

TECHNICAL DATA SHEET

REAFREE® 17091

Powder Resins / Saturated Hydroxylated Polyester / Polyisocyanate

PRODUCT APPLICATION DETAILS

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

SALES SPECIFICATIONS

| | CHARACTERISTICS | METHODS |
|------------------------------------|------------------|-------------|
| Acid value | 10 max mg KOH/g | ASTM D-1639 |
| Viscosity (Cone and plate - 165°C) | 10-30 Pa.s | DIN 53229 |
| Color (50%) | 2 max Gardner | ASTM D-1544 |
| Hydroxyl value | 280-320 mg KOH/g | G/07-1 |

OTHER CHARACTERISTICS¹

| | CHARACTERISTICS | METHODS |
|-----------------------------------|-----------------|---------|
| Appearance | Pale granules | |
| Glass transition temperature (Tg) | approx 50 °C | DSC |

¹The 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

MARKET

Coatings & Inks

- Industrial Coating
 - General Industry
 - Metal Exterior - Powder

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.

REAFREE® 17091

FORMULATION GUIDELINES

| STARTING FORMULATION | |
|-------------------------------------|------|
| REAFREE® 17091 | 150 |
| REAFREE® 17014 | 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⁾ | 20,8 |

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

APPLICATION / EXTRUSION CONDITIONS

| CHARACTERISTICS | |
|--------------------------------------|-------------|
| Extruder | BUSS PCS-30 |
| Spraying gun | GEMA PG 1-B |
| Torque | 40 % |
| Extrusion speed | 200 rpm |
| Application voltage | 60-80 kV |
| Extrusion temperature | 80 °C |
| Test substrate (Degreased Aluminium) | 0.8 mm |

COATING PROPERTIES

| | CHARACTERISTICS | METHODS |
|-----------------|-----------------|----------------|
| Film thickness | 60-80 microns | |
| Gloss (60°) | 7 % | ASTM D-523-60E |
| Cupping test | Over 5 mm | DIN 53156 |
| Direct impact | Over 50 kg.cm | ASTM D-2794 |
| Reverse impact | Over 50 kg.cm | ASTM D-2794 |
| Conical mandrel | 100 % | ASTM D-522 |
| Adhesion | Gt0 | DIN 53151 |

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 AND 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.

Arkema Coating Resins
410 Gregson Dr.
Cary, NC 27511 – USA
T +1 919 469 6700

Arkema Química, S.A.U.
Ctra. Olzinelles, s/n
E-08470 Sant Celoni (BCN)
Spain
T +34 938 674 000

Arkema Chemical India Private Ltd.
D-43, Trans Thane Creek
MIDC Industrial Area
400706 Mumbai - India
T +91 22 67377122

Headquarters: **Arkema France**
420, rue d'Estienne d'Orves
92705 Colombes Cedex
France
T +33 (0)1 49 00 80 80

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