

Technical Data Sheet

Powder Coatings / Pure Polyester / P10

It is the most versatile thermosetting coating based on state of the art optimally balanced compositions with Polyester Resin possessing maximum mechanical strength, weather resistance and out-door stability along with excellent aesthetic properties.

Typical Applications

Pure Polyester / P10 Powder coatings can be used for coating several products of outdoor use. Typical applications include

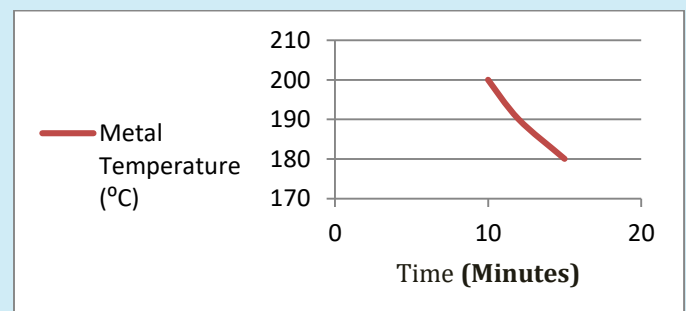
- Aluminium Profiles
- Automotive Parts
- Electrical Panels
- Steel Fixtures
- Others

How to Apply?

This Powder coating can be applied by using corona type electrostatic powder sprayer possessing negative tension of 60 to 100 Kilo Volts and then curing under the prescribed curing schedule. The optimum film thickness may be 50-70 μm .

Recommended curing schedules is any pair of X and Y-axis as per given curve (on right) and the standard curing pairs are according to the table below;

Metal Temperature (°C)	Curing Time (Minutes)
180	15
200	10



Physical Properties

- **Particle Size Distribution (PSD)**

The standard average particle size is between the ranges 30 – 40 μm however can be customized as per customer's need.

➤ **Specific Gravity**

The specific gravity varies between 1.20 – 1.75 as per selected shade of powder coating.

➤ **Color Range**

Any shade from transparent to colored having selected values of L^* , a^* & b^* as per CIELAB standards can be produced in this type of product range. Among these, all metallic effects will require a 'clear topcoat' / 'polyester-lacquer' to shield the oxidizable metallic pigments in coating.

Metal Surface Preparation

Metal surface preparation prior to application of powder is of prime importance and should be selected keeping into consideration of nature of substrate and extent of required protection and other operating conditions. For example,

- 'Chromium chromate' / 'Chromium phosphate' having transparent to very light shade for aluminium and its alloy as substrate
- 'Iron / Zinc / Zinc-Calcium phosphate' OR 'Tri-cationic phosphate (Zn-Mn-Ni phosphate)' for ferrous parts.
- Fluoride modified zinc phosphate for multi-metal substrate composing aluminium, zinc and/or ferrous sheet parts.

Coverage (m^2/Kg)

Coverage is the area to be coated by a kilogram of powder that depends upon specific gravity (SG) and coating thickness (μm) and can be calculated by mathematical relation,

$$\text{Theoretical Coverage (m}^2\text{)} = \frac{1000}{\text{SG} \times \text{Coating Thickness (}\mu\text{m)}}$$

Therefore, when powders possessing $SG = 1.6$ are applied on a substrate with an average *Coating Thickness* = 50 μm then the coated area will be 12.5 m^2 .

Aesthetic Appearance

- **Gloss Level** 20-95%GU @ 60° incident angle
- **Finish / Texture** Wide Range of Textures, wrinkle effects and smooth finishes

Storage Stability

This coating powder is stable for at least 6 months if stored in a cool & dry place.

Temperature < 30°C

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Relative Humidity < 60%.

Packing

20 Kg (04 Packets each of '05 Kg')

&

20 Kg (01 Packet)

General Film Properties

General Properties	Testing Standard	Test Results
Adhesion	ISO 2409	Gt. = 0 (100% Adhesion)
Impact Test / Sudden Impact Resistance	ASTM D2794	≥ 60 Inch-Pounds without film cracking
Bending Test / Flexibility	ISO 1519	3 -12 mm / Passed
Salt Spray Test / Corrosion Resistance	ISO 9227	1000 Hours without film separation
Humidity Test	DIN 50017	1000 Hours without film separation or blistering

Note

The information given in this Technical Data Sheet is based upon laboratory tests and is currently correct to the best of our knowledge. Since product application and conditions vary and are often beyond our control therefore, we can guarantee only the product quality itself. In the light of continuous product improvement, we reserve rights to modify the content of this technical sheet without any prior notice.