Airless Spray              | FULL                  | As per TDS       |
| Compatible Topcoat                              | Carbothane 133 LH   | Carbothane 133 LH  | 75 Microns Dry Film Thickness | N/A       | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Compatible Topcoat                              | Interthane 870  | Interthane 870   | 75 Microns Dry Film Thickness | N/A       | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Notes   | Level of finish to be approved by Architect prior to start of project. Topcoat also required if the steelwork is to be left in an open construction phase for longer than 4 months maximum A Stripe coat of Carboguard 635 at 75 microns dft should be applied over the primer coat to all corners, edges, joints etc An additional coat of Carbothane 133LH may be required depending upon colour of finish chosen.<br>Topcoat thicknesses are minimum requirement |  |                               |           |                            |                       |                  |

| FACTORY OR SITE INTUMESCENT COATING APPLICATION |   |  |                               |           |                            |                       |                  |
|---|---|--|-------------------------------|-----------|----------------------------|-----------------------|------------------|
| Nullifire SC902 Finish Standard Required        |   | Location   |                               |           | Finish Required            |                       |                  |
|   |   | External Steelwork Visible<br>FRL up to 120 minutes Max C3 |                               |           | To Be Confirmed by Client. |                       |                  |
|   | Product   | Data Sheet No.   | Dry Film Thickness (Microns)  | FRL       | Application Method         | Spot/Full/Stripe Coat | Thinner Required |
| Primer Coat                                     | Altra-Zinc 605  | Altra-Zinc 605   | 75 Microns Dry Film Thickness | N/A       | Airless Spray              | FULL                  | As per TDS       |
| Intermediate                                    | Carboguard 635  | Carboguard 635   | 75 Microns Dry Film Thickness | N/A       | Airless Spray              | FULL                  | As per TDS       |
| Intumescent Coat                                | Nullifire SC902   | Nullifire SC902  | AS PER LOADING SCHEDULE       | 120/--/-- | Airless Spray              | FULL                  | As per TDS       |
| Compatible Topcoat                              | Carbothane 133LH  | Carbothane 133LH   | 75 Microns Dry Film Thickness | N/A       | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Compatible Topcoat                              | Carbothane 133LH  | Carbothane 133LH   | 75 Microns Dry Film Thickness | N/A       | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Notes   | Level of finish to be approved by Architect prior to the start of project Topcoat also required if the steelwork is to be left in an open construction phase for longer than 4 months maximum A Stripe coat of Altrazinc 605 at 50 microns dft should be applied over the primer coat to all corners, edges, joints etc A stripe coat of Carbothane 133LH at 75 microns dft should be applied over the Nullifire SC902 to all corners, edges, joints etc<br>Topcoat thicknesses are minimum requirement |  |                               |           |                            |                       |                  |

# STRUCTURAL STEEL & CONCRETE FIRE PROTECTION



| FACTORY OR SITE INTUMESCENT COATING APPLICATION |   |   |                               |           |                            |                       |                  |
|---|---|---|-------------------------------|-----------|----------------------------|-----------------------|------------------|
| Nullifire SC902 Finish Standard Required        |   | Location  |                               |           | Finish Required            |                       |                  |
|   |   | External Steelwork Visible FRL up to 120 minutes Max C4 |                               |           | To Be Confirmed by Client. |                       |                  |
|   | Product   | Data Sheet No.  | Dry Film Thickness (Microns)  | FRL       | Application Method         | Spot/Full/Stripe Coat | Thinner Required |
| Primer Coat                                     | Carbozinc 858   | Carbozinc 858   | 75 Microns Dry Film Thickness | N/A       | Airless Spray              | FULL                  | As per TDS       |
| Intermediate                                    | Carboguard 635  | Carboguard 635  | 75 Microns Dry Film Thickness | N/A       | Airless Spray              | FULL                  | As per TDS       |
| Intumescent Coat                                | Nullifire SC902   | Nullifire SC902   | AS PER LOADING SCHEDULE       | 120/--/-- | Airless Spray              | FULL                  | As per TDS       |
| Compatible Topcoat                              | Carboxane 2000  | Carboxane 2000  | 75 Microns Dry Film Thickness | N/A       | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Compatible Topcoat                              | Carboxane 2000  | Carboxane 2000  | 75 Microns Dry Film Thickness | N/A       | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Notes   | Level of finish to be approved by Architect prior to the start of project. Topcoat also required if the steelwork is to be left in an open construction phase for longer than 4 months maximum. A Stripe coat of Carbozinc 858 at 50 microns dft should be applied over the primer coat to all corners, edges, joints etc A stripe coat of Carboxane 2000 at 75 microns dft should be applied over the Nullifire SC902 to all corners, edges, joints etc<br>Topcoat thicknesses are minimum requirement |   |                               |           |                            |                       |                  |

| FACTORY OR SITE INTUMESCENT COATING APPLICATION |   |   |                               |           |                            |                       |                  |
|---|---|---|-------------------------------|-----------|----------------------------|-----------------------|------------------|
| Nullifire SC902 Finish Standard Required        |   | Location  |                               |           | Finish Required            |                       |                  |
|   |   | External Steelwork Visible FRL up to 120 minutes Max C5 |                               |           | To Be Confirmed by Client. |                       |                  |
|   | Product   | Data Sheet No.  | Dry Film Thickness (Microns)  | FRL       | Application Method         | Spot/Full/Stripe Coat | Thinner Required |
| Primer Coat                                     | Carbozinc 858   | Carbozinc 858   | 75 Microns Dry Film Thickness | N/A       | Airless Spray              | FULL                  | As per TDS       |
| Intermediate                                    | Carboguard 635  | Carboguard 635  | 75 Microns Dry Film Thickness | N/A       | Airless Spray              | FULL                  | As per TDS       |
| Intumescent Coat                                | Nullifire SC902   | Nullifire SC902   | AS PER LOADING SCHEDULE       | 120/--/-- | Airless Spray              | FULL                  | As per TDS       |
| Compatible Topcoat                              | Carboxane 2000  | Carboxane 2000  | 75 Microns Dry Film Thickness | N/A       | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Compatible Topcoat                              | Carboxane 2000  | Carboxane 2000  | 75 Microns Dry Film Thickness | N/A       | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Notes   | Level of finish to be approved by Architect prior to the start of project. Topcoat also required if the steelwork is to be left in an open construction phase for longer than 4 months maximum. A Stripe coat of Carbozinc 858 at 50 microns dft should be applied over the primer coat to all corners, edges, joints etc A stripe coat of Carboxane 2000 at 75 microns dft should be applied over the Nullifire SC902 to all corners, edges, joints etc<br>Topcoat thicknesses are minimum requirement |   |                               |           |                            |                       |                  |



# STRUCTURAL STEEL & CONCRETE FIRE PROTECTION



## NULLIFIRE SC800 SERIES

Nullifire SC800 Series Intumescent Base Coat is a water-based, white, thin film intumescent coating for the protection of internal structural steelwork.

SC800 series is a water based intumescent coating used for internal structural steel to C1 and C2 environments. The coating can then be protected with a suitable top seal for decorative and durability purposes.

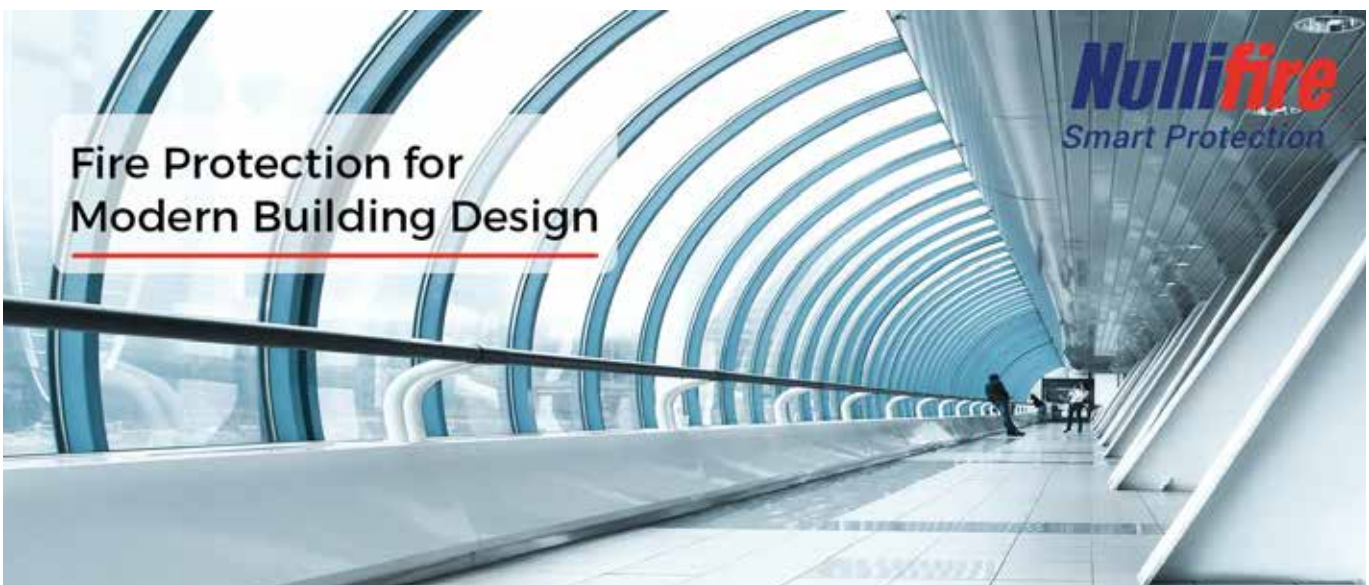
SC800 series was developed to give optimised loading for 60, 90 and 120 minutes fire resistance.

SC800 series can be applied to a smooth matt finish. A compatible top seal can be applied if a decorative finish is required.



### KEY BENEFITS

- Ultra-low VOC. Contains no substances of very high concern.
- Water-based formulation.
- Market leading loadings.
- Compatible with a wide range of primers and top seals.
- Easy to apply, with excellent aesthetics.
- Optifire+® unique traceability identifier.
- Certified EN13381-8 + BS476 Part 20-22.
- Assessed to AS4100-2020 and in accordance to AS1530.4-2014
- For building classifications C1 and C2 environment





# STRUCTURAL STEEL & CONCRETE FIRE PROTECTION



| FACTORY OR SITE INTUMESCENT COATING APPLICATION |   |  |                               |          |                            |                       |                  |
|---|---|--|-------------------------------|----------|----------------------------|-----------------------|------------------|
| Nullifire SC800 Series Finish Standard Required |   | Location   |                               |          | Finish Required            |                       |                  |
|   |   | Internal Steelwork Non-Visible FRL up to 90 minutes C1 |                               |          | To Be Confirmed by Client. |                       |                  |
|   | Product   | Data Sheet No.   | Dry Film Thickness (Microns)  | FRL      | Application Method         | Spot/Full/Stripe Coat | Thinner Required |
| Primer Coat                                     | Carboguard 635  | Carboguard 635   | 75 Microns Dry Film Thickness | N/A      | Airless Spray              | FULL                  | As per TDS       |
| Intumescent Coat                                | Nullifire SC800 Series  | Nullifire SC800 series                                 | AS PER LOADING SCHEDULE       | 90/--/-- | Airless Spray              | FULL                  | As per TDS       |
| Optional Topcoat                                | Carbothane 133LH  | Carbothane 133LH                                       | 75 Microns Dry Film Thickness | N/A      | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Notes   | Level of Finish to be approved by the Architect prior to the start of the project.<br>Optional topcoat to give some protection if required during the construction phase.<br>A Stripe coat of the primer at 75 microns DFT should be applied over the primer coat to all corners, edges, joints, etc.<br>If Nullifire SC800 series is applied in the factory then two topcoats of Carbothane 133LH at 75 microns dft per coat is required |  |                               |          |                            |                       |                  |

| Nullifire SC800 Series Finish Standard Required |   | Location   |                               |          | Finish Required            |                       |                  |
|---|---|--|-------------------------------|----------|----------------------------|-----------------------|------------------|
|   |   | Internal Steelwork Visible FRL up to 90 minutes up to C2 |                               |          | To Be Confirmed by Client. |                       |                  |
|   | Product   | Data Sheet No.   | Dry Film Thickness (Microns)  | FRL      | Application Method         | Spot/Full/Stripe Coat | Thinner Required |
| Primer Coat                                     | Carboguard 635  | Carboguard 635   | 75 Microns Dry Film Thickness | N/A      | Airless Spray              | FULL                  | As per TDS       |
| Intumescent Coat                                | Nullifire SC800 Series  | Nullifire SC800 series                                   | AS PER LOADING SCHEDULE       | 90/--/-- | Airless Spray              | FULL                  | As per TDS       |
| Compatible Topcoat                              | Carbothane 133LH  | Carbothane 133LH   | 75 Microns Dry Film Thickness | N/A      | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Compatible Topcoat                              | Carbothane 133LH  | Carbothane 133LH   | 75 Microns Dry Film Thickness | N/A      | Roller/Brush/Spray         | FULL                  | As per TDS       |
| Notes   | Level of Finish to be approved by the Architect prior to the start of the project.<br>Optional topcoat to give some protection if required during the construction phase.<br>A Stripe coat of the primer at 75 microns DFT should be applied over the primer coat to all corners, edges, joints, etc.<br>If Nullifire SC800 series is applied in the factory then two topcoats of Carbothane 133LH at 75 microns dft per coat is required |  |                               |          |                            |                       |                  |

# STRUCTURAL STEEL & CONCRETE FIRE PROTECTION



## PERLIFOC HP ECO+

Perlifoc HP Eco+ is a perlite and gypsum-based fireproof mortar for passive fire protection on structural elements and is noted for its ecological certifications. Perlifoc HP Eco+ has a low density thanks to the use of light fillers, making it a high-performance mortar with great benefits. It offers thermal insulation properties, in addition to having the Environmental Product Declaration (EPD).

Perlifoc HP Eco+ is compliant to EN 13381-4 : 2013, AS1530.4 - 2014 and AS4100 - 2020 as per BRANZ assessment FC15622.

This mortar provides fire resistance of up to 240 minutes, R240, depending on the structural element to be protected.



**Perlifoc HP Eco + stands out for its CRADLE2CRADLE certificate, which facilitates obtaining points in the LEED, BREEAM & WELL certifications.**



## Application

Perlifoc HP Eco+ offers a wide range of protection for construction solutions, such as protection of steel structures, concrete structures and composite slab structures.

We recommend that it is applied using a discontinuous spraying machine, as the results are optimal in terms of density and performance. For more information on the application method, see the application manual.

Our mortar can be applied using a continuous spraying machine, although the density and consumption will be lower.

Perlifoc HP Eco+ has a rough appearance. If necessary, it can be smoothed. It can be finished with paint without affecting the fire resistance of the product.

Low temperatures should be avoided during its application for effective drying. The application temperature must be between 3 and 43°C, and the substrate temperature during the application must be at least 3°C above the dew point.

In enclosed areas with little ventilation (basements, confined spaces, etc.), an RH no greater than 60% and adequate ventilation is recommended for correct drying.

For more information refer our dedicated Perlifoc HP ECO+ technical data sheets.

# STRUCTURAL STEEL & CONCRETE FIRE PROTECTION



## PERLIFOC T

Perlifoc T is a medium density cement-based fireproof mortar developed specifically for passive fire protection of reinforced concrete tunnels structures.

The non-combustible mortar is formulated with lightweight high-performance fillers, which is light and low abrasion with the use of spraying equipment, saving on consumables.

Perlifoc T is asbestos free and complies with regulations 2003/18/EC and RD 396/2006.

This mortar offers fire resistance of up to 180 minutes in accordance with the RWS curve and tolerates a wide range of weather conditions.



## Application

Perlifoc T offers protection for reinforced concrete tunnels, concrete slabs and walls up to 180 minutes.

We recommend that it is applied using a discontinuous spraying machine, as the results are optimal in terms of density and performance. For more information on the application method, see the application manual. Our mortar can be applied using a continuous spraying machine, although the density and consumption will be lower. Perlifoc T has a rough appearance. If necessary, it can be smoothed.

Perlifoc T can be directly applied to concrete without the need for priming or an adhesion promoter. Ensure that the substrate is clean, free of loose particles, decorative paints, dirt, grease or condensation that could affect the adhesion. For use in the protection of concrete structures in tunnels, or if there are doubts about the condition of the substrate or it has an old coating, the use of a metal mesh prior to the application of the mortar is recommended.

Low temperatures should be avoided during its application for effective drying. The application temperature must be between 4 and 38°C. Do not start to spray if you expect the ambient temperature to drop below 2 °C in the 24 hours following the application.

In enclosed areas with little ventilation (basements, confined spaces, etc.), an RH no greater than 60% and adequate ventilation is recommended for correct drying.

For more information refer our dedicated Perlifoc T technical data sheets.



**Tremco Construction Products Group (CPG) represents the combined power of brands including Dryvit, Nudura, Willseal, and Tremco, along with Tremco CPG affiliates Flowcrete, illbruck, Nullifire, Vandex, Euclid Chemical, and USL brands.**

Our products and services empower teams to develop, design, restore and engineer structures that are more efficient to build and maintain, are virtually impervious to the elements and can provide any look desired.

**[www.tremcocpg-asiapacific.com](http://www.tremcocpg-asiapacific.com)**



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