

Hempel's Sealer 05990

Product characteristics

Description

Hempel's Sealer 05990 is a low viscosity, two pack epoxy varnish with good penetration properties.

Complies with EU Directive 2004/42/EC, The Paints Directive on the limitation of volatile organic compounds: subcategory h.

Recommended use

For saturation of well cleaned concrete surfaces before application of pigmented paints.

Must be applied in such an amount that the surface is just saturated.

The surface should not appear "glossy" in any way.

Also suitable for sealing of thermally sprayed metallic coatings.

Service temperature:

- Maximum, dry exposure only: 140°C [284°F].

Product safety

Flash point 25°C [77°F]

VOC content mixed product

Legislation	Value	5% thinning, by volume	Limit value, phase II (2010)*
EU	606 g/L [5.06 lb/US gal]	618 g/L [5.16 lb/US gal]	750 g/L [6.26 lb/US gal]
US (coatings)	606 g/L [5.06 lb/US gal]	-	-
US (regulatory)	606 g/L [5.06 lb/US gal]	-	-
China	606 g/L [5.06 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. *EU Directive 2004/42/CE.

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

05990

Product components

Base 05999

Curing Agent 95040

Standard shade / code

Transparent 00000 *

Gloss

Flat

Volume solids

29 ± 2%

Specific gravity

0.9 kg/L [8 lb/US gal]

Reference dry film thickness

30 micron [1.2 mils]

Hempel's Sealer 05990

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.
- Concrete must cure completely; for 28 days minimum.
- Moisture content in the surface must be below 4%.
- A uniform anchoring profile should be achieved by suitable surface preparation method(s).

New build:

- Remove laitance and efflorescence by water jetting, abrading or blasting.
- Concrete: According to Hempel's Specification.
- Remove dust, blast media and loose materials.

Maintenance and Repair

- Concrete: According to Hempel's Specification.
- Remove dust, blast media and loose materials.

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

Application

Mixing ratio

Base 05999 : Curing Agent 95040
(4 : 1 by volume)

Stir well before use. Consult Hempel regarding thinning.

Thinner

Hempel's Thinner 08450

Cleaner

Hempel's Tool Cleaner 99610

Pot life

Product temperature	20°C [68°F]
Pot life	8 hours

Application method

Tool	Thinning max vol.	Application parameters
Airless spray	5%	Nozzle pressure: 100 bar [1500 psi] Nozzle orifice: 0.017-0.021"
Brush	5%	Not Applicable.

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	30 micron [1.2 mils]	30 micron [1.2 mils]	30 micron [1.2 mils]
Wet film thickness	105 micron [4.2 mils]	105 micron [4.2 mils]	105 micron [4.2 mils]
Theoretical spreading rate	10 m ² /L [407 sq ft/US gal]	10 m ² /L [407 sq ft/US gal]	10 m ² /L [407 sq ft/US gal]

Spreading rate will depend on surface roughness, porosity of the substrate and application method.

Application conditions

- Surface temperature must be above 10°C [50°F] during application and curing.
- 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.
- Temperature of product must be above 15°C [59°F] during application.

Relative Humidity:

- Relative humidity must be above 30% during curing.

Application remarks

- The surface must not appear glossy after application, the coating shall only seal the surface. Any surplus top layer must be removed prior to application of subsequent coat.

Hempel's Sealer 05990

Drying and overcoating

Product compatibility

- Previous coat: None.
- Subsequent coat: None or according to Hempel's specification.

Drying time

Surface temperature		20°C [68°F]
Touch dry	hours	4
Hard dry	hours	4

Determined for dry film thickness 30 micron [1.2 mils] at standard conditions, see Hempel's Explanatory Notes for details.

Drying conditions

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

Overcoating details

- If the maximum overcoating interval is exceeded, roughening of the surface is necessary to ensure intercoat adhesion.
- The surface must be clean before overcoating.

Other remarks

- Epoxy coats have an inherent tendency of chalking in outdoor exposure. This does not affect the performance of the coating.
- Hempel's Specification supersedes any recommendations given in the Product Data Sheets.

Storage

Shelf life

Ambient temperature	25°C [77°F]
Base	36 months
Curing Agent	36 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.

Carbon Footprint

Dry film thickness	1 µm	1 mil
GWP (Global Warming Potential)	18.1 g CO ₂ e/m ²	0.094 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.

Hempel's Sealer 05990

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.
- General Application Guidelines

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.