



Technical Data Sheet

Light-Curable Adhesives, Sealants, and Masks

Product 90013-VT-F

LED curable PCB adhesive for low-stress component tacking and bonding.

Tangent Product 90013-VT-F is a flexible LED curable adhesive and barrier material that adheres to a variety of substrates including many plastics, metal, ceramic, and glass. The 90013-VT-F is ideal for tacking applications on printed circuit boards (PCBs). This product's low durometer and flexibility protects fragile wire leads and other critical connections from vibration damage. Thick sections can be cured rapidly using broad spectrum UV and visible light (320nm-450nm), or monochromatic LED systems with output of 365nm or 405nm. Bonds prepared with 90013-VT-F are clear, colorless, and highly resistant to moisture and yellowing. This product is soft and flexible, and performs well as an interface between materials with differing coefficient of thermal expansion (CTE) values. It performs very well in applications that experience repeated thermal cycling. After curing, Product 90013-VT-F exhibits a dry, tack-free surface. This product also fluoresces under low intensity UV light ("black light") to facilitate inspection of coverage.

UNCURED PROPERTIES

COMPOSITION	Urethane Acrylate / Monomer Blend
VISCOSITY	8000 – 16,000 cP at 25° C.
APPEARANCE	Clear liquid with slight yellow tint
SPECIFIC GRAVITY	1.1 - 1.2 at 250° C.
FLASH POINT	200° F. (93° C.)
TOXICITY	Refer to Material Safety Data Sheet
SHELF LIFE	One Year

CURED PROPERTIES

DUROMETER	Shore D 35 - 50
WATER ABSORPTION	1% (24 hour immersion)
TEMPERATURE RANGE	- 45° C. to 150° C.
FLUORESCING	Blue color

**THE VALUES NOTED IN THIS TECHNICAL DATA SHEET ARE TYPICAL PROPERTIES.
THEY ARE NOT INTENDED TO BE USED AS PRODUCT SPECIFICATIONS.**

Tangent Industries, Inc.
227 Rockwell Street
PO Box 525
Winsted CT USA 06098-0525

Phone 860-738-7449
Fax 860-738-2961
info@tangentindinc.com
www.tangentindinc.com

CURE DATA / GUIDELINES [Glass substrates, 0.002-0.004 inch (0.050-0.100mm) bond gap, time in seconds]

Honle Bluepoint 4 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 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.

THE VALUES NOTED IN THIS TECHNICAL DATA SHEET ARE TYPICAL PROPERTIES AND ARE NOT MEANT TO BE USED AS PRODUCT SPECIFICATIONS. The information contained in this data sheet is believed to be accurate and is provided for information only. Tangent Industries, Inc. makes no representation or warranties of any kind concerning this information. **It is the user's responsibility to determine the suitability of this product for any intended use.** Tangent Industries, Inc. does not assume responsibility for test or performance results obtained by the user. The user assumes all risk and liability connected with the use of this product. The user should adopt such precautions and use guidelines as may be advisable for the protection of property and persons against any hazards that may be involved in this product's handling or use. Tangent Industries, Inc. specifically disclaims any liability for consequential or incidental damages of any kind arising from the handling or use of this product. The information contained in this Technical Data Sheet offers no assurance that the product use, application, or process will not infringe on existing patents or licenses of others. Nothing in this Technical Data Sheet transfers or grants license for the use of any patents, tradesecrets, intellectual property, or confidential information that is the property of Tangent Industries, Inc.