

Multi-Cure® OP-24-REV-B Phenolic/Filled Plastics-to-Glass and Metal

APPLICATIONS	FEATURES	SUBSTRATES
<ul style="list-style-type: none"> Bonding Glass Lenses to Metal Fixtures or Backings 	<ul style="list-style-type: none"> Visible Light-Cure in Seconds Impact Resistant Excellent Adhesion to Metal and Glass 	<ul style="list-style-type: none"> Phenolic ABS Glass Metal

Dymax high-performance optical adhesives cure upon exposure to UV or visible light in seconds. Because of their solvent-free and rapid-cure features, they increase productivity, lower assembly cost, 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

Solvent Content	None - 100% Solids	
Composition	Urethane Acrylate	
Appearance	Clear/Straw Liquid	
Solubility	Alcohols/Chlorinated Solvents/Ketones	
Flash Point	>93°C (200°F)	
Density	1.06 g/mL	ASTM D-1875
Viscosity (20 rpm)	800 cP (nominal)	ASTM D-1084

TYPICAL CURED PROPERTIES

PHYSICAL

Durometer Hardness	D80	ASTM D-2240
Elongation at Break	35%	ASTM D-638
Modulus of Elasticity	80,500 psi	ASTM D-638
Tensile at Break	3,200 psi	ASTM D-638
Tensile Compression Shear		
Glass-to-Glass	4,000 psi (exceeds strength of glass)	DSTM D-250*
Glass-to-Steel	5,000 psi (exceeds strength of glass)	DSTM D-251*
Thermal Range (brittle/degrades)	-40° to +177°C (-40°/+350°F)	DSTM D-200*
Water Absorption (2 h)	1.1%	ASTM D-570
Coefficient of Thermal Expansion	90 x 10 ⁻⁶ in/in°C	ASTM D-696
Linear Shrinkage	0.39%	ASTM D2566

*DSTM refers to Dymax Standard Test Method

CURE DATA - Using 365 nanometer UV light:

	Cure Time (Seconds)	Intensity (mW/cm ²)	Dymax Lamps
Tack-free cure (1/8-inch bead)	10	150	5000-EC
Depth of cure (1/4 inch)	20	150	5000-EC
Fixture between glass slides	1	50	2000-EC

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.



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Technical Data Collection Prior to 2003

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HEAT CURE DATA (Secondary)

Heat may be used as a secondary cure for shadow areas, but only after product has been cured with UV or Activator 501-E. The following is a guide and is dependent on the amount of material to be cured:

<u>Minimum Temperature</u>	<u>Time</u>
110°C (225°F)	60 Minutes
120°C (250°F)	30 Minutes
150°C (300°F)	15 Minutes

OPTICAL PROPERTIES

Refractive Index (25°C) Cured 1.50 ASTM D-1218

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.

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.

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; get medical attention. Wash clothing before reuse. Keep out of reach of children. Do not take internally. If swallowed, induce vomiting at once and call a physician. Repeated or continuous skin contact with liquid adhesive will cause irritation and should be avoided. For specific information, refer to the product's Material Safety Data Sheet.

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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