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

APPLICATIONS

- Bonding Glass Lenses to Metal Fixtures or Backings

FEATURES & BENEFITS

- UV/Visible Light-Cure in Seconds
- Impact Resistant
- Excellent Adhesion to Metal and Glass

RECOMMENDED SUBSTRATES

- Phenolic
- ABS
- Glass
- Metal

Dymax OP-24-REV-B high-performance optical adhesive cures upon exposure to UV or visible light in seconds. Because of its solvent-free and rapid-cure features, it increases productivity, lowers assembly costs, and enhances worker safety. When cured with Dymax spot, beam, or flood lamps, it delivers 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 *

Property	Value	Test Method
Solvent Content	None - 100% Solids	N/A
Appearance	Optical Clear	N/A
Chemical Class	Acrylated Urethane	N/A
Soluble in	Organic Solvents	N/A
Viscosity, cP	5,000 (nominal)	ASTM D2556
Shelf Life at Recommended Conditions from Date of Manufacture	18 months	N/A

CURED MECHANICAL PROPERTIES *

Property	Value	Test Method
Durometer Hardness	D80	ASTM D2240
Tensile at Break, MPa [psi]	23 [3,129]	ASTM D638
Elongation at Break, %	23	ASTM D638
Modulus of Elasticity, MPa [psi]	2463 [357,338]	ASTM D638

OTHER CURED PROPERTIES *

Property	Value	Test Method
Refractive Index (20°C)	1.52	ASTM D542
Boiling Water Absorption, % (2 h)	4.15	ASTM D570
Water Absorption, % (25°C, 24 h)	1.67	ASTM D570
Linear Shrinkage, %	0.31	ASTM D2566
Glass Transition Tg, °C	70	ASTM D5418
CTEα_1, µm/m/°C	55	ASTM E831
CTEα_2, µm/m/°C	206	ASTM E831

ADHESION

Substrate	Recommendation
Brass	✓
Copper	✓
Glass	✓
Poly(ethylene terephthalate)glycol	✓
Poly(phenylene oxide)	✓
Polyurethane	✓
Poly(vinyl chloride) , rigid	✓
Thermoplastic polyurethane	✓

✓ Recommended o Limited Applications

st Requires Surface Treatment (e.g. plasma, corona treatment, etc.)

* Not Specifications

N/A Not Applicable

Technical Data Collected 09/2023 Rev.01/18/2024

CURING GUIDELINES

Fixture time is defined as the time to develop a shear strength of 0.1 N/mm^2 [10 psi] between glass slides. Actual cure time typically is 3-to-5 times fixture time.

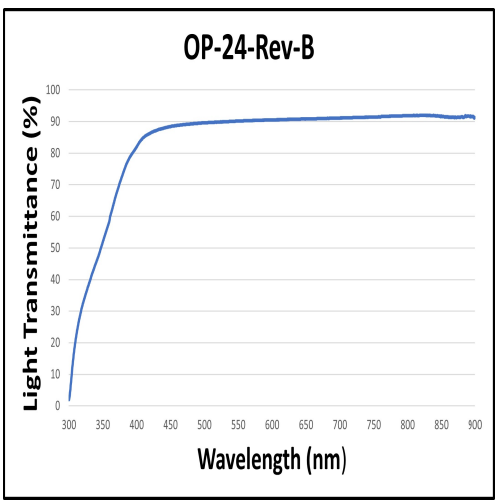
Dymax Curing System (Intensity)	Fixture Time or Belt Speed [A]
2000-ECE (50 mW/cm^2)	1 s
5000-EC (200 mW/cm^2)[B]	1 s
BlueWave® AX-550 RediCure® 365 nm (425 mW/cm^2)	2 s
BlueWave® AX-550 PrimeCure® 385 nm (800 mW/cm^2)	1 s
BlueWave® AX-550 VisiCure® 405 nm (650 mW/cm^2)	1 s
BlueWave® 200 (10 W/cm^2)	2 s

A Fixture times/belt speeds are typical for curing thin films through 100% UV and light-transmitting substrates. Light-obstructing substrates may require longer cure times.
B Intensity was measured over the UVA range (320-395 nm) using a Dymax ACCU-CAL™ 50 Radiometer.
C At 53 mm [2.1 in] focal distance. Maximum speed of conveyor is 8.2 m/min [27 ft/min]. Intensity was measured over the UVA range (320-395 nm) using the Dymax ACCU-CAL™ 160 Radiometer.

Full cure is best determined empirically by curing at different times and intensities, and measuring the corresponding change in cured properties such as tackiness, adhesion, hardness, etc. Full cure is defined as the point at which more light exposure no longer improves cured properties.

Dymax recommends that customers employ a safety factor by curing longer and/or at higher intensities than required for full cure. Although Dymax Application Engineering can provide technical support and assist with process development, each customer must ultimately determine and qualify the appropriate curing parameters required for their unique application.

LIGHT TRANSMITTANCE



SECONDARY HEAT CURE

Heat can be used as a secondary cure mechanism where the adhesive cannot be cured with light. Light curing must be done prior to heat cure. The following heat-cure schedule may be used:

Temperature	Time*
110°C [230°F]	60 minutes
120°C [250°F]	30 minutes
150°C [300°F]	15 minutes

*Note: Actual heat cure time may vary due to part configuration, volume of adhesive applied, and oven efficiency.

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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 shelf life noted on page 1 of this document, when stored between 10°C (50°F) and 32°C (90°F) in the original, unopened container.

DISPENSING THE ADHESIVE

The Dymax Application Engineering team is ready to discuss your application requirements to provide the most appropriate dispensing and/or spraying solution. Visit our current dispensing equipment portfolio here or consult our global contact phone numbers and online chat feature (available in North America only) during normal business hours for instant support.

CLEAN UP

Uncured material may be removed from dispensing components and parts with organic solvents. Cured material will be impervious to many solvents and difficult to remove. Cleanup of cured material may require mechanical methods such as ultrasonic bath, water jet, vacuum tweezers, air knife, and/or warming to aid in the removal.

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.

The data provided in this document are based on historical testing that Dymax performed under laboratory conditions as they existed at that time and are for informational purposes only. The data are neither specifications nor guarantees of future performance in a particular application. Dymax does not guarantee that this product's properties are suitable for the user's intended purpose.

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