Hempafire Optima 500

Product characteristics

Description
Hempafire Optima 500 is a very low VOC, one-component waterborne acrylic thin film intumescent coating for passive fire protection of structural steel against cellulosic fires. It has been optimized for On-site applications at R120. Applications in shop and/or R180 may be possible depending on the project.

Recommended use
As Intumescent fire protection for structural steel exposed to internal environments up to C3 (ISO-12944). Suitable for I-section beams, H columns, hollow section beams and columns and Cellular Beams. It can be used as repair and touch-up coat for damaged areas of freshly applied Hempafire Optima 500.

Service temperature:
- Indoor conditions.

Certificates / Approvals
- Complies with the European Fire Standard EN 13501-1, reaction to fire classification, when used as part of a predefined paint system.
- Assessed according to BS 476-21, Fire resistance of structural steel Up to 180 minutes, includes Cellular Beams.

Features
- Developed to increase the efficiency of the entire PFP project, from initial specification through to final application.
- Increased productivity thanks to high DFT per coat and faster drying, thus providing the required fire protection in less coats, reduced application costs and faster process time.
- Tested according BS-476 20/21 and with ApplusFire 3rd party certificate.
- One product for most common section types to reduce the complexity in the application and design specification stages.
- Ease of application contributes to smooth surface and excellent aesthetic results of protected steel.
- 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

VOC content

Legislation	Value
EU	0 g/L [0.00 lb/US gal]
US (coatings)	25 g/L [0.21 lb/US gal]
US (regulatory)	37 g/L [0.31 lb/US gal]
China	0 g/L [0.00 lb/US gal]

According to ISO 11890-2. According to specific legislation, see details in the Explanatory Notes available at Hempel website, 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
48880

Standard shade / code
White 10000

Gloss
Flat

Volume solids
74 ± 2%

Specific gravity
1.5 kg/L [12 lb/US gal]

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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

Application method

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

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. Please consult the Application Instruction for more detailed information. The dry film thickness should not exceed 950 micron [38 mils] Dry Film Thickness per coat equivalent to 1285 micron [51 mils] Wet Film Thickness.

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.

Storage

Shelf life

Ambient temperature	25°C [77°F]
Product	9 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.

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Storage conditions
- Product must be stored according to local legislation, at 10-40°C [50-104°F] without direct sunlight and protected from rain and snow.
- Temperature must not go below 5°C [41°F] during transport and storage.
- 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 (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 www.hempel.com and contain relevant information about the Product testing parameters
5.	Application Instruction	Where available, at www.hempel.com
6.	Generic technical guidelines (e.g. on application and surface preparation)	Where available, at www.hempel.com

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.

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.