



HMG Powder Coatings Limited

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Latent Effects

Part of the 617 Series

Product Description	<p>Latent effects are a range of stunning special colours. They are the base part of what is probably the most user-friendly two-coat system on the market. When over-coated with an appropriate clear lacquer, the colour effect is comparable to an expertly-applied Candy transparent clear over base effect system.</p> <p>The inherent properties of the Latent system provides a much higher tolerance of film thickness variation, resulting in a much more consistent colour and a virtually non-existent window pane effect. The same technology is also employed to make a range of fluorescent (neon) colours, overcoming the poor consistency often seen in these effects.</p>							
Key Benefits	<p>Easier application than traditional technology</p> <p>No window pane effect</p> <p>Excellent aesthetics</p> <p>Excellent consistency</p> <p>Excellent reproducibility</p> <p>Good corrosion resistance</p> <p>Good chemical resistance</p> <p>Excellent adhesion</p>							
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 (base)	Depending on covering power and shade, general recommendation is 60-100 microns (μm), with a minimum thickness of 60 μm . Latent Chrome products should be applied 90-110 μm .						
	Coating Thickness (topcoat)	80-100 microns recommended						
	Gloss (ISO 2813)	The base coat is typically a semi-gloss (60-70 GU). The final sheen of the system will depend on the choice of top coat. High gloss to dead matt is achievable.						
	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°C), dry environment: 12 months.						
	Curing Schedule	Standard Bake: 10 minutes at 180 Celsius (object temperature)						
Pretreatment	<p>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:</p> <table><tr><td>Ferrous substrates</td><td>iron or zinc phosphate</td></tr><tr><td>Zinc coated steel</td><td>zinc phosphate or chromate conversion</td></tr><tr><td>Aluminium</td><td>chromate conversion</td></tr></table>		Ferrous substrates	iron or zinc phosphate	Zinc coated steel	zinc phosphate or chromate conversion	Aluminium	chromate conversion
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Mechanical Tests (base coat)	<p>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. Clear Gloss 459 was used and applied at 80-100 microns.</p> <table><tr><td>Hardness</td><td>ISO 2815 Buchholtz Indentation</td><td>>80</td></tr><tr><td>Flexibility</td><td>ISO 1519 Cylindrical Mandrel</td><td>Pass >5mm</td></tr></table>		Hardness	ISO 2815 Buchholtz Indentation	>80	Flexibility	ISO 1519 Cylindrical Mandrel	Pass >5mm
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Latent Effects

	Adhesion	ISO 2409 2mm Crosshatch	Pass Gt0
	Cupping	ISO 1520 Erichsen	Pass >5mm
	Impact	BS 3900: Part E7	>25kg cm (N)
Corrosion and Durability (multi-coat)	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 Durability (Light Fastness)	It is the responsibility of the user to determine whether the UV stability of the Latent system is appropriate for the intended end use. Owing to the inherent limitations of the pigments used to generate the Latent effect, the UV (light) stability may be reduced when compared to fully opaque colours. The reduced stability will vary from colour to colour. Overcoating with a super-durable clear coat may not increase the intrinsic light stability of the pigment.		
Colour Availability	A range of colours is available, including: <ul style="list-style-type: none"> • Latent Metallic effects, exhibiting a deep flop effect from flash of metallic brilliance to darker undertone. • Latent Chrome effects, mimicking a candy colour over a high chrome base. • Latent Neon effects, offering a transparent fluorescent (luminous) topcoat over a white base effect. 		
Clear Topcoat	Recommended clear coats are <ul style="list-style-type: none"> • Clear 1946 a standard clear coat • Crystal Clear 1428 a high flow clear coat • Clear 1582 an anti-graffiti polyurethane coating • Clear 1668 a satin effect • Clear 4201 a matt clear coat • Frost 4728 a dead matt clear, giving an anodised appearance Acrylic clear coats are not recommended.		
Post Forming	Post bending properties should be tested prior to approval of the system. Minor cracks may be apparent.		
Recommendations for use	Step 1	Application of the Latent base coat	
	Step 2	Cure the Latent base coat as recommended on its box	
	Step 3	Apply a suitable clear coat. It is recommended to use recoat type settings on the spray gun or low KV typically 50-60 and low micro amps typically 10-20.	
	Step 4	Cure the clear coat as recommended on its box	
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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