Epoxy Powder Coating

Date: 24/09/2018

Product Description:
Thermaset Limited epoxy powder coatings are formulated to give hard durable protective finishes with excellent adhesion and chemical resistance. The range is particularly suited where protection from aggressive environments is required and long term exposure to weathering or ultra violet light is not expected.

Colours Available:
Thermaset Limited epoxy powder coatings are available in a wide range of RAL and BS colours or can be matched to user requirements, in smooth or textured finishes.

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 epoxy 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 epoxy powder coatings can be applied by manual or automatic electrostatic spray equipment, general recommendation is for a film thickness of 60-100 microns depending on covering power and colour, with a minimum recommendation of 60 microns.

Powder Properties:
Type Thermosetting epoxy resin system.
Gloss A range from Gloss >85% down to Matt <10%.
Specific Gravity 1.3 to 1.8 g/cm³ 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.
Epoxy Powder Coating

Test Conditions:
Unless otherwise specified, all tests have been carried out under laboratory conditions on 0.8mm degreased and zinc phosphate steel 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 > 5 mm
- Buchholz Hardness: ISO 2815, Pass > 80
- Impact: ISO 6272-2, Pass > 25 Kg cm
- Erichsen cupping: ISO 1520, Pass > 5 mm
- Adhesion (2mm cross hatch): ISO 2409, Pass Gt 0

Chemical Tests:
- Humidity: ISO 6270, Pass 1000 hours
- Boiling water: 2 hours, No defects or detachments
- Neutral Salt Fog: ISO 9227, Pass 250 hours, < 2mm creep from scribe
- Mortar resistance: EN 12206-1, Easy to remove, no staining.

Exterior Durability:
Not designed for long term exterior exposure. Some chalking and loss of gloss can be expected after 3-6 months continuous outdoor exposure.

Chemical Resistance:
Generally excellent 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.

Restrictions of Hazardous Substances (RoHS2):
Thermaset Limited Epoxy powder coatings are 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 contains 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 (PBDE) flame retardants. Bis(2-ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP), Bis(2-ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP)

Our data sheets and sales literature are issued for the purpose of supplying product information. The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. Always read the Material Safety Data Sheet and the Technical Data Sheet for the product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product.

All products supplied and technical advices given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous improvement. It is the user’s responsibility to verify that this data sheet is current prior to using the product.