LACK– UND KUNSTSTOFF– CHEMIE GMBH

TECHNICAL INFORMATION

GEHOPON-E87-Zinc

Two-pack epoxy zinc-rich primer coating for steel surfaces
TL/TP-KOR-Stahlbauten, Blatt 87

■ FIELDS OF APPLICATION

High-grade zinc-rich primer coating for corrosion protection of blast-cleaned steel surfaces, e.g. for steel girder construction, containers and similar objects.
For some objects in steel girder construction GEHOPON-E87-Zinc is used as protective coating system without top coatings.

■ PRODUCT PROPERTIES

GEHOPON-E87-Zinc is a highly pigmented zinc-rich primer based on epoxy resin.
On blast-cleaned steel surfaces the material provides excellent adhesion, temperature stability as well as outstanding corrosion protection capacities.

GEHOPON-E87-Zinc can be coated over with a multitude of different top coatings. However, as with all zinc-rich primers, the top coatings have to be „compatible“ to zinc.

Interesting information about zinc dust primers can be found in „Merkblatt Nr. 4” published by the Bundesausschuss Farbe und Sachwertschutz, Frankfurt.

Capacities

After curing, GEHOPON-E87-Zinc is resistant to oils and greases, largely resistant to solvents as well as resistant to abrasion.

Because of its good resistance to solvents, GEHOPON-E87-Zinc is not only used under two-pack paint systems but also under coating materials containing aggressive solvents (e.g. PVC top coatings).

Temperature resistance (dry heat) up to: 160 °C permanent
200 °C short time

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.

■ PRODUCT DATA

	GEHOPON-E87-Zinc			Curing agent
Product number and colour	E87-790	grey	code number 687.03	EX-34
	E87-390	dyed red	code number 687.04	
	E87-690	dyed green	code number 687.05	
Mixing ratio	15 parts by weight			1 part by weight
Form of delivery	Ready for application after mixture with curing agent			

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Shelf life At least 12 months in original cans at normal temperature

Suitable thinner V-538

Theoretical parameters

GEHOPON-E87-Zinc grey, E87-790

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)
2.5	85	15	6.7	56	224
DFT (µm)	Calculated wet-film thickness (µm)	Consumption (kg/m²)		Spreading rate (m²/kg)	
80	143	0.357		2.8	

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-Zinc	70
Intermediate coating	GEHOPON-E87-Intermediate or WIEREGEN-M87-Intermediate in 1 to 2 working operations	80 to 160
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. G-grade medium roughness in accordance with DIN EN ISO 8503-1.

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 working operation	Addition of thinner V-538
Airless spraying Nozzle diameter: 0.38 to 0.63 mm Material pressure: 150 to 300 bar	60 to 80 µm	up to 1 %
High pressure/air spraying Nozzle diameter: 1.5 to 2.0 mm Pressure 4 to 5 bar	60 to 80 µm	1 to 2 %
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
Max. pot life	9 h	8 h	6 h

Over-coating interval

Air temperature		+ 10 °C	+ 20 °C	+ 30 °C
Waiting time	minimum	10 h	5 h	2 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)	≤ 16 h	≤ 8 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.