

## Ultra Light-Weld® 9-20318 UV/Visible Light-Curable, Peelable Mask

### DESCRIPTION

DYMAX Ultra Light-Weld® 9-20318 mask is a very fast-curing, solvent-free resin designed for either manual or fully automated masking of PC boards prior to soldering or conformal coating operations. This 100% solvent-free, low-odor, urethane acrylate resin cures in seconds. Cured masks withstand wave solder temperatures and easily peel from the PC board without leaving silicone, ionic contamination, or corrosive residues.

DYMAX Ultra Light-Weld® 9-20318 mask cures in seconds, “on demand”, when exposed to “worker-friendly”, visible and longwave (365 nm) UV light, or with lamps combining short and longwave UV. DYMAX 9-20318 requires neither long drying time nor heat curing. PC boards are immediately ready for coating or soldering without the need for racking or waiting. This product is in full compliance with RoHS directives 2015/863/EU.

### TYPICAL UNCURED PROPERTIES

Solvent Content	None - 100% reactive solids	
Silicone Content	None	
Chemical Class	Urethane (Meth) Acrylate	
Appearance	Translucent Gel	
Solubility	Alcohols/Chlorinated Solvents/Ketones	
Flash Point	>93°C (200°F)	
Viscosity (20 rpm)	50,000 cP (nominal)	ASTM D-2556

### TYPICAL CURED PROPERTIES

#### PHYSICAL

Durometer Hardness	A75	ASTM D-2240
Elongation at Break	100%	ASTM D-638
Tensile at Break	500 psi	ASTM D-638
Modulus of Elasticity	800 psi	ASTM D-638
Water Absorption (24 hr)	11%	ASTM D-570

### PRODUCT USE DATA

#### Application

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.

#### Curing

Cure time and depth of cure are dependent upon intensity and wavelength of the UV light source used. Suggested UV curing equipment is shown in Table I on the next page.



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Table I Recommended UV Curing Systems				
Light Source	Light Type	Intensity @ 365 nm mW/cm <sup>2</sup> [1]	Typical Cure Time, to 1/4" depth	Application
DYMAX Light-Welder® 5000-EC or PC-5	Moderate intensity	100	10 seconds	Curing beads over a 5" x 5" area
DYMAX Light-Welder® PC-3	Wand-type spot	1000	<10 seconds	Curing small areas 0.35" dia.
DYMAX Light-Welder® PC-3D	Combination dispenser/wand-type spot	1000	<10 seconds	Curing small areas 0.35" dia.
Fusion® "D" bulb	Highest intensity beam	2000	<5 seconds	Fastest curing

**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. Contents may crystallize during cold shipment or storage. Gentle warming to 40°C [100°F] will return it to original condition.

**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; 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 additional information, refer to the product's 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.

The data provided in this document are based on historical testing that Dymax performed under laboratory conditions as they existed at that time, and are for informational purposes only. The data are neither specifications nor guarantees of future performance in a particular application. Dymax does not guarantee that this product's properties are suitable for the user's intended purpose.

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