Technical Data Sheet

Universal Polyester Powder 5949

Universal use, coarse texture coating powder without circulation stability, silk-gloss

Field of application

Interior and exterior coatings meeting the highest qualitative and optical demands, e.g. construction machines, fence systems, fire-proof doors, fire extinguishers, garden furniture, sound insulation walls, hospital beds, lamps, cash boxes, safes, automatic machines etc.

Properties

- very good weather resistance
- very high gloss and color stability
- good corrosion properties
- high degree of surface hardness
- very good mechanical parameters
- covers uneven areas and substrate defects
- after appropriate pre-treatment suitable for all common metallic substrates
- Due to the material-specific properties, no recovery stability is given and processing is only possible via a separate loss cabin with subsequent careful cleaning.
- after full curing/cross-linking, the paint film is physiologically safe

Technical Data

Basis	Polyester resin
Color	Common color systems according to RAL Classic. Further colors and special metallics available upon request.
Degree of gloss	Semi-gloss
Density	1.40 to 1.70 g/cm³ [1)] (in accordance with DIN ISO 8130-2)
Theoretical coverage	approx. 645 m²/kg [1)] (with 1 µm dry film thickness)
Grain distribution	< 11 % < 10 µm 35 to 50 % < 32 µm > 85 % < 90 µm (laser measuring)
Cross-hatch test	Gt 0 C (in accordance with DIN EN ISO 2409)
Erichsen cupping	≥ 3 mm (in accordance with DIN EN ISO 1520)
Salt spray test	Delamination at the scribe ≤ 1 mm (in accordance with DIN EN ISO 4628-8), On aluminium substrate[2)] > 1.000 h (in accordance with DIN EN ISO 9227-NSS)

Technical Data

Condensation water test	Degree of blistering 0 (S0) (in accordance with DIN EN ISO 4628-2) On aluminium stubstrate[2] > 1.000 h (in accordance with DIN EN ISO 6270-2)
Accelerated weathering QuV-B/SE	after 300 h residual gloss ≥ 50 % of initial gloss[3] (in accordance with DIN EN ISO 16474-3)
Impact test	reverse: ≥ 10 ip direct: ≥ 20 ip (in accordance with ASTM D 2794-69)
Labeling	See current safety data sheet.

1) depending on color
2) with suitable chromium-free passivation
3) Since the gloss values measured for coarse textured powder coatings are dependent on the texture, a gloss assessment must also be carried out visually.

Coating suggestion

Substrates[4]	**Prime coat[5]**	**Top coat[6]**
Aluminium preferably yellow- or green-chromated (according to DIN EN 12487) or chromium-free no-rinse pretreatment **Steel** preferably iron or zinc-phosphated **Cast iron** **Galvanized steel** **etc.**	Corro Protect EP 5816 (light-gray) 60 to 80 µm	Universal Polyester Powder 5949 80 to 120 µm [7]

4) Generally, the substrate must 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.
5) When using a direct fired gas oven the adhesion between the two powder layers has to be checked in a representative pilot test. If a directly heated gas furnace is used, the adhesion between the two powder layers has to be checked may be reduced due to the combustion products applied. The bond strength must therefore be tested in a representative preliminary test. Due to loaded burning residues on the primer layer the inter-coat adhesion to the top coat may be reduced.
6) or single layer, provided that substrate has been pretreated accordingly
7) 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. In order to avoid separation of the effect-generating components of the powder lacquer, we recommend processing via fluidising containers. If no fluidising container is available, the user should check whether processing directly from the container is possible without switching on the vibration function.
Application temperature	15 to 25 °C
Humidity	< 75 % relative humidity

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Application

Generally, make sure the substrate is grounded properly. The fluidizing, conveying and dosing air must be free from oil and condensation water.

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

Not possible

Curing conditions

Duration	Object temperature
20 to 50 min.	at 170 °C
10 to 40 min.	at 180 °C
8 to 30 min.	at 190 °C

This quality is suitable for directly heated gas furnaces.

Container sizes

20 kg

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 3.

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