

## SpeedMask® Light-Curable Masking Resins for Printed Circuit Board Processing




- 100% Solids / Non-ionic
- UV/Visible light cure in seconds for faster processing
- Bright colors for high visibility
- Fluorescing grades for easy in-line inspection
- One part, solvent free – no mixing
- Rapid cure speeds allow for flexibility in production volumes

SpeedMask® peelable electronic masks are solvent-free, 100% solids resins designed for the masking of printed circuit board components prior to conformal coating application or wave solder and reflow processes. They cure in seconds “on-demand” when exposed to UV/Visible light. The fast cure allows boards to be immediately processed and moved to the next stage of production without the need for racking or waiting. The masks have low odor and require no special venting. The cured materials also leave no silicone, ionic contamination, or corrosive residues.

### Application

Dymax electronic masks can be used to protect many different PCB substrates including FR-4, ceramic, gold fingers or frames, connectors – surface mounted and raised as well as the many materials used in the manufacture of electronic components. The masks are available in a variety of packaging sizes for easy automated dispensing from standard pressure-fed dispensing equipment.

Application	9-7001	9-318-F	9-20479-B-REV-A
Solvated Conformal Coating	✓	Not Recommended	Not Recommended
UV Conformal Coating	✓	✓	✓
Parylene Conformal Coating	Not Recommended	Not Recommended	✓
Ease of Removal From Connectors After Coating	✓		✓
Less than 5 Seconds Cure Required	✓	✓	✓
Depth of Cure	11 mm in 5 sec.	5 mm in 5 sec.	5.5 mm in 5 sec.

Product	Description	Viscosity, cP	Durometer Hardness	Cure Speed,* sec	Cure Depth,** mm [in]	Halogen Free
9-20479-B-REV-A	Blue color for easy visual inspection; compatible with gold and copper connector pins; silicone free; solvent free; highly thixotropic for manual or automated dispensing	150,000	A70	1	4.90 [0.19]	
9-318-F	Highly thixotropic for manual or automated dispensing; solvent free; silicone free; very low VOCs; blue fluorescing	50,000	A55	<4	6.40 [0.25]	
9-7001	Visible pink color in uncured state; resistant to solvent-based conformal coatings and primers; compatible with gold and copper connector pins; lower shrinkage; silicone free	40,000	A70	1	8.36 [0.33]	

\* Cure speed depends on the intensity and distance from the light source. Cure speed was measured at an intensity of 175 mW/cm<sup>2</sup>.

\*\* 5 second cure

### Composition/Basics

- 100% solids and solvent free
- Vibrant maskant colors for visual contrast on the board
- Fluorescing options available for residue or removal verification
- *Provides protection for and is compatible with various coating technologies including UV conformal coatings, solvated coated, and parylene coating processes*

### Dispensing

- *Easily applied by automated bead dispense, jetting, or manual dispense processes*
- Conforms to complex connector configurations
- High viscosity and high thixotropic index allow for easy through-hole protection
- Compatible with copper and gold pins

### Cure

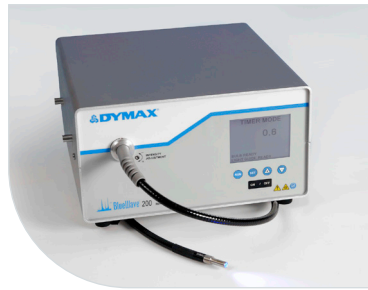
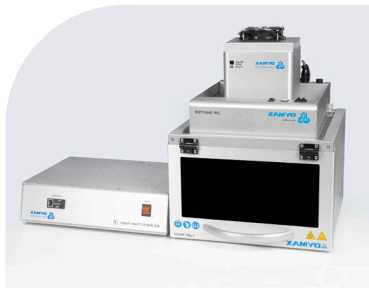
- *Cures on demand in seconds leading to increased productivity - can immediately move board into next part of process with no need to wait hours or days*
- Tack free after proper cure
- One layer coverage with one cure cycle
- Save floor space with a smaller overall footprint
  - no rack systems required for solvent flash off or long bake cycles requiring bulky ovens with our streamline UV curing equipment

### Removal

- *Easily removed by manual peeling or with automated grippers*
- Depending on the coating used, maskant can be removed while the coating is still wet or once cured
  - It is recommended to remove maskant prior to curing UV conformal coatings
  - With solvent based coatings, customers may remove when coating is partially cured
  - Maskants can be removed after parylene deposition
- After maskant removal, boards evaluated in Surface Insulation Resistance (SIR) testing pass for cleanliness with no residue impacting

## Recommended Light-Curing Systems

Light Source	Intensity at 365 nm	Typical Cure Time to ¼" Depth	Applications
5000-EC Flood Lamp System (moderate intensity)	200 mW/cm <sup>2</sup>	<20 seconds	Curing beads over a 5 in. x 5 in. areas
BlueWave® 200 Spot-Cure System (uses lightguide)	10,000 mW/cm <sup>2</sup>	<10 seconds	Curing small areas 0.35 in. diameter
UVCS Conveyor with Fusion F300S (highest intensity focused beam)	2,500 mW/cm <sup>2</sup>	<5 seconds	Fastest cure speeds; ideal for curing multiples





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