



Dymax

Product Name:

Dymax OP-24-REV-B Optical Adhesive, Optically Clear, Hybrid UV & Heat Cure - 30ml Syringe

Manufacturer Part Number:

OP-24-REV-B-30ML

Click here for more details on the Dymax OP-24-REV-B Optical Adhesive, Optically Clear, Hybrid UV & Heat Cure - 30ml Syringe



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
- ABSGlass
- 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.)

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^{*} Not Specifications N/A Not Applicable





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OPTICAL ADHESIVES OP-24-REV-B Product Data Sheet

CURING GUIDELINES

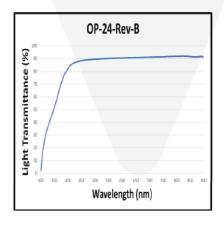
Fixture time is defined as the time to develop a shear strength of 0.1 N/mm2 [10 psi] between glass slides. Actual cure time typically is 3-to-5 times fixture time.

| 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 |

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.

LIGHT TRANSMITTANCE



Contact the professionals at Fiber Optic Center for a quote or to get more details.

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.

3 Intensity was measured over the UVA range (320-395 nm) using a Dymax ACCU-CAL™ 50 Radiometer.

4 K 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.



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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 heatcure 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.

Dymax recommends that customers employ a safety factory by curing longer and/or at higher intensities than required for full cure.

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

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.

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Learn More

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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