

Technical Data Sheet

Epoxy Powder EP

5830, 5830Z gloss

5831 silk gloss

5832 dull matt to silk matt

Powder Coating with KTW examination (only 5830Z) epoxy-based for interior use



Field of application

Wherever the highest demands are placed on chemical resistance and/or corrosion protection of a coating, e.g. laboratory equipment, wire products, lamp housings, brake lines, cast iron pipes, engine and gearbox parts, etc. Not suitable for exterior use.

Properties

- Extremely good corrosion protection
- excellent chemical resistance
- very high surface hardness
- good to very good mechanical resistance
- good to very good levelling properties
- after corresponding pretreatment suitable for all standard metallic surfaces
- after complete curing or cross-linking, the paint film is physiologically harmless

Approvals

5830Z Drinking water hygiene tests according to DIN EN ISO 12873-1 and DIN EN 1420 (Assessment basis for plastics and other organic materials in contact with drinking water ("KTW-BWGL", Annex B „Organic Coatings“))

According to test report K-351366-21-Kr/st, Hygiene-Institut des Ruhrgebiets, Gelsenkirchen, the physical/chemical requirements of KTW evaluation basis ("KTW-BWGL") to tubes (P1) with inside diameter ≥ 300 mm in cold water and hot water contact (23 °C and 60 °C) are fulfilled. The requirements for the formulation are met (color ranges blue, green, grey and black).

Material tests for the promotion of microbial growth according to DIN EN 16421, method 2 ("Influence of materials on water intended for human consumption")

According to test report W-349179-21-SI/Krü and W-349180-21-SI/Krü, Hygiene-Institut des Ruhrgebiets, Gelsenkirchen, from a microbiological point of view the requirements regarding the promotion of microbial growth according to "KTW-BWGL" (DIN EN 16421, method 2, measured by means of the volume of the biofilm) are fulfilled. The requirements for the formulation are met (color ranges blue and grey; due to the similarity of the formulation, transferability of the results to the shade ranges green and black can be expected).

Technical data

Basis	Epoxy resin
Colors	On request
Degree of gloss	5830, 5830Z gloss, > 70 GU/60° 5831silk gloss, 36 to 70 GU/60° 5832 dull matt to silk matt < 36 GU/60° (in accordance with DIN EN ISO 2813)
Density	1.45 to 1.70 g/cm ³ (in accordance with DIN EN ISO 8130-2) ¹⁾
Theoretical coverage	approx. 635 m ² /kg (at 1 µm dry film thickness) ¹⁾
Grain distribution	< 11 % 10 µm 35–50 % < 32 µm > 85 % < 90 µm (laser measuring instrument)
Cross hatch	Gt 0 C (according to DIN EN ISO 1520)
Erichsen cupping test	≥ 3 to 6 mm (according to DIN EN ISO 1520) ¹⁾
Buchholz hardness	≥ 90 (according to DIN EN ISO 2815)
Salt spray test	delamination at scribe ≤ 2 mm (according to DIN EN ISO 4628-8) on iron-phosphated steel > 250 h (according to DIN EN ISO 9227-NSS)
Condensation water test	degree of blistering 0 (S0) (according to DIN EN ISO 4628-2) on iron-phosphated steel > 250 h (according to DIN EN ISO 6270-2)
Impact test	reverse: ≥ 10 to 60 ip ²⁾ direct: ≥ 20 to 60 ip ²⁾ (according to ASTM D 2794-69)
Labeling	See current safety data sheet

1) depending on color
2) depending on gloss grade

Coating recommendation

Substrates ³⁾	Prime coat	Top coat ⁴⁾
Aluminium suitable passivated Steel preferably iron or zinc-phosphated Galvanized steel suitable passivated or swept	Does not apply.	Epoxy Powder EP 5830, 5830Z, 5831, 5832 60 to 80 µm ⁵⁾

³⁾ Generally, the substrate shall be free from grease, oil, separating and drawing agents as well as corrosion products and other impurities (that especially applies to the use of directly fired gas ovens) and pre-treated according to the corrosion protection requirements.

⁴⁾ For the above applications, generally single-coat application on appropriately pretreated substrate.

⁵⁾ 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
Air humidity	< 75 % r.h.

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 %. When processing metallic powder coats, special processing instructions must be followed. Also refer to "Processing Instructions for Brillux Metallic - Powder Coats".

Corona application	Depending on geometry of parts and application use corresponding coating-programs (as the case may be with utilisation of limitation of spraying current). For application-systems without limitation of spraying current: voltage: 70 to 100 kV (in the case of first coat) 40 to 50 kV (in the case of recoating)
Tribo application	Possible

Curing conditions

	Duration	Object temperature
5830, 5831, 5832	25 to 45 min.	at 170 °C
	13 to 25 min.	at 180 °C
5830Z	15 to 30 min.	at 180 °C
	10 to 20 min.	at 190 °C
	8 to 15 min.	at 200 °C

Epoxy resin based systems show a relatively strong sensitivity to thermal yellowing. This applies in particular for use in directly heated gas ovens. A suitability test must therefore be carefully performed in advance.

Packaging

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