

# Technical Data Sheet

## Premium Polyester Powder 5931

Highly weather resistant coating powder with GSB approval Florida 3 (no. 125 i) and Qualicoat approval Class 2 (no. P-1974) for exterior use in extreme climatic conditions, silk gloss (50–62 GU/60°-A.)



### Field of application

For interior and exterior coatings meeting the highest qualitative and optical demands, e.g. for facade coatings, window frames, large scale constructions, truck attachments, agricultural machines, fence systems, garage doors, sound insulation walls etc.

### Approvals/permits

Qualicoat approval: class 2, approval-no.: P-1974 (Verein für Qualitätskontrolle in der Lackier- und Beschichtungsindustrie).

GSB approval: Florida 3 Coating Material Aluminium, approval no.: 125 i (Gütegemeinschaft für die Stückbeschichtung von Bauteilen)

Product approvals: Deutschen Bahn for coating powder in accordance with DBS 918 340 technical interior and exterior use aluminum, technical interior use steel and technical exterior use steel.

### Properties

- maximum weather resistance
- excellent gloss and color stability
- good protection against corrosion
- good chemical resistance
- very high degree of surface hardness
- good mechanical values
- very good cleanability
- good levelling properties
- after pre-treatment suitable for all common metallic substrates
- limited adhesion of wet paints, screen printing inks, glues, sealants, etc. For this reason, proper adhesion must be verified in each specific case before application.
- once fully cured, the paint film is physiologically safe

<b>Basis</b>	Polyester resin
<b>Color</b>	Due to the limited availability of weather-proof pigments, the product range only includes a limited number of different tints.
<b>Degree of gloss</b>	Silk-gloss, 50 to 62 GU/60° (in accordance with to DIN EN ISO 2813) The measured value may differ for metallic colors.
<b>Density</b>	1,45 to 1,70 g/cm <sup>3</sup> (in accordance with DIN ISO 8130-2) <sup>1)</sup>
<b>Theoretical Coverage</b>	approx. 640 m <sup>2</sup> /kg (with 1 µm dry layer) <sup>1)</sup>
<b>Grain distribution</b>	< 11 %      < 10 µm 35–50 %    < 32 µm > 85 %    < 90 µm (Laser measuring)
<b>Cross-hatch test</b>	Gt 0 C (in accordance with DIN EN ISO 2409)
<b>Erichsen cupping</b>	≥ 5 mm (Tape test) (in accordance with DIN EN ISO 1520)
<b>Buchholz hardness</b>	≥ 90 (in accordance with DIN EN ISO 2815)
<b>Pencil hardness</b>	2 H (Wolff Wilborn Typ 291)
<b>Salt spray test</b>	Delamination at the scribe ≤ 1 mm (in accordance with DIN EN ISO 4628-8) on aluminium substrate <sup>2)</sup> > 1.000 h (in accordance with DIN EN ISO 9227-NSS)
<b>Condensation water test</b>	Degree of blistering 0 (S0) (in accordance with DIN EN ISO 4628-2) on aluminium substrate <sup>2)</sup> > 1.000 h (in accordance with DIN EN ISO 6270-2)
<b>Accelerated weathering QUV-B/SE</b>	After 600 h residual gloss ≥ 50 % of initial gloss (in accordance with DIN EN ISO 16474-3) (nach DIN EN ISO 16474-3)
<b>Outdoor weather exposure Florida (5° south)</b>	After 3 years residual gloss ≥ 50 % of initial gloss (in accordance with ISO 2810)
<b>Impact test</b>	reverse: ≥ 20 ip (Tape test) direct: ≥ 20 ip (Tape test) (in accordance with ASTM D 2794-69)
<b>Labeling</b>	See current safety data sheet.

<sup>1)</sup> depending on color

<sup>2)</sup> With suitable chrome free passivation

## Coating suggestion

Substrates <sup>3)</sup>	Prime coat	Top coat
<b>Aluminium/ Galvanized steel</b> preferably yellow-chromated (according to DIN EN 12487) or chromium-free no-rinse pretreatment	Aluminum normally not necessary  Galvanized steel <sup>4)</sup> Corro Protect EP 5816 light gray 60 to 80 µm	Premium Polyester powder 5931 approx. 80 µm <sup>5)</sup>
<b>Steel</b> blasted (degree of purity at least SA 2 ½ according to DIN EN ISO 12944, Part 4) or zinc-phosphated	Steel, blasted <sup>4)</sup> Zinc Prime Powder EP 5815 dark gray 60 to 80 µm  Steel, zinc-phosphated <sup>4)</sup> Corro Protect EP 5816 light gray 60 to 80 µm	

<sup>3)</sup> 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 gasovens) and pretreated according to the corrosion protection requirements.

<sup>4)</sup> At reduced demands on corrosion protection the prime coat is not always necessary.

<sup>5)</sup> 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

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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	Objekt temperature
25 to 40 Min.	at 170 °C
20 to 35 Min.	at 180 °C
15 to 30 Min.	at 190 °C
10 to 25 Min.	at 200 °C

## Container sizes

20 kg single cardboard box  
500 kg cardboard box containing 25 polyethylene bags à 20 kg  
Further container sizes available upon request.

## Shelf life

24 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 15.

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