



Adhesive Systems, Inc.
An ISO 9001:2008 Certified Company

MAXIMUM PERFORMANCE SERIES

MP531103M

UV ADHESIVE

TECHNICAL DATA SHEET
TDS #: MP531103M
UV Adhesive
Passed ISO 10993 Cytotoxicity

DESCRIPTION

MP531103M is a high performance UV curing adhesive engineered to bond a wide range of plastic, metals, and glass. It can be used in a variety of product assemblies and it promotes innovative design solutions. Our MP531103M has passed ISO 10993 Cytotoxicity testing and it is a leading performer when used for medical device applications. This maximum performance adhesive is tack free and creates an extremely strong, durable bond. This UV adhesive is a fast curing low viscosity product. MP531103M is often cured with an electroless lamp D, medium pressure metal halide lamp. This UV adhesive also works well with UV light emitted diodes (UV LED) at wavelengths of 365 nm to 410 nm. Design engineers select MP531103M for the optimum in finished product quality, reliability, performance, and cost effectiveness. MP531103M is an essential tool in improving overall product quality, lowering per unit cost, and reducing processing time.

PHYSICAL PROPERTIES (CURED):

Durometer Hardness	D70
Water Absorption, 2 hrs. @100 °C	3%
Water Absorption, 24 hrs. @ 25 °C	3%
Glass Transition Temperature, °C	65
Tensile Strength PSI	3650
Dielectric Constant	<4
Dielectric Strength, volts/mil	>400
Working Temperature °F	-60 to 300
Flexibility@RT	No
Blue Fluorescing	No

PHYSICAL PROPERTIES (UNCURED):

Chemical Class	Acrylate
Solvent Content	None
Appearance	Liquid
Density, g/ml	1.02
Viscosity, 25 °C, 20 RPM	300cp-400cp
Flash Point °C	77

Benefits

- Superior Bond Strength
- Solvent Free
- Low Odor
- Improves Finished Product Quality
- Durable
- Good Impact and Vibration Resistance
- Easily Automated
- No Clean Up

Substrate Applications

Polycarbonate (PC) Polyvinylchloride (PVC)
Polyethylene, Polypropylene requires surface treatment such as corona, etc.

Glass
Metal

CURE SCHEDULE

Medium Pressure Metal Halide Flood Lamp Station @ 50mW/cm2	5 Seconds for 20% UV block PVC
Fusion F 300 S Lamp D Conveyor @ 5FPM	Cure Depth @0.8 inch
Fusion F 300 S Lamp D Conveyor @ 10FPM	Cure Depth @0.6 inch
Fusion F 300 S Lamp D Conveyor @ 20FPM	Cure Depth @0.35 inch
Fixed time between 2 Glass Slides @ low intensity black light	0.5 second
Cure Depth @ 50 mW/cm2 for 2 minutes	1.1 inch
UV LED 365 nm to 410 nm	Time depends on the intensity and wavelength

Storage and Shelf Life

This UV Cure material should be stored in a dark place, above 0°C and below 30 °C. The shelf life is one year from the date of manufacture.



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Directions for Use

- 1. This product cures at exposure to daylight. Minimize to expose during storage and handling.**
- 2. Surface of substrates should be clean and free from grease, mold release, or other contaminants.**
- 3. Cure speed is dependent on UV energy, intensity of UV Light, required depth of cure and percentage of light transmission of substrates.**
- 4. For the best performance, Fusion Lamp D or medium pressure metal halide should be used. Also, UVLED at 365 nm to 410 nm can be used.**
- 5. Allow cured parts to cool before testing to any service loads.**
- 6. Air inhibits a surface cure. To minimize this effect an inert gas such as nitrogen can be used or a higher intensity can be used.**

NON-WARRANTY: Information contained herein is based on tests we believe to be reliable and accurate. It is offered in good faith for the benefit of the consumer. Adhesive Systems shall not be liable for any injury, loss, or damage in the use of its chemical products since the conditions of use are beyond our control. In every case we urge and recommend the user conduct tests to determine to their own satisfaction that the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. Statements concerning the possible use of our products are not intended as recommendations to use our products in the infringement of any patent. Because of changing reporting requirements and other variables it is impossible to guarantee the accuracy of the information contained in this document. It is the responsibility of the user to determine proper personal protection based on the actual condition of use and to comply with all Federal, State, and Local laws and regulations.

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