



Technical Data Sheet

Light-Curable Adhesives, Sealants, and Masks

Product 70001

LED curable adhesive for bonding Polycarbonate, ABS, PVC, PMMA, PET, Glass, Stainless Steel.

Tangent Product 70001 is a very low viscosity, LED light curable adhesive that produces high strength bonds between many plastics and dissimilar materials such as stainless steel, glass, and aluminum. This product possesses a solvent-free composition. Bonds prepared with 70001 are clear, hard, and highly resistant to moisture. The low viscosity of this product makes it particularly well suited for applications requiring wicking or capillary action. Bubble-free dispensing makes this an ideal product for assembling display cases. Product 70001 cures extremely quickly with broad spectrum UV lamps (320-450 nm), as well as monochromatic LED lamps. Optimal LED curing is achieved using systems with outputs of 365nm or 405nm. Product 70001 is exceptionally photosensitive; making light curing possible through seemingly difficult surfaces containing color or a significant level of opaqueness.

UNCURED PROPERTIES

COMPOSITION	Urethane Acrylate / Monomer Blend
VISCOSITY	50-90 cP [MPa], Brookfield LVT, 25 °C
APPEARANCE	Slightly yellow liquid
SPECIFIC GRAVITY	1.05 at 25° C [g/cm ³]
REFRACTIVE INDEX	1.47
FLASH POINT	200° F [93° C]
TOXICITY	Refer to Material Safety Data Sheet
SHELF LIFE	12 Months

CURED PROPERTIES

SHORE HARDNESS, DUROMETER	D 70-80
WATER ABSORPTION, 2 hour boiling water immersion	3%
TEMPERATURE RANGE	-40° C to +145° C
LINEAR SHRINKAGE	< 4 %
GLASS TRANSITION TEMPERATURE	32-42° C
COEFFICIENT OF LINEAR EXPANSION	
Below T _g	83
Above T _g	386
YOUNG'S MODULUS	7.977 PSI [550 MPa]

**THE VALUES NOTED IN THIS TECHNICAL DATA SHEET ARE TYPICAL PROPERTIES.
THEY ARE NOT INTENDED TO BE USED AS PRODUCT SPECIFICATIONS.**

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CURE DATA / GUIDELINES [Glass substrates, 0.002-0.004 inch (0.050-0.100mm) bond gap, time in seconds]

Honle Bluepoint LED, Spot Curing System	405 nm @ 2000 mW/cm ²	<1	second
Honle Spot 100 LED, Flood Curing System	405 nm @ 250 mW/cm ²	1 - 2	seconds
Honle Bluepoint 4, Spot Curing System	320-450 nm @ 2000 mW/cm ²	<1	second

Note: Actual cure rate in a production environment is dependent upon light source intensity, bond line distance from the light source, bond line gap or required depth of cure, and percentage of light transmission through the substrate covering the bond line. Please consult with Tangent Applications Engineering for assistance with curing equipment selection and process optimization.

PACKAGING OPTIONS - Standard packaging for this product includes 10 and 30 gram syringes, 300 gram cartridges, one kilogram bottles, and 17 kilogram pails. Other packaging options may be available upon request.

STORAGE – This is light sensitive material. Containers must remain covered when not in use. Minimize exposure of uncured material to daylight, artificial light, and UV light during storage and handling. Store uncured product in its original, closed container in a dry location. Unless otherwise indicated on the product label, optimal storage temperatures are 10 to 30°C, (50 to 86°F). Any material removed from the original container must not be returned to the container as it could be contaminated. Tangent Industries cannot assume responsibility for products that were improperly stored, contaminated, or repackaged into other containers.

HANDLING AND CLEAN-UP – For safe handling information, consult this product's **Material Safety Data Sheet (MSDS)** prior to use. Uncured material may be wiped away from surfaces with organic solvents. Do not use solvents to remove material from eyes or skin!

USING THE PRODUCT – Prior to dispensing, ensure that each surface coming in contact with this product is clean and free of grease, mold release, or other contaminants. Dispense directly from the package, or utilize appropriate dispensing equipment that is compatible with light-curable adhesives and coatings. Fluid lines and dispense tips must be 100% light blocking. Curing stations should be equipped with air exhaust systems to evacuate vapors and heat generated during the curing process. After curing, this product must be allowed to cool to ambient temperature before testing the product's performance.

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