140-M Product Data Sheet

140-M **Mounting & Fixturing Adhesive**

APPLICATIONS

Laminations

- Tacking
- Bonding
- Potting
- Sealing
- Boroscopes
- Doublets

FEATURES & BENEFITS

- Resilient
- Optically Clear
- Low Stress
- Resists Yellowing, Thermal Shock, Vibration, and **Impact**

RECOMMENDED SUBSTRATES

- Glass
- Metal
- Plastics

BIOCOMPATIBILITY USP Class VI

Dymax high-performance optical adhesives cure upon exposure to UV light in seconds. Because of their solvent-free and rapid-cure features, they increase productivity, lower assembly costs, and enhance worker safety. When cured with Dymax spot, beam, or flood lamps, they deliver optimum speed and performance for a variety of optical applications. This product is in full compliance with RoHS directives 2015/863/EU.

TYPICAL UNCURED PROPERTIES (not specifications)

Solvent Content None - 100% Reactive Solids Urethane (Meth) Acrylate Composition

Appearance Clear

Flash Point >95°C (200°F)

Isopropyl Alcohol\Chlorinated Solvents\Ketones Solubility

D60

Viscosity (20 rpm) 3,000 cP (nominal) **ASTM D-1084**

TYPICAL CURED PROPERTIES (not specifications)

PHYSICAL

Durometer Hardness

Tensile at Break	3,000 psi	ASTM D-638
Elongation at Break	120%	ASTM D-638
Modulus of Elasticity	35,000 psi	ASTM D-638
Tensile Compression Shear:		
Glass-to-Glass	2,300 psi (exceeds glass strength)	DSTM D-250
Glass-to-Steel	1,700 psi (exceeds glass strength)	DSTM D-251
Water Absorption (24 h)	1.2%	ASTM D-570
Boiling Water Absorption (2 h)	3.2%	ASTM D-570
Linear Shrinkage	1.2%	ASTM D-2566

^{*}DSTM Refers to Dymax Standard Test Method



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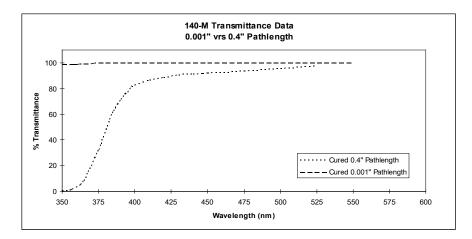
TYPICAL LIGHT-CURE DATA			
Lamp	MC-5000	MC-4000	UVC-6 Conveyor*
Light Type	UV/Visible	UV/Visible	UV/Visible
Lamp Type	5" x 5" Flood	3/16" Spot	1" x 6" Focused Beam
Maximum Lamp Intensity @ 365 nm	300 mW/cm ²	4000 mW/cm ²	8000+ mW/cm ²
Intensity @ Time Of Test @ 365 nm	150 mW/cm ²	1800 mW/cm ²	4000 mW/cm ²
Adhesive Absorption Range (nm) Equipment Output Range (nm)	300-500	300-500	300-500
	300-500	300-500	300-500
Cure Speed (Seconds) Fixture Between Glass Slides Tack Free Surface Cure Nominal Cure Depth (0.125")	2	4	<1
	7	5	<1
	1	5	1
Cure Depth In 1 Minute (Inch)	0.75	0.75	1.0

^{*}Equipped with Fusion "D" Bulb

The required intensity and cure time should be determined during the initial process validation stage. Factors that should be considered during process validation which can affect the adhesive cure rate and depth of cure include, but are not limited to, the part geometry, bond-gap size, percent light transmission through the substrate at 365 nm and 436 nm, distance from the light source to the adhesive bond area, UV and visible light intensity and spectral output of the light source, the desired margin of safety to be built into the process, and minimum and maximum exposure times.

OPTICAL PROPERTIES

Refractive Index (25°C) Uncured 1.477 ASTM D-1218 Refractive Index (25°C) Cured 1.504 ASTM D-1218



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.

STORAGE AND SHELF LIFE

Store the material in a cool, dark place when not in use. Do not expose to light. This product may polymerize upon prolonged exposure to ambient and artificial light. Keep covered when not in use. This material has an 18-month shelf life from date of manufacture, unless otherwise specified, when stored between 10°C (50°F) and 35°C (90°F) in the original, unopened container.



MD® MEDICAL DEVICE ADHESIVES

140-M Product Data Sheet

BIOCOMPATIBILITY & STERILIZATION

Dymax Medical Device adhesives are subjected to various biocompatibility tests in accordance with USP Class VI and/or ISO 10993 recommendations for disposable medical devices. The completed tests are identified on each Product Data Sheet, certificate copies of which are available upon request. Unless otherwise noted on the PDS, these adhesives have not been tested for prolonged or permanent implantation. In all cases, it is the user's responsibility to determine and validate the suitability of these adhesives in the intended medical device.

SME Technical Paper #AS91-397, 1991 advises that "All adhesives are toxic in their raw or uncured state. Complete cure...is required to retain Class VI certification status." It is recommended that biocompatibility testing of the completed device be done following sterilization to eliminate the effects of minor process variations and contamination during assembly. The sterilization methods of choice are gamma irradiation and ethylene oxide. Sterilization by autoclaving may be limited to certain applications. Gamma irradiation is known to polymerize unsaturated systems. However, it remains the user's obligation to ascertain the effectiveness of such a procedure.

SAFETY

Wear impervious gloves and/or barrier cream. Repeated or continuous skin contact with liquid adhesive will cause irritation and should be avoided. Do not wear absorbent gloves. Remove adhesive from skin with soap and water. Never use solvents to remove adhesive from skin or eyes.

CAUTION

For industrial use only. Avoid breathing vapors. Avoid contact with eyes and clothing. In case of contact, immediately flush with water for at least 15 minutes; for eyes, get medical attention. Wash clothing before reuse. Keep out of reach of children. Do not take internally. If swallowed, vomiting should be induced at once and a physician called. For specific information, refer to the Material Safety Data Sheet before use.

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 Safety Data Sheet before use.

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