

REAFREE® 4401-S

POWDER COATINGS / TGIC

TECHNICAL DATA SHEET

Product Application details

Saturated carboxylated polyester for combination with Triglycidylisocyanurate. Suitable for the formulation of outdoor durable and protective thermosetting powders for electrostatic application.
For mat paints by dry-blend with REAFREE 4002-S.
Low TGIC demand. Gas oven stabilised.
TMA free type.

Performance Benefits

- Good flow.
- Good mechanical properties.
- Good outdoor durability.
- Excellent over-bake resistance in direct gas fired ovens.

Polymer Type

- Saturated Carboxylated Polyester Resin

Sales Specifications

Colour (50%), (ASTM D-1544)	2 max
Acid value, mg KOH/g (ASTM D-1639)	20 - 26
Viscosity 165°C, Pa.s (ICI – DIN 53229)	50 - 80

Other Characteristics¹

Appearance	Pale granules
Glass Transition T _g , °C (DSC - T _g)	approx 59

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

Curing Conditions 20 minutes at 200°C (object temperature)

Recommended Mixing Ratio

REAFREE 4401-S / TGIC : 96/4

Starting Formulation

	A	B
REAFREE 4401-S	---	614
REAFREE 4002-S	576	---
Titanium Dioxide ⁽¹⁾	320	320
Triglycidylisocyanurate ⁽²⁾	64	26
REAFREE F3300-A15	37	37
Benzoin	3	3

⁽¹⁾ Kronos 2160
⁽²⁾ Araldite PT-810 (Huntsman) / Tepic (Nissan Chemical)

DRY-blend paints A/B: 50/50

Formulation Guidelines

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 steel 1 mm
Curing conditions:	15min. at 200°C

Coating Properties

Film thickness	60-80 microns
Gloss 60°, (ASTM D-523-60E)	Ca 30%
Cupping test, (DIN 53156)	Over 8 mm
Direct Impact, (ASTM D-2794)	Over 80 Kg.cm
Reverse Impact, (ASTM D-2794)	Over 80 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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The logo for ARKEMA, with the letters 'A', 'R', 'K', 'E', and 'M' in a dark blue color, and the letter 'A' at the end in a green color.