SERIES 580

HIGHLY REACTIVE POWDER COATING FOR THE DECORATIVE COATING OF GLASS

Typical Applications

Industrial piece coating of glass such as float glass, tempered safety glass and laminated safety glass

Features

- highly reactive
- good chemical resitance
- very good mechanical properties
- good storage stability
- interior applications

Technical Data

Specific Gravity (ISO 8230-2)	1.2-1.7 g/cm³ depending on pigmentation
Theoretical Coverage	at 80 µm coating thickness 7.3-9.6 m²/kg depending on density, see guideline no. 1072
Storage Stability	Use before: see printed date on product label; under dry conditions at no more than 25 °C, avoid direct and extended heat exposure.

Storage stability of blanket orders manufactured customer specific and stored over a longer period of time according to storage agreements is calculated starting from the production date.

Solid content	100%
Packaging	in 20 kg cartons

Finish | Colors

- micro texture, matte and semi-glossy
- smooth design, matte and semi-glossy
- metallic-effects
- transparent

On special demand fine textures, rough textures and orange peel surfaces are available.
Surface textures depend on powder coating formulation and may be influenced by oven temperature settings too.

Micro textures in selected colours are available from stock from 20 kg. Custom colours on request.

Product data sheet

Pre-treatment

All surfaces to be coated should be free of dust and grease. The substrates should be pre-treated in an appropriate way to achieve optimum adhesion. A typical pre-treatment for maximum adhesion is following the below process steps:

1. Washing with purified water
2. Application of TIGER Pre-Treatment Series 515 with flame process
3. Application of TIGER Adhesion Promoter Series 518

Powder application

Corona guns with electronic control are used most commonly. The powder application should be performed using automatic guns and substrate scanning systems. The applied coating thickness should be controlled within small tolerances.

Usually the powder is applied from top to bottom on a horizontal conveyor system using an electrically conductive belt.

Powder should always be applied on the „fire side“ of the glass and not on the tin side.

Safety

Safety instruction can be found in the material safety data sheet.

Curing conditions

Depending on process and oven design different curing times may be reached. The here mentioned values are indicators only and have to be verified on the actual coating line. Due to the poor thermal conductivity of glass curing by IR ovens will lead to best results. The temperature values given here indicate the temperatures on the surface of the glass or the actual temperature of the powder coating layer itself (object temperature).

minimum 5 min dwell time at 135 °C
or
minimum 3 min dwell time at 150 °C

The curing conditions have to be carefully controlled as resulting surface quality depends strongly on the degree of cure. Insufficiently cured powder coatings are brittle and tend to crack or chip off. Exceptional risk exists during exposure to moisture leading to blistering and loss of adhesion. Loss of adhesion may occur after several months of use. For measurement of the degree of cure chemical resistance tests are not fully suitable and only of limited use.
Above testing surface qualities according to industry standards it is advised performing additional moisture and aging tests on coated substrates.

Test results

Float glass pre-treated with Series 515 flame treatment and Series 518 adhesion promoter and powder coated with the TIGER Drylac® Glass system and cured in IR ovens were tested.

Test	Standard	Requirements	Results
Condenswater Resistance	EN1096-2 (AppendixB)	Class A (21 days or 504 h)	passed
Acid Resistance	EN1096-2 (Appendix C)	Class A (5 cycles)	passed
Resistance to Neutral Salt Spray	EN1096-2 (Appendix D)	Class A (21 days or 504 h)	passed
Abrasion Resistances	EN1096-2 (Appendix E)	Class A (500 cycles)	passed
Chemical Resistance	DIN 68861-1	1B	passed

Series 580

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Series 580

certified according to
EN ISO 9001 / 14001

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