

Multi-Cure® 921

Low-Viscosity Potting Resin for Phenolic and Filled Plastics to Glass and Metal

Dymax Multi-Cure® 921 is a high tensile strength, UV-curable resin that is especially well suited when rigid adhesive bonds or potted areas are desired. Multi-Cure® 921 was designed to bond a wide variety of substrates including metal, glass, ceramic, and many thermoset plastics. This resin cures clear and deep. Multi-Cure® 921 can be cured with UV light, and shadowed areas can be cured with heat. Dymax adhesives comply with the Montreal Protocol and U.S. Clean Air Act of 1990. This product is in full compliance with the RoHS Directives 2002/95/EC and 2003/11/EC.

UNCURED PROPERTIES *		
Property	Value	Test Method
Solvent Content	None - 100% Reactive Solids	N/A
Chemical Class	Urethane Acrylate	N/A
Appearance	Clear/Straw Liquid	N/A
Solubility	Alcohols/Chlorinated Solvents/Ketones	N/A
Viscosity, cP (20 rpm)	750 (nominal)	ASTM D1084

ELECTRICAL PROPERTIES *		
Property	Value	Test Method
Dielectric Constant (1 MHz)	4.10	ASTM D1304
Dissipation Factor (1 MHz)	0.06	ASTM D1304
Dielectric Strength, V/mil	1,600	ASTM D1304
Volume Resistivity, ohm-cm	7.5×10^{13}	ASTM D1304
Surface Resistivity, ohm	2.2×10^{14}	ASTM D1304

CURED MECHANICAL PROPERTIES *		
Property	Value	Test Method
Durometer Hardness	D75	ASTM D2240
Tensile at Break, MPa [psi]	35.9 [5,200]	ASTM D638
Elongation at Break, %	35	ASTM D638
Modulus of Elasticity, MPa [psi]	[320,000]	ASTM D638

CURE DATA (USING 365 NM UV LIGHT)		
	Cure Time	Lamp (Intensity)
Tack-Free Cure (1/8-inch bead)	35	5000-EC (175 mWcm ²)
Depth of Cure (1/4 inch)	30	5000-EC (175 mWcm ²)
Fixture Between Glass Slides	1-2	2000-EC (50 mWcm ²)

OTHER CURED PROPERTIES *		
Property	Value	Test Method
Tensile Lap Shear (Steel-to-Steel), psi	3,600	ASTM D1002
Tensile Compression Shear, psi	-	-
Glass-to-Glass	4,000**	DSTM D250 [‡]
Glass-to-Steel	5,000**	DSTM D251 [‡]
Boiling Water Absorption, % (2 h)	3.0	ASTM D570
Water Absorption, % (24 h)	1.1	ASTM D570
Linear Shrinkage, %	3	DSTM D101 [‡]
Coefficient of Linear Thermal Expansion, in/in/°C	90×10^{-6}	ASTM D696
Thermal Limits (brittle/degrades)	-43°C to 177°C (-45°/+350°F)	DSTM D200 [‡]

* Not Specifications

** Exceeds strength of glass

N/A Not Applicable

‡ DSTM Refers to Dymax Standard Test Method



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CURE DATA (USING 365 NM UV LIGHT)

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Shadowed areas can be cured with activator or heat.

Activator is placed on one surface and the adhesive on the mating surface. Curing takes place at room temperature when the parts are mated. Activator requires well-mated parts (up to 0.010-inch gap). Well-mated parts fixture (achieve handling strength) in less than a minute. See Dymax Technical Bulletin "Guidelines for Activator Curing" for complete instructions for all activators.

Heat may be used after UV cure to cure shadowed areas or, after activator cure, to accelerate cure. The following guidelines depend on the amount of adhesive:

Minimum Adhesive Temperature

110°C (225°F)	60 Minutes
120°C (250°F)	30 Minutes
150°C (300°F)	15 Minutes

DISPENSING AND HANDLING ADHESIVE

Multi-Cure® 921 adhesive may be dispensed with a variety of automatic bench-top syringe applicators or other equipment as required. Questions relating to dispensing and curing systems for specific applications should be referred to Dymax Application Engineering.

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 polymerize upon prolonged exposure to ambient light. Replace lid immediately after use. This material has a minimum 12-month shelf life from date of shipment, unless otherwise specified, when stored between 10°C [50°F] and 32°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 and 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 Material Safety Data Sheet.