



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>psi</u>	<u>MPa</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.





Tru-Bond™ PB 3500

UV/Visible Light Cure Adhesive

Technical Data Sheet

Rev04, Oct 2014

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

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 471299

FOR INDUSTRIAL USE ONLY