

Hempaprima Alpha 590

Product characteristics

Description

Hempaprima Alpha 590 is a high solids, high build epoxy coating. It forms a hard and tough coating, has good wetting properties and cures at low temperature.

Recommended use

Hempaprima Alpha 590 is recommended for atmospheric service as a primer or an intermediate in coating systems for mild to moderate corrosive environment. The product can also be used as a finish coat on interior surfaces. It is suitable for new construction and maintenance. It may be used directly on cured zinc silicate.

Service temperature:

- Maximum, dry exposure only: 120°C [248°F].
- Minimum, recommended by Hempel for dry exposure: -40°C [-40°F].

Product safety

Flash point 24°C [75°F]

VOC content mixed product

Legislation	Value
EU	216 g/L [1.80 lb/US gal]
US (coatings)	216 g/L [1.80 lb/US gal]
US (regulatory)	216 g/L [1.80 lb/US gal]
China	216 g/L [1.80 lb/US gal]

According to specific legislation, see details in the Explanatory Notes available at Hempel website, hempel.com or at your local Hempel website. VOC values may vary with shade, please consult the Safety Data Sheet, section 9.

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

45090

Product components

Base 45099
Curing Agent 95101

Standard shade* / code

White 10000 **

Volume solids

80 ± 2%

Specific gravity

1.7 kg/L [14 lb/US gal]

Reference dry film thickness

120 micron [4.8 mils]

Surface preparation

Cleanliness

- Remove oil, grease and other contaminants by suitable detergent cleaning.
- Remove salts, detergents and other contaminants by high pressure fresh water cleaning.
- Apply high pressure fresh water cleaning (approx. 300 bar [4400 psi]) combined with scrubbing to remove deposits of zinc salts and white rust.

New build:

- Abrasive blasting to min. Sa 2½ (ISO 8501-1) / SP 10 (SSPC) / NACE No. 2.
- Remove dust, blast media and loose materials.

Maintenance and Repair

- Abrasive blasting to min. Sa 2½ (ISO 8501-1) / SP 10 (SSPC) / NACE No. 2.
- Clean thoroughly by hand or power tool to St 2 (ISO 8501-1) / SP 2 (SSPC). Avoid polishing.
- Remove dust, blast media and loose materials.

* Epoxy coatings have an inherent tendency of chalking, fading and discolouring. This does not affect the performance of the coating

** Colour stability may be affected by exposure to chemicals, high temperatures or inadequate ventilation.

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Roughness

- Surface profile Medium (G) (ISO 8503-2).

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

Application

Mixing ratio

Base 45099 : Curing Agent 95101
(4 : 1 by volume)

Thinner

Hempel's Thinner 08450

Cleaner

Hempel's Thinner 08450

Pot life

Product temperature	20°C [68°F]
Pot life	3 hours

Application method

Tool	Thinning max vol.	Application parameters
Airless spray	5%	Nozzle pressure: 250 bar [3600 psi] Nozzle orifice: 0.018-0.025"
Air spray	15%	-

If brush or roller application is used, more coats will be necessary to achieve the specified dry film thickness. Spray data are indicative and subject to adjustment. Pressure is for a material temperature of 20°C [68°F].

Film thickness

Specification range	Low	High	Recommended
Dry film thickness	100 micron [4.0 mils]	150 micron [6.0 mils]	120 micron [4.8 mils]
Wet film thickness	125 micron [5.0 mils]	187 micron [7.5 mils]	150 micron [6.0 mils]
Theoretical spreading rate	8 m²/L [326 sq ft/US gal]	5.3 m²/L [216 sq ft/US gal]	6.7 m²/L [273 sq ft/US gal]

For best performance, avoid excessive film thickness. Overthickness must be closely controlled and never locally exceed 450 micron [18 mils] DFT. On irregular surfaces it is recommended to employ special care in avoiding over application. Product may be specified in another film thickness than indicated depending on purpose and area of use. This will alter spreading rate, drying and curing time and overcoating interval.

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.
- Optimal spraying properties are obtained at paint temperatures of 15-30°C [59-86°F]. Beyond these temperatures additional thinning may be necessary.
- Provide adequate ventilation during application and drying.

Drying and overcoating

Product compatibility

- Previous coat: According to Hempel's Specification.
- Subsequent coat: According to Hempel's Specification.

Drying time

Surface temperature		20°C [68°F]	10°C [50°F]
Touch dry	min	120	120
Hard dry	hours	5	11
Fully cured	days	7	-

Determined for dry film thickness 120 micron [4.8 mils] at standard conditions, see Hempel's Explanatory Notes for details.

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Overcoating

Hempel's specification supersedes any guidelines indicated in the overcoating table

Quality name		10°C [50°F]	20°C [68°F]
Atmospheric medium			
Hempaprim® Alpha 590	Min	20 h	8 h
	Max	37 d	15 d
Hempathane HS 55610	Min	-	-
	Max	-	-

Overcoating times are indicative for products of the same generic chemistry when applied at the recommended DFT. Consult Hempel's specification for more information.

Storage

Shelf life

Ambient temperature	25°C [77°F]
Base	24 months
Curing Agent	24 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. The shelf life printed on product labels is based on regional climate conditions. 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.

Carbon Footprint

Dry film thickness	1 µm	1 mil
GWP (Global Warming Potential)	5.8 g CO ₂ e/m ²	0.03 lb CO ₂ e/ft ²

The carbon footprint is for 1 square meter / square foot of surface area with a dry film thickness of 1 micron / mil.

The scope includes raw materials, in-bound transport to the Hempel factory, Hempel manufacturing processes, and any Volatile Organic Compounds emitted during and after the application of the product.

It is calculated based on the standard shade defined in this PDS. Values may vary with shade.

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Additional documents

Additional information is available at the Knowledge Center:
<https://www.hempel.com/knowledge-center>. The documents below can be found in the Technical Guidelines section:
<https://www.hempel.com/knowledge-center/technical-guidelines> or at the Hempel website.

- Explanatory Notes for Product Data Sheet.
- Application methods.

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.