



UV Cured Powder Coating: Metal

Technical Properties

PRODUCT OVERVIEW

UVMax® UV cured powder coating from Keyland Polymer is durable and functional for a variety of products and applications.

Available in Polyester, Epoxy, and Polyester Epoxy Hybrid, UVMax® is an excellent coating for metal applications in the transportation, building materials, industrial products, and other markets.

Keyland can develop a wide range of powders to match to any RAL, Pantone, or supplied color standard.

PRODUCT BENEFITS

- Zero VOCs
- Instant cure
- Highly durable and chemically resistant
- Wide range of applications
- Large palette of colors, glosses, and textures
- Antimicrobial formulation available

Property	Test Method	Result
Gloss	ASTM D 523	3-95 GU @60°
Adhesion	ASTM D 3359, Method B	4B Minimum
Pencil Hardness	ASTM D 3363	H - 4H
Impact Resistance	ASTM D 2794	15-160+ in.-lbs Direct 15-160+ in.-lbs Indirect
Abrasion Resistance	ASTM D 4060 CS-17 wheel, 500 g, 1000 cycles	10-35 mg material loss
Conical Mandrel	ASTM D 522	1/8" Mandrel No Cracking
Salt Spray	ASTM B 117	1000 Hrs. Pass < 1/8" Scribe Creep No Blisters

Film properties were determined using 1.7-2.3 mils (43-58 μm) powder film over pretreated iron phosphated, chrome rinsed, 22-gauge, unpolished cold rolled steel test panels. Impact was determined at 2.0 mils.

Application Data

Parameters	Recommendations
Application	Powder is typically sprayed using corona electrostatic spray guns.
Melt	Melt times will range from 1-4 minutes depending on metal thickness, part size, oven set temperatures, and type of oven.
UV Cure	Opaque powder coatings should be cured using gallium-doped lamps using the correct dosage and intensity range. UVA dosage of 400-1200 mJ/cm^2 and intensity of 150-700 mW/cm^2 UVB dosage of 300-700 mJ/cm^2 and intensity of 100-500 mW/cm^2 UVC dosage of 60-150 mJ/cm^2 and intensity of 20-100 mW/cm^2 A coating temperature of 100-130°C (212-266°F) is recommended at the time of cure.
UV LED Cure	Unpigmented and pigmented powder coatings will cure using a UV LED lamp under the correct parameters. Contact Keyland Polymer for product and process information.
Storage and Shelf Life	Dry and cool conditions below 18°C (65°F) for 6 months are recommended for storage stability. Contact Keyland Polymer to confirm the appropriate storage conditions for your product.

*Disclaimer: The recommendations and suggestions herein are made without guarantee or representation of results. Actual product performance will depend on the conditions in which the product is used. We recommend adequate testing in your laboratory or plant to determine if this product meets all your finish requirements.

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