



**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          |

**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.



**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

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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.**