



UV Cured Powder Coating: MDF

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 MDF applications in the furniture, store fixture, cabinetry, and architectural markets.

Keyland can develop a wide range of powders to match 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
60° Gloss	ASTM D 523	3 - 90
Film Build	ASTM D 4138, Method A Destructive, Tooke Gauge	3 - 5 mils
Adhesion	ASTM D 3359, Method A (X-scribe)	4A Minimum
Pencil Hardness	ASTM D 3363	H - 4H
Impact	NEMA LD 3-2005, Test Method 3.8	35-60+ in. minimum, no cracking
Abrasion Resistance	ASTM D 4060, CS-17 wheel, 500 g, 1000 cycles	10 - 35 mg material loss
Boiling Water Resistance	NEMA LD 3-2005, Test Method 3.5	No blistering
Stain Resistance and Cleanability Testing		
10% Citric Acid	NEMA LD 3-2005, 3.4	No effect
Vegetable Oil	NEMA LD 3-2005, 3.4	No effect
Coffee	NEMA LD 3-2005, 3.4	No effect
Tea	NEMA LD 3-2005, 3.4	No effect
Milk	NEMA LD 3-2005, 3.4	No effect
Catsup	NEMA LD 3-2005, 3.4	No effect
Mustard	NEMA LD 3-2005, 3.4	No effect
10% Providone Iodine	NEMA LD 3-2005, 3.4	No effect
Ammonia	NEMA LD 3-2005, 3.4	No effect
Crayon	NEMA LD 3-2005, 3.4	Very Slight effect
Ethanol/Water	NEMA LD 3-2005, 3.4	No effect
Lipstick	NEMA LD 3-2005, 3.4	No effect
#2 Pencil	NEMA LD 3-2005, 3.4	Slight effect
Shoe Polish	NEMA LD 3-2005, 3.4	Slight effect

Application Data

Parameters	Recommendations
Application	Powder is typically sprayed using corona electrostatic spray guns. Preheating of MDF should be kept to a minimum to reach a recommended surface temperature of 60-70°C (140-158°F), typically 1-2 minutes.
Melt	Melt times will range from 1-3 minutes depending on MDF 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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