

POWDER - Lak

(PTY) LTD

Technical Information

Powder – Lak Series 3000 Powder Paints

- Basic Material** A thermo-curing acidic, oil free polyester combined with T.G.I.C. or Primid (depending on client's specification) for exterior applications.
- Product Indication** Powder-Lak Powder Coating Series 3000 or electrostatic powder spray application (EPS).
- Applications** Powder-Lak Powder Coating Series 3000 is a single coat application, offering protection against weathering and chalking, and is particularly suitable for the coating of aluminum, steel and galvanized steel for exterior use.
Due to good resistance to U.V. attack, the product offers excellent color stability and resistance to yellowing, and is suitable as a high quality interior finish for lighting fixtures, louvers, radiators, boilers, glass bottles etc.
This product range has been approved by the SABS, according to SANS 1578:2015, as **Architectural exterior durable powder coating paints.**
- Properties** Powder-Lak Powder Coating Series 3000 has excellent mechanical properties, e.g. surface hardness, impact and shock resistances, de-formability, very good adhesion, excellent stability when exposed to light and weather, and retains a glossy appearance for extended periods.
The resistance to chemical attack and corrosion is remarkable (ref. salt spray test), as well as the resistance to yellowing, even after excessive stoving.
The resistance to solvents is good. However, in view of the multitude of cleaning solutions used these days, we recommend checking whether the film dissolves by some cleaner, or whether other changes occur (such as loss of gloss or softening of the surface).
- Surface** The surface to be coated must be dry and free of oxides (scale, rust etc.) , or any trace of grease, dust oil or parting compounds. For outdoor applications, it is essential to pre-treat the surface to obtain the best results, particularly in the case of aluminum (chromate conversion). Steel and galvanized steel must also be pretreated to obtain good adhesion and resistance against corrosion.

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Application Method	<p>Powder-Lak Powder Coating Series 3000 may be applied using any electrostatic high voltage powder coating equipment, with a charge of 30 - 100Kv. The compressed air must be free of water and/or oil.</p> <p>The usual instructions of the equipment supplier must be followed concerning the preparation of recovered powder, the time/temperature baking cycle, cleaning of the spray booth and filter unit, and checking of the humidity. Adequate Personal Protective Equipment must be worn.</p>
Curing Schedule	<p>For increased energy efficiency and or production output one may use one of the following settings:</p> <ol style="list-style-type: none">200°C for 3 minutes (metal temperature)180°C for 5 minutes (metal temperature)160°C for 7 minutes (metal temperature)
Powder Data	<ol style="list-style-type: none">Particle size: max. 125 μ. The particle size is determined by an ALPINE Air Jet Sieve (DIN 53734).Specific Gravity: 1,3-1,6 (depending on tint and type).Coating thicknesses: 60-150 μ (for cold workpieces); up to 500 μ (for preheated workpieces)Theoretical Coverage: 7-10 sq. m/kg. with 70 - 80 μ depending on the type.
Colors	<p>Many RAL and SABS colors, standard colors as per the color card. Special colors on request, subject to minimum quantities.</p>
Gloss (GARDNER DIN 67530)	<p>1 – 95% (Gloss, semi-matt matt and dead matt qualities, special textures)</p>
Curing loss	<p>0,4-0,6%</p>
Shelf life	<p>About 6 months if stored in a cool, dry environment, not in excess of 25°C. Prevent exposure to sun and heat radiation, as these will affect the flow characteristics and gel time. Shelf life can be extended to 12 months if optimal storage conditions are met.</p>
Packaging	<p>20kg non-returnable, box with polythene bag.</p>
Cleaning of jigs	<p>With commercially available solvents or hot alkaline baths.</p>
Repair coating	<p>With 2K repair coatings</p>
Advantages	<p>Single coat with thicknesses of 40 - 150 μ. User-friendly, as no solvents are required. Reduced fire hazard, good edge covering. Loss reduced to 3 - 5% due to recovery of material, clean working stations, no evaporation period, low porosity of coating, excellent insulation. If coating is done correctly, no pollution. No dripping or running during application.</p>

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Surface	Aluminum plate, (chromate conversion pretreatment)
Coating thickness	Smooth finish: 70 +/- 10 μ Textured/Sandpaper finish: 100 +/- 10 μ
Pendulum hardness (DIN 53157)	180 - 200 secs.
Cross Hatch (DIN 53151)	Gt0
ERICHSEN cupping (DIN 53156)	5-9 mm (depending on formulation), 3-6 mm (semi-matt and textures finishes)
BUCHHOLZ Hardness (DIN 53153)	80-100
Spindle-bend test (DIN 53152)	Up to 5 mm for standard formulations 8-12 mm for semi-matt and texture finishes
Impact test GARDNER	> 8 Joules
Abrasion test	40 mg +/- 10 mg. (ERICHSEN abrasion with 400 double lift motions)
Salt Spray test ASTM B 177-61	240 - 1200 hours depending on type. Dis-bonding on Andreas cross: about 1 mm
Temperature resistance	Briefly: up to 180°C Long periods: up to 120°C ** ** No mechanical stress (slight yellowing of bright colors)
Dew point environment DIN 50017	500 hours with no dis-bonding (when suitably pre-treated).
Toxicological properties	The LD-50 figures for the resins and hardeners used are available.

NOTE: Test results apply to powders applied under controlled conditions. Variations may occur due to the surface, application, pre-treatment, curing, etc.

The data on this information sheet does not constitute a guarantee.