

1184-M-B

Black, Low-Gloss, Conformal Coating With Secondary Heat-Curing Capabilities

APPLICATIONS	FEATURES	BONDS	BIO-APPROVALS
- Protection of Light-Sensitive Components - Concealing Components on Circuitry - Conformal Coating of Medical Components	- Opaque Color for Concealing Component Assembly - Solvent Free - For Coating or Sealing - Secondary Thermal-Cure for Post-Bake Operations - Easy Inspection of Coverage	- CAP - Polyurethane - Polystyrene - Steel - SAN - FR-4 Epoxy - Glass	- ISO 10993 Cytotoxicity - ISO 10993 Implantation - ISO 10993 Hemolysis - ISO 10993 Systemic Toxicity - ISO 10993 Intracutaneous

INTRODUCTION

Dymax MD[®] Medical Device adhesives are solvent free and cure upon exposure to UV light. Their ability to cure in seconds enables faster processing, greater output, and lower assembly costs. When cured with Dymax spot, focused-beam, or flood lamps, they deliver optimum speed and performance for medical device assembly while enhancing worker safety. This product is in full compliance with the RoHS Directives 2002/95/EC and 2003/11/EC.

TYPICAL UNCURED PROPERTIES

Solvent Content	None, 100% Solids	
Chemical Class	Urethane Oligomer/(Meth)Acrylate Monomer Blends	
Appearance	Black	
Cleaning Solvents	Alcohols/Chlorinated Solvents, Dynaloy CU-6	
Flash Point	>93°C (>200°F)	
Viscosity (20 rpm)	6,000 cP (nominal)	ASTM D-2556

TYPICAL CURED PROPERTIES

PHYSICAL

Durometer Hardness	D80	ASTM D-2240
Tensile at Break	6,200 psi	ASTM D-638
Elongation at Break	5%	ASTM D-638
Tensile Strength (Steel Laps)	1,200 psi	ASTM D-1002
Thermal Limit (Brittle/Degrades)	-55° to 150°C (-65° to 300°F)	DSTM D-200*
Coefficient of Linear Thermal Expansion	70 x 10 ⁻⁶ in/in/°C	ASTM D-696
Water Absorption	0.4%	ASTM D-570

*DSTM Refers to Dymax Standard Test Method

ELECTRICAL

Dielectric Strength	1,800 Volts/mil	ASTM D-1304
Dielectric Constant, 1MHz	3.41 (23°C)	ASTM D-1304
Dissipation Factor, 1MHz	0.03 (23°C)	ASTM D-1304
Volume Resistivity	36 x 10 ¹² Ω-cm	ASTM D-1304
Surface Resistivity	38 x 10 ¹² Ω	ASTM D-1304



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Technical Data Collection Prior to 2000

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**STORAGE AND SHELF LIFE**

Store material in a cool, dark place when not in use. Do not expose to UV light or sunlight. Material may also polymerize upon prolonged exposure to ambient light. Replace lid immediately after use. This material has a minimum 12-month shelf life from date of shipment, unless otherwise specified, when stored between 10°C [50°F] and 32°C [90°F] in the original, unopened container.

TYPICAL LIGHT-CURE DATA

Lamp	5000-EC	UVC-6 with Electrodeless Lamp*
Light Type Lamp Type	UV/Visible 5" x 5" Flood	UV/Visible 1" x 6" Focused Beam
Maximum Lamp Intensity @ 365 nm Intensity @ Time Of Test @ 365 nm	300 mW/cm ² 150 mW/cm ²	8,000+ mW/cm ² 4,000 mW/cm ²
Adhesive Absorption Range (nm) Equipment Output Range (nm)	300-500 300-500	300-500 300-500
Cure Speed (Sec) Tack-Free Surface Cure Nominal Cure Depth (0.125")	30 N/A	5 2

* Fusion F300 with "D" bulb

Heat Cure After UV Curing

Heat may be used as a secondary cure for shadowed areas only after product has been cured with UV. The following is a guide and is dependent on the amount of material to be cured:

<u>Minimum Temperature</u>	<u>Time</u>
120°C (250°F)	30 minutes
150°C (300°F)	15 minutes

DISPENSING AND HANDLING ADHESIVE

This material may be dispensed with a variety of manual and automatic applicators or other equipment as required. Questions relating to dispensing and curing systems for specific applications should be referred to Dymax Application Engineering.

BIOCOMPATIBILITY

Polymerized Dymax MD[®] Medical Device adhesives are biocompatibility tested in accordance with ISO 10993 and/or USP Class VI. The completed tests are listed on each product data sheet. Copies of the test reports are available upon request. In all cases, it is the user's responsibility to determine and validate the suitability of these adhesives in the intended medical device. These adhesives have not been tested for prolonged or permanent implantation, and are only intended for use in short-term (<29 days) or single-use disposable-device applications. Dymax does not authorize their use in long-term implant applications. Customers using these materials for such applications do so at their own risk and take full responsibility for ensuring product safety and biocompatibility.

STERILIZATION

Compatible sterilization methods include gamma irradiation and ethylene oxide. Sterilization by autoclaving may be limited to certain applications. It remains the user's obligation to ascertain the effect of sterilization on the cured adhesive.

GENERAL INFORMATION

This product is intended for industrial use only. Keep out of the reach of children. Avoid breathing vapors. Avoid contact with skin, eyes, and clothing. Wear impervious gloves. Repeated or continuous skin contact with uncured material may cause irritation. Remove material from skin with soap and water. Never use organic solvents to remove material from skin and eyes. For more information on the safe handling of this material, please refer to the Material Safety Data Sheet before use.