HMG Powder Coatings Limited

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Clear Low Bake / High Reactive

727-0S600P-459

Product Description	An exterior durable system offering excellent corrosion resistance, gloss retention and mechanical properties. Formulated primarily as a final finish coat for alloy wheels, the product is completely neutral, having no optical brightener present making it ideal for diamond cut surfaces or other surfaces where the minimum influence of the clear protective coat is desired. Clear 459 is resistant to yellowing from higher film thicknesses or over-baking and its high reactivity make it a perfect partner for protecting heat sensitive colours as the temperature in the oven can be reduced.		
Key Benefits	Excellent clarity Non-acrylic system High Build without losing Definition of Image High reactivity – cures at 160 Celsius High reactivity – gives the user more freedom and will be less prone to cracking due to undercure		
Powder Properties	Chemistry	Thermosetting carboxylated polyester cured with a multifunctional curing agent.	
	Application	Corona electrostatic spray.	
	Coating Thickness (DFT)	General recommendation is 60-100 microns (µm), with a minimum thickness of 60 µm.	
	Gloss (ISO 2813)	Gloss	>96 GU
	Specific Gravity	1.20 g/cm^3	
	Theoretical Coverage	From 14 m^2/kg at 60 microns film thickness.	
	Storage & Shelf Life	When stored in a cool (<20^{o}C), dry environment: 12 months.	
	Curing Schedule	5 minutes at 180 Celsius 7 minutes at 170 Celsius 10 minutes at 160 Celsius	
Pretreatment	To ensure maximum adhesion the substrate must be thoroughly clean, free from grease, oil, rust, mill scale or any other contaminant. Cleaning may be carried out either by shot blasting, solvent or chemical degreasing. For applications where high corrosion or chemical resistance is required the substrate should be chemically treated prior to powder coating, typically:		
	Ferrous substrates	iron or zinc phosphate	
	Zinc coated steel	zinc phosphate or chromate conversion	
	Aluminium	chromate conversion	
Mechanical Tests	Unless otherwise specified, all tests were carried out under laboratory conditions on 0.8mm degreased and zinc phosphated steel panels. A powder coating DFT of 60-70 microns was used.		
	Hardness	ISO 2815 Buchholtz Indentation	>80
	Flexibility	ISO 1519 Cylindrical Mandrel	Pass >5mm
	Adhesion	ISO 2409 2mm Crosshatch	Pass Gt0
	Cupping	ISO 1520 Erichsen	Pass >4mm
	Impact	BS 3900: Part E7	>20kg cm (N)
Corrosion and Durability	Sulphur Dioxide	Kesternich Test ISO 3231	After 24 cycles, infiltration <1mm from scratch
	Neutral Salt Fog	ASTM B117 (500 hours)	Corrosion creep <2mm from scratch Adhesion – Gt0

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	Mortar Resistance	ASTM C207	Easy to remove. No staining
	Boiling Water	2 hours boiling water	No defects or detachments
	Humidity	BS3900: Part F2	Pass. 1000 hours without any effect.
	Exterior Durability	After 12 months, minimal loss of gloss or colour change. No film breakdown or reduction in protective properties	
Chemical Resistance	This product shows excellent resistance to water, brine, hydrochloric acid, dilute sulphuric, acetic and phosphoric acids, dilute alkalis, peroxides and bleach, alcohols and urea.		
Colour Availability	Not Applicable – a clear system.		
Application Tips	To achieve optimum brightness, the film thickness should be kept as low as possible whilst still achieving good flow. This system is sensitive to under-cure. Where the system is under-cured, cracking can occur over time. Significant under-cure can result in cracking hours or days after the product has cooled, but cracking may not occur for some weeks if under-cure has only been slight. Take steps to ensure complete cure, testing the cure of the product as appropriate. Where under-cure has occurred, re-stoving the product at the correct cure temperature will normally correct the issue.		
Restriction of Hazardous Substances (RoHS/RoHS2)	This product conforms to the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations (RoHS and RoHS2) Directive. It does not contain any compounds of lead, mercury, cadmium or hexavalent chromium; nor does it contain polybrominated biphenyls (PBBs) or polybrominated diphenyl ether (PBDE).		
Health & Safety	This product is intended for use only by professional applicators in industrial environments. Consult the relevant health and safety data sheet indicated in the box label before use.		

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