



HMG Powder Coatings Limited

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Epoxy Polyester NZP

Product Description A zinc-free epoxy-polyester powder coating primer specifically designed for shot-blasted steel and zinc substrates. The coating incorporates the latest advanced anti-corrosion technology and offers enhanced corrosion protection in the most demanding environments. It must be coated with a second coat, usually polyester, for exterior use. However an epoxy or epoxy-polyester system could be used for interior use. Owing to its inherent properties, the epoxy polyester NZP does not have the over-coating problems associated with pure epoxy systems and the product can be fully cured before the second coat is applied. It can therefore also be used as a holding primer and as a basecoat for solvent-based liquid coatings.

Key Benefits

- Excellent corrosion resistance
- Very good chemical resistance
- Excellent adhesion to substrate
- Excellent overcoatability and intercoat adhesion without sanding
- Very good corner-covering (edge coverage)
- Good out-gassing properties
- Can be used as a holding primer
- Does not contain ecologically toxic zinc

Powder Properties

Chemistry	A thermosetting epoxy-polyester resin system.
Application	Corona electrostatic spray.
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)	70% \pm 5 on a 60 degree head
Specific Gravity	1.50 – 1.60 \pm 0.1 g/cm ³
Theoretical Coverage	Approximately 9-11 m ² /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 (object temperature) *see recommendations for use.

Pretreatment To ensure maximum adhesion the substrate must be thoroughly clean, free from grease, oil, rust, mill scale or any other contaminant. Recommended surface preparation is by solvent or chemical degreasing, followed by grit blasting (recommended blast profile: R_z 35-65 μm , R_a 6-10 μm , minimum cleanliness: SA2.5); however the substrate may instead be chemically cleaned and treated (typically a zinc phosphate system) prior to powder coating. If using a chemical treatment, discuss the performance requirements with the treatment chemical supplier.

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, followed by a second coat of RAL 9010 827 Architectural Polyester to 60-70 microns.

Hardness (NZP)	ISO 2815 Buchholtz Indentation	>80
Flexibility (NZP)	ISO 1519 Cylindrical Mandrel	Pass >5mm
Adhesion	ISO 2409 2mm Crosshatch	Pass Gt0
Cupping (NZP)	ISO 1520 Erichsen	Pass >5mm
Impact (NZP)	BS 3900: Part E7	>25kg cm (N)
Intercoat Adhesion	Hoffman Scratch Test	>1500g

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Epoxy Polyester NZP

Corrosion and Durability	Neutral Salt Fog	ASTM B117 (1000 hours) a) Steel, iron phosphate with final rinse b) Steel, zinc phosphate c) Steel, grit-blasted as per recommendations	Corrosion creep <2mm from scratch Adhesion – Gt0 Corrosion creep <2mm from scratch Adhesion – Gt0 Corrosion creep <2mm from scratch Adhesion – Gt0
	Boiling Water	2 hours boiling water	No defects or detachments
	Humidity	BS 3900 Part F2	More than 1000 hours without effect
	Colour Availability A light grey and buff are available as standard. Other colours can be manufactured to order.		
Recommendations for Use	<p>Select a pre-treatment regime appropriate to the substrate and the desired performance. Where a chemical pre-treatment such as a phosphate system is used, seek advice from the pre-treatment chemical supplier. Care should be taken not to contaminate the surface before applying a second coat; over-curing the primer or handling the surface without gloves can compromise the intercoat adhesion.</p> <ul style="list-style-type: none"> • Apply Epoxy Polyester NZP to a dry film build of at least 60 microns, ensuring all corners and recesses are covered. • Bake the primer. Ideally the primer will be partially (so-called 'green') cured to gel the coating, however it may also be fully cured, but do not over-bake. • 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 μA to as low as possible will help penetration to difficult recesses. Handle only with gloves over-coating. The second coat may be applied whilst the primer is still warm. <p>Should over-curing have occurred or where oil contamination has been unavoidable, the primer may need to be degreased with a mild detergent or slightly abraded before the second coat is applied.</p>		
Restriction of Hazardous Substances (RoHS/RoHS2)	<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> <p>Please refer to our statement on RoHS, available at www.hmgpowdercoatings.com</p>		
Health & Safety	<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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