Technical Data Sheet

Light-Curable Adhesives, Sealants, and Masks

Product 6108

Clear, LED curable medical device adhesive for high strength bonding of stainless steel and glass. Solvent-free and non-yellowing.

Tangent Product 6108 is a single component, UV/Visible light curable adhesive that bonds to glass, stainless steel, ceramic, and some rigid plastics including polycarbonate. This product's exceptional clarity and resistance to yellowing makes it an effective lens bonding and positioning adhesive. When properly cured, Product 6108 is clear, hard, extremely moisture resistant, and exhibits a dry, tack-free surface. Product 6108 cures very rapidly with broad spectrum UV and visible light, 320-450 nm. High intensity is not required. It is also well suited for monochromatic LED arrays with output of 365nm or 405nm. Product 6108 also contains a latent catalyst to permit thermal curing if shadowed areas prohibit curing with light.
Product 6108 has passed USP Class VI biocompatibility testing. It is ideally suited for assembly of syringes, needles, heat exchangers and other medical devices. This product is compatible with commonly used sterilization methods including, gamma irradiation, ethylene oxide, and limited autoclave.

UNCURED PROPERTIES

COMPOSITION	Urethane Acrylate / Monomer Blend
VISCOSITY	600-900 cP [MPa] at 25°C, (Brookfield LVT, 25 °C, SP62/60rpm)
APPEARANCE	Clear liquid
SPECIFIC GRAVITY	1.1 -1.2, g/cm³ at 25° C.
FLASH POINT	Greater than 93° C.
REFRACTIVE INDEX	1.47
TOXICITY	Refer to Material Safety Data Sheet
SHELF LIFE	One year

CURED PROPERTIES

SHORE HARDNESS, DUROMETER	D 75-85
WATER ABSORPTION, %	
24 hour immersion at 22° C	< 1%
TEMPERATURE RANGE	- 40° C to +150° C
LINEAR SHRINKAGE, %	< 3 %
YOUNG'S MODULUS [MPa]	1500
GLASS TRANSITION TEMPERATURE	45-70 DSC °C
COEFFICIENT OF LINEAR EXPANSION,	
Below T_g	99
Above T_g	276

OTHER CURED PROPERTIES

BIOCOMPATIBILITY TESTING, USP Class VI	Cytotoxicity	Pass
(certificate copies on file)	Irritation/Intracutaneous	Pass
	Acute Systemic Toxicity	Pass
	Implantation-14 day	Pass

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

Thermal Curing

Temperature	Time
110°C (230°F)	60 minutes
120°C (250°F)	30 minutes
150°C (300°F)	15 minutes

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. Equally, 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.

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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