

DYMAX LIGHT WELD® 944
SEMI-PERMANENT UV-CURING PEELABLE MASK

•Cures in Seconds

•Solvent-Free

•Moderate Adhesion

INTRODUCTION

Dymax Light Weld 944 peelable mask is a solvent-free, easy to use UV-curable resin designed for either manual or fully automatic masking of PC boards prior to soldering or conformal coating operations.

This solvent-free, 100% solids, low odor product requires no special venting. Cured masking withstands wave solder temperatures. The cured material leaves no silicone or ionic contamination and no corrosive residues.

Dymax 944 mask cures in seconds "on demand" when exposed to "worker-friendly," longwave (365 nanometer) UV light, and requires neither drying time nor heat curing. PC boards are immediately ready for coating or soldering without need for racking or waiting.

DESCRIPTION

Dymax Light Weld 944 is a very fast, nonionic, UV-curable mask offering easy inspection and moderate adhesion for temporary masking applications.

TYPICAL UNCURED PROPERTIES

| | | |
|-----------------|-------------------------------|-------------|
| Solvent Content | None - 100% solids | |
| Composition | Urethane (Meth)Acrylate Resin | |
| Color | Amber | |
| Toxicity | Low | |
| Shelf life | 1 year | |
| Flash point | >200°F(>93.3°C) | |
| Viscosity | 40,000 cP | ASTM D-2256 |

TYPICAL CURED PROPERTIES

| | | |
|---|--|-------------|
| Durometer Hardness | D50 | ASTM D-2240 |
| Elongation at Break | 200% | ASTM D-638 |
| Peel strength (0.25" bead on clean PC board): | | |
| Initial release strength | 25 lb | |
| Continued pull release strength | 5.5 lb | |
| Peel Strength (after): | | |
| 200°F, 30 minutes | 7.5 lb | |
| 180°F water, 30 minutes | 2.5 lb | |
| Wave solder (15 sec. exposure) | Pull force slightly increased | |
| Fluxes | Resists organic solvents; swelled by aqueous fluxes | |

PRODUCT USE DATA

Application

Dymax Light Weld 944 is available in 10 mL, 30 mL, and 180 mL cartridges for easy automated dispensing from standard pressure-fed dispensing equipment.

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, below.

| Table I Recommended UV Curing Systems | | | | |
|--|---|--|-------------------------------------|--|
| Light Source | Light Type | Intensity mW/cm ² at 365nm | Typical Cure Time, to 1/4" depth | Application |
| Dymax 5000-EC | Moderate intensity flood lamp | 200 | 10 seconds | Curing beads over a 5"x5" area |
| Dymax PC-3 Ultra | Wand-type | 4000 | <4 seconds | 10 x 10 mm ² |
| Dymax 3010-EC | Wand-type | 5000 | <3 seconds | 10 x 10 mm ² |
| Dymax PC-3 | Wand-type spot | 2500 | <5 seconds | Curing small areas (10 x 10 mm ²) |
| Dymax PC-2 | Low intensity flood lamp | 50 | 30 seconds | 8" x 8" |
| Dymax 2000-EC | Low intensity flood lamp | 70 | < 30 seconds | 8" x 8" |
| Dymax 1200-EC | Moderate intensity flood lamp | 300 | <10 seconds | 1" x 6" |
| Dymax PC-3D | Combination dispenser/wand type spot | 2500 | <5 seconds | Curing small areas (10 x 10 mm ²) |
| Fusion "D" bulb | Highest intensity beam | 2000+ | <5 seconds | Fastest curing |

Dymax offers several belt conveyors for mounting all listed flood and focused beam light sources

STORAGE AND SHELF LIFE

Store material in cool, dark place when not in use. Do not expose to UV light source or sunlight. Product has a one year shelf life when stored below 32°C (90° F) out of sunlight and in original, unopened containers. Material can polymerize upon prolonged exposure to ambient light. Replace lid immediately after pouring. Keep covered at all other times.

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.

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