Technical Information

Powder – Lak Series 4000 Powder Paints

Qualicoat P-1630

Basic Material A thermo-curing acidic, oil free polyester combined with TGIC for exterior applications.

Product Indication Powder-Lak Series 4000 or electrostatic powder spray application (EPS).

Applications POWDER-LAK Series 4000 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 excellent resistance to UV 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.

Properties POWDER-LAK Series 4000 has excellent mechanical properties, e.g. surface hardness, impact and shock resistances, deformability, 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 pretreat 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.

Application POWDER-LAK Series 4000 may be applied using any electrostatic high voltage **Method** powder coating equipment, with a charge of 30 - 100Kv. The compressed air must be free of water and/or oil. 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 **P**ersonal **P**rotective **E**quipment must be worn.

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Curing Schedule	MAX 200°C for 10 minutes (metal temperature) MIN 180°C for 15 minutes (metal temperature)
Powder Data	1. Particle size: max. 125 µ. The particle size is determined by an ALPINE Air Jet Sieve (DIN 53734). 2. Specific Gravity: 1,25-1,8 (depending on tint and type). 3. Coating thicknesses: 60-120 µ (for cold workpieces); up to 500 µ (for preheated workpieces) 4. Theoretical Coverage: 7-10 sq. m/kg. with 60 - 80 µ 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)**	1 – 95% (Gloss, semi-matt matt and dead matt qualities, special textures)
Curing loss	0,4-0,6%
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	With 2K repair coatings

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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 (ERICHSEN abrasion with 400 double lift motions)	40 +/- 10 mg.
Salt Spray test ASTM B 177-61	240 - 1200 hours depending on type. Disbonding on Andreas cross: = < 1 mm
Temperature resistance	Briefly: up to l80°C Long periods: up to 120°C * * No mechanical stress (slight yellowing of bright colors)
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.

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