

Multi-Cure® 6-620-GEL Phenolic & Filled Plastics to Glass & Metal

DESCRIPTION

Multi-Cure® 6-620-GEL adhesive is a high tensile strength, UV/Visible light-curable resin that is especially well suited for general purpose potting and adhesive applications. Multi-Cure® 6-620-GEL forms clear bonds to glass, metal, phenolic, filled Nylon, ferrite, ceramic, and other materials. This product can be cured with UV/Visible light, heat, or pre-applied activator. Visible light can penetrate through many UV-blocked and colored plastic and glass substrates to cure the adhesive. Dymax adhesive/activator bonding systems comply with the Montreal Protocol and U.S. Clean Air Act of 1990. This product is in full compliance with RoHS directives 2015/863/EU.

TYPICAL UNCURED PROPERTIES (not specifications)

Solvent Content	None - 100% Reactive Solids	
Chemical Class	Urethane Acrylate	
Appearance	Clear/Straw Liquid	
Flash Point	>93°C (200°F)	
Solubility	Alcohols/Chlorinated Solvents/Ketones	
Viscosity (20 rpm)	25,000 cP (nominal)	ASTM D-2556

TYPICAL CURED PROPERTIES (not specifications)

Durometer Hardness	D80	ASTM D-2240
Tensile at Break	5,200 psi (35.9 MPa)	ASTM D-638
Elongation at Break	50%	ASTM D-638
Modulus of Elasticity	300,000 psi	ASTM D-638
Tensile Lap Shear (steel to steel)	3,300 psi	ASTM D-1002
Tensile Compression Shear		
Glass-to-Glass	3,800 psi (exceeds strength of glass)	DSTM D-250*
Glass-to-Steel	3,400 psi (exceeds strength of glass)	DSTM D-251*
Water Absorption (24 h)	1.1%	ASTM D-570
Boiling Water Absorption (2 h)	3.0%	ASTM D-570
Linear Shrinkage	3%	DSTM D-101*
Coefficient of Linear Thermal Expansion	90 x 10 ⁻⁶ in/in/°C	ASTM D-696

*DSTM refers to Dymax Standard Test Method

ELECTRICAL

Dielectric Strength	1,600 V/mil	ASTM D-1304
Volume Resistivity	7.5 x 10 ¹³ Ω*cm	ASTM D-1304
Surface Resistivity	2.2 x 10 ¹⁴ Ω	ASTM D-1304
Dissipation Factor, 1 MHz	0.06	ASTM D-1304
Dielectric Constant, 1 MHz	4.10	ASTM D-1304

CURE DATA - Using 365 nanometer UV light:

	Cure Time (Seconds)	Intensity (mW/cm ²)	Dymax Lamps
Tack-Free Cure (1/8-inch bead)	10	150	5000-EC
Depth of Cure (1/4 inch)	20	150	5000-EC
Fixture Between Glass Slides	1	50	2000-EC



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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:

<u>Minimum Adhesive Temperature</u>	<u>Time</u>
110°C (225°F)	60 Minutes
120°C (250°F)	30 Minutes
150°C (300°F)	15 Minutes

DISPENSING AND HANDLING ADHESIVE

This material may be dispensed with a variety of manual and automatic 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 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 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 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.

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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INDUSTRIAL ADHESIVES
6-620-GEL Product Data Sheet

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