

REAFREE® 17091

POWDER COATINGS / POLYURETHANE

TECHNICAL DATA SHEET

Product Application details

Saturated Hydroxylated polyester for combination with blocked isocyanate resin and polyurethodione. Suitable for the formulation of heat transfer matt paints in combination with REAFREE 17014 or 17015. Use as modifier to increase cross-linking density.

Performance Benefits

- Excellent flow.
- Excellent mechanical properties.
- Excellent outdoor durability.
- As modifier it gives low gloss in a "one-shot" process and high surface hardness.

Polymer Type

- Saturated Hydroxylated Polyester Resin

Sales Specifications

| | |
|-----------------------------------------|-----------|
| Colour (50%), (ASTM D-1544) | 2 max |
| Hydroxyl value, mg KOH/g (G/07-1) | 280 - 320 |
| Acid value, mg KOH/g (ASTM D-1639) | 10 max |
| Viscosity 165°C, Pa.s (ICI – DIN 53229) | 10 – 30 |

Other Characteristics¹

| | |
|-----------------------------------|---------------|
| Appearance | Pale granules |
| Glass Transition T, °C (DSC - Tg) | approx 50 |

¹ The data provided for these properties are typical values, intended only as guides, and should not be construed as sales specifications

Curing Conditions

12 minutes at 200°C (object temperature)

Recommended Mixing Ratio

REAFREE 17091 / Uretodione : 40/60

Starting Formulation

| | |
|-------------------------------|-------|
| REAFREE 17091 | 150 |
| REAFREE 17014 or 17015 | 510 |
| Vestagon BF 1320 (1) | 300 |
| Flow modifier (2) | 12 |
| Benzoin | 3,5 |
| Carbon black (3) | 0,04 |
| Red Bayferrox 130M (4) | 0,01 |
| Colortherm Yellow 10 (4) | 3,65 |
| Titanium Dioxide (5) | 20,80 |

Formulation Guidelines

- (1) Evonik
(2) BYK 360P (Byk Chemie)
(3) Printex V
(4) Lanxess
(5) Kronos 2160

Application / Extrusion Conditions

| | |
|------------------------|----------------------------|
| Extruder: | BUSS PCS-30 |
| Torque: | 40% |
| Speed: | 200 rpm |
| Extrusion temperature: | 80°C |
| Spraying Gun: | GEMA PG 1-B |
| Application voltage: | 60-80 Kv |
| Test substrate: | Degreased Aluminium 0,8 mm |

Coating Properties

| | |
|-------------------------------|---------------|
| Film thickness | 60-80 microns |
| Gloss 60°, (ASTM D-523-60E) | Ca 15% |
| Cupping test, (DIN 53156) | Over 5 mm |
| Direct Impact, (ASTM D-2794) | Over 50 Kg.cm |
| Reverse Impact, (ASTM D-2794) | Over 50 Kg.cm |
| Conical mandrel, (ASTM D-522) | 100% |
| Adhesion, (DIN 53151) | Gt0 |

Product Safety

Please refer to the corresponding Safety Data Sheet.

Delivery form

Granules. White opaque polyethylene bags of 25 Kg. One Ton pallet shrink – wrapped.

Storage & Handling

The resin in its original unopened bags is stable for more than three years, stored in a dry place at temperature below 30°C. Avoid direct sunlight.

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