

- **FIELDS OF APPLICATION** Protective primer coating for subsequent two-pack systems based on epoxy resin or polyurethane. To be used on bridges, on steel structures for tanks and devices, for plants and constructions exposed to aggressive atmosphere, for nuclear plants and similar objects.
- **PRODUCT PROPERTIES** GEHOPON-E45-Metallgrund is based on epoxy resin and shows excellent adhesion to steel and hot-dip galvanised steel surfaces. Other surfaces on request. Due to its composition GEHOPON-E45-Metallgrund is perfectly suitable as primer coating for subsequent two-pack systems.

**Capacities** Together with suitable two-pack top coatings, corrosion protection systems can be achieved with excellent mechanical resistance, resistance against chemicals and aggressive atmosphere as well as with light and weather resistance.

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

- **PRODUCT DATA**
- |                                   |   |                     |
|-----------------------------------|---|---------------------|
|                                   | <u>GEHOPON-E45-Metallgrund</u>                                  | <u>Curing agent</u> |
| <b>Product number and colours</b> | E45-102 sand yellow approx. RAL 1002<br>other colours on demand | EX-4                |
| <b>Mixing ratio</b>               | 6 parts by weight   | 1 part by weight    |
| <b>Form of delivery</b>           | Ready for brush application after mixture with curing agent     |                     |
| <b>Shelf life</b>                 | At least 12 months in original cans at normal temperature       |                     |
| <b>Suitable thinner</b>           | V-538   |                     |

**Theoretical parameters** GEHOPON-E45-Metallgrund, sand yellow approx. RAL 1002, E45-102

Density (g/mL)	Solid content (weight %)	VOC-content		Solid content by volume	
		(weight %)	per 10 µm DFT* (g/m <sup>2</sup> )	(%)	(mL/kg)
1.35	70	30	7.6	53.5	396
DFT (µm)	Calculated wet-film thickness (µm)	Consumption (kg/m <sup>2</sup> )		Spreading rate (m <sup>2</sup> /kg)	
80	147	0.204		4.9	

- Remarks
- All values are relevant for the mixture in case of two-pack materials
  - DFT: Dry film thickness
  - All values named are approximate values and relevant for the quality (colour).  
The values may differ slightly for other colours.
- \* baseline for calculation: consumption in g/m<sup>2</sup> 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

<b>Substrate</b>	Steel	
<b>Surface preparation</b>	Blast-cleaning in preparation grade Sa 2 ½ in accordance with EN ISO 12944-4	
	<b>Product</b>	<b>NDFT (µm)</b>
<b>Primer coating</b>	GEHOPON-E45-Metallgrund	80
<b>Intermediate coating</b>	GEHOPON-E87-ZB or WIEREGEN-M87-ZB in 1 to 2 working operations	80 to 160
<b>Top coating</b>	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.

### ■ INSTRUCTIONS FOR APPLICATION

#### Surface preparation

##### Steel surfaces:

Blast-cleaning in accordance with 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 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 10 °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 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 working operation	Addition of thinner V-538
Airless spraying Nozzle diameter: 0.33 to 0.58 mm Material pressure: 150 to 250 bar	80 to 100 µm	1 to 3 %
High pressure/air spraying Nozzle diameter 1.5 to 2.0 mm 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 working 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 rough guides. 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
Maximum pot life	8 h	6 h	4 h

**Waiting time between working operations**

Air temperature	+ 10 °C	+ 20 °C	+ 30 °C
Waiting time	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)	≤ 1 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](http://www.geholit-wiemer.de).

The statements made here are based on the present state of our knowledge. We do not assume liability for damages resulting from the use of the material or from any advice given by our employees. In this respect, any advice given by our employees has to be seen as not binding. The processor is responsible for the supervision of construction, the maintaining of process guidelines and the observation of the established rules of techniques, even if our employees are present at the time our material is being applied. This information is subject to modifications due to technical improvements. The latest edition of this information replaces all previous issues.