



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

# MAXIMUM PERFORMANCE SERIES

## MP531110M

### UV ADHESIVE

**TECHNICAL DATA SHEET**  
**TDS #: MP531110M**  
**UV Adhesive**  
*Passed ISO 10993 Cytotoxicity*

#### DESCRIPTION

MP531110M 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 MP531110M 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. During in-line inspection this adhesive fluoresces a blue color when using a low intensity black light. This UV adhesive is a fast curing low viscosity product. MP531110M 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 MP531110M for the optimum in finished product quality, reliability, performance, and cost effectiveness. MP531110M 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	3.6%
Water Absorption, 24 hrs. @ 25 °C	3%
Glass Transition Temperature, °C	65
Tensile Strength PSI	3600
Dielectric Constant	<4
Dielectric Strength, volts/mil	>400
Working Temperature °F	-60 to 300
Flexibility@RT	No
Blue Fluorescing	Yes

#### PHYSICAL PROPERTIES (UNCURED):

Chemical Class	Acrylate
Solvent Content	None
Appearance	Liquid
Density, g/ml	1.02
Viscosity, 25 °C, 20 RPM	3000cp-5000cp
Flash Point °C	77

#### CURE SCHEDULE

Medium Pressure Metal Halide Flood Lamp Station @ 50mW/cm<sup>2</sup>  
Fusion F 300 S Lamp D Conveyor @ 20 @ FPM  
Fixed time between 2 Glass Slides @ low intensity black light  
Cure Depth @ 50 mW/cm<sup>2</sup> for 2 minutes  
UV LED 365 nm to 410 nm

5 Seconds for 20% UV block PVC  
Cure depth @ 0.3 inch  
0.5 second  
1.1 inch  
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.



#### 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.  
Metal  
Glass

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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.**