

Ultra Light-Weld® 4-20417

Optically Clear Structural Adhesive for Large Areas, High Impact

APPLICATIONS	FEATURES & BENEFITS	RECOMMENDED SUBSTRATES
<ul style="list-style-type: none"> Potting Sealing Bonding 	<ul style="list-style-type: none"> Resists Impact, Vibration, and Thermal Shock Optically Clear Resists Yellowing 	<ul style="list-style-type: none"> Glass Metal

Dymax Ultra Light-Weld® 4-20417 forms optically-clear, high performance structural bonds to both metal and glass in seconds upon exposure to longwave UV light. Ultra Light-Weld® 4-20417 is excellent for potting, sealing, and bonding. Bonds resist yellowing, vibration, impact, and thermal shock. This product is in full compliance with RoHS directives 2015/863/EU.

UNCURED PROPERTIES *		
Property	Value	Test Method
Solvent Content	None	N/A
Composition	100% Solids	N/A
Appearance	Clear/Straw	N/A
Solubility	Isopropyl alcohol	N/A
Toxicity	Low	
Flash Point	>95°C (200°F)	
Viscosity, cP (20 rpm)	2,500 (nominal)	ASTM D1084

OTHER CURED PROPERTIES *		
Property	Value	Test Method
Refractive Index	1.50	ASTM D1218
Boiling Water Absorption, % (2 h)	3.2	ASTM D570
Water Absorption, % (24 h)	1.2	ASTM D570

CURED MECHANICAL PROPERTIES *		
Property	Value	Test Method
Durometer Hardness	D60	ASTM D2240
Tensile at Break, psi	3,000	ASTM D638
Elongation at Break, %	120%	ASTM D638
Modulus of Elasticity, psi	35,000	ASTM D638
Tensile Compression Shear, psi	—	—
Glass-to-Glass	2,300 (glass shatters)	DSTM D250 [‡]
Glass-to-Steel	1,700 (glass shatters)	DSTM D251 [‡]

- * Not Specifications
- N/A Not Applicable
- ‡ DSTM Refers to Dymax Standard Test Method



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REV. 12/19/2018

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CURING DATA

Lamp	2000-EC UV Flood	5000-EC UV Flood	PC-3 UV Spot	3010-EC UV Spot
Intensity*, mW/cm ²	50	150	1,000	1,800
Wavelength Working Range, nm	300-500	300-500	300-500	300-500
Cure Speed, Sec.	-	-	-	-
Between Glass	<3	<3	<3	<3
1/8" Bead	5	3	3	4
Cure Depth in 1 min, in.	0.875	1	1	1

* At peak intensity; 365 nm

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 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.

DISPENSING AND HANDLING ADHESIVE

Dymax 4-20417 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 Technical Representatives.

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.

STORAGE AND SHELF LIFE

Store material in a cool, dark place when not in use. Do not expose to UV light or sunlight. Material may also 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.

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 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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