

CTECH Adhesives Light Cure Universal Adhesive Product Line

PRODUCT DESCRIPTION

The CTECH™ Universal Bonding Series cure to tough, resilient materials that will create permanent bonds to most plastics. In addition these unique products also bond metals, ceramics and glass to themselves and most importantly, to plastics. The flexible nature of the cured polymer produces both very good tensile and peel strengths. The visible wavelength option enables curing through all but the most opaque substrates.

Several viscosity options are available.

Typical Physical Properties

Uncured Material:

Chemical Class.....	Urethane Acrylate
Color.....	Amber
Components.....	Single
Non-Volatile materials.....	.99+%
VOC.....	<1%
Flashpoint.....	> 140°F
Viscosity	60 cps, 3000 cps , 40,000 cps, thixotropic gel
Specific gravity.....	1.07
Shelf life.....	24 mos.
Solubility.....	ketones, oxygenated solvents

Cured Material (3000 cps version)

Color.....	Clear
Refractive Index.....	1.49
Optical Clarity.....	>98%
Tensile strength.....	312 psi
Elongation ASTM D638.....	214 %
Modulus of Elasticity ASTM D882.....	136 psi
Volume Shrinkage.....	5.8 %
Lineal Shrinkage.....	1.8 %
Water absorption ASTM D570 (24 hrs.).....	7.5 %

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Solutions for the Specialty Adhesives & Coatings Industry

Boiling Water % ASTM D570 (2 hrs.)	4.3 %
Shore hardness.....	D61
Temperature range.....	-65°F to 300°F
Adhesive Lap Shear (Acrylic)	354psi
Adhesive Lap Shear (glass).....	657 psi
Adhesive Lap Shear (polycarbonate)	788 psi
Adhesive Lap Shear (Polycarbonate to Steel).....	716 psi

Fixture Time and Tack-free Time:

<u>Light Source</u>	<u>Irradiance</u>	<u>Fixture Time (Seconds)</u>
• 75W Halogen lamp.		10 seconds
• Fusion ® D bulb	1,000 mW/cm ²	< 1 sec
• Unvitron PortaRay 400R	250 mW/cm ²	< 2 sec
• Sunlight will create tack free surfaces in 5 minutes.		

Depth of Cure (mm):

<u>Light Source</u>	<u>Irradiance</u>	<u>Exposure Time</u>	<u>Depth</u>
400 W Metal Halide Bulb	20 mW/cm ²	30 seconds	3 mm

Processing

ITW CTECH Adhesives products are easily applied by syringe dispense or specialty valve spray units. The materials cure extremely fast in bond lines, e.g. where the surfaces are not exposed to air, with UV or Visible radiation. Exposure doses range from .5 -2 mJ/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.

Warranty

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

Disclaimer

All information on this data sheet is based on laboratory testing and is not intended for design purposes. ITW CTECH Adhesives makes no representations or warranties of any kind concerning this data.