

### Technical Data Sheet

## Powder Coatings / Magic Series (Metallic Effects)

*Magic Series powder coating is designed to get closest match of metallic effect shades and luster of real metals without using bronze & copper metallic pigments. It is double layer coating that's produced with a first layer of pigmented metallic base-coat and second layer of polyester based clear topcoat. The combined effect is the nearest match of metallic luster resulted as the formation of unique metallic series with gloss level near 150 – 200GU @ 60° incident light.*

### Typical Applications

**Magic Series** Powder coating EP55 basecoat (Epoxy-Polyester) + SP12/100-G (Polyester) clear topcoat can be used for painting several products of indoor use. Typical applications include,

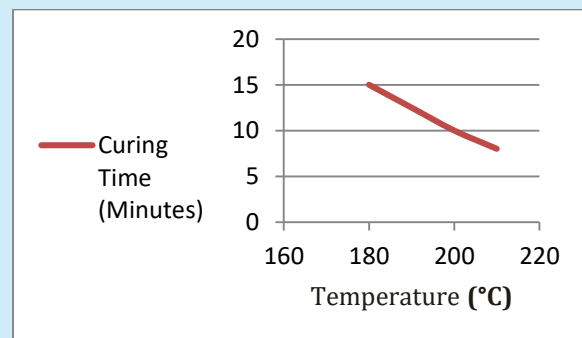
- Steel Furniture
- Fan Guards & other steel wire fabricated parts
- Automotive Parts
- Others

### How to Apply?

This Powder coating effect can be produced by applying first layer chrome-look basecoat, 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



Allow the 'chrome-look basecoat' to become at temperature below 50 °C to ambient then apply the clear topcoat by spraying via corona type electrostatic powder coating guns with KV in the range 20 to 30 KV and a gun to object distance of 6-8 inches. Ensure the uniform deposition of polyester clear

lacquer as topcoat onto the basecoat. Then full cure the second layer as per datasheet of subjected polyester topcoat.

### **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 – 1.30 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.

### **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<sup>2</sup>/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 the powders possessing S.G = 1.2 are applied on substrate with an average coating thickness of 60 µm each then coated area will be 7 m<sup>2</sup>.

### **Aesthetic Appearance**

- **Gloss Level**                    150-200GU @ 60° incident angle
- **Finish / Texture**            A limited range of shades is available.

### **Storage Stability**

This kind of 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')

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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	5 Nm
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.