

## Light Weld® 401 Optically Clear, Structural Adhesive Low Viscosity, Metal-To-Glass

Light Weld® 401 is a low-viscosity, high-clarity, UV-curing adhesive with excellent adhesion to glass and metal. The product is well suited for bonding close-fitting parts and has very good moisture resistance. This product is in full compliance with RoHS directives 2015/863/EU.

UNCURED PROPERTIES *		
Property	Value	Test Method
Chemical Class	Urethane Oligomer / (Meth) Acrylate Monomer Blend	N/A
Appearance	Clear	N/A
Solubility	Alcohols/Chlorinated Solvents	N/A
Flash Point	>95°C (200°F)	N/A
Viscosity, cP (20 rpm)	70 (nominal)	ASTM D1084

CURED MECHANICAL PROPERTIES *		
Property	Value	Test Method
Durometer Hardness	D80	ASTM D2240
Tensile at Break, MPa [psi]	31.7 [4,600]	ASTM D638
Elongation at Break, %	9	ASTM D638
Modulus of Elasticity, MPa [psi]	755 [109,500]	ASTM D638

\* Not Specifications

N/A Not Applicable

‡ DSTM Refers to Dymax Standard Test Method

OTHER CURED PROPERTIES *		
Property	Value	Test Method
Refractive Index	1.51	ASTM D1218
Boiling Water Absorption, % (2 h)	2.0	ASTM D570
Water Absorption, % (24 h)	0.8	ASTM D570
Linear Shrinkage on Cure, %	3.1	ASTM D2566
Coefficient of Thermal Expansion, in/in/°C	164 x 10 <sup>-6</sup>	ASTM D696
Thermal Limit (brittle/degrades)	-43° to +149°C (-45°/+300°F)	DSTM 200‡

ELECTRICAL PROPERTIES *		
Property	Value	Test Method
Dielectric Strength, kV/mm	22.4	ASTM D1304
Surface Resistivity, ohm	8.84 x 10 <sup>13</sup>	ASTM D1304



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Technical Data Collection Prior to 2000

**Dymax Corporation**  
+1.860.482.1010 | info@dymax.com | [www.dymax.com](http://www.dymax.com)

**Dymax Europe GmbH**  
+49 611.962.7900 | info\_de@dymax.com | [www.dymax.de](http://www.dymax.de)

**Dymax Engineering Adhesives Ireland Ltd.**  
+353 21.237.3016 | info\_ie@dymax.com | [www.dymax.ie](http://www.dymax.ie)

**Dymax Oligomers & Coatings**  
+1.860.626.7006 | info\_oc@dymax.com | [www.dymax-oc.com](http://www.dymax-oc.com)

**Dymax UV Adhesives & Equipment (Shanghai) Co. Ltd.**  
+86.21.37285759 | dymaxasia@dymax.com | [www.dymax.com.cn](http://www.dymax.com.cn)

**Dymax UV Adhesives & Equipment (Shenzhen) Co. Ltd.**  
+86.755.83485759 | dymaxasia@dymax.com | [www.dymax.com.cn](http://www.dymax.com.cn)

**Dymax Asia (H.K.) Limited**  
+852.2460.7038 | dymaxasia@dymax.com | [www.dymax.com.cn](http://www.dymax.com.cn)

**Dymax Asia Pacific Pte. Ltd.**  
+65.6752.2887 | info\_ap@dymax.com | [www.dymax-ap.com](http://www.dymax-ap.com)

**Dymax Korea LLC**  
+82.2.784.3434 | info\_kr@dymax.com | [www.dymax.com/kr](http://www.dymax.com/kr)

**CURE DATA**

	Curing System (Intensity)	Cure Time
Fixture Time Between Glass	2000-EC (20 mW/cm <sup>2</sup> )	5 s
Depth of Cure (0.25")	5000-EC (200 mW/cm <sup>2</sup> )	20 s

**FACTORS AFFECTING CURING**

- Dark surfaces lengthen cure time.
- Full range (UV-A, B & C) lamps provide faster cures than filtered sources.
- All UV sources degrade with use. Check output with a radiometer.
- Thicker films require longer cures.
- Light intensity decreases as distance from UV source increases.
- Some clear plastics may contain UV inhibitors.

**DISPENSING AND HANDLING ADHESIVE**

Dymax 401 is available in various packages such as syringes, cartridges, bottles, and pails. 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 Dymax Application Engineering.

**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 a 12-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.

**CAUTION**

This product is intended for industrial use only. Avoid breathing vapors. In case of inhalation, remove to fresh air and seek medical attention if symptoms persist. Avoid contact with skin, eyes, and clothing. In case of inhalation, remove to fresh air and seek medical attention if symptoms persist. In case of skin contact, immediately wash with soap and water for at least 15 minutes. In case of eye contact, flush thoroughly with water and get medical attention. Wash clothing before reuse. Keep out of reach of children. Do not take internally. In case of ingestion, see Section 4 of Material Safety Data Sheet. Workers should wear impervious gloves and eye protection. Repeated or continuous skin contact with uncured adhesive will cause irritation and should be avoided. Never use solvents to remove adhesive from skin and eyes. 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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