



# Technical Data Sheet

Light-Curable Adhesives, Sealants, and Masks

# Product 20101

**UV curable mask for the temporary surface protection of turbine components during manufacturing and overhaul processes.**

**Tangent Product 20101** is a UV / Visible light curable masking material that provides excellent surface protection during aggressive turbine component processes such as acid stripping, machining/grinding, and air plasma spray coating. This hard, high adhesion mask is ideal for protecting nickel based alloys commonly used in the manufacture of hot engine components such as blades, vanes, rotors, transitions, etc. Product 20101 contains no nonreactive solvents and cures in seconds when exposed to UV/visible light, (320-450nm). This product also contains a secondary thermal cure catalyst for curing in areas that are blocked from UV/visible light irradiation. Masked components are ready for processing immediately after being cured (hardened). Product 20101 is available in several viscosities that will appropriately match the application and desired dispense method. Tangent masks may be applied using pre-packed syringes or cartridges, as well as by brush, dip, or spray. After processing, Product 20101 is easily removed by incineration. Optimal temperature for residue-free incineration is 650°C, (1200°F), or higher.

## UNCURED PROPERTIES

COMPOSITION	Aliphatic Urethane Acrylate / Monomer Blend
VISCOSITY	60,000 cP at 25° C.
APPEARANCE	Semi-Transparent Gel.
SPECIFIC GRAVITY	1.1 -1.2 at 25° C.
FLASH POINT	93° C
TOXICITY	Refer to Material Safety Data Sheet
SHELF LIFE	One year

## CURED PROPERTIES

DUROMETER	Shore D 85
WATER ABSORPTION	Less than 1% (24 hour immersion)
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** [mask dispensed 2mm thick on a surface, time in seconds]

## UV Curing

Honle UVAHAND, Flood Curing System	320-450 nm @ 100 mW/cm <sup>2</sup>	15 seconds
Honle Ecocure, Spot Curing System	320-450 nm @ 2000 mW/cm <sup>2</sup>	1-2 seconds

## Thermal Curing (UV curing must precede thermal curing)

<u>Temperature</u>	<u>Time</u>
100°C (212°F)	60 minutes
121°C (250°F)	30 minutes
150°C (300°F)	10 minutes

Note: Actual UV cure rate in a production environment is dependent upon light source intensity, surface distance from the light source, and thickness of dispensed mask. 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 pails, 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.

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