HMG Powder Coatings Limited
Dill Road, Castlereagh Industrial Estate, Belfast, BT6 9HU
Tel. +44 (028) 9079 4930 Fax. +44 (028) 9040 1187
e-mail: sales@hmgpowdercoatings.co.uk

Infrared Reflective Fed Std 33446 (Tan 686)

Product Description

An outdoor durable system specifically formulated to meet the requirements of military standards:

- DEF STAN 80-122 Issue 3
- DEF STAN 00-23 Issue 4

In addition to the above, the product offers excellent flow, high corrosion resistance, optimum mechanical properties and excellent gloss retention.

Key Benefits

An infrared reflective surface
Good corrosion resistance
Good chemical resistance
Excellent adhesion
Non-toxic

Powder Properties

Chemistry	A thermosetting carboxylated polyester resin system.
Application	Corona electrostatic spray.
Coating Thickness (DFT)	General recommendation is 60-100 microns (µm), with a minimum thickness of 60 µm.
Gloss (ISO 2813)	Matt 7-10% measured on a 60° head.
Specific Gravity	1.70 g/cm^3
Coverage (theoretical)	From 9 m^2/kg at 60 microns film thickness.
Particle Size (BS 3900: J2)	< 0.1% m/m retained on a 150 microns sieve
Storage & Shelf Life	When stored in a cool (<20°C), dry environment: 12 months.
Curing Schedule	10 minutes at 200 Celsius (object temperature)

Infrared Reflectance

DEF STAN 00-23 Annex A — Pass – 40-50% reflectance between 700 and 1200 nanometres

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
	Suphur Dioxide Resistance	ISO 3231 Kesternich	After 24 cycles, no infiltration beyond 1mm of 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
	Natural Weathering	After 12 months, minimal loss of gloss or colour change. No film breakdown or reduction in protective properties	
	Chemical Resistance	Resistant to most acids, alkalis and oils.	
Colour Availability	A close match to Federal Standard 33446 (Desert Tan 686) Other colours in the range • BS 381C 361 Light Stone • BS 381C 285 NATO Green • RAL 6014 Yellow Olive • Black Other colours are available on request. Normally a colour standard reference, infrared reflectance criteria and ideally a military standard specification should be included with a request for a new colour.		
Restriction of Hazardous Substances (RoHS/RoHS2)	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).		
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.		