

POWDER - Lak

(PTY) LTD

Technical Information

Powder – Lak Series 5000 Powder Paints

- Basic Material** A thermo-curing combination of epoxy resin and polyester resin.
- Product Indication** Powder-Lak Powder Coating EP for electrostatic powder spray application (EPS).
- Applications** Powder-Lak Series 5000 is a evolutionary development of the time-tried Series 6000 system. It has been designed to require lower temperatures and curing time, without compromising on decorative and / or protective properties of the final paint film. It is suitable for single coat application wherever a high quality powder coated finish is desired.
Series 5000 also features a higher chemical resistance than its Series 6000 counterpart, making it more durable in certain environments.
- Properties** Series 5000 should not be used when the coating is to be subjected to abnormal conditions, in particular, to solvents and chemicals. A special advantage is its tough, flexible film with good mechanical properties, high resistance to abrasion and impact, and superior weather and heat resistance compared to regular epoxy hybrid coatings.
- Surface Preparation** The surface must be dry, free of rust and scale, or any trace of grease, dust, oil or parting compounds. On some surfaces, a light sandblasting improves adhesion. Special preparation is not required, but iron or zinc phosphating on steel- and chromating aluminum substrates will improve adhesion as well as corrosion protection.
- Application** Powder-Lak Series 5000 may be applied using any electrostatic, high voltage Method powder coating equipment, with a charge of 30 - 100 Kv. The compressed air must be free of water or oil and should have water / oil traps fitted close to the powder equipment.

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. When powder coating is done with hand-held equipment, adequate **Personal Protective Equipment** must be worn.

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Curing Schedule	For increased energy efficiency and or production output one may use one of the following settings: a) 160°C for 4 minutes (metal temperature) b) 150°C for 5 minutes (metal temperature) c) 140°C for 10 minutes (metal temperature)
Powder Data	<ol style="list-style-type: none">1. Particle size: max. 125 um. The particle size is determined by an ALPINE Air Jet Sieve (DIN 53734).2. Specific Gravity: 1,4-1,6 (depending on tint and type).3. Coating thicknesses: 40-150 um (for cold workpieces); up to 500 um (for preheated workpieces)4. Theoretical Coverage: 5-10 sq. m/kg. with 60 - 80 um depending on the type.
Colors	Many RAL and SABS colors, standard colors as per the color card. Special colors on request, subject to minimum quantities.
Gloss (GARDNER DIN 67530)	High gloss, semi-matt.
Curing loss	0,6-1,2%
Shelf life	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.
Packaging	20kg non-returnable, box with polythene bag.
Cleaning of jigs	With commercially available solvents or hot alkaline baths.
Repair coating	By re-coating - With usual single or twin-pack repair coatings. - With touch-up paint supplied by Powder-Lak
Advantages	Single coat with thicknesses of 40 - 150 um. 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.

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Surface	0,8 mm shallow-drawn plate, degreased.
Coating thickness	70 +/- 10 um.
Cross Hatch (DIN 53151)	Gt0
ERICHSEN cupping (DIN 53156)	8-10 mm, 4-6 mm for semi-matt qualities.
BUCHHOLZ Hardness (DIN 53153)	>100
Spindle-bend test (DIN 53152)	Up to 2 mm. 6-10 mm for standard formulations.
Impact test GARDNER	> 120 inch lbs.
Abrasion test (ERICHSEN abrasion with 400 double lift motions)	30mg +/- 10 mg.
Salt Spray test ASTM B 177-61	240 - 1000 hours depending on type. Maximum sub-rusting: 1,5 mm on Andreas cross.
KESTERNICH Test DIN 50018	10 rounds "i.o"
Temperature resistance	Briefly: up to 180°C Long periods: up to 120°C * * No mechanical stress (slight yellowing of bright colors)
Hot water resistance	100 hours "o.B" and good resistance against lye solutions.
Dew point environment DIN 50017	500 hours with no disbonding (when suitably pretreated).
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, pretreatment, curing, etc.
The data on this information sheet does not constitute a guarantee.