

# EP 1660

## High Voltage Resistant Potting Adhesive

Typical Properties			
Property	Unit	Value	Test Method
Color / Component A		Off White	Visual
Color / Component B		Grey / Brown	Visual
Mixing Ratio	By weight	1:1	
Density (as mixed)	Gram /cc	1.5	ASTM D792
Viscosity as Mixed at 25°C	Pa.s	6	ASTM D2196
Property as Cured			
Color		Light Grey	Visual
Young's modulus	GPa	5.6	DMA
Dielectric Strength / Voltage Breakdown (Initial after cure)	Volt/mil AC	> 800	ASTM D149
Dielectric Strength / Voltage Breakdown (After 85 °C/85%RH 500 hrs)	Volt/mil AC	> 700	ASTM D149
Dielectric Strength / Voltage Breakdown (After 150 °C 500 hrs aging)	Volt/mil AC	> 800	ASTM D149
Volume Resistivity (22 °C)	Ohm-cm	> 10E+12	ASTM D257
Coefficient of Thermal Expansion	ppm/C	120 (@ > Tg) 60 (@ < Tg)	IPC-TM-650
Adhesion (Al/Al lap shear)	Psi	> 1600	ASTM D1002
Tg	°C	125	DMA
Temperature Usage	°C	-80 to 200	TGA
Cure Profile			
Cure at 125°C	Min	60	DSC
Cure at 150°C	Min	30	DSC
Pot / Work Life at 25°C	Min	90	Viscosity double

These figures are only intended as a guide and should not be used in preparing specifications.

### Processing Instruction

**Important!** Only components A and B with the same lot number may be processed together! For the package in a container (not in a cartridge), to ensure homogeneity of the material, the components must be stirred thoroughly before they are removed or processed in order to uniformly disperse any fillers that might have settled during storage. EP 1660 can be warmed to about 60 °C to promote much faster flow for potting applications.

We recommend running preliminary tests to optimize conditions for the particular application. Comprehensive processing instructions can be obtained by contacting directly to United Adhesives, Inc.

### Storage

EP 1660 has a shelf life of at least 6 months when stored below 5 °C in the originally sealed container. The 'Best use before end' date of each batch appears on the product label. Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

### Safety information

General hygiene regulations should be observed. Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from United Adhesives, Inc.

### Characteristics

EP 1660 is an epoxy-based potting adhesive for high voltage resistance applications. It is a two-component, flowable, addition-curing system. After cure at elevated temperature, it provides strong bonding to metals such as aluminum, copper, most of plastics, and FR4 based printed circuit board with excellent resistance to high voltage shocking and arching. The cured material also has strong resistance to oils and corrosive chemicals. EP 1660 is dispensable.

### Special Features and Benefits

- Strong high voltage resistance
- Strong resistance to current arching
- High temperature stability
- Low bleeding
- No volatile (100% solid)
- Strong oil and chemical resistance

### Typical Applications

- Aerospace electronics
- Automotive electronics
- Semiconductor and Telecommunications
- High voltage resistance potting
- Bonding of power devices
- Sealing of high voltage devices
- Thermally conductive bonding

EP 1660 has a shelf life of at least 6 months when stored below 5 °C in the originally sealed container. For non-slump version, please select United Adhesives' product EP1643.

The data presented in this leaflet are in accordance with the present state of our knowledge, but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose. For technical, quality, or product safety questions, please contact directly to United Adhesives Inc.