Technical Data Sheet

Light-Curable Adhesives, Sealants, and Masks

Product 30320

LED curable adhesive for rapid bonding of metals and glass.

Tangent Product 30320 is a solvent-free, UV / Visible light curable adhesive formulated to develop bonds with high tensile shear and peel strength between glass, steel, stainless steel, aluminum, ceramic and some plastics. Bonds prepared with 30320 are optically clear, resistant to moisture, and are well suited for operating conditions that involve thermal cycling. (Several viscosity ranges are available in this product family.) Product 30320 will cure very rapidly when exposed to a broad spectrum (320-450nm) UV lamp. This adhesive will also cure quickly using monochromatic, LED systems with outputs of 365nm or 405nm wavelength. A secondary thermal catalyst also allows 30320 to be cured with heat in the event that partial shadowing prevents 100% curing with light.

UNCURED PROPERTIES

COMPOSITION	Aliphatic Urethane Acrylate / Monomer Blend
VISCOSITY	700 – 1400 cP at 25° C
APPEARANCE	Transparent liquid with slight yellow tint
SPECIFIC GRAVITY	1.1 - 1.2 at 25° C.
FLASH POINT	200° F.
TOXICITY	Refer to Material Safety Data Sheet
SHELF LIFE	One year

CURED PROPERTIES

SHORE HARDNESS, DUROMETER	D 65-75
WATER ABSORPTION, %	
24 hour immersion at 22° C	< 2%
TEMPERATURE RANGE	-40° C – 140° C

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

UV Curing: [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 @ 200 mW/cm^2	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.

Heat Curing: (UV curing should always be performed prior to a secondary heat cure operation)

Temperature	Time
110°C (230°F)	60 minutes
121°C (250°F)	30 minutes
150°C (300°F)	15 minutes

Note: Heat cure times are a guideline and may vary based on part size, configuration, adhesive volume, and temperature control. Please consult with Tangent Applications Engineering for assistance with curing equipment selection and process optimization. The final heat cure schedule must be established and qualified by the user.

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, artifical 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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