

PHENOLIC & FILLED PLASTICS TO GLASS & METAL MULTI-CURE® 6-621 SERIES

DESCRIPTION

DYMAX 6-621 Series adhesives are high tensile strength, UV/Visible curing resins that are especially well suited for when rigid adhesive bonds are desired. Multi-Cure6-621 Series adhesives form clear, hard, bonds to glass, metal, phenolic, filled Nylon, ferrite, ceramic and other materials. Multi-Cure6-621Series can be cured with UV light, heat or pre-applied activator. Visible light can penetrate through many UV-blocked and colored plastics and glasses to cure the adhesive. DYMAX adhesive activator bonding systems comply with the Montreal Protocol and U.S. Clean Air Act of 1990.

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	
Toxicity	Low	
Viscosity (20 rpm)	6-621	750 cP (nominal) ASTM D-1084
	6-621-T	3,500 cP (nominal) ASTM D-2556
	6-621-VT	11,000 cP (nominal) ASTM D-2556
	6-621-Gel	25,000 cP (nominal) ASTM D-2556

TYPICAL CURED PROPERTIES (not specifications)

Durometer Hardness	D75	ASTM D-2240
Tensile at Break	5,200 psi (35.9 MPa)	ASTM D-638
Elongation at Break	35%	ASTM D-638
Modulus of Elasticity	320,000 psi	ASTM D-638
Tensile Lap Shear (steel to steel)	3,600 psi	ASTM D-1002
Tensile Compression Shear		
Glass-to-Glass	4,000 psi (exceeds strength of glass)	DSTM D-250*
Glass-to-Steel	5,000 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
Thermal Limit (brittle/degrades)	-43° to +177°C (-45°/+350°F)	DSTM D-200

*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 Light-Welder® 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

Multi-Cure6-621 Series adhesives are available in various packages such as syringes, cartridges, bottles, and pails. They 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 the DYMAX Technical Center at 860-482-1010.

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. Product has a one year shelf life when stored below 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 product Material Safety Data Sheet.

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