

# Hempafire Extreme 550

## Product characteristics

### Description

Hempafire Extreme 550 is a two component epoxy solvent-free, chemically curing intumescent coating for passive fire protection of structural steel against cellulosic fires. It is optimized from R30 to R120 fire durations and for in-shop applications. Fire protection at R180 and R240 may be possible depending on the project. On-site applications may be possible depending on the equipment and set up.

### Recommended use

As intumescent fire protection for structural steel in interior and exterior service conditions, up to Type X (EAD350402-00-1106 / EN 16623) and C5 conditions (ISO 12944-2). Suitable for I section beams, H columns, hollow sections and cellular beams.

As a repair and touch-up coating for damaged areas of Hempafire Extreme 550.

### Certificates / Approvals

- Assessed according to EN 13381-8, fire resistance of structural steel up to R240
- Tested and assessed according to BS 476-21: Standard for Fire Test on Building Materials and structures; determination of the fire resistance of loadbearing elements of construction. Up to R240
- CE marked product with European Technical Assessment (ETA)
- Third-party verified, product-specific Environmental Product Declaration (Type III EPD, ISO 14025, EN 15804)
- Reaction to fire tested (as part of a coating system with approved primer and topcoat) according to EN13501-1 B-S1-d0

### Features

- Very competitive thicknesses resulting in reduced paint consumption and less coats to apply.
- Wide coverage of protectable Hp/A, allowing the use of light steel sections for higher fire ratings.
- Fire protection up to 4 hours. Optimized for the range of R30 to R120.
- Excellent durability towards mechanical damages, chemical resistance and weather exposure.
- Weather resistant and up to C5 conditions without topcoat. Topcoat only needed for aesthetic purposes.
- Smooth surface and compatible with a wide range of topcoats, allowing the desired Aesthetic finish of the steel.
- Reduced application costs and Fast process time, combining high DFT/coat with a reduced total PFP thicknesses to apply. Protection achieved in less coats.
- One product for most common steel sections to reduce complexity in application and specification.
- It has been approved and 3rd party certified according to EN13381-8 and BS 476-21. It has ETA with CE mark and ApplusFire approvals.
- Can be applied up to 3-5 mm [118-196 mils] dry film thickness per coat (depending on the set up), thus providing the required protection in less coats.
- Optimized to maximize throughput and DFT/coat with plural feed application equipment. Application with single leg equipment also possible for touch ups / small areas.
- Solvent free / 100% solids, product has very low VOC. Environmental Product Declaration with third-party certification is ongoing (Type III EPD, acc. to ISO 14025, EN 15804). Product can contribute to EPD credits for LEED and BREEAM projects.
- Complies with EU Directive 2004/42/EC, The Paints Directive on the limitation of volatile organic compounds: subcategory i.

## Product safety

**Flash point** 184°C [363°F]

### VOC content mixed product

| Legislation     | Value                  |
|-----------------|------------------------|
| EU              | 9 g/L [0.08 lb/US gal] |
| US (coatings)   | 9 g/L [0.08 lb/US gal] |
| US (regulatory) | 9 g/L [0.08 lb/US gal] |

According to ISO 11890-1.

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## Handling

Handle with care. Before and during use, observe safety labels on packaging and paint containers and follow all local and national safety regulations. Always consult Hempel's Safety Data Sheet for this product along with the Product Data Sheet.

For professional use only.

## Product data

### Product code

43500

### Product components

Base 43509

Curing Agent 93500

### Standard shade / code

Off white 15710

### Volume solids

100%

### Specific gravity

1.5 kg/L [13 lb/US gal]

## Surface preparation

### Cleanliness

- Remove salts, detergents and other contaminants by high pressure fresh water cleaning.
- Abrasive blasting to min. Sa 2½ (ISO 8501-1) / SP 10 (SSPC).
- Zinc coated surfaces: use non-metallic blast media (corundum, garnet, etc.).
- Use approved primer.
- Remove oil, grease and other contaminants by suitable detergent cleaning.
- Remove dust, blast media and loose materials.
- The surface must be dry and clean prior to application.
- For approved substrates other than Carbon Steel, the substrate may require other surface preparations, consult Hempel's application instructions for detailed information.
- Minor areas can be cleaned by power tool to St 3 provided the surface is roughened and not polished.
- Consult Hempel's separate Surface Preparation Guidelines for more details.

### Maintenance and Repair

- Minor areas may be hand or power tool cleaned instead of abrasive blasting.

Consult Hempel's separate Surface Preparation Guidelines for more details.

## Application

### Mixing ratio

Base 43509 : Curing Agent 93500

(2 : 1 by volume)

### Thinner

Hempel's Thinner 08450

Hempel's Thinner 08080

### Pot life

| Product temperature | 10°C<br>[50°F] | 20°C<br>[68°F] | 30°C<br>[86°F] | 40°C<br>[104°F] |
|---------------------|----------------|----------------|----------------|-----------------|
| Pot life            | 75 min         | 45 min         | 30 min         | 20 min          |

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## Application method

| Tool          | Thinning<br>max vol. |
|---------------|----------------------|
| Airless spray | 7%                   |

In general, thinning is not recommended. For application by airless spray, a pump equipped with ram plate is recommended. Keep thinning at an absolute minimum. Lower paint temperatures may require extra thinning, which will result in lower film build and slower drying. Spray data are indicative and subject to adjustment. Pressure is for a material temperature of 20°C [68°F].

## Film thickness

The film thickness is dependent on the required fire resistance as well as the massivity factor (Hp/A) of the steel element. Please contact your local Hempel representative.

## Application conditions

- To avoid condensation, apply on a clean and dry surface with a temperature that is at least 3°C [5°F] above the dew point.
- Surface temperature must be above 5°C [41°F] during application and curing.
- Surface temperature must be below 50°C [122°F] during application and curing.
- Always read the Labels, Safety Data Sheets, Product Data Sheets and available Application Instructions before use.

## Drying and overcoating

### Product compatibility

- Previous coat: According to Hempel's Specification. Only Hempel approved primer.
- Subsequent coat: According to Hempel's Specification. A selection of approved topcoats is available.

### Drying time

| Surface<br>temperature |       | 10°C<br>[50°F] | 20°C<br>[68°F] | 30°C<br>[86°F] | 40°C<br>[104°F] |
|------------------------|-------|----------------|----------------|----------------|-----------------|
| Dry to handle          | hours | 36             | 20             | 8              | 4               |

Any masking tape used during paint application should be removed while the paint is still in the wet condition.

## Overcoating

Consult Hempel's specification for more information.

## Drying conditions

- To obtain the drying time stated, it is important to maintain sufficient ventilation during application, drying and curing.

## Overcoating details

- A topcoat cannot be applied before the specified intumescent thickness has been achieved and the coating is sufficiently dry. Consult Hempel representative for more detailed information.
- Please consult the specific Drying time and Overcoating details for this product.

## Storage

### Shelf life

| Ambient<br>temperature | 25°C<br>[77°F] |
|------------------------|----------------|
| Base                   | 18 months      |
| Curing Agent           | 18 months      |

Shelf life from date of production, when stored in original, unopened containers. Thereafter, the product quality must be re-inspected. Storage at elevated temperatures may reduce shelf life. For advice, please consult Hempel.

## Storage conditions

- The product must be stored in accordance with Safety Data Sheet, label and local regulations. Keep the containers in a dry, shaded, cool, well-ventilated space and away from sources of heat and ignition. Containers must be kept tightly closed. Handle with care.

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## Additional documents

Additional information is available at the Hempel website  
<https://www.hempel.com/service-and-support/technical-guidelines>  
or at your local Hempel website:

- Explanatory Notes for Product Data Sheet.
- Application methods.
- Application Instruction for this product.
- Drying time and Overcoating Intervals for this product.

This Product Data Sheet ("PDS") relates to the supplied product ("Product") and is subject to updating from time-to-time. Accordingly, the buyer/applicator should have regard to the PDS supplied together with the relevant batch of the Product (and not an earlier version). In addition to the PDS, the buyer/applicator may receive some or all of the following specifications, statements and/or guidelines as listed below or as are available from the Hempel website under 'Products' at [www.hempel.com](http://www.hempel.com) (the "Additional documents"):

| No. | Document description                                                       | Location/comments                                                                                                                     |
|-----|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | Technical Statement                                                        | One-off specific advice provided on request for specific projects                                                                     |
| 2.  | Specification                                                              | Only issued for specific projects                                                                                                     |
| 3.  | PDS                                                                        | This document                                                                                                                         |
| 4.  | Explanatory Notes to the PDS                                               | Available at <a href="http://www.hempel.com">www.hempel.com</a> and contain relevant information about the Product testing parameters |
| 5.  | Application Instruction                                                    | Where available, at <a href="http://www.hempel.com">www.hempel.com</a>                                                                |
| 6.  | Generic technical guidelines (e.g. on application and surface preparation) | Where available, at <a href="http://www.hempel.com">www.hempel.com</a>                                                                |

In the event of a conflict of information between the PDS and the Additional documents, the order of priority of information shall be in the order as set out above. In such event you should also contact your representative at Hempel for clarification. Furthermore, the buyer/applicator must have full regard to the relevant Safety Data Sheet provided with each Product and which can also be downloaded from [www.hempel.com](http://www.hempel.com).

Hempel shall not be liable for defects where the application of the Product has not been made fully in accordance with the recommendations and requirements set out in the relevant PDS and the Additional Documents. The information and terms of this disclaimer apply to this PDS, the Additional documents and any other documents supplied by Hempel in respect of the Product. In addition, the Product is supplied and all technical assistance is given subject to Hempel's General Conditions of Sale, Delivery and Service, unless otherwise expressly agreed in writing.