



**Adhesive Systems, Inc.**

An ISO 9001:2008 Certified Company

## MAXIMUM PERFORMANCE SERIES

### MP531005I

#### UV ADHESIVE

## TECHNICAL DATA SHEET

TDS #: MP531005I

UV Adhesive

#### DESCRIPTION

**MP531005I** is a high performance UV curing adhesive engineered to bond plastics. It can be used in a variety of product assemblies and it promotes innovative design solutions. It is a fast cure, strong bond adhesive that is very flexible. Our MP531005I is a leading performer when used for bonding PET, PVC, Clamshell packaging, and general industrial applications. During in-line inspection this adhesive fluoresces a blue color when using a low intensity black light. MP531005I 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 395 nm. Design engineers select MP531005I for the optimum in finished product quality, reliability, performance, and cost effectiveness. MP531005I 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	1.02
Viscosity, 25 °C, 20 RPM	500cp-1000cp
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	5.7%
Water Absorption, 24 hrs. @ 25 °C	6.0%
Glass Transition Temperature, °C	19
Lap Shear Strength PSI Polycarb.	810
Dielectric Constant	<4
Dielectric Strength, volts/mil	>400
Working Temperature °F	-60 to 300
Flexibility@RT	Yes
Blue Fluorescing	Yes

#### Substrate Applications

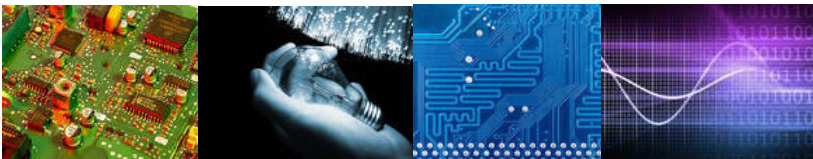
PET  
PVC  
Plastic  
Polyethylene, Polypropylene requires surface treatment such as corona, etc.

#### CURE SCHEDULE

Medium Pressure Metal Halide Flood Lamp Station @ 50mW/cm <sup>2</sup>	5 seconds for 20% UV block PVC
Fusion F 300 S Lamp D Conveyor @ 750 mW/cm <sup>2</sup>	Belt Speed @ 20 FPM
Fixed time between 2 Glass Slides @ low intensity black light	1 second
Cure Depth @ 50 mW/cm <sup>2</sup> for 2 minutes	0.7 inch
UV LED 365 nm to 395 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.



#### **Engineering Excellence**

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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.**