

# REAFREE® 8304-T

POWDER COATINGS / PRIMID

TECHNICAL DATA SHEET

## Product Application details

Saturated carboxylated polyester for combination with  $\beta$ -Hydroxy-alkylamide type hardeners. Suitable for the formulation of outdoor durable and protective thermosetting powders for electrostatic and triboelectric applications. For high gloss systems with low cross-linker demand. For matt powder coatings by dry blending. Gas oven stabilised. TMA free type.

## Performance Benefits

- Excellent levelling. High gloss. Good degassing properties.
- For matt finishes by dry blending with REAFREE 8784-T and 8184-T.
- Good mechanical properties.
- Excellent outdoor durability.
- Good yellowing resistance curing with direct-fired gas ovens.
- Tribochargeable.

## Polymer Type

- Saturated Carboxylated Polyester Resin

## Sales Specifications

|                                         |         |
|-----------------------------------------|---------|
| Colour (50%), (ASTM D-1544)             | 2 max   |
| Acid value, mg KOH/g (ASTM D-1639)      | 18 - 22 |
| Viscosity 165°C, Pa.s (ICI – DIN 53229) | 20 - 40 |

## Other Characteristics<sup>1</sup>

|                                                              |               |
|--------------------------------------------------------------|---------------|
| Appearance                                                   | Pale granules |
| Glass Transition T <sub>g</sub> , °C (DSC - T <sub>g</sub> ) | approx 61     |

<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

10 minutes at 200°C (object temperature)

## Recommended Mixing Ratio

REAFREE 8304-T / PRIMID XL-552<sup>(1)</sup> : 97/3  
REAFREE 8304-T / PRIMID QM-1260<sup>(1)</sup> : 96/4  
<sup>(1)</sup>PRIMID is a trade mark of EMS-Chemie AG

## Formulation Guidelines

### Starting Formulation

|                                            | A   | B   | C   |
|--------------------------------------------|-----|-----|-----|
| REAFREE 8304-T                             | 608 | --- | --- |
| REAFREE 8784-T                             | --- | 583 | --- |
| REAFREE 8184-T                             | --- | --- | 564 |
| Titanium Dioxide <sup>(1)</sup>            | 319 | 317 | 317 |
| $\beta$ -Hydroxy-alkylamide <sup>(2)</sup> | 19  | 44  | 63  |
| CRAYVALLAC WN-1495                         | 10  | 10  | 10  |
| Flow modifier <sup>(3)</sup>               | 10  | 10  | 10  |
| Benzoin                                    | 2   | 2   | 2   |
| Barium sulfate                             | 32  | 34  | 34  |

- (1) Kronos 2160  
(2) Primid XL-552 (EMS Chemie)  
(3) Resiflow PV-88 (Worlée)

DRY-blend paints **A/B**: 50/50  
DRY-blend paints **A/C**: 50/50

### Application / Extrusion Conditions

Extruder: BUSS PCS-30  
Speed / Torque: 200 rpm / 40%  
Extrusion temperature: 105°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  
**A/B** Gloss 60°, (ASTM D-523-60E) Ca 28%  
**A/C** Gloss 60°, (ASTM D-523-60E) Ca 20%  
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

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## Product Safety

Please refer to the corresponding Safety Data Sheet.

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## Delivery form

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

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## 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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