LACK– UND KUNSTSTOFF– CHEMIE GMBH

**TECHNICAL INFORMATION**

# GEHOPON-E87-Primer

**Two-pack epoxy primer coatings**
**TL/TP-KOR-Stahlbauten, Blatt 87**

## ■ FIELDS OF APPLICATION

Protective primer coating for subsequent two-pack systems based on epoxy resin or polyurethane. To be used on bridges, tanks and devices, for steel structures exposed to aggressive atmosphere, for nuclear plants and similar objects.

## ■ PRODUCT PROPERTIES

GEHOPON-E87-Primer is based on epoxy resin and shows excellent adhesion on steel and on hot-dip galvanised steel surfaces.
Other surfaces on request.

Because of its composition GEHOPON-E87-Primer is perfectly suitable as primer coating for subsequent two-pack systems.

**Capacities**

Together with suitable two-pack top coatings, protective coating systems can be achieved with excellent resistance against mechanical and chemical stresses, against aggressive atmosphere and the effects of natural weathering and with colour stability.

Temperature resistance (dry heat): 120 °C permanently, up to 150 °C short term

**Test certificates**

- The products have obtained admittance of the Bundesanstalt für Straßenwesen BASt (German Federal Highway Research Institute) in accordance with TL/TP-KOR-Stahlbauten Blatt 87 and are subject to regular external control.

## ■ TECHNICAL DATA

| | GEHOPON-E87-Primer | Curing agent |
|---|---|---|
| **Product number and colours** | E87-102 sand yellow approx. RAL 1002 code number 687.02 | EX-74 |
| | E87-812 red brown approx. RAL 8012 code number 687.06 | |
| **Mixing ratio** | 15 parts by weight | 1 part by weight |
| **Form of delivery** | Ready for brush application after mixture with curing agent. | |
| **Shelf life** | At least 12 months in original cans at normal temperature. | |
| **Appropriate thinner** | V-538 | |

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**Theoretical parameters**

GEHOPON-E87-Primer, sand yellow approx. RAL 1002, E87-102

| Density (g/mL) | Solid content (weight %) | VOC-content (weight %) | VOC-content per 10 µm DFT* (g/m²) | Solid content by volume (%) | Solid content by volume (mL/kg) |
|---|---|---|---|---|---|
| 1.65 | 81 | 19 | 4,9 | 64 | 390 |
| DFT (µm) | Calculated wet-film thickness (µm) | Consumption (kg/m²) | | Spreading rate (m²/kg) | |
| 80 | 124 | 0.206 | | 4.8 | |

Remarks

- All values are relevant fort he mixture in case of two-pack materials
- DFT: Dry film thickness
- All values named are approximate values and relevant fort he quality (colour). The values may differ slightly for other colours.

* baseline for calculation: consumption in g/m² at DFT 10 µm

**Notes referring to Directive 2004/42/EC „Decopaint-Directive“**

| Subcategory as referred to in Annex IIA | VOC limit values (Phase II from 2010) | Max. VOC content of the product in its ready for use condition (including the max. amount of diluents as given in “Application methods” ) |
|---|---|---|
| J (“Two-pack reactive performance coatings”) Type SB | 500 g/l | < 500 g/l |

**Coating systems**

| | | |
|---|---|---|
| **Substrate** | Steel | |
| **Surface preparation** | Blast-cleaning in preparation grade Sa 2 ½ in accordance with DIN EN ISO 12944-4 | |
| | **Product** | **NDFT (µm)** |
| **Primer coating** | GEHOPON-E87-Primer | 80 |
| **Intermediate coating** | GEHOPON-E87-Intermediate or WIEREGEN-M87-Intermediate | 80 |
| **Top coating** | WIEREGEN-M87 | 80 |

The coating system/s named are examples proved in practice which usually can be modified. The choice of coating materials as well as their number and film thickness depends on the stress to be expected, existing specifications and the methods of application.

Please take further notes from the “Planungshilfen” (planning helps) in the TL/TP-KOR Stahlbauten Annex G, Blatt 87.

## ■ INSTRUCTIONS FOR APPLICATION

**Surface preparation**

Steel surfaces:
Blast-cleaning in accordance with DIN EN ISO 12944-4, surface preparation grade Sa 2 ½.

Hot-dip galvanised steel surfaces:
Dry and clean surfaces are essential for good adhesion of coating materials. Besides contaminants like grease, oil, dust, etc. especially zinc salts (zinc corrosion products) have to be removed totally.
For hot-dip-galvanised steel parts, which shall be exposed to natural weathering or condensation, a surface preparation by sweep-blasting (in accordance with DIN EN ISO 12944-4) is necessary. Sweep-blasted parts must show a mat surface.
Remark: Zinc salts are forming relatively quick and cannot - or hardly - be recognised at the beginning.

Coatings:
Adhesion-reducing substances must be removed.

**Air and surface temperature**

Optimal results at temperatures of 15 to 25 °C, not below 5 °C.

**Relative humidity**

Max. 80 % relative humidity

The surface temperature of the parts to be coated must be at least 3 °C above the dew point of the surrounding air throughout the application. (see basic specification for corrosion protection DIN EN ISO 12944-7)

## Comments on processing

**Mixing**

Mix thoroughly with the enclosed quantity of curing agent, preferably with a mechanical mixer. Material must be stirred again after 15 minutes. Then the mixture is ready for use.

**Application methods**

| Means of application / parameters | recommended nominal dry film thickness per operation | Addition of thinner V-538 |
|---|---|---|
| Airless spraying<br>Nozzle diameter: 0.33 to 0.58 mm<br>Material pressure: 150 to 250 bar | 80 to 100 µm | 1 to 3 % |
| High pressure/air spraying<br>Nozzle diameter 1.5 to 2.0 mm<br>Pressure 3 to 4 bar | 80 to 100 µm | 4 to 6 % |
| Roller coating / brush application | 40 to 60 µm | up to 1 % |
| In case of roller coating / brush application several operations can be necessary to obtain a uniform layer thickness and appearance. Among other things this depends on the colour, the processing procedures and equipment, the ambient conditions and the geometry of the parts to be coated. | | |

Remarks

- The values above are related to a temperature of approximately 20 °C and are recommendations respectively approximate values.
- In practice it may be necessary to make modifications.

**Cleaning of equipment**

With thinner V-538

**Pot life**

| Air temperature | + 10 °C | + 20 °C | + 30 °C |
|---|---|---|---|
| Max. pot life | 8 h | 6 h | 4 h |

**Over-coating interval**

| Air temperature | | + 10 °C | + 20 °C | + 30 °C |
|---|---|---|---|---|
| Waiting period | minimum | 15 h | 10 h | 6 h |
| | | | | |

**Drying and curing times**
Drying stage in accordance with DIN 53150 at 80 µm DFT

| Air temperature | + 7 °C | + 23 °C |
|---|---|---|
| Drying stage 1 (dry to touch) | ≤ 2 h | ≤ 1 h |
| Drying stage 6 (tack free) | ≤ 20 h | ≤ 10 h |

## ■ SAFETY MEASURES

The curing agent produces an alkaline reaction on skin and mucous membrane (eyes). Soiling must be avoided. In case of direct contact clean thoroughly with water and soap.

The relevant data concerning safety measures can be found in the material safety data sheet of this product.
The valid issue of the material safety data sheet is available from our website www.geholit-wiemer.de.