



OXYHIN SDN. BHD. (393471-X)

HQ : LOT 1, JALAN 13/3, 46200 PETALING JAYA, SELANGOR DARUL EHSAN, MALAYSIA.
TEL: 03-79565599, 79586636 FAX: 03-79565232, 79565799
E-MAIL: oxyhin@po.jaring.my, oxyhin@streamyx.com

BR : 968, JLN. PERUSAHAAN, KWS. PERUSAHAAN PERAI, 13600 PERAI, PENANG, MALAYSIA.
TEL: 04-3971233, 3971488 FAX: 04-3901266
E-MAIL: oxyhinpg@po.jaring.my, oxyhinpg@streamyx.com



TECHNICAL DATA SHEET

OXYPLAST APR OUTDOOR DURABLE POLYESTER POWDER COATING

OXYPLAST APR is a thermosetting powder coating based on saturated polyester resins especially selected for exterior use. Its good flow out and excellent resistance to atmospheric ageing and ultra violet light make it highly decorative and durable in outdoor environment. OXYPLAST APR is particularly suitable for the decorative and protective coating of aluminium building materials used outdoors.

The quality of OXYPLAST APR meets most of the International requirements and specifications such as Qualicoat, BS 6496, GSB and AAMA 2603.

GLOSS AND COLOUR RANGE

Gloss levels range from satin to high gloss: 30% to 90% and above. A selection of colour range is available.

SUBSTRATES AND PRE TREATMENT

In order to obtain optimal anti corrosion properties, it is advised to apply a chemical pre-treatment prior to powder coating application.

Aluminium alloys : Chromatisation

APPLICATION SCHEDULE

May be applied by electrostatic spraying using classic devices which can provide a negative tension of 60 - 80 kV. The powder is cured in a suitable convection or infra red oven.

Curing : 10 mins at 200°C (metal temperature)

Optimal film thickness : 60 - 80 µm

PROPERTIES OF THE POWDER

Melting range (Kofler) : 90 - 114°C

Specific gravity (DIN 55990/3) : 1.25 - 1.75 (depend on colour)

Particle size distribution

(Laser Particle size analyser)

% above 100µm : Less than 5

% above 32µm : 50 - 65

Average particle size, µm : 35 - 45



OXYHIN SDN. BHD. (393471-X)

HQ : LOT 1, JALAN 13/3, 46200 PETALING JAYA, SELANGOR DARUL EHSAN, MALAYSIA.
TEL: 03-79565599, 79586636 FAX: 03-79565232, 79565799
E-MAIL: oxyhin@po.jaring.my, oxyhin@streamyx.com

BR : 968, JLN. PERUSAHAAN, KWS. PERUSAHAAN PERAI, 13600 PERAI, PENANG, MALAYSIA.
TEL: 04-3971233, 3971488 FAX: 04-3901266
E-MAIL: oxyhinpg@po.jaring.my, oxyhinpg@streamyx.com



PROPERTIES OF THE COATING

a. Physical and Mechanical

The following are typical properties of APR determined on 0.8mm degreased chromated Aluminium (DIN 50939):

Film thickness (ISO 2360)	: 60 – 80 μ m
Flow out	: Very good
Gloss (ISO 2813, 60 degree)	: 30 to 90% and above
Adhesion (ISO 2409-2 mm spacing)	: GT = 0
Buchholz Indentation (ISO 2815)	: 91 - 111
Pencil hardness (ASTM D3363 - Staedtler Lumograph)	: HB - H
Conical mandrel (ISO 6860)	: pass at 5mm diameter
Direct impact (ASTM D2794-0.625in diameter ball)	: No cracking and detachment at 25kg.cm
Reverse impact (ASTM D2794-0.625in diameter ball)	: No cracking and detachment at 25kg.cm
Heat resistance, 30mins at 200°C	: Good

b. Resistance to Common Synthetic Detergents

72 hours immersion in 3% solution : No blistering or loss of adhesion, no significant change in appearance

c. Salt spray Resistance

According to ASTM B117-73 on

Chromated aluminium, 2000hrs : No blistering or loss of adhesion

According to ISO 3769 on

Chromated aluminium, 1000hrs

(Qualicoat) : Maximum 1mm creep

d. Humidity Resistance

According to ASTM D2247 on

Chromated aluminium, 1000hrs

: No blistering or loss of adhesion



OXYHIN SDN. BHD. (393471-X)

HQ : LOT 1, JALAN 13/3, 46200 PETALING JAYA, SELANGOR DARUL EHSAN, MALAYSIA.
TEL: 03-79565599, 79586636 FAX: 03-79565232, 79565799
E-MAIL: oxyhin@po.jaring.my, oxyhin@streamyx.com

BR : 968, JLN. PERUSAHAAN, KWS. PERUSAHAAN PERAI, 13600 PERAI, PENANG, MALAYSIA.
TEL: 04-3971233, 3971488 FAX: 04-3901266
E-MAIL: oxyhinpg@po.jaring.my, oxyhinpg@streamyx.com



e. Chemical Resistance

APR has been checked for resistance to various chemicals (48 hours contact with the coating at ambient temperature).

Hydrochloric acid 10%, Sodium hydroxide 5%, Ammonium hydroxide 33%, Citric acid 5%, Lactic acid 5%, Tartaric acid 5%, hydrogen peroxide 40 vol., Hydrogen sulphide saturated, Ethanol, n-Butanol

Film undamaged for the above chemical tests.

Petroleum ether : film slightly softened
Nitric acid 30% : film matt but washable

f. Accelerated Weathering

According to DIN 53231	:	Total colour change (washed)
1000 hrs Suntest (150 kilolux, 40 degree C, UV limit 320 nm, water immersion every 20')		Delta E = 0.8 - 3.0 depending on colour. Excellent gloss retention. Negligible chalking.

Natural weathering - Florida Exposure 24 months exposure	:	Excellent gloss retention Negligible chalking
---	---	--

STORAGE

All OXYPLAST APR powders are stored under dry conditions, and for periods (from date of manufacture) not exceeding 6 months at temperature $\leq 25^{\circ}\text{C}$ and humidity $< 60\%$, without affecting their free flowing properties. The coating thus will still have optimal characteristic.

All the information given in this Data Sheet is the results of our research work and experience. It is given in good faith and with every belief in its accuracy but cannot be considered as a formal warranty. In accordance with OXYPLAST policy of product development, this specification is subject to change without notice