

PR29

METALLIC STANDARD POLYESTERS

Technical Data Sheet

DESCRIPTION

Alwan **PR29/METALLIC** polyester is a thermosetting powder coating based on saturated polyester resins especially selected for good resistance to atmospheric ageing, U.V. light and saponification. These basic characteristics provide coating films showing excellent outdoor durability and outstanding decorative properties.

The crosslinking agent is also U.V. resistant and allows rapid cure of the powder by polyaddition mechanism without any release of reaction products.

Alwan PR29/METALLIC is particularly suitable for the decorative and protective coating of Aluminium, steel or galvanized building materials used for architectural purposes.

Qualicoat Approved System	:	P-No: P-0708 Class 1 Category 2
Qualicoat Approved System	:	P-No: P-0763 Class 1 Category 1
Outdoor Durable	:	Meets or exceeds A.A.M.A. 2603

SPECIFICATION

POWDER PROPERTIES

Chemical type	:	Polyester
Specific gravity	:	1.2 – 1.75 depending on color and effect
Particle size distribution	:	Applicable for electrostatic spray at 60 – 90 kV
Physical Appearance	:	Metallic
Gloss	:	Matt - Glossy
Shelf Life	:	24 months at 27°C maximum storage temperature
Curing schedule	:	10 minutes at 200°C (metal temperature) 12 minutes at 190°C (metal temperature)

MECHANICAL PROPERTIES

Adhesion	ISO 2409 (2mm crosshatch)	:	Gt=0
Bend test	ISO 1519 (cylindrical mandrel)	:	Pass 5mm
Cupping test	ISO 1520	:	Pass >5mm
Impact test	ISO 6272-1	:	Pass 2.5 Nm (direct and reverse)
Buchholz test	ISO 2815	:	>80

ENVIRONMENTAL AND CHEMICAL RESISTANCE

Resistance to SO ₂	EN ISO 3231	:	No infiltration exceeding 1mm on both sides of the scratch after 30 cycles (0.21 I SO ₂).
Acetic acid salt spray	ISO9227	:	Maximum 16mm ² infiltration over a scratch length of 10cm. after 1000 hours testing.
Constant humidity	ISO 6270-2	:	No blistering, creep <1mm after 1000 hrs.
Mortar resistance	EN 12206-1	:	No effect after 24 hrs.
Accelerated Weathering	ISO 16474-2	:	>50% gloss retention after 1000 hrs.
Chemical Resistance		:	Generally good resistance to acids, alkalis, and oils at room temperature.
Exterior durability	ISO 2810	:	No chalking, excellent gloss retention and colour stability after 1 year Florida Exposure.

TEST CONDITIONS

Determined on degreased chromated Aluminium to DIN 50939.

Metal substrate	:	Al Mg1 (0.8 – 1.0 mm)
Coating thickness (ISO 2360)	:	60 – 90 microns DFT
Curing schedule	:	10 minutes at 200°C
Flow out	:	Smooth

For other substrates, and in order to obtain optimal corrosion protection, it is essential to apply the following pretreatment prior to powder coating:

For steel	:	Iron or zinc phosphate
For galvanized steel	:	Chromate treatment

Suitable chrome-free pretreatment for Aluminium is also recommended. Due to variety of chrome-free pretreatments available today, only the approved system from Qualicoat should be used. Detailed advice should be sought from the supplier.

CORROSION RESISTANCE

Alwan PR29/METALLIC has been tested in a Salt spray Cabinet according to ASTM B 117 - 73, on various substrates .

Iron Phosphate	1000 hours	:	8-10 mm undercutting
Zinc Phosphate	1000 hours	:	3-6 mm undercutting
Chromated Galvanized Steel	500 hours	:	10-15 mm undercutting
Chromated Aluminum	2000 hours	:	no change

STORAGE STABILITY

Due to its high Tg (Glass Transition Temperature) and its specific chemical composition, Alwan PR29/METALLIC powder when stored under cool dry conditions will not show any change in free-flowing properties after two years.

The information given in this Data Sheet is given in good faith and with every belief in its accuracy but cannot be considered as a formal warranty. In accordance with ALWAN's policy of product development, this specification is subject to change without notice.