Technical Data Sheet

Light-Curable Adhesives, Sealants, and Masks

Product 7173-V

Medical device adhesive for highly plasticized PVC and other low surface energy plastics, including polyethylene and polypropylene. Cures rapidly with LED light for cooler curing processes.

Tangent Product 7173-V is a UV / Visible light curable adhesive specifically developed to bond plasticized PVC. This solvent-free product effectively penetrates surface plasticizer and facilitates better wetting of the adhesive. Resulting bonds are stronger, and highly resistant to stresses from aging and humidity. This product resists moisture and yellowing. In limited breathing circuit applications, Product 7173-V also demonstrated excellent bond strength with polyethylene and polypropylene. [Note: Bond strength of low surface energy substrates can often be improved by incorporating surface treatment (plasma, corona, etc.) prior to adhesive bonding]. When properly cured, Product 7173-V forms clear bonds with tack-free surfaces.
Product 7173-V cures very rapidly with broad spectrum UV lamps (320-450nm), as well as monochromatic LED systems with output of 365nm or 405nm. Product 7173-V has passed the testing required for USP Class VI biocompatibility approval, and is compatible with common sterilization methods including gamma irradiation and ethylene oxide.

UNCURED PROPERTIES

COMPOSITION	Urethane Acrylate / Monomer Blend
VISCOSITY	200-300 cP at 25° C.
APPEARANCE	Clear 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	4%
TEMPERATURE RANGE	-45° C – 145° C
ELONGATION AT BREAK	170%
TENSILE AT BREAK	1440 psi, [10 MPa]

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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OTHER CURED PROPERTIES

BIOCOMPATIBILITY TESTING, USP Class VI	Cytotoxicity	Pass
	Irritation/Intracutaneous	Pass
	Acute Systemic Toxicity	Pass
	Implantation-14 day	Pass

CURE DATA / GUIDELINES [Glass substrates, 0.5 - 1mm 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 @ 250 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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