



Tru-Bond™ PB 3500

UV/Visible Light Cure Adhesive

Technical Data Sheet

Rev04, Oct 2014

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

| | <u>ps i</u> | <u>M Pa</u> |
|---------------|-------------|-------------|
| Acrylic | 613 | 4.2 |
| PETG | 572 | 3.9 |
| Polycarbonate | 968 | 6.6 |

FIXTURE TIME AND TACK-FREE TIME

| Light Source | Irradiance (mW/cm ²) | Fixture Time (Sec.) | Tack free Time (Sec.) |
|-----------------------|----------------------------------|---------------------|-----------------------|
| CT100 | 20 | < 5 | N/A |
| Fusion ® D bulb | 1,000 | < 1 | < 4 |
| Uvitron PortaRay 400R | 250 | < 2 | N/A |

DEPTH OF CURE:

| Light Source | Irradiance (mW/cm ²) | Exposure Time 30 Sec. Inch(mm) |
|-------------------------|----------------------------------|--------------------------------|
| 400 W Metal Halide Bulb | 20 | 0.118 in(3mm) |

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.





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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

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

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

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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 |

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