



# HMG Powder Coatings Limited

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## Polyester Wrinkle

<b>Product Description</b>	Designed for both exterior and internal use, this range of powder coatings offers both excellent outdoor durability and decorative aspect. This product range is a structured finish, commonly referred to as a 'wrinkle' effect, which shows a fine crinkled surface; these finishes are attractive tactile coatings often used for hi-fi equipment, car parts, office furniture, etc. Additionally, their uneven surface will mask small flaws that may be present in the underlying substrate. Unlike the epoxy wrinkle effect, the polyester system is not moisture sensitive and has good storage stability making the effect highly reproducible.		
<b>Powder Properties</b>	Chemistry	Thermosetting carboxylated polyester cured with a multifunctional curing agent.	
	Application	Corona electrostatic spray. The system can be modified for Tribo application as required.	
	Coating Thickness (DFT)	Depending on covering power and shade, general recommendation is 80-120 microns ( $\mu\text{m}$ ), with a minimum thickness of 60 $\mu\text{m}$ . The appearance of structured finishes will be affected by film thickness and our recommendation is to ensure a tightly controlled DFT range.	
	Sheen	Gloss or Semi-Gloss	
	Specific Gravity	1.40 – 1.70 $\text{g}/\text{cm}^3$ depending on colour.	
	Coverage	From 10-14 $\text{m}^2/\text{kg}$ at 60 microns film thickness.	
	Storage & Shelf Life	When stored in a cool ( $<20^\circ\text{C}$ ), dry environment: 12 months.	
	Curing Schedule	See box label for curing conditions. Typical object temperature conditions are: <ul style="list-style-type: none"><li>• 10 minutes at 200 Celsius</li></ul> Full cure at elevated temperature is required to achieve the wrinkled effect. Under-cure results in a smooth glossy surface.	
<b>Pretreatment</b>	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	
<b>Mechanical Tests</b>	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)
<b>Corrosion and Durability</b>	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
	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.

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# Polyester Wrinkle

Exterior Durability	After 12 months, minimal loss of gloss or colour change. No film breakdown or reduction in protective properties
<b>Chemical Resistance</b>	The range shows excellent resistance to water, brine, hydrochloric acid, dilute sulphuric, acetic and phosphoric acids, dilute alkalis, peroxides and bleach, alcohols and urea.
<b>Colour Availability</b>	All colours from BS 5252, BS 4800, BS 381C, RAL Classic, RAL Design, Pantone and NCS ranges. Any submitted colour standard can be manufactured to customer's requirements
<b>Restriction of Hazardous Substances (RoHS/RoHS2)</b>	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).
<b>Health &amp; Safety</b>	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.
<b>Application Notes</b>	The wrinkling additive used in the product's formulation is sensitive to temperature. Field experience and laboratory testing show that failure to reach the required <i>object temperature</i> will result in a less densely wrinkled finish, which will make the effect more glossy than expected. In extreme circumstances, the wrinkling additive will not activate at all and the product will be a smooth gloss finish. Continued baking at a lower temperature will cure the product, but the wrinkle will not be apparent.



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