



HMG Powder Coatings Limited

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Polyester Edge Covering (EC)

Part of the 837 Series

Product Description	Designed for both exterior and internal use, this range of powder coatings offers both excellent outdoor durability and decorative aspect. Common 'real life' corrosion failures occur at sharp edges caused by laser cutting or pressing; the edge-protecting technology in the Polyester EC series surrounds the edges, helping avoid early failures. Common applications include garden furniture, street furniture, automotive parts, heavy machinery and electrical enclosures.	
Powder Properties	Chemistry	Thermosetting carboxylated polyester cured with a multifunctional curing agent.
	Application	Corona and Tribo
	Coating Thickness	Depending on covering power and shade, general recommendation is 60-100 microns (μm), with a minimum thickness of 60 μm .
	Gloss (ISO 2813)	Gloss 85 \pm 10 Semi-Gloss 60 \pm 7 Matt 25 \pm 5
	Specific Gravity	1.40 – 1.90 g/cm ³ depending on colour.
	Coverage	From 10-14 m ² /kg at 60 microns film thickness.
	Storage & Shelf Life	When stored in a cool (<20°C), dry environment: 24 months.
	Curing Schedule	See box label for curing conditions. Typical object temperature conditions are: Gloss 17–37min @ 170°C / 10–30min @ 180°C / 7–20min @ 190°C Matt 17–30min @ 190°C / 10–20min @ 200°C / 7–15min @ 210°C We recommend that where the coatings may be subjected to temperatures above 210°C, a trial is first carried out to ensure there is no unwanted colour variation. Direct-fired gas ovens may also cause colour to change from the expected result.
	Curing Coefficient	For oven temperature recorders, use the minimum time values at temperature presented above. Set the minimum cure temperature to 155°C.
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, or chrome-free system. Advice should be sought from the chemical pretreatment supplier on the use of their products.	
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)

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Polyester Edge Covering

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 no blistering or rust at edge
	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	The range shows excellent resistance to water, brine, hydrochloric acid, dilute sulphuric, acetic and phosphoric acids, dilute alkalis, peroxides and bleach, alcohols and urea.		
Fire	Construction	The range has been tested to the requirements of EN 13823 and ISO 1716 and is classified as A2 s1 d0 according to EN 13501-1	
	Rail	Additional to the above, the range has been tested to EN 45545-2+A1 Annex C and meets the requirements of London Underground S1085 'Fire Safety Performance of Materials'	
Colour Availability	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.		
Structured Effects	This range is also available in sandpaper texture, ripple texture, wrinkle finish and hammer effects.		
Available Modifications	DG	Zinc surfaces out-gas at elevated temperatures, causing unsightly cratering in the powder coating surface; these craters are corrosion hot spots resulting in 'white rust' deposits. 'DG' polyesters have been modified to significantly reduce, or even eliminate, the occurrence of this cratering whilst still maintaining excellent recoatability.	
	AM	An Anti-Microbial coating – see 967 series data sheet for more details.	
	LB	Variable bake system to allow the applicator the freedom of choosing the right balance of line speed and cure temperature to suit his process. See 727 series data sheet for more details.	
RoHS/RoHS2/RoHS3	This product range conforms to the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations Directives. Refer to our full statement on the hmgpowdercoatings.co.uk website.		
Health & Safety	Consult the relevant health and safety data sheet indicated in the box label before use.		
Example Application Procedure	<ol style="list-style-type: none"> 1. Prepare the substrate properly for the environment that the object will be placed (refer to ISO12944-2 for a list of environmental categories). Ensure the process cleans and provides an adequate key to the substrate. Pay attention to sharp edges, water traps, or other likely points of premature corrosion. 2. Spray using an electrostatic gun designed for powder coating application. Typical settings are 70 kV. Ensure that the minimum film thickness is being met. 3. Cure the coated objects in an oven, ensuring that the metal substrate achieves the correct temperature for the required duration. <p>Allow to cool before handling. Wrapping should be used that does not allow moisture to be trapped against the powder coating.</p>		



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