

Ultra Light-Weld[®] 9671 Light Cure LCP Adhesive

DESCRIPTION

DYMAX 9671 is a UV/visible light curing adhesive designed for LCP bonding. Curing completely in as little as 5 seconds upon exposure to long wave UV and visible light, 9671 is environmentally resistant with good ionic and electrical properties. Its viscosity is ideal for medium glob top profiles. DYMAX 9671 displays excellent adhesion to LCP, circuit boards, electronic components and speaker membranes. DYMAX 9671 is a thixotropic gel suitable for dams and/or general purpose bonding.

CURED PROPERTIES (not specifications)

Solvent Content	None, 100% Solids	
Isocyanate Content	None	
Chemical Class	Modified Urethane	
Color	Red	
Solubility	Alcohols/Chlorinated Solvents/Ketones	
Viscosity (20 rpm)	65,000 cP (nominal)	ASTM D-1084

CURED PROPERTIES (not specifications)

PHYSICAL

Durometer Hardness	D45 (nominal)	ASTM D-2240
Elongation at Break	150%	ASTM D-638
Tensile at Break	750 psi	ASTM D-638
Modulus of Elasticity	2,500 psi	ASTM D-638
Water Absorption (24 h)	1.0%	ASTM D-570
Boiling Water Absorption (2 h)	2.6%	ASTM D-570
Thermal Limit	150°C	DSTM D-200*
Glass Transition, T _g	30°C	ASTM E-831
Coefficient of Thermal Expansion, α ₁	95 x 10 ⁻⁶ in/in/°C	ASTM E-831
Coefficient of Thermal Expansion, α ₂	180 x 10 ⁻⁶ in/in/°C	ASTM E-831
Linear Shrinkage	2%	ASTM D-2556

*DSTM Refers to DYMAX Standard Test Method

Thermal Shear Stress (-55°C to 125°C) on:

Aluminum	16.4 psi	<u>Ionic Purity:</u>	
FR-4	16.9 psi	Extractable Chloride	<10 ppm
Gold	17.0 psi	Sodium	<10 ppm
Silicon	17.5 psi	Potassium	<10 ppm
Solder	16.0 psi	Fluoride	<10 ppm

RELIABILITY

Thermal Shock (0.25 mil wire)	>2,000 cycles (-40°C to 125°C)
Humidity	>1,000 h, 85°C/85% RH
Autoclave	>1,000 h

ELECTRICAL

Dielectric Strength	500 Volts/Mil	ASTM D-1304
Volume Resistivity	555 x 10 ¹² ohm cm	ASTM D-1304
Surface Resistivity	6,300 x 10 ¹² ohm	ASTM D-1304
Dissipation Factor, 1 MHz	0.046 (23°C)	ASTM D-1304
Dielectric Constant, 1 MHz	3.27 (23°C)	ASTM D-1304

HOW TO CURE WITH UV/VISIBLE LIGHT & IR:**I. Clear adhesive completely exposed to UV/Visible light:**

<u>Exposure Time</u>	<u>UV/visible Lamp</u>	<u>Light Intensity</u>	<u>Distance</u>	<u>Spectral Output</u>
30 sec	Light-Welder [®] 5000-EC	150 mW/cm ²	3 inches	300-500 nm

Dymax Ultra Light-Weld[®] adhesives cure upon exposure to high intensity UV/Visible light in wavelengths between 300-500 nm in 10-30 seconds. The speed of cure depends on the thickness of the encapsulant layer and the intensity from the light source. Lamps emitting high levels of shortwave light are not recommended. Less than 15% of the Light-Welder[®] 5000-EC lamp's output is 200-300 nm UV light.

DISPENSING THE MATERIAL

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 Applications Engineering.

CLEAN UP

Uncured material may be removed from dispensing components and parts with organic solvents. Cured material will be impervious to many solvents and difficult to remove. Clean up of cured material may require mechanical methods of removal.

PERFORMANCE AFTER TEMPERATURE EXPOSURE

Light cured DYMAX materials typically have a lower thermal limit of -54°C [-65°F] and an upper limit of 150°C [300°F]. Many DYMAX products can withstand temperatures outside of this range for short periods of time, including typical wave solder processes and reflow profiles. Please contact DYMAX Applications Engineering for assistance.

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 a one-year shelf life when stored between 10°C [50°F] and 32°C [90°F] in the original, unopened container.

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 Material Safety Data Sheet before use.

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