

Technical Data Sheet

Corro-Protect EP 5816

Universally useable zinc-free powder primer with an epoxy base with excellent corrosion protection



Field of application

In combination with weather-resistant powder coating systems for all areas where both is required long-term corrosion protection and highest optical demands: e.g. Construction- and agricultural machines, door- and fence-systems, garage doors, gas cylinders, lawnmowers, garden furniture, sound insulation walls, vending machines etc.

Properties

- excellent corrosion protection
- very good protection against filiform corrosion on suitably passivated aluminium
- high resistance to chemicals
- very good mechanical parameters
- after pre-treatment suitable for all common metallic surfaces
- after full curing/cross-linking, the paint film is physiologically safe

Approvals/Permits

Test certificate according to DIN EN ISO 12944 Part 6, corrosivity category C5 high; tested in two-layer coat with Brillux Universal Polyester Powder 5940 or 5910 (Institut für Korrosionsschutz Dresden GmbH)

Test certificate according VG 95211, fulfil the requirements of German army -TL 8010-001 Klasse IV Typ 2 (approval no. WIWeB 440.17.01P42H7.1)

The approval includes the use of the primer coating system in conjunction with solvent-based top coats specified in the approval.

Technical Data

Basis	Epoxy resin
Color	Light gray
Degree of gloss	glossy
Density	1.56 to 1.62 g/cm ³ (in accordance with DIN ISO 8130-2)
Theoretical coverage	approx. 630 m ² /kg (with 1 µm dry film thickness)

Technical Data

Grain distribution	< 12 % < 10 µm 39 to 45 % < 32 µm > 94 % < 90 µm (laser measuring)
Cross-hatch test	Gt 0 (in accordance with DIN EN ISO 2409)
Erichsen cupping	≥ 5 mm (in accordance with DIN EN ISO 1520)
Buchholz hardness	≥ 80 (in accordance with DIN EN ISO 2815)
Pencil hardness	2 H (Wolff Wilborn Type 291)
Salt spray test	Corrosion at the scribe ≤ 1,5 mm (in accordance with DIN EN ISO 4628-8), On SA 2 ^{1/2} sandblasted steel > 1.440 h (in accordance with DIN EN ISO 9227-NSS) ¹⁾
Condensation water test	Degree of blistering 0 (S0) (in accordance with DIN EN ISO 4628-2) On SA 2 ^{1/2} sandblasted steel > 1.000 h (in accordance with DIN EN ISO 6270-2) ¹⁾
Impact test	reverse: ≥ 10 ip direct: ≥ 20 ip (in accordance with ASTM D 2794-69)
Labeling	See current safety data sheet.

¹⁾ in combination with a suitable top coat

Coating suggestion

Substrates ²⁾	Prime coat ³⁾	Top coat ⁴⁾
Steel blast-cleaned (degree of purity at least SA 2 ^{1/2} according to DIN EN ISO 12944, Part 4) Aluminium suitable passivated Galvanized steel Suitable passivated or swept	Corro Protect EP 5816 (light-gray) 60 to 80 µm	Industrial Polyester Powder 5900, 5901, 5902 approx. 60 µm
		Industrial Polyester Powder 5903, 5905 approx. 80 µm
		Industrial Polyester Powder 5904 approx. 60 µm
		Universal Polyester Powder 5940, 5941, 5910, 5911 approx. 60 µm
		Solvent-based top coats according WIWeB approval

²⁾ Generally, the substrate shall be free from grease, oil, separating and drawing agents as well as corrosion products and other impurities and pre-treated according to the corrosion protection requirements.

³⁾ The adhesion between the two powder layers has to be checked in a representative pilot test when using a directly fired gas oven. Due to loaded burning residues on the primer layer the intermediate layer adhesion to the top coat may be reduced.

⁴⁾ depending on color

Process

Compatibility Different batches or powder coat qualities cannot always be mixed/ are not always compatible to one another. Surface defects such as gloss reduction, specks, crater, orange peel effect, etc., may result from incompatibility. To be sure, appropriate tests shall be carried out before application.

Application temperature 15 to 25 °C

Humidity < 75 % relative humidity

Application

Generally, make sure the substrate is grounded properly. The fluidizing, conveying and dosing air must be free from oil and condensation water. In order to obtain a uniform coating quality, a constant fresh/recovered powder ratio should be maintained. The recovery powder portion in the circulation system should normally be less than 35 %. Please note our Technical Information "Textured coating powders – Important information on use of textured coating powders". When processing metallic powder coats, special processing instructions must be followed. Also refer to "Processing Instructions for Brillux Metallic - Powder Coats".

Corona application Using appropriate coating programs depending on the parts' geometry and application situation (if applicable, using the current flow restriction).

For application systems without current flow restriction:

Voltage:

70 to 100 kV (for the first coating)

40 to 50 kV (for overcoating)

Tribo application possible

Curing conditions

Duration	Object temperature
15 to 30 min.	at 170 °C
10 to 20 min.	at 180 °C
7 to 12 min.	at 200 °C

Alternatively, the complete curing can be proceeded when curing the top coat. The primer has to be gelled before (8 to 10 min. at 110 to 130 °C object temperature). The full curing has to be done in accordance to the specifications of the top coat, but at least to the curing conditions of the primer.

Container sizes

20 kg, 500 kg (25 polyethylene bags of 20 kg each)
Further container sizes available on request.

Shelf life

6 months after receipt.

Store in a sealed container in a dry place and at room temperature (at most 25 °C). Protect from heat sources and direct sunlight.

Minimum shelf life Refer to label

Remark

This Technical Data Sheet is based on intense development work and many years of practical experience. The contents do not constitute any contractual relationship. The user/buyer is not released from his/her obligation to test our products for suitability for the intended application. In addition, our General Terms and Conditions shall apply.

As soon as a new edition of this Technical Data Sheet is issued, the previous specifications become invalid.

If you need the current version, please contact your Brillux consultant, Version 10.

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