

# Hempafire Pro 400

## Product characteristics

### Description

Hempafire Pro 400 is a one component, solvent-borne, physically drying intumescent coating for passive fire protection of structural steel against cellulosic fires. It is optimized for R90, R120 and for in-shop and on-site applications.

### Recommended use

As intumescent fire protection for structural steel in interior and exterior conditions, up to C4 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 freshly applied Hempafire Pro 400.

### Certificates / Approvals

- 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. APF-1825. Up to 120 minutes.
- CE marked product with European Technical Assessment (ETA) ETA 22/0309 up to 120 min
- Assessed according to BS 476-21, Fire resistance of structural steel Up to 120 minutes, incl. cellular beams.

### Features

- Very competitive loadings resulting in reduced paint consumption and less coats to apply.
- One product for most common steel sections to reduce complexity 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.
- Ease of application and smooth surface contributes to provide excellent cosmetic finish to steel.
- Can be applied up to 1600 micron [63 mils] dry film thickness per coat, thus providing the required protection in less coats.
- 12 months weather resistant without topcoat provided that coating is sufficiently dried, applied according the Application Instructions and not exposed to condensation, running or pooling water.
- Environmental Product Declaration with third-party certification available (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** 23°C [73°F]

### VOC content

Legislation	Value
EU	339 g/L [2.83 lb/US gal]
US (coatings)	339 g/L [2.83 lb/US gal]
US (regulatory)	339 g/L [2.83 lb/US gal]
China	339 g/L [2.83 lb/US gal]

According to specific legislation, see details in the Explanatory Notes available at Hempel website, [hempel.com](http://hempel.com) or at your local Hempel website.

### 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

43490

### Standard shade / code

White 10000

### Gloss

Flat

### Volume solids

75 ± 3%

### Specific gravity

1.3 kg/L [11 lb/US gal]

# Hempafire Pro 400

## 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

### Thinner

Not Recommended

### Cleaner

Hempel's Tool Cleaner 99610  
Hempel's Thinner 08080

## Application method

Tool	Thinning max vol.	Application parameters
Airless spray	Not Recommended	Nozzle pressure: 200 bar [2900 psi] Nozzle orifice: 0.017-0.023"
Brush	Not Recommended	Not Applicable.

If brush or roller application is used, more coats will be necessary to achieve the specified dry film thickness. In general, thinning is not recommended. 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. The maximum thickness per coat is 1600 micron [64 mils] Dry Film Thickness equivalent to 2133 micron [85 mils] Wet Film Thickness. Please consult the Application Instruction for more detailed information.

### 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.

### Application remarks

- Stir well before use.

## Drying and overcoating

### Product compatibility

- Previous coat: According to Hempel's Specification. Only Hempel approved primer. Consult Hempel representative for information on approved primers.
- Subsequent coat: According to Hempel's Specification. A selection of approved topcoats is available. Consult Hempel representative for information on approved topcoats.

### Overcoating details

- Please consult the specific Drying time and Overcoating details for this product.
- Consult Hempel for specific 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.

# Hempafire Pro 400

## Storage

### Shelf life

Ambient temperature	25°C [77°F]
Product	15 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

- In case shelf life is exceeded, the product must be re-evaluated before use. Please contact a Hempel representative.

## 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.
- List of approved primers and topcoats

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.