

GENERAL FEATURES

This thermosetting powder contains polyester resins cured with fit curing agents specially selected for their excellent resistance to UV radiation and outdoor weathering.

The powder forms a decorative film with enhanced outdoor resistance.

The PE/UM MIC were created for coating aluminium components used in architecture and for coating galvanised steel and are approved by Qualicoat (P-1102) for Class 1,5 Cat. 1, and Standard GSB (152 n).

The metallic effect pigment is fixed on the powder by means of a bonding process, thanks to which is possible to achieve the best results in terms of application and reproducibility for the metallic effect powders. The problems of separation in the powdercloud during the application process, typical of dry blend products, are so eliminate, with positive effects on the colour constancy.

APPLICATION

Due to its special content the product is particularly suggested for exterior coating.

ADVISED CYCLES

The surface to be coated must be cleaned from oils, grease or flash rust. If particular resistance to corrosion or humidity is required, it is suggested the following pretreatment of the surface:

| | |
|----------------------|---|
| for aluminium | chromate conversion according to DIN 50939 |
| for steel | sand blasting or/and iron or zinc phosphatising |
| for galvanised steel | chromatising |

HANDLING AND STORAGE

Store at temperatures lower than 30°C; higher temperatures may damage the powder by causing undesired alterations or blobs.

Storage life in original package: 12 months.

TECHNICAL DATA

| Code | Int. Method | Range | Ref. Method |
|---------|---|---------------|-----------------|
| P/CL092 | Calc. specific gravity(kg/l): | 1.195 - 1.244 | |
| P/CL120 | Non volatile content(w/w)(%) 3h at 105 °C | 100.0 - 100.0 | UNI EN ISO 3251 |
| P/CL125 | Non volatile content(v/v)(%) | 100.0 - 100.0 | |
| P/CL143 | 1µm Theor. spread. rate (m2/kg): | 804 - 837 | |
| P/CL210 | Water content (%): | 0.0 - 0.0 | |
| P/YC060 | Particle size dist. <32µ(%): | 48 - 54 | |
| P/YC120 | Particle size dist. <63µ(%): | 87 - 93 | |
| P/CS010 | Dry film thickness(microns): | 60 - 80 | UNI ISO 2178 |

| Code | Int. Method | Range | Ref. Method |
|---------|-------------|-----------|----------------------|
| P/CC050 | Gloss 60° : | 3.0 - 8.0 | UNI EN ISO 2813:2001 |

WAYS OF APPLICATION

Apply with guns with negative terminal (60/80KV) or triboelectric guns automatically or manually. It is advised to apply the product in layers with the thickness of 70-90 microns and to stove at 190°C for 20 minutes (temperature of the support). For stoving of the PE/UM MIC products it is possible to use the following curing windows:

| | |
|---------------|------------------------------------|
| 10-15 minutes | 200°C (temperature of the support) |
| 20-30 minutes | 190°C (temperature of the support) |

For stoving use the given indications.

TECHNOLOGICAL FEATURES AND RESISTANCE TESTS

| | |
|------------------|---------------------|
| The support used | aluminium sheet |
| Thickness | 70 microns |
| Stoving | 20 minutes at 190°C |

Chemical resistance test by immersing for 48 hours at indoor temperature into:

| | |
|------------------------------|-----------------------|
| Hydrochloric acid 10 % | film is intact |
| nitric acid 30 % | matt, but washing off |
| saturated hydrogen sulphide | intact |
| hydrogen peroxide 40 volumes | intact |
| ammonium hydroxide 10 % | intact |
| ammonium hydroxide 33 % | intact |
| sodium hydroxide 5 % | intact |
| tartaric acid 5 % | intact |
| sodium hydroxide 5 % | intact |
| citric acid 5 % | intact |
| lactic acid 5 % | intact |
| ethanol | intact |
| N-butanol | intact |
| petroleum ether | slightly softened |

The chemical resistance test was carried out on chromatised aluminium.

| Code | Int. Method | Range | Ref. Method |
|---------|-----------------------------|--------------|------------------------------|
| P/CM010 | Buchholz indentation test : | more than 90 | UNI EN ISO 2815 |
| P/CM040 | Ericksen cupping test (mm): | more than 5 | UNI EN ISO 1520 |
| P/CM050 | Direct impact test (cm.Kg): | more than 25 | ASTM D 2794; ISO 6272-2:2002 |

| Code | Int. Method | Range | Ref. Method |
|---------|--|---|------------------------------|
| P/CM051 | Opposite impact test(cm.kg): | more than 25 | ASTM D 2794; ISO 6272-2:2002 |
| P/CM080 | Cylindrical mandrel size 4 : | does not break | UNI EN ISO 1519 |
| P/CM100 | Crosscut adhesion (2mm)(GT): | 00 | UNI EN ISO 2409 |
| P/CM230 | Resistance to humidity : (Humidity test) | 1000 hours later - no blistering, indentation along the cross of maximum 1 mm | UNI EN ISO 6270-2:2005 |

NOTES

The mechanical test of the PE/UM MIC are carried out according the Qualicoat specifications, some cracks are admitted but the coating film has to stick to the substrate under the action of a specific adhesive tape. For optimal appearance and performance, exceeding 125 microns (5 mils) is not recommended.

NOTE TO USER

The information contained in this document while based on evidence and reliable methods can not be considered exhaustive.

This information are current to the date of issuance of this data sheet, therefore is under user's responsibility to verify that the data provided on this sheet are current to the date of the product.

The user, under its own responsibility, shall respect all the existing provisions on hygiene and safety and shall verify every time the features and the specific and appropriate way to use the product, cause the respect of the provisions is not under producer's direct control.

The manufacturer does not guarantee nor assume any liability or responsibility for whatsoever harm that might result from a misuse of the product or for damages that have arisen after the product's distribution.