



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

MAXIMUM PERFORMANCE SERIES
MP531004E
UV ADHESIVE

TECHNICAL DATA SHEET
TDS #: MP531004E
UV Adhesive

DESCRIPTION

MP531004E 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 MP531004E is a leading performer when used for electronic and general industrial applications. This maximum performance adhesive has a deep cure and great flexibility. During in-line inspection this adhesive fluoresces a blue color when using a low intensity black light. MP531004E 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 MP531004E for the optimum in finished product quality, reliability, performance, and cost effectiveness. MP531004E is an essential tool in improving overall product quality, lowering per unit cost, and reducing processing time.

PHYSICAL PROPERTIES (UNCURED):

| | |
|--------------------------|----------------------|
| Chemical Class | Acrylate Urethane |
| Solvent Content | None |
| Appearance | Colorless Liquid |
| Density, g/ml | 1.02 |
| Viscosity, 25 °C, 20 RPM | 300cp-400cp |
| Flash Point °C | 95 |

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. | 755 |
| Dielectric Constant | 3.2 |
| Dielectric Strength, volts/mil | >400 |
| Working Temperature °F | -60 to 300 |
| Flexibility@RT | Yes |
| Blue Fluorescing | Yes |

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

Plastics

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

Metal

CURE SCHEDULE

| | |
|---|--|
| Medium Pressure Metal Halide Flood Lamp Station @ 50mW/cm2 | 40 seconds |
| Fusion F 300 S Lamp D Conveyor @ 750 mW/cm2 | Belt Speed @ 20 FPM |
| Fixed time between 2 Glass Slides @ low intensity black light | 1 second |
| Cure Depth @ 50 mW/cm2 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.



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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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