



Corporation

Adhesives and Adhesive Equipment
51 Greenwood Road, Torrington, CT 06790

LIGHT WELD ADHESIVE
Product Data Sheet

ULTRA LIGHT-WELD® 3093, 6/99

DISPENSING AND HANDLING ADHESIVE

Dymax 3093 is available in various packages such as syringes, cartridges, bottles, and pails. It may be dispensed with a variety of automatic bench-top syringe applicators or other equipment as required. Direct questions relating to dispensing and curing systems for specific applications to Dymax Technical Representatives.

SAFETY

Repeated or continuous skin contact with liquid adhesive (“resin”) will cause skin irritation or contact dermatitis, which in some cases, can be severe. Avoid this possibility by wearing impervious gloves and/or a barrier cream. Gloves made of rubber (including latex and any other rubber product) are not impervious. Nitrile (an artificial rubber) is preferred. Do not breathe the vapors from the adhesive. The user must be familiar with the Material Safety Data Sheet for the product before use. UV light can damage your eyes. Read and follow all instructions for the safe use of any UV light source that come with the device.

STORAGE AND SHELF LIFE

Store material in a cool dark place when not in use. Do not expose to UV light or sunlight. Material may also polymerize upon prolonged exposure to ambient light. Replace lid immediately after use. Product has a one-year shelf life when stored below 90°F in the original, unopened container. Refrigerated storage extends shelf life.

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; get medical attention. Wash clothing before reuse. Keep out of the reach of children. Do not take internally. If swallowed, induce vomiting at once and call a physician. Repeated or continuous skin contact with liquid adhesive will cause irritation and should be avoided. For specific information, refer to the Material Safety Data Sheet.

NOTES

- 1 – Do not recommend lamps that emit high levels of shortwave light.
- 2 – Nominal intensity taken at a predetermined distance. This reading does not reflect the maximum intensity capabilities emitted from each unit.

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The data contained in this bulletin which represents typical results, is furnished for information only, and is believed to be reliable. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the users responsibility to determine suitability for the user’s purpose of any product or method mentioned herein and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use thereof. Nothing in this bulletin is to be interpreted as a representation of freedom from domination of patents owned by others or a license under a Dymax Corporation patent. We recommend that each prospective user test the proposed application before repetitive use, using the data as a guide. For specific information, refer to the Material Safety Data Sheet before use.

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**ULTRA LIGHT WELD[®] 3093
STRUCTURAL PLASTIC BONDER
POLYCARBONATE • PVC • POLYSULFONE****INTRODUCTION**

Dymax Ultra Light-Weld structural adhesives can be cured with UV or Visible light. Ultra Light-Weld's faster, deeper cure, increases productivity, lowers assembly costs and enhances worker safety. When cured with Dymax Light Welder[®] UV lamps, these adhesives provide optimum process flexibility. They allow the user to select the optimum combination of adhesive and cure mechanism to meet individual process and performance requirements.

DESCRIPTION

Recommended especially for polycarbonate, Ultra Light-Weld 3093 UV plastic bonders cure in seconds upon exposure to longwave (365 nm) UV light. Tough, environmentally resistant bonds are formed between polycarbonate and a variety of other plastic substrates. Bonds combine flexibility with excellent tensile strength and resistance to thermal shock. Ultra Light-Weld 3093 UV adhesives are available in a range of viscosities to suit most applications.

TYPICAL UNCURED PROPERTIES

| | | |
|------------------|--------------------------------------|-------------|
| Solvent Content | None – 100% reactive solids | |
| Chemical Class | Urethane (Meth) Acrylate | |
| Appearance | Clear/Light Amber Liquid | |
| Solubility | Alcohol/Chlorinated Solvents/Ketones | |
| Toxicity | Low | |
| Refractive Index | 1.489 (20°C) | |
| Density | 1.10 g/mL | |
| Flash Point | 95° C (200° F) | |
| Viscosity | 3,100 cP (nominal) | ASTM D-1084 |

TYPICAL CURED PROPERTIES*PHYSICAL*

| | | |
|----------------------------------|--------------------------------|--------------|
| Durometer Hardness | D80 | ASTM D-2240 |
| Tensile at Break | 9,500 psi | ASTM D-638 |
| Elongation at Break | 5% | ASTM D-638 |
| Modulus of Elasticity | 500,000 psi | ASTM D-638 |
| Thermal Limit (brittle/degrades) | -55° to 180°C (-65° to +350°F) | * DSTM D-200 |
| Coefficient of Thermal Expansion | 65.0 x 10 ⁻⁶ /°C | ASTM D-696 |
| Water Absorption (24 h) | 2.6% | ASTM D-570 |
| Boiling Water Absorption (2 h) | 4.0% | ASTM D-570 |
| Linear Shrinkage | 2.6% | ASTM D-696 |

*DSTM refers to Dymax Standard Test Method

UV LIGHT CURE DATA – Using 365 nanometer UV light ^(note 1)

| | Cure Time (seconds) | Intensity ^(note 2) mW/cm ² | Dymax Light-Welder [®] Lamps |
|--|------------------------|---|--|
| Fixture between glass slides | 5 | 20 | 2000-EC |
| Nominal Cure Depth (0.18 inch) | 60 | 20 | 2000-EC |
| Tack-Free Surface Cure (0.125 inch bead) | 15 | 150 | 5000-EC |