



Technical Data Sheet

Light-Curable Adhesives, Sealants, and Masks

Product 90050

LED light curable encapsulant that creates a hard, tack-free protective barrier for PCB assembly.

Tangent Product 90050 is a UV / visible light curable encapsulant that bonds to PC (epoxy) board and many plastics such as polyester, PVC and polycarbonate. This is a medium viscosity adhesive which is easily dispensed and will self-level on flat surfaces. Product 90050 cures to form a clear, tack-free protective coating for components and assemblies. This product cures very rapidly with broad spectrum UV and visible light, (320-450 nm). High intensity is not mandatory for curing. It is also well suited for monochromatic LED arrays with output of 365nm or 405nm. Product 90050 also fluoresces brightly when exposed to low intensity UV light ("black light"), and is compatible with most vision systems used for adhesive detection in high volume processes.

UNCURED PROPERTIES

COMPOSITION	Urethane Acrylate / Monomer Blend
VISCOSITY	4500-6500 cP, [MPa], at 25°C
APPEARANCE	Clear to light yellow colored liquid
SPECIFIC GRAVITY	1.1 - 1.2, g/cm ³ at 25° C.
FLASH POINT	Greater than 93° C.
TOXICITY	Refer to Material Safety Data Sheet
SHELF LIFE	One year

CURED PROPERTIES

SHORE HARDNESS, DUROMETER	D 80-90
WATER ABSORPTION, % 24 hour immersion at 22° C	< 2%
TEMPERATURE RANGE	-40° C to +120° C
REFRACTIVE INDEX	1.511 at 24° C.
FLUORESCING	Bright blue in color

**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]

UV Light Curing

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	1-2 seconds
Honle Bluepoint 4, Spot Curing System	320-450 nm @ 2000 mW/cm ²	1 second

Note: Actual UV 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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