

Hempel's 174DE

Product characteristics

Description

Hempel's 174DE is a one-component, moisture-curing polyurethane zinc primer, pigmented with metallic zinc and micaceous iron oxide. The product has excellent adhesion properties. Approved according to BAYER Inc., Standard 2207

Recommended use

As long-term primer on steel for epoxy and polyurethane coating systems in severely corrosive environments.

Service temperature:

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

Product safety

Flash point 40°C [105°F]

VOC content

Legislation	Value
EU	310 g/L [2.59 lb/US gal]
US (coatings)	310 g/L [2.59 lb/US gal]
US (regulatory)	310 g/L [2.59 lb/US gal]
China	310 g/L [2.59 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.

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

174DE

Standard shade / code

Grey 19840

Gloss

Flat

Volume solids

66 ± 2%

Specific gravity

2.8 kg/L [23 lb/US gal]

Reference dry film thickness

80 micron [3.2 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.

New build:

- Abrasive blasting to min. Sa 2½ (ISO 8501-1) / SP 10 (SSPC).
- Remove dust, blast media and loose materials.

Maintenance and Repair

- According to Hempel's Specification.

Roughness

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

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

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Application

Mixing ratio

Products containing floating or settling particles/pigments need to be continuously stirred during application. This is especially important in case of heavy thinning.

Thinner

Hempel's Thinner 08080

Cleaner

Hempel's Thinner 08080

Hempel's Tool Cleaner 99610

Application method

Tool	Thinning max vol.	Application parameters
Airless spray	5%	Nozzle pressure: 175 bar [2500 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	40 micron [1.6 mils]	80 micron [3.2 mils]	80 micron [3.2 mils]
Wet film thickness	61 micron [2.4 mils]	121 micron [4.9 mils]	121 micron [4.9 mils]
Theoretical spreading rate	16 m ² /L [652 sq ft/US gal]	8.2 m ² /L [334 sq ft/US gal]	8.2 m ² /L [334 sq ft/US gal]

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.
- Surface temperature must be above -10°C [14°F] during application and curing.
- Temperature of product must be above 15°C [59°F] during application.
- Optimal paint temperature for proper mixing, pumping and spraying is: 17-23°C [63-73°F].

Relative Humidity:

- Relative humidity must be in the range 55-85% during curing.
- Relative humidity must be in the range 35-90% during application.

Drying and overcoating

Product compatibility

- Previous coat: None.
- Subsequent coat: According to Hempel's Specification.

Drying time

Surface temperature		20°C [68°F]
Surface dry	min	30
Hard dry	hours	3

Determined for dry film thickness 80 micron [3.2 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.
- Remove zinc salts or other contamination before overcoating.
- The surface must be dry and clean prior to application.

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Storage

Shelf life

Ambient temperature	25°C [77°F]
Product	12 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)	17.9 g CO₂e/m²	0.093 lb CO₂e/ft²

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.

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.