

POWDER COATING

Low Smoke Polyester Powder Coatings

The information given in this data sheet is generic for Thermaset Limited Low Smoke Polyester Powder Coatings.

Date: 14/08/2015

Product Code: Generic sheet for the series

Product Description:

Thermaset Limited offer a range of low smoke polyester powder coatings designed for both interior and exterior use. This range is specially formulated on selected polyester resins and pigments to give a tough decorative finish with excellent outdoor durability, with low smoke and low spread of flame properties necessary to meet the criteria of BS 476:Part 6:1989+A1:2009 and BS 476:Part 7:1997 and BS 6853:1999:Annex D.8.4 and BS 6853:1999:Annex B.2

Colours Available:

Thermaset's Low Smoke Polyester Powder Coatings can be matched to customer supplied samples or to many of the RAL and BS colour ranges.

Substrate Preparation:

For maximum adhesion the substrate must be thoroughly cleaned of grease, rust etc. by shot blasting, solvent or chemical degreasing. For maximum protection it is essential to pretreat the substrate prior to the application of Thermaset Limited Low Smoke Polyester Powder Coatings.

Aluminium components should receive a full multi-stage chromate conversion coating or similar chrome-free pretreatment to clean and prepare the substrate. Detailed advice should be sought from the pretreatment supplier.

Galvanized steel requires multi-stage pretreatment with either zinc phosphate or chromate conversion.

Depending on the type of galvanizing, degassing or use of anti-bubbling additives may be required. Detailed advice should be sought from the pretreatment supplier.

Ferrous substrates require iron or zinc phosphate pretreatment. Detailed advice should be sought from the pretreatment supplier.

Application:

Thermaset Limited Low Smoke Polyester Powder Coatings can be applied by manual or automatic electrostatic spray equipment, an even dry film thickness of 60-70 microns is recommended.

Powder Properties:

Type	Thermosetting polyester with a non-TGIC curing agent.
60° Gloss (EN ISO 2813)	Gloss Above 80%
	Semi-gloss 60+/-5%
	Matt 30+/-5%
Specific Gravity	1.2-1.8 depending on colour
Particle size	Suitable for electrostatic spray
Stoving schedule	See box label for recommended curing conditions. Typical values are; 10 minutes @ 180°C peak metal temperature
Storage and shelf life	12 months when stored in cool (below 25°C) dry conditions. Open boxes must be resealed.

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Test Conditions:

Unless otherwise specified, all tests have been carried out under laboratory conditions on 0.8mm aluminium chromated panels and are given for guidance only. Actual product performance will depend on the circumstances under which the product is used. A powder coating dry film thickness of 60-70 microns was used.

Mechanical Tests:

Flexibility (cylindrical mandrel)	ISO 1519	Pass minimum 5mm
Buchholz Hardness	ISO 2815	Pass minimum 80
Impact	ISO 6272-2	Pass minimum 2.5Nm
Erichsen cupping	ISO 1520	Pass minimum 5mm
Adhesion (2mm cross hatch)	ISO 2409	Pass Gt 0
Scratch Resistance	ISO 1518-1	Pass 4 Kg

Chemical Tests:

Constant Humidity	ISO 6270	Pass 1000 hours.
Boiling water	2 hours	No defects or detachments.
Salt Spray Resistance	ASTM B117	Pass 1000 hours.
Sulphur Dioxide	ISO 3231	After 24 cycles, infiltration < 1mm from scratch.
Mortar resistance	EN 12206-1	Easy to remove, no staining.

Exterior Durability:

After 12 months exposure, minimal loss of gloss or colour change. No film breakdown or loss of protection.

Chemical Resistance:

Generally good resistance to acids, alkalis and oil at normal temperatures.

Health and Safety Precautions:

This product is intended for use only by professional applicators in industrial environments. Consult the relevant Material Safety Data Sheet available from Thermaset.

Restrictions of Hazardous Substances (RoHS2):

Thermaset Limited Low Smoke Polyester Powder Coatings range is suitable for use on items covered by Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (Directive 11/65/EU, ROHS 2). Products in the range contain none (or less than the maximum allowed amount) of the following restricted chemicals:-

Lead, Mercury, Cadmium, Hexavalent Chromium or their compounds.

Poly-brominated biphenyl (PBB) or Poly-brominated diphenyl ether (PDBE) flame retardants.

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