



# HMG Powder Coatings Limited

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## Polyester Metallic & Special Effect

916 Series

<b>Product Description</b>	Designed for both exterior and internal use, this range of powder coatings offers both good outdoor durability and decorative aspect. The range incorporates a blend of carefully chosen exterior durable polyester powder coating and one or more special effect pigments to give a range of effects, including metallic, anodic, pearlescent and sparkle. These coatings provide a very attractive finish to brighten any object.		
<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 60-100 microns ( $\mu\text{m}$ ), with a minimum thickness of 60 $\mu\text{m}$ .	
	Gloss (ISO 2813)	Gloss Semi-Gloss Matt	
	Specific Gravity	1.40 – 1.70 g/cm <sup>3</sup> depending on colour.	
	Coverage	From 10-14 m <sup>2</sup> /kg at 60 microns film thickness.	
	Storage & Shelf Life	When stored in a cool (<20°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 180 Celsius</li></ul>	
<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 >5mm Impact                         BS 3900: Part E7                                 >20kg cm (N)		
<b>Corrosion and Durability</b>	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.
	Exterior Durability	After 12 months, minimal loss of gloss or colour change. No film breakdown or reduction in protective properties	

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# Polyester Metallic & Special Effect

<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>Fire Resistance</b>	<b>Construction</b> The range has been tested to the requirements of EN 13823 and ISO 1716 and is classified as <b>A2 s1 d0</b> according to EN 13501-1 <b>Rail</b> 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'.
<b>Colour Availability</b>	A range of colours are available from stock. Any submitted colour standard can be manufactured to customer's requirements
<b>Bonding</b>	The process of 'bonding' fuses the blend of metallic effect particles to the powder coating base colour, resulting in better uniformity of colour, better charging characteristics and the option to recover and re-use over-spray. The range is generally not bonded unless specifically requested at the time of order. Bonding does not improve the exterior durability of a coating, in fact the opposite is more likely to be true, albeit a minor effect.
<b>Application Tips</b>	Metallic effects need some additional considerations to standard powder coating before application to achieve the best results. The following information is primarily for the application of blended metallic, however it does also have applicability for bonded systems. <ul style="list-style-type: none"><li>• Ensure the electrical earth is sound. We recommend connecting the work to a grounding rod and grounding clamp assembly rather than the spray gun. In any case, a resistance of &lt;0.5 megaohm is recommended and &lt;1.0 megaohm is vital. A poor electrical earth will result in poor penetration into the corners and recesses.</li><li>• Test the coating first – different application settings can achieve quite dissimilar effects.</li><li>• When using reciprocating guns, the speed should be kept the same or increased compared to standard colours. This reduces the risk of 'striping'.</li><li>• The gun to part distance must be kept constant. As the gun approaches the part, the metallic look will increase. This is owing to the heavier metallic effect pigments falling away from the part if the distance to further.</li><li>• Monitor gun nozzles during the application and remove any build-up before spitting can occur.</li><li>• Owing to the higher specific gravity of metallic effect pigments, fluidisation may need to be increased. Fluidised beds are preferable to box fed systems.</li><li>• Raising the kV will generally increase the metallic effect; however it is simpler to reduce the gun to part distance.</li><li>• Blended products should not be reclaimed, i.e. they should be sprayed to waste.</li><li>• For Bonded products, a maximum of 10% reclaim should be added back to virgin powder.</li></ul>
<b>RoHS/RoHS2/RoHS3</b>	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 <a href="http://hmgpowdercoatings.co.uk">hmgpowdercoatings.co.uk</a> website.
<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.



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