

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

### APPLICATIONS

- Masking for Electronic Applications

### FEATURES

- UV/Visible Light Cure
- Fluorescing
- Easy to Peel

### OTHER FEATURES

- Withstands Wave Solder Temperatures
- Solvent Free
- Silicone Free

Ultra Light-Weld® 9-20318-F 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 and fluoresces brightly under black light. Cured masks withstand wave solder temperatures and easily peel from the PC board without leaving silicone, ionic contamination, or corrosive residues. Ultra Light-Weld® 9-20318-F mask cures in seconds, "on demand", when exposed to "worker-friendly", visible and longwave (365 nanometer) UV light, or with lamps combining short and longwave UV. Dymax 9-20318-F requires neither long drying time nor heat curing. PC boards are immediately ready for coating or soldering without need for racking or waiting. Dymax Ultra Light-Weld® adhesives are solvent-free and cure upon exposure to UV and/or visible light. Their ability to cure in seconds enables faster processing, greater throughput, and lower assembly costs. When cured with Dymax UV light curing spot lamps, focused beam lamps, or flood lamps, they deliver optimum speed and performance. Dymax lamps offer the optimum balance of UV and visible light for the fastest cures. This product is in full compliance with RoHS directives 2015/863/EU.

UNCURED PROPERTIES *		
Property	Value	Test Method
Solvent Content	No Nonreactive Solvents	N/A
Chemical Class	Acrylated Urethane	N/A
Appearance	Translucent Gel	N/A
Solubility	Alcohols/Chlorinated Solvents/Ketones	N/A
Viscosity, cP (20 rpm)	50,000 (nominal)	ASTM D2556

CURED MECHANICAL PROPERTIES *		
Property	Value	Test Method
Durometer Hardness	D30	ASTM D2240
Tensile at Break, psi	500	ASTM D638
Elongation at Break, %	100	ASTM D638
Modulus of Elasticity, psi	800	ASTM D638
Water Absorption, % (24 h)	11	ASTM D570

\* Not Specifications

N/A Not Applicable



**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 the table below.

Application	Dymax Curing System (Intensity*)	Typical Cure Time (0.25" Depth)
Curing Beads Over a 5" x 5" Area	<b>5000-EC</b> (100 mW/cm <sup>2</sup> ) Moderate Intensity Flood Lamp	10 s
Curing Small Areas, 0.35" Diameter	<b>BlueWave 200</b> (17 W/cm <sup>2</sup> ) Wand-Type Spot Lamp	<5 s
Fastest Curing	<b>Fusion "D" Bulb</b> (2,000) Highest Intensity Beam	<5 s

\* Nominal intensity measured at a predetermined distance. Listed intensity is at 365 mW/cm<sup>2</sup> and not at the maximum output of the lamp.

**DISPENSING**

This material may be dispensed with a variety of manual, semi-automated and fully automated fluid delivery systems. Small area applications including beads and small dots can be achieved using hand-held Dymax dispensing systems like our SD-100 syringe dispenser and our Model 400 needle valve systems. The valve system can be used in a manual, semi-automated or fully automated application. Dymax has several other dispensing systems that may be suitable for use with our masking materials. Questions relating to and defining the best fluid delivery system and curing equipment for specific applications should be discussed with the Dymax Application Engineering Team.

**STORAGE AND SHELF LIFE**

This material has an 18-month shelf life from date of 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; 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 Material Safety Data Sheet before use.

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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**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