

Multi-Cure[®] 9-984-B Black, Low-Gloss, Protective Conformal Coating

DESCRIPTION

Multi-Cure[®] 9-984-B is a single-component, 100% solids conformal coating specifically formulated for rapid room-temperature cure when exposed to UV/Visible light. Upon cure, Multi-Cure[®] 9-984-B produces a hard, black, low-gloss protective coating. This thin black coating is excellent for hiding components and board features. Based on DYMAX's 984 family of conformal coatings, 9-984-B exhibits excellent adhesion to a variety of metal, ceramic, and glass-filled epoxy surfaces. This product is in full compliance with the RoHS Directives 2002/95/EC and 2003/11/EC.

Multi-Cure 9-984-B is UL recognized 94V-0 (@ 0.002") and 94V-1 (@ 0.010") flame class.

TYPICAL UNCURED PROPERTIES (not specifications)

Solvent Content	None, 100% Reactive Solids	
Chemical Class	Urethane (Meth)Acrylate	
Appearance	Blue/Black Liquid	
Cleaning Solvents	Alcohols, Chlorinated Solvents or Ketones	
Viscosity (20 rpm)	6,000 cP (nominal)	ASTM D-2556

TYPICAL CURED PROPERTIES (not specifications)

Durometer Hardness	D80	ASTM D-2240
Tensile at Break	6,200 psi	ASTM D-638
Elongation at Break	5%	ASTM D-638
Water Absorption	0.4%	ASTM D-570
Thermal Limit (brittle/degrades)	-55° to 150°C (-65° to 300°F)	
Glass Transition Temperature, T _g	83°C	DSTM 256*

ELECTRICAL

Dielectric Strength	1,800 Volts/mil	ASTM D-1304
Volume Resistivity	35.8×10^{12} ohm-cm	ASTM D-1304
Surface Resistivity	384×10^{12} ohm	ASTM D-1304
Dissipation Factor, 1MHz	0.03 (23°C)	ASTM D-1304
Dielectric Constant, 1MHz	3.41 (23°C)	ASTM D-1304

*DSTM refers to DYMAX Standard Test Method

TYPICAL CURED DATA

Using 365 nm UV light ^[1]

	Cure Time (seconds)	Intensity ^[2] mW/cm ²	DYMAX Light-Welder [®] Lamps
Minimal Energy for Tack-Free Cure	30	150	5000-EC
Maximum Cure Depth (0.070 inch)	2	>1000	UVC6/F300*

* Recommend curing coating with conveyor speed between 1-5 ft/min depending upon printed circuit board.



HEAT CURE FOLLOWING UV EXPOSURE

Heat can cure this coating in areas UV light does not reach. UV/Visible cure produces a coating dry to the touch. Heat cure without UV curing leaves air-exposed surfaces either wet or tacky, so always cure air-exposed surfaces with UV light first. Heat cure works for cavities. The following heat-cure schedule may be used after UV/Visible light exposure:

<u>Coating Temperature</u>	<u>Time</u>
110°C [225°F]	1 hour
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 Applications Engineering.

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 polymerize upon prolonged exposure to ambient light. Replace lid immediately after use. This material has a minimum 12-month shelf life, unless otherwise specified, when stored between 10°C [50°F] and 32°C [90°F] in the original, unopened container.

CAUTION

This product is intended for industrial use only. Avoid breathing vapors. In case of inhalation, remove to fresh air and seek medical attention if symptoms persist. Avoid contact with skin, eyes, and clothing. In case of inhalation, remove to fresh air and seek medical attention if symptoms persist. In case of skin contact, immediately wash with soap and water for at least 15 minutes. In case of eye contact, flush thoroughly with water and get medical attention. Wash clothing before reuse. Keep out of reach of children. Do not take internally. In case of ingestion, see Material Safety Data Sheet. Workers should wear impervious gloves and eye protection. Repeated or continuous skin contact with uncured adhesive will cause irritation and should be avoided. Never use solvents to remove adhesive from skin and eyes. For specific information, refer to the Material Safety Data Sheet before use.

NOTES

- [1] Do not recommend lamps that emit high levels of shortwave light (for example, more than 15% 200-300 nanometer UV light).
[2] Nominal intensity. This reading does not reflect the maximum intensity capabilities emitted from each unit.

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DYMAX Corporation - 318 Industrial Lane - Torrington, CT 06790 - Phone: 860.482.1010 - Fax: 860.496.0608 - E-mail: info@dymax.com - www.dymax.com

DYMAX Europe GmbH - Trakehner Strasse 3 - D-60487 Frankfurt am Main - Germany - Phone: +49 (0) 69 / 7165-3568 - Fax: +49 (0) 69 / 7165-3830 - E-mail: dymaxinfo@dymax.de - www.dymax.de

DYMAX UV Adhesives & Equipment (Shenzhen) Ltd - Unit 807, Talfook Building, No. 9 Shi Hua Road, Futian Free Trade Zone, Shenzhen, China 518038 - Phone: +86.755.83485759 - Fax: +86.755.83485760 - E-mail: dymaxasia@dymax.com - www.dymax.com.cn

DYMAX Asia (HK) - Unit 1006, 10/F., Camarvon Plaza, No. 20, Camarvon Road, T.S.T., Kowloon, Hong Kong - Phone: +852.2460.7038 - Fax: +852.2460.7017 - E-mail: dymaxasia@dymax.com - www.dymax.com.cn

DYMAX Korea LLC - #903, CCMM B/D, 12 Yeoido-Dong, Youngdungpo-Gu, Seoul, Korea, 150-869 - Phone: 82-2-784-3434 - Fax: 82-2-784-5775 - E-mail: info@dymax.kr - www.dymax.co.kr