



Tru-Bond™ UB 3000

UV/Visible Light Cure Adhesive

Technical Data Sheet

Rev04, Oct 2014

Universal Bonder (UB)

PRODUCT DESCRIPTION

The Tru-Bond™ Universal Bonding (UB) Series of products bonds rigid substrates to flexible substrates with UV/Visible light. Tough, durable bonds are created making it possible to join glass, metals, ceramics and plastics that include; ABS, polycarbonate, PET, PETG, flexible vinyl, urethanes, acrylics and epoxy. The assemblies can survive thermal and humidity cycling while maintaining optical clarity. This formulation also cures through many translucent substrates, as well as, 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	1.07
Viscosity@25 °C, Brookfield RV Spindle 3, 6 rpm, cP	3,000
Non-Volatile Materials, %	>99
VOC, %	<1
Flashpoint, °F(°C)	171(77)
Shelf life, months	24
Solubility	ketones, oxygenated solvents

TYPICAL PROPERTIES OF CURED MATERIALS

Color	Clear
Refractive Index	1.49
Optical Clarity, %	>98
Tensile strength, ASTM D882, psi(MPa)	312(2.15)
Elongation, ASTM D882, %	214
Modulus of Elasticity, ASTM D882, psi(MPa)	136(0.94)
Volume Shrinkage, %	5.8
Lineal Shrinkage, %	1.8
Water absorption, ASTM D570 (24 hrs.), %	7.5
Boiling Water, ASTM D570 (2 hrs.), %	4.3
Shore hardness	90A
Temperature range, °F(°C)	-65(-54) to 300(149)

Adhesive Lap Shear	<u>psi</u>	<u>MPa</u>
Acrylic	354	2.44
Glass	657	4.53
Polycarbonate	788	5.43
Polycarbonate to steel	716	4.94

Fixture Time and Tack-free Time:

Light Source	Irradiance (mW/cm ²)	Fixture Time (Sec.)	Tack free Time (Sec.)
CT 100	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.(3 mm)

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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