

Ultra Light-Weld® 9-20351-F Flexible Coating/Encapsulant

Ultra Light-Weld® 9-20351-F is a flexible, fluorescing, single-component, 100% solids conformal coating specifically formulated for providing a moisture barrier to all electrical devices on the board. This coating has been engineered for application thicknesses between 50 mic [0.002 in] and 0.51 mm [0.020 in]. Ultra Light-Weld® 9-20351-F exhibits excellent adhesion to a variety of metal, ceramic, and glass-filled epoxy surfaces. It is a high-viscosity coating which can be cured by exposure to UV/Visible light and secondarily with heat for shadowed areas on densely populated circuit boards. This product is in full compliance with RoHS directives 2015/863/EU.

TYPICAL UNCURED PROPERTIES (not specifications)

Solvent Content	None, 100% solids	
Appearance	Gel	
Color	Clear	
Solubility	Alcohols/Chlorinated Solvents/Ketones	
Flash Point	>93°C (200°F)	
Viscosity (20 rpm)	14,000 cP (nominal)	ASTM D-2556

TYPICAL CURED PROPERTIES (not specifications)

Durometer Hardness	D45	ASTM D-2240
Elongation at Break	75%	ASTM D-638
Tensile at Break	1,000 psi	ASTM D-638
Modulus of Elasticity	3,500 psi	ASTM D-638
Water Absorption (24 h)	1.0%	ASTM D-570
Boiling Water Absorption (2 h)	2.4%	ASTM D-570
Coefficient of Thermal Expansion, α_1	95×10^{-6} in/in/°C	ASTM E-831
Coefficient of Thermal Expansion, α_2	180×10^{-6} in/in/°C	ASTM E-831
Thermal Limits	-60°C to 125°C	DSTM D-200*
Volume Resistivity	500×10^{12} ohm cm	ASTM D-1304
Surface Resistivity	$6,000 \times 10^{12}$ ohm	ASTM D-1304
Dielectric Strength	500 V/mil	ASTM D-1304

*DSTM Refers to Dymax Standard Test Method

CURE SCHEDULE

UV cure with 365 nm UV light:

Cure Time (seconds)	Intensity (mW/cm ²)
35	250
1	3,000



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Heat Cure Following UV Exposure

Heat can be used as a secondary cure mechanism where all adhesive cannot be cured with UV light. UV cure must be done prior to heat cure. Application may involve dip, spray, or curtain coat. The following cure schedule may be used:

<u>Temperature</u>	<u>Time</u>
110°C (225°F)	1 hour
120°C (250°F)	30 minutes
150°C (300°F)	15 minutes

DISPENSING AND HANDLING ADHESIVE

Brief exposures to ambient (fluorescent) lighting should not polymerize Dymax 9-20351-F adhesive. However, exposure to higher intensity Halogen bulbs will cause the adhesive to cure and should be avoided.

Dymax 9-20351-F may be dispensed from a variety of automatic bench-top syringe applicators or other equipment as required. Pail pumps are recommended for dispensing out of pail containers. Skin contact should be avoided. Use barrier hand cream. Wear impervious gloves. Do not wear absorbent gloves. Adhesive may be removed with basic soap and water. Avoid eye contact. See CAUTION below. Wipe excess adhesive with paper towels and remove residue with isopropanol.

This product is known to thicken over time. For spraying or applications where air entrapment is not an issue, gentle stirring in the original container at room temperature will help restore the product to its original flow consistency. Stirring is recommended for bottles and pails only.

STORAGE AND SHELF LIFE

Store in a cool, dark place when not in use. Do not place in view of UV light source or sunlight. This material has a 15-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. There is no need for refrigerated storage. Dymax 9-20351-F does not support fungal or bacterial growth.

CAUTION

For industrial use only. Avoid breathing vapors. Avoid contact with eyes and clothing. In case of skin contact, immediately flush with water for at least 15 minutes; for eyes, get medical attention. Wash clothing before reuse. Keep out of reach of children. Do not take internally. If swallowed, vomiting should be induced at once and a physician called. For specific information, refer to the product Material Safety Data Sheet before use.

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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