Plastic Bonder (PB)

PRODUCT DESCRIPTION
The Tru-Bond™ Plastic Bonding (PB) Series of products provide UV/Visible light cured bonds to a wide range of plastics including ABS, polycarbonate, PET, PETG, flexible vinyl, urethanes and acrylics. The adhesive creates a flexible resilient polymer with outstanding impact resistance and flex. These products can also cure through most translucent substrates and UV blocked plastics.

PRODUCT CHARACTERISTICS
Chemical Class: Urethane Acrylate  
Appearance (uncured): Clear Liquid  
Components: Single-Requires no mixing  
Viscosity: Low

TYPICAL PROPERTIES OF UNCURED MATERIALS
Specific gravity@25 °C: 1.0  
Viscosity@25 °C, Brookfield RV Spindle 3, 6rpm, cP: 3,500  
Flashpoint, °F(°C): >171(77)  
Non-Volatile Materials, %: >99  
VOC, %: <1  
Shelf life, months: 24  
Solubility: ketones, oxygenated solvents

TYPICAL PROPERTIES OF CURED MATERIALS
Color: Clear  
Refractive Index, ASTM D542: 1.50  
Optical Clarity, %: >98  
Tensile strength, ASTM D 882, psi(MPa): 480(3.3)  
Elongation, ASTM D882, %: 325  
Modulus of Elasticity, ASTM D882, psi(MPa): 580(4.0)  
Volume Shrinkage, %: 9.00  
Lineal Shrinkage, %: 2.1  
Water absorption, ASTM D570 (24 hrs.), %: 5.0  
Boiling Water, ASTM D570 (2 hrs.), %: 2.6  
Shore hardness: 50D  
Temperature range, °F(°C): -65(-54) to 300(149)

ADHESIVE LAP SHEAR

<table>
<thead>
<tr>
<th>Light Source</th>
<th>Irradiance (mW/cm²)</th>
<th>Fixture Time (Sec.)</th>
<th>Tack free Time (Sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT100</td>
<td>20</td>
<td>&lt; 5</td>
<td>N/A</td>
</tr>
<tr>
<td>Fusion® D bulb</td>
<td>1,000</td>
<td>&lt; 1</td>
<td>&lt; 4</td>
</tr>
<tr>
<td>Uvitrion PortaRay 400R</td>
<td>250</td>
<td>&lt; 2</td>
<td>N/A</td>
</tr>
</tbody>
</table>

DEPT OF CURE:

<table>
<thead>
<tr>
<th>Light Source</th>
<th>Irradiance (mW/cm²)</th>
<th>Exposure Time 30 Sec. Inch (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 W Metal Halide Bulb</td>
<td>20</td>
<td>0.118 in(3mm)</td>
</tr>
</tbody>
</table>

PROCESSING
ITW products are easily applied by syringe dispense or specialty valve spray units. The materials cure extremely fast in bondlines, e.g. where the surfaces are not exposed to air, with UV or Visible radiation. Exposure doses range from .5 - 2 J/cm² depending on the intensity of the lamps and configuration of the assembly.

PRECAUTIONS
Please refer to the appropriate material safety data sheet (MSDS) prior to using this product.

©2014 ITW Polymers and Fluids is a business segment of Illinois Tool Works. All rights reserved.
STORAGE
Store the unopened product in a cool, dry, well ventilated location away from sources of heat. Optimal storage temperatures should range between 10 °C (50 °F) and 32 °C (90 °F). Do not expose the product to light. It may polymerize upon prolonged exposure to ambient or artificial light. Product removed from the containers during use should not be returned to original containers in order to avoid potential contamination.

CONVERSIONS
$\left(^\circ C \times 1.8\right) + 32 = ^\circ F$

- $kV/mm \times 25.4 = V/mil$
- $\mu m / 25.4 = \text{inches}$
- $N \times 0.225 = lb$
- $N/mm \times 5.71 = lb/in$
- $N/mm^2 \times 145 = psi$
- $MPa \times 145 = psi$
- $N\cdot m \times 8.851 = lb\cdot in$
- $N\cdot m \times 0.738 = lb\cdot ft$
- $N\cdot mm \times 0.142 = oz\cdot in$
- $\text{mPa}\cdot s = \text{CP}$

WARRANTY
ITW will replace any material found to be defective. Because the storage, handling and application of this material are beyond our control, we can accept no liability for the results obtained.

NOTE
The following supersedes any provision in your company's forms, letters and papers. ITW makes NO WARRANTY, WHETHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE FOR THIS PRODUCT. No statements or recommendations contained in the product literature are to be construed as inducements to infringe any relevant patent, now or thereafter in existence. UNDER NO CIRCUMSTANCES SHALL ITW BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES FROM ALLEGED NEGLIGENCE BREACH OF WARRANTY, STRICT LIABILITY OR ANY OTHER THEORY, ARISING OUT OF THE USE OR HANDLING OF THIS PRODUCT. The sole liability of ITW for any claims arising out of the manufacture, use or sale of its products shall be to refund the buyer's purchase price, provided such products have been demonstrated in ITW sole opinion, to justify such refund.

For technical assistance, please call:

- North America 1-855-489-7262
- China 86-21-54265119
- Japan 81-6-6330-7118
- Korea 82-2-2088-3560
- India +91 8455 224700/ 01/02
- Europe +353 61 771 500

FOR INDUSTRIAL USE ONLY