191-M-ULW
FLEXIBLE ADHESIVE

APPLICATIONS

- Reservoirs
- Tube Sets
- Stopcocks
- Collection Bags

FEATURES

- Solvent-Free
- 100% Solids
- Adhesion to a Wide Range of Plastics
- Extremely Fast Curing

BONDS

- Polycarbonate
- PEEK
- PETG
- Polyimide
- Acrylic
- Polysulfone
- PVC
- SAN
- Urethane
- PET

BIO-APPROVALS

- USP Class VI - Elution, Systemic Injection, Hemolysis

INTRODUCTION

Dymax MD adhesives cure with UV and visible light. These adhesives increase productivity, lower assembly costs and enhance worker safety. When cured with Dymax MEDI-CURE® UV lamps, these adhesives provide optimum process flexibility. They allow the user to select the optimum combination of adhesive and cure mechanism to enhance individual process and performance requirements.

TYPICAL UNCURED PROPERTIES

Solvent Content
None - 100% Solids
Composition
Urethane Oligomer/(Meth) Acrylate Monomer Blends
Appearance
Clear/Light Amber Liquid
Flash Point
>93°C (200°F)
Solubility
Alcohol, Chlorinated Solvents or Ketones
Toxicity
Low
Refractive Index
1.48 (20°C)
Density
1.05 g/mL
Viscosity Range
300-700 cP (nominal)

TYPICAL CURED PROPERTIES

PHYSICAL

Durometer Hardness Range
D45 - D-65
Tensile at Break
2,000 psi
Elongation at Break
150%
Thermal Range (brittle/degrades)
-55° to 177°C (-65° to +350°F)
Water Absorption (24 h)
14%

*DSTM Refers to Dymax Standard Test Method

TYPICAL LIGHT CURE DATA

<table>
<thead>
<tr>
<th>Lamp</th>
<th>MC-5000</th>
<th>MC-4000</th>
<th>FUSION F-300 “D”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Type</td>
<td>UV/Visible</td>
<td>UV/Visible</td>
<td>UV/Visible</td>
</tr>
<tr>
<td>Lamp Type</td>
<td>5” x 5” Flood</td>
<td>3/16” Spot</td>
<td>1” x 10” Focused Beam</td>
</tr>
<tr>
<td>Maximum Lamp Intensity @ 365 nm</td>
<td>300 mW/cm²</td>
<td>4000 mW/cm²</td>
<td>8000+ mW/cm²</td>
</tr>
<tr>
<td>Intensity @ Time Of Test @ 365 nm</td>
<td>150 mW/cm²</td>
<td>1800 mW/cm²</td>
<td>4000 mW/cm²</td>
</tr>
<tr>
<td>Adhesive Absorption Range (nm)</td>
<td>300-500</td>
<td>300-500</td>
<td>300-500</td>
</tr>
<tr>
<td>Equipment Output Range (nm)</td>
<td>300-500</td>
<td>300-500</td>
<td>300-500</td>
</tr>
<tr>
<td>Cure Speed (Sec)</td>
<td>Fixture Between Glass Slides</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Tack Free Surface Cure</td>
<td>&lt;15</td>
<td>&lt;5</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Nominal Cure Depth (0.125”)</td>
<td>30</td>
<td>10</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>
The required intensity and cure time should be determined during the initial process validation stage. Factors that should be considered during process validation which can affect the adhesive cure rate and depth of cure include but are not limited to: the part geometry, bond-gap size, percent light transmission through the substrate at 365 nm and 436 nm, distance from the light source to the adhesive bond area, UV and visible light intensity and spectral output of the light source, the desired margin of safety to be built into the process and minimum and maximum exposure times.

**DISPENSING**

Dymax 191-M-ULW adhesive 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. Any questions relating to dispensing and curing systems for specific applications should be referred to the Dymax Technical Center at (860) 482-1010.

**STORAGE AND SHELF LIFE**

Store in original, light blocking container. Do not expose to sunlight or any light source. This product has a one year shelf life when stored below 32°C (90°F) in original, unopened container.