



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

**MAXIMUM PERFORMANCE SERIES**  
**MP531003E**  
**UV ADHESIVE**

**TECHNICAL DATA SHEET**  
**TDS #: MP531003E**  
**UV Adhesive**

**DESCRIPTION**

MP531003E is a high performance UV curing adhesive engineered to bond metals and plastics. It can be used in a variety of product assemblies and it promotes innovative design solutions. Our MP531003E is a leading performer when used for electronic and general industrial applications. This maximum performance adhesive has a deep cure and great flexibility. MP531003E is often cured with an electrodeless 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 395 nm. Design engineers select MP5321003E for the optimum in finished product quality, reliability, performance, and cost effectiveness. MP531003E is an essential tool in improving overall product quality, lowering per unit cost, and reducing processing time.

**PHYSICAL PROPERTIES (UNCURED):**

Chemical Class	Acrylate Solvent
Content	None
Appearance	Colorless Liquid
Density, g/ml	1.05
Viscosity, 25 °C, 20 RPM	3500cp-5500cp
Flash Point °C	95

**Benefits**

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

**PHYSICAL PROPERTIES (CURED):**

Durometer Hardness	D30
Water Absorption, 2 hrs. @100 °C	4.7%
Water Absorption, 24 hrs. @ 25 °C	4.9%
Glass Transition Temperature, °C	19
Lap Shear Strength PSI Polycarb.	860
Dielectric Constant	3.2
Dielectric Strength, volts/mil	>400
Working Temperature °F	-60 to 300
Flexibility@RT	Yes
Blue Fluorescing	None

**Substrate Applications**

**Plastics**

Polyethylene, Polypropylene requires surface treatment such as corona, etc.

**Metal**

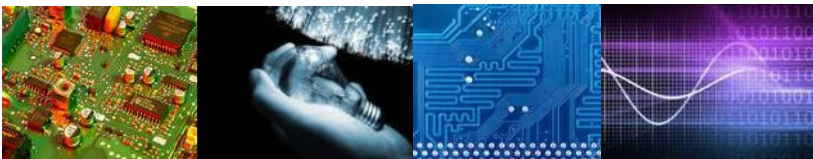
**CURE SCHEDULE**

Medium Pressure Metal Halide Flood Lamp Station @ 50mW/cm2  
Fusion F 300 S Lamp D Conveyor @ 750 mW/cm2  
Fixed time between 2 Glass Slides @ low intensity black light  
Cure Depth @ 50 mW/cm2 for 2 minutes  
UV LED 365 nm to 395 nm

40 seconds @ 50% UV block Plastic  
Belt Speed @ 20 FPM  
1 second  
0.7 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.



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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 395 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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