# Preliminary
# Technical Data Sheet

Light-Curable Adhesives, Sealants, and Masks

**Product 50000**

## UV curable coupling adhesive replaces silicone for distortion-free touch screens and displays.

**Tangent Product 50000** is a low viscosity, UV / Visible light curable material that adheres to a variety of substrates including metal, ceramic, glass and many plastics. The cured product is extremely soft and flexible with excellent clarity and very little color. Product 50000 cures with minimal shrinkage to a track-free surface. The high photosensitivity of Product 50000 allows it to be cured interfacially with very low intensity lamps, (30-40 mWcm$^2$). The low durometer of Product 50000 makes it particularly well suited for applications where very low stress can be tolerated. Product 50000 has been developed as an alternative to the silicones typically used as a coupling material in the construction of optical displays.

## UNCURED PROPERTIES

| | |
|---|---|
| COMPOSITION | Proprietary / Acrylate Monomer |
| VISCOSITY | 20-80 cP [MPa], Brookfield LVT, 25 °C, 62/60 rpm |
| APPEARANCE | Clear liquid |
| SPECIFIC GRAVITY | 1.1 at 25° C. [g/cm$^3$] |
| FLASH POINT | 200° F [93° C] |
| TOXICITY | Refer to Material Safety Data Sheet |
| SHELF LIFE | One Year |

## CURED PROPERTIES

| | |
|---|---|
| DUROMETER | Shore 00 – 80, Shore A - 30 |
| WATER ABSORPTION | < 0.5% (24 hours @ 25° C.) |
| TEMPERATURE RANGE | -60°C to +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** [Glass substrates, 0.019 - 0.039 inch (0.5 - 1.0mm) bond gap, time in seconds]

| | | | |
|---|---|---|---|
| Honle Spot 100 LED | Flood Curing System, 405 nm, | 250 mW/cm$^2$ | <2 seconds |
| Honle UVA Spot 400 | Flood Curing System, 320-420 nm, | 250 mW/cm$^2$ | <2 seconds |
| Honle UVA Spot 400 | Flood Curing System, 320-420 nm, | 35-45 mW/cm$^2$ | <5 seconds |

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 100 gram bottles, 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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