



# HMG Powder Coatings Limited

Dill Road, Castlereagh Industrial Estate, Belfast, BT6 9HU  
Tel. +44 (028) 9079 4930 Fax. +44 (028) 9040 1187  
www.hmgpowdercoatings.com  
sales@hmgpowdercoatings.co.uk

## Ultrachrome

616-0S100P-4617

<b>Product Description</b>	Ultrachrome is a super-bright and reflective metallic-effect powder coating. The extremely high gloss level and definition of image gives this chrome-like powder coating a mirror surface finish. On its own, it is suitable for interior applications with low humidity. For environments with higher potential for humidity or chemical attack, or for exterior applications, the coating should be over-coated with either Clear 1428 or Clear 1582.		
<b>Key Benefits</b>	Chrome-like finish Superb levelling 'Bonded' system, suitable for reclaim		
<b>Powder Properties</b>	Chemistry	Thermosetting carboxylated polyester cured with an epoxy resin.	
	Application	Corona electrostatic and Tribostatic spray.	
	Coating Thickness (DFT)	General recommendation is 90-110 microns ( $\mu\text{m}$ ), with a minimum thickness of 80 $\mu\text{m}$ .	
	Gloss (ISO 2813)	Gloss	>400 GU
	Specific Gravity	1.20 g/cm <sup>3</sup>	
	Theoretical Coverage	From 13 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	10 minutes at 180 Celsius	
<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 phosphate steel panels. A powder coating DFT of 70-80 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)
	Intercoat Adhesion	Hoffman Scratch Test	>1500g
		with Clear 1428	
<b>Corrosion and Durability</b>	Neutral Salt Fog	ASTM B117 (500 hours)	Corrosion creep <2mm from scratch Adhesion – Gt0
	Exterior Durability	Only suitable for exterior use as part of a two coat system with a clear top coat. The choice of clear coat will determine the gloss retention of the system	
<b>Chemical Resistance</b>	Tests should be carried out on specific chemicals to ensure the coating is suitable prior to use. As part of a two coat system with a clear top coat, the choice of clear coat will determine the chemical resistance.		
<b>Colour Availability</b>	A bright chrome-effect		

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<b>Application Tips</b>	<p>Metallic effects need some additional considerations to standard powder coating before application to achieve the best results.</p> <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>• A maximum of 30% reclaim should be added back to virgin powder.</li></ul> <p>For use in a 2 coat system</p> <ul style="list-style-type: none"><li>• Apply Ultrachrome to a dry coating build of 90-120 microns. A high voltage (kV) is often used.</li><li>• Cure the Ultrachrome. Fully curing the Ultrachrome will give the brightest results after clear coat application, however do not over-bake as this can cause intercoat adhesion issues; 10-15 minutes at 180°C is ideal.</li><li>• Apply and cure the top coat as soon as possible after applying primer. Discuss application parameters with the spray equipment supplier; generally reducing kV and <math>\mu</math>A to as low as possible will help penetration to difficult recesses. Handle only with clean lint-free gloves if over-coating. The top coat should be cured according to its cure cycle as recommended on the box label.</li></ul>
<b>Restriction of Hazardous Substances (RoHS/RoHS2)</b>	<p>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).</p>
<b>Health &amp; Safety</b>	<p>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.</p>

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