TECHNICAL INFORMATION

GEHOPON-E94-ZB

2C-EP-HS Intermediate
TL/TP-KOR-Stahlbauten, Blatt 94

■ FIELDS OF APPLICATION

For high-grade corrosion protection of steel structures which are exposed to high stresses caused by aggressive atmosphere, de-icing salt, condensation etc., e.g. for chemical plants, harbour constructions, street and railway constructions. The number of layers depends on the respective stress.

■ PRODUCT PROPERTIES

GEHOPON-E94-ZB is a two-pack material based on epoxy resin with micaceous iron oxide (MIO) and pigments with a high barrier-effect, is a product with a high solid content by volume.

The material is preferably applied by airless spraying with dry film thicknesses of 80 to 160 µm per working operation. We recommend Airmix spraying for the coating of components with rough edges and for filigree parts. Brush application or roller coating (up to 80 µm) is also possible, however in this case a specific surface texture will be obtained.

After suitable surface preparation (see “Instructions for application”), hot-dip galvanised steel parts can also be coated directly with GEHOPON-E94-ZB.

Capacities

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

Temperatures resistance (dry heat): 120 °C (permanent)
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 94 and are subject to regular external control.

■ PRODUCT DATA

	GEHOPON-E94-ZB	Curing agent
Product number and colours	E94-7602 grey DB 702, code number 694.12 (other colours on demand)	EX-94
Mixing ratio	7 parts by weight	1 part by weight

Form of delivery Ready for application after mixture with curing agent.

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

Suitable thinner V-568

Theoretical parameters

GEHOPON-E94-ZB, E94-7602

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)
1.85	92	8	1.8	83	450

DFT (µm)	Calculated wet-film thickness (µm)	Consumption (kg/m²)	Spreading rate (m²/kg)
80	96	0.178	5.6

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/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 EN ISO 12944-4	
	Product	**NDFT (µm)**
Primer coating	GEHOPON-E87-Zink GEHOPON-E94-Metallgrund	70 80
Intermediate coating(s)	GEHOPON-E94-ZB	160
Top coating	WIEREGEN-M94	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

Coatings

Adhesion-reducing substances must be removed.

Hot-dip galvanised steel surfaces:

If GEHOPON-E94-ZB is to be applied directly on hot-dip galvanised surfaces please observe the following instructions:
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 matted surface.
Remark: Zinc salts are forming relatively quick and cannot - or hardly - be recognised at the beginning.

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 EN ISO 12944-7)

We will recommend a material heating if air, surface and material temperature are between 5 and 15 °C.

The influence of moisture during the curing process can result in discolouring, blooming or a slight occurrence of scars.

Comments on processing

Mixing

Mix thoroughly with the enclosed quantity of curing agent, preferably with a mechanical mixer. Material must be stirred again after 10 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 0.74 mm Material pressure: 200 to 350 bar	80 to 160 µm	2 to 4 %
Airmix spraying Nozzle diameter: 0.33 to 0.48 mm Material pressure: 150 to 250 bar Atomiser pressure: 3 to 4 bar	80 to 160 µm	2 to 4 %
Roller coating / brush application	60 to 80 µm	up to 2 %
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

Immediately after use with thinner V-568

Pot life

4 to 6 hours (depending on temperature)

Drying and curing times At a temperature of 20 °C and a dry film thickness of 80 µm

Dry to touch: After 1.5 to 2 hours
Tack free: After 12 to 14 hours

Waiting time between working operations

Air temperature		5 to 10 °C	10 to 15°C	15 to 20 °C
Waiting time	minimum	24 to 36 h	16 to 24 h	10 to 16 h

■ SAFETY MEASURES

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.