Preliminary
Technical Data Sheet

Light-Curable Adhesives, Sealants, and Masks

Product 40221

Highly flexible, LED curable adhesive for bonding PVC and polycarbonate.

Tangent Product 40221 is a UV / Visible light curable adhesive specifically developed to bond flexible PVC and rigid polycarbonate. This product is a single component adhesive and is easily dispensed from syringes, cartridges, and precision valve dispensing systems. In its standard viscosity, Product 40221 will self-level on surfaces after dispensing. (Other viscosity ranges, lower and higher, are available to accommodate specific dispensing and assembly process requirements.) When properly cured, Product 40221 is clear, tack-free, and highly resistant to moisture and yellowing. Product 40221 cures very rapidly with broad spectrum UV lamps, (320-450nm), as well as monochromatic LED systems with output of 365nm or 405nm. The ability to cure with LED facilitates cooler curing processes which minimizes heat impact on thin film PVC components. Product 40221 has been formulated to pass the testing required for USP Class VI biocompatibility approval, and is compatible with common sterilization methods including gamma irradiation and EtO.

UNCURED PROPERTIES

COMPOSITION	Urethane Acrylate / Monomer Blend
VISCOSITY	750-1500 cP. at 25° C.
APPEARANCE	Clear liquid with 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	A 40-50
WATER ABSORPTION, %	
24 hour immersion at 22° C	< 2%
Linear Shrinkage, %	4%
TEMPERATURE RANGE	-45° C to +145° 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,0.002-0.004 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	1 second
Honle UV Flood Curing System	320-450 nm @ 500 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, 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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