



# APTEK LABORATORIES, INC.

ISO 9001 / AS9100 Certified

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## TECHNICAL DATA & INFORMATION

### APTEK® 6539-PMF

- Semi-rigid, electrically-conductive, epoxy adhesive
- RT cure; high strength

### PRODUCT DESCRIPTION

**APTEK 6539-PMF** is a one-component, silver-filled, semi-rigid, high strength, electrically-conductive, epoxy adhesive. It is specifically designed to fully cure at room temperature or can be accelerated with moderate heat. This is 100% solids, solvent free system that will not form voids during cure or service life.

### KEY FEATURES AND BENEFITS

- Contains the appropriate silver content to prevent hysteresis during temperature cycle.
- Reaches 80% of cured physical properties in 48 hours at 25°C (77°F).
- Contains no diluents or solvents to minimize formation of voids during cure.

### HANDLING INFORMATION

Work life @ 25°C (77°F) after thaw, 3cc syringe, minutes	> 60
Shelf life when stored: @ -40°C or below, months	*3
@ -65°C or below, months	6

\*Shelf life study in progress

### Handling Notes:

**APTEK 6539-PMF** is a one component system usually packaged in syringes. Therefore, no mixing or handling is required. Syringes should be stored at or below -65°C. When ready to use, remove syringe from freezer and allow to reach RT naturally. Do not place syringe in oven to thaw. Typical thaw time for a 3cc syringe is ~10-15 minutes at 25°C.

### SURFACE PREPARATION

- Thoroughly clean surface area with detergent and water to remove all dirt, grease, or wax. A recommended method is to scrub with Ajax oxygen bleach, water, maroon Scotchbrite, and then rinse with DI water.
- Clean all parts with a solvent such as methyl ethyl ketone (MEK), isopropyl alcohol (IPA) or toluene.
- All surfaces must be dry before applying adhesive.
- Apply adhesive to all substrates to be bonded.

### **- DISCLAIMER NOTICE -**

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**CURE SCHEDULE**

5-7 days at RT  
 -Or-  
 4 hours @ 65°C  
 -Or-  
 2 hours @ 100°C

\*Note: Greater than 80% of physical properties are achieved in 48 hrs at RT. User to determine ultimate cure schedule.

**TYPICAL PROPERTIES**

(Values not to be used for specification purposes)

<b><u>CHARACTERISTICS</u></b>	<b><u>APTEK 6539-PMF</u></b>	<b><u>TEST METHOD</u></b>
Color	Silver	Visual
Specific gravity	3.9	ASTM D-1475
Viscosity, @ 25°C, cps	Smooth, extrudable, thixotropic paste	ASTM D-1824
Flash Point, °C	>125	ASTM D-92
Shelf life @ - 65°C or below, months	6	

<b><u>CURED PHYSICAL PROPERTIES</u></b>	<b><u>APTEK 6539-PMF</u></b>	<b><u>TEST METHOD</u></b>
Hardness, Durometer D	83	ASTM D-2240
Lap shear, Al to Al, psi * ½ inch overlap (5 mil bondline)	1400	ASTM D-1002
* Ajax Oxygen bleach scrub with 60 grit abrasion		
Glass transition temp., °C	51	ASTM E-831
Thermal coefficient of expansion, in/in/C		
alpha 1	60 x 10 <sup>-6</sup>	ASTM E-831
alpha 2	156 x 10 <sup>-6</sup>	ASTM E-831

**ELECTRICAL PROPERTIES**

Volume resistivity, ohm-cm	0.003	QCP-006
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**SAFETY AND FIRST AID**

**APTEK 6539-PMF** is safe to handle when used properly. Avoid contact with skin and eyes and use in a well-ventilated area and avoid breathing vapors. In case of eye contact, flush with fresh clean water for at least 15 minutes; for skin contact, wash thoroughly with soap and water. If swallowed, drink at least two glasses of water and call a physician. Refer to Material Safety Data Sheet for more details.

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