

Master Bond UV10TKMed One component UV curable, biocompatible, high viscosity compound

Category : Polymer , Thermoset , Epoxy , Epoxy Encapsulant, Unreinforced

Material Notes:

Product Description: Master Bond UV10TKMed is a higher viscosity, one part UV system for bonding, sealing and coating that passes USP Class VI testing along with ISO 10993-5 for cytotoxicity. It has good optical clarity, sterling physical properties, a very high glass transition temperature (Tg) that exceeds 140°C and exemplary resistance to repeated sterilization. UV10TKMed cures readily in 20-30 seconds when exposed to a UV light source emitting at a wavelength of 320-365 nm with an energy output as low as 20-40 milliwatts per cm². The rate of cure depends upon the compound's distance from the light source, the thickness of the section and, of course, the intensity of the light source. It should be noted that the system can cure in sections up to ¼ inch. However, when bonding, sections of a few thousandths of an inch are more than adequate. Master Bond UV10TKMed is not oxygen inhibited and therefore does not require any special treatment in that regard. It bonds well to glass, composites, surface treated metals and plastics such as polycarbonates and acrylics, among others. It is widely used in medical devices because of its capability of withstanding repeated sterilizations, including radiation, ethylene oxide, chemical sterilants and especially autoclaving. UV10TKMed is not only effective for bonding applications; it can also be used as a coating or sealant. The system does not contain any solvents or diluents and none are released during cure. UV10TKMed combines low shrinkage with dimensional stability. Its service temperature range is -60°F to +450°F. UV10TKMed is a superlative electrical insulator. It is most effectively used in medical device manufacturing where rapid fixture times, fast curing and audacious temperature resistance are needed. UV10TKMed can be employed in a wide variety of application scenarios involving both disposable and reusable medical device manufacturing. The uniqueness of the product is based on its high temperature resistance and its ability to withstand repeated sterilizations along with a rapid UV curing mechanism. **Product Advantages:** Convenient mix ratio; 100:30 by weight Low viscosity, easy to apply; very One component system; no mixing needed; ready to use as supplied Very fine electrical insulator High bond strength; excellent adhesion to surface treated metals, glass and many plastics Enhanced ability to withstand repeated chemical and heat sterilizations Information provided by MasterBond®

Order this product through the following link:

http://www.lookpolymers.com/polymer_Master-Bond-UV10TKMed-One-component-UV-curable-biocompatible-high-viscosity-compound.php

Physical Properties	Metric	English	Comments
Viscosity	35000 - 45000 cP	35000 - 45000 cP	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	>= 65	>= 65	
Tensile Strength at Break	>= 55.2 MPa @Temperature 23.9 °C	>= 8000 psi @Temperature 75.0 °F	
Tensile Modulus	>= 2.41 GPa @Temperature 23.9 °C	>= 350 ksi @Temperature 75.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	45.0 - 50.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	25.0 - 27.8 $\mu\text{in}/\text{in}\cdot\text{°F}$	
Maximum Service Temperature, Air	232 °C	450 °F	
Minimum Service Temperature, Air	-51.1 °C	-60.0 °F	
Glass Transition Temp, Tg	≥ 140 °C	≥ 284 °F	

Optical Properties	Metric	English	Comments
Refractive Index	1.557	1.557	

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+14$ ohm-cm	$\geq 1.00\text{e}+14$ ohm-cm	
Dielectric Constant	3.8	3.8	
	@Frequency 60.0 Hz, Temperature 25.0 °C	@Frequency 60.0 Hz, Temperature 77.0 °F	

Processing Properties	Metric	English	Comments
Shelf Life	6.00 Month	6.00 Month	in original unopened containers with no exposure to light
	@Temperature 23.9 °C	@Temperature 75.0 °F	

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