

## TECHNICAL DATA SHEET

# REAFREE® 4401-S

Powder Resins / Saturated Carboxylated Polyester / TGIC

### 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

### SALES SPECIFICATIONS

	CHARACTERISTICS	METHODS
Acid value	20-26 mg KOH/g	ASTM D-1639
Viscosity (Cone and plate - 165°C)	50-80 Pa.s	DIN 53229
Color (50%)	2 max Gardner	ASTM D-1544

### OTHER CHARACTERISTICS<sup>1</sup>

	CHARACTERISTICS	METHODS
Appearance	Pale granules	
Glass transition temperature (Tg)	approx 59 °C	DSC

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

### CURING CONDITIONS

15 minutes at 200°C (object temperature)

### RECOMMENDED MIXING RATIO

REAFREE® 4401-S / TGIC: 96/4

### MARKET & APPLICATIONS

#### Coatings & Inks

- Industrial Coating
  - General Industry
  - Metal Exterior - Powder
  - Metal Interior - Powder
  - Protective Coating

### PERFORMANCE BENEFITS

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

# REAFREE® 4401-S

## FORMULATION GUIDELINES

	STARTING FORMULATION	
	A	B
<b>REAFREE® 4401-S</b>	-	614
REAFREE® 4002-S	576	-
Titanium Dioxide <sup>(1)</sup>	320	320
Triglycidylisocyanurate <sup>(2)</sup>	64	26
<b>REAFREE® F3300-A15</b>	37	37
Benzoin	3	3

<sup>(1)</sup> Kronos® 2160

<sup>(2)</sup> Araldite® PT-810 (Hunstman) / Tetric (Nissan Chemical)

DRY-blend paints A/B: 50/50

## 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
Test substrate (Degreased steel)	1 mm
Extrusion temperature	80 °C

## COATING PROPERTIES

	CHARACTERISTICS	METHODS
Film thickness	60-80 microns	
Gloss (60°)	approx. 30 %	
Cupping test	Over 8 mm	DIN 53156
Direct impact	Over 80 kg.cm	ASTM D-2794
Reverse impact	Over 80 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.

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