CTECH Light Cure Plastic Adhesives Product Line

Product Description.

The CTECH™ Plastic Bonding Series cure to tough, resilient materials that will create permanent bonds to most plastics and films, including blown polyurethanes. The visible wavelength option enables curing through all but the most opaque substrates. Several viscosity options are available.

Typical Physical Properties.

Uncured Material.

Color……Straw color.
Flash Point……> 100° F.
Shelf Life……Twelve months at ambient. Protect from light.
Nominal Viscosity…….. 15-280-1 is 28 cps, 15-280-2 is 3250 cps, 15-280-3 is a thixotropic gel.
Fluorescence…….. These products contain a fluorescent tracer for inspection of the uncured and cured adhesive.
% Non-Volatile Material ……..99+ %
Specific Gravity……0.9 gm/ml
Solubility……acetone, MEK, isopropanol, toluene, ethyl acetate and similar solvents.

Curing Parameters.

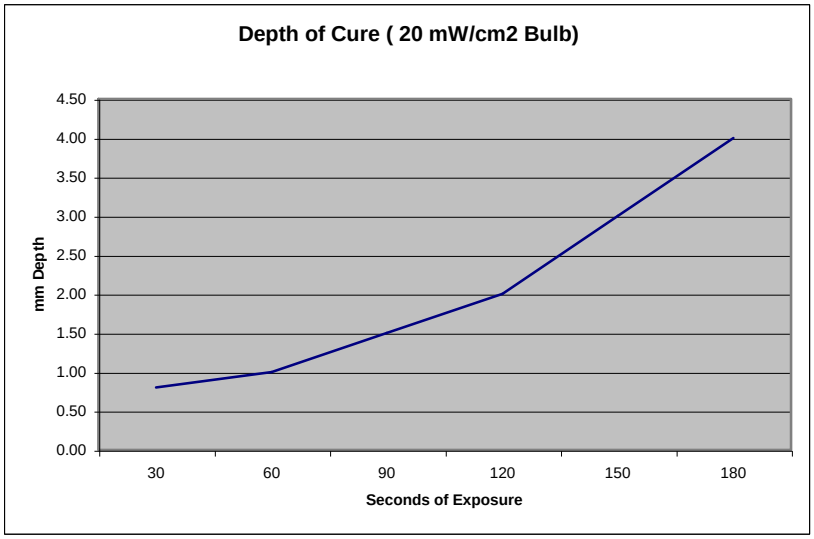
UV Fixture Time.
The material is pressed between two glass microscope slides and exposed to light until the slides are "fixed" or cannot be moved. <1 second at 20 mW/cm2 of UV; 5 seconds with blue "UV" LED flashlight.

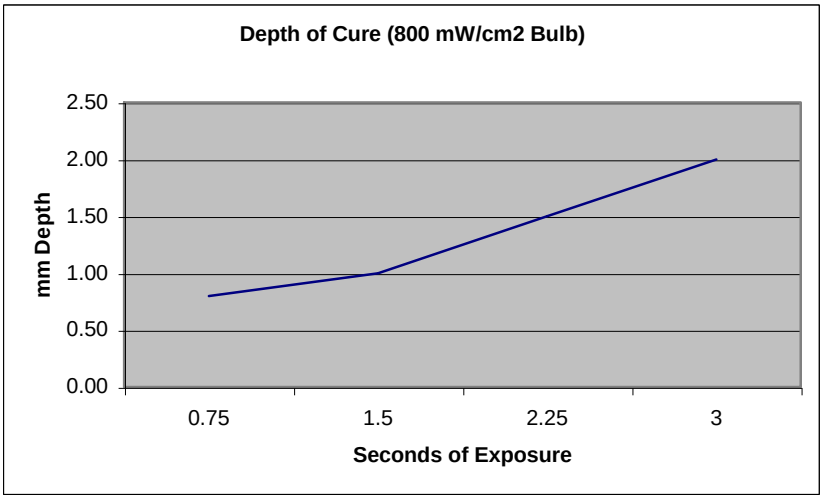
UV Cure Time.
The suggested exposure dose to begin qualification is 800 mJ/cm2. This is 40 seconds with low intensity 20 mW/cm2 bulbs or 1 second with high intensity 800 mW/cm2 bulbs. A matrix plus and minus 50% should be conducted to establish process control limits for curing. This is especially important for electrode-fired lamps that degrade in intensity over the bulb lifetime.

Tack Free Time.
This is the exposure time necessary to create a tack free surface of open fillets and films as opposed to bondlines. 15 seconds at 250 mW/cm2 intensity; <5 seconds at 800 mW/cm2.

2008 © CTECH LLC. All rights reserved

Depth of Cure.
The chart below illustrates the depth to which these products can be cured with a lamp of 20 mW/cm2 or 800mW/cm2.





Typical Physical Properties.

Cured Material Properties

Color……Clear
VOC During Cure – the products lose less than 0.1% by weight when UV cured as films.
Durometer Shore A……D60
Operating temperature range……-10°C to 125°C
Volume Shrinkage……4.2%
Water Absorption (ASTM D570) 24 hrs ……2.5%

Lap Shear; Acrylic	15-280-1	15-280-2	15-280-3
	650 psi (AF/SF)	610 psi (AF)	1050 psi (SF)

Cleavage Peel; 3/8 inch acrylic. All products caused substrate failure breaking the acrylic at 40 pli.

2008 © CTECH LLC. All rights reserved

Miscellaneous.

General Safety Considerations.
Read the MSDS for detailed and complete information. The uncured material is generally safe with the proper handling. HOWEVER – these are industrial chemicals and should be treated with care. The main safety concern is that over time repeated exposure to skin may cause dermatitis in some individuals. Workers should wear gloves and wash their hands and faces often. Nitrile, neoprene, latex and polypropylene gloves are all suitable with nitrile having the least chance of inducing sensitivity because of the glove materials. Work areas and UV curing stations should be well ventilated and exhausted.

Cleanup.
Uncured product can be cleaned up with acetone or isopranol and paper towels. To clean hands and skin use soap and hot water – DO NOT USE SOLVENTS TO CLEAN SKIN!! – the solvents will drive material in to the skin. Cured product can sometimes also be wiped off with acetone depending on thickness and substrate.

The information presented here is to the best of our knowledge, reliable. Suggestions made concerning use and applicability are for instructional purposes only, and users should make their own tests to determine the suitability of the product for their own purposes. Because of numerous factors affecting results, CTECH LLC makes no warranty of any kind, including fitness for purpose.

2008 © CTECH LLC. All rights reserved