

## OP-18 Optical Adhesive UV-Curing, Strippable, Temporary Bonding/Masking

### APPLICATIONS

- Masking
- Temporary Fixturing
- Replace Tab Fixtures and Jigs

### FEATURES & BENEFITS

- Complete Cure in Seconds
- Peelable
- Fluorescing
- Temporary Bonds to Most Substrates

### SUBSTRATES

- Plastic
- Metal
- Glass

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.

UNCURED PROPERTIES *		
Property	Value	Test Method
Solvent Content	None - 100% Solids	N/A
Composition	Urethane (Meth) Acrylate	N/A
Appearance	Translucent Gel	N/A
Solubility	Alcohols/Chlorinated Solvents/Ketones	N/A
Toxicity	Low	N/A
Flash Point	>93°C (200°F)	N/A
Viscosity, cP (20 rpm)	48,000 (nominal)	ASTM D2556

CURED MECHANICAL PROPERTIES *		
Property	Value	Test Method
Durometer Hardness	A75	ASTM D2240
Tensile at Break, MPa [psi]	4 [500]	ASTM D638
Elongation at Break, %	100	ASTM D638
Modulus of Elasticity, Mpa [psi]	6 [850]	ASTM D638
Thermal Range (brittle/degrades)	-55 to 180°C (-65 to +350°F)	DSTM D200 <sup>‡</sup>
Water Absorption, % (24 h)	11	ASTM D570

\* Not Specifications

N/A Not Applicable

‡ DSTM Refers to Dymax Standard Test Method



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**TYPICAL LIGHT CURE DATA**

Cure time and depth of cure are dependent upon intensity and wavelength of the UV light source used. Suggested UV curing equipment is shown in Table I.

**Recommended UV Curing Systems**

Light Source	Light Type	Intensity at 365 nm, mW/cm <sup>2</sup> [1]	Typical Cure Time, to ¼" depth	Application
Dymax 5000-EC	Moderate Intensity	100	5 seconds	Curing beads over a 5" x 5" area
Dymax PC-3	Wand-type spot	1,000	2 seconds	Curing small areas 0.35" dia.
Dymax PC-3D	Combination dispenser/wand type spot	1,000	2 seconds	Curing small areas 0.35" dia.
UVC-6 w/ Fusion "D" Bulb	Highest intensity beam	2,000	<1 seconds	Areas and beads

[1] Nominal intensity measured at a predetermined distance. Listed intensity is not the maximum output of the lamp.

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.

**STORAGE AND SHELF LIFE**

Store material in 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 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**

Dymax OP-18 is available in 3-ml, 5-ml, 10-ml, and 30-ml manual or machine ready syringes. It may be dispensed with a variety of automatic bench-top syringe applicators or other equipment as required. Direct questions relating to dispensing and curing systems for specific applications to the 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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