



UV Cured Powder Coating: Carbon Fiber

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, or Polyester Epoxy Hybrid, UVMax® is an excellent coating for Carbon Fiber applications in the transportation, light weighting, 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 pallet of colors, glosses, and textures

Property	Test Method	Result
Gloss	ASTM D 523	3-90 GU @60°
Adhesion	ASTM D 3359, Method B	4B Minimum
Pencil Hardness	ASTM D 3363	H - 4H
Abrasion Resistance	ASTM D 4060 CS-17 wheel, 500 g, 1000 cycles	10-35 mg material loss

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Further physical testing is reported/ performed as requested by the customer. Keyland Polymer has the capability to formulate coatings to meet stringent specifications specific to customer needs.

Film properties were determined by averaging test results on carbon fiber substrates at 1.8-2.5 mils (46-64 µm) powder film thickness.

Note: Due to the nature of many carbon fiber materials' surface properties, surface preparation may be necessary to insure good physical properties. Contact Keyland Polymer for further information.

UVMax® Defender Antimicrobial

UVMax® is available with antimicrobial protection, inhibiting the growth of harmful microbes which create bacteria, viruses, algae, or fungi on powder coated surfaces. Added protection without sacrificing appearance or performance of UVMax® coatings. Contact us to learn more.

Application Data

Parameters	Recommendations
Application	Powder is typically sprayed using corona electrostatic spray guns. Some carbon fiber materials require use of a conductive aid to allow for electrostatic transfer. Contact Keyland Polymer for more information.
Melt	Melt times will range from 0.5-3 minutes depending on polymer base, part size/ dimensions, oven set temperatures, and type of oven.
UV Cure	It is recommended that UV powder coatings be cured using gallium-doped lamps with a UVV dosage of 2000-4000 mJ/cm ² and UVV intensity of 1000-2000 mW/cm ² . A coating temperature of 105-140°C (221-284°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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