HMG Powder Coatings Limited

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Epoxy Polyester

Product Description

Often known also as 'Hybrids', a powder coating system based on a co-curing blend of epoxy and polyester resins. Designed where the user requires a superior protective and decorative finish for indoor applications. The system typically offers good flow, toughness and chemical resistance, but further modifications can be made, including increased mar resistance, chemical resistance, enhanced heat stability, cure speed.

Typical applications include white goods, office furniture, computer casings, electrical enclosures, etc.

Key Benefits

Excellent aesthetics
Good corrosion resistance
Good chemical resistance
Excellent adhesion

Powder Properties

Chemistry	A thermosetting epoxy-polyester resin system.
Application	Corona electrostatic spray. The system can be modified for Tribo application as required.
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)	A range from Matt (10%) to Gloss (>85%).
Specific Gravity	1.40 – 1.70 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^{o}C), dry environment: 12 months.
Curing Schedule	See box label for curing conditions. Typical object temperature conditions are: 617 Standard Bake: 10 minutes at 180 Celsius (object temperature) 617 Low Bake: 10 minutes at 160 Celsius (object temperature)

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 >5mm
Impact	BS 3900: Part E7	>25kg cm (N)

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Corrosion and Durability	Neutral Salt Fog	ASTM B117 (250 hours)	Pass – Corrosion creep <2mm from scratch
	Mortar Resistance	ASTM C207	Easy to remove. No staining
	Boiling Water	2 hours boiling water	No defects or detachments
	Humidity	BS 3900 Part F2	More than 1000 hours without effect
	Chemical Resistance	Resistant to most acids, alkalis and oils.	
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		
Fire	The range has been tested to the requirements of BS 476 parts 6 & 7 and has a **Class 0** surface as defined in various national building regulations. This range meets the requirements of London Underground Standard 1-085 'Fire Safety Performance of Materials' (Certificate #1142).		
Restriction of Hazardous Substances (RoHS/RoHS2)	This product range 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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