

## POWDER COATING

### Architectural Nylon Modified Polyester Powder Coatings

The information given in this data sheet is generic for Thermaset Limited Architectural Nylon Modified Polyester Powder Coatings.

**Date:** 08/02/2019

**Product Code:** Generic sheet for the series

**Product Description:**

Thermaset Limited offer a range of nylon modified 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 the addition of a nylon modification to increase mar, scuff and abrasion resistance. Designed for use on architectural applications such as building fascia or window frames.

**Colours Available:**

Thermaset's Architectural Nylon Modified 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 Architectural Nylon Modified 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 Architectural Nylon Modified 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, modified with nylon.   |
| 60° Gloss (EN ISO 2813) | Gloss, typically 80%<br>Semi-gloss, typically 60%<br>Matt, typically 30%   |
| Specific Gravity        | 1.2-1.8 depending on colour  |
| Particle size           | Suitable for electrostatic spray   |
| Stoving schedule        | See box label for recommended curing conditions.<br>Typical values are;<br>10 minutes @ 200°C peak metal temperature |
| Storage and shelf life  | 24 months when stored in cool (below 25°C) dry conditions. Open boxes must be resealed.                              |

## POWDER COATING

### 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.  |
| Acetic Acid Salt Spray | ISO 9227   | After 1000 hours/10cm scratch:<br>Total corrosion < 16mm <sup>2</sup><br>Maximum length < 4mm |
| Sulphur Dioxide        | ISO 3231   | After 24 cycles, infiltration < 1mm from scratch.   |
| Mortar resistance      | EN 12206-1 | Easy to remove, no staining.  |

### Weathering Tests:

|                              |           |   |
|------------------------------|-----------|---|
| Accelerated Weathering       | ISO 11341 | After 1000 hours, gloss retention > 50%         |
| Natural Weathering (Florida) | ISO 2810  | After 12 months exposure, gloss retention > 50% |

### 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 Architectural Nylon Modified 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 3). 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 (PBDE) flame retardants.

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.