



# APTEK LABORATORIES, INC.

ISO 9001 / AS9100 Certified

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## TECHNICAL DATA & INFORMATION

### APTEK® 6516-A/B

General purpose, electrically conductive epoxy adhesive

### PRODUCT DESCRIPTION

**APTEK 6516-A/B** is a two component, 100% solid, silver filled electrically conductive epoxy adhesive specifically designed for the attachment of electrical/electronic components to printed circuit boards. ApteK 6516-A/B is a tough, flexible adhesive which displays excellent adhesion to various metal, ceramic and P.C. board substrates.

### KEY FEATURES AND BENEFITS

- Reaches 90% of properties in 48 hours at 25°C (77° F)
- Smooth, thixotropic consistency for easy handling and minimum sag. Ideal for machine stamping and syringe dispensing applications.
- Contains no diluents or solvents to minimize formation of voids during cure.
- Tough, flexible system which provides good temp cycle performance compared to rigid epoxy systems
- APTEK 6516-A/B also available with various thickness of internal bond line spacers.

### HANDLING INFORMATION

Mix ratio, parts by volume or weight	100 (6516-A)/100 (6516-B)
Gel time @ 25°C (77°F), 45% RH, 25 gms, minutes	>30 min.

### Handling Notes:

1. Part A may stiffen/crystallize upon prolonged storage below 20°C. If stiffening occurs, place container in 65°C ACO for 30-60 minutes. Then take container out of oven and blend material by hand with a clean metal spatula until smooth and uniform. Allow to cool to 25-30°C before mixing with Part B. DO NOT FORCE COOL.
2. Prior to use, check parts A and B for any separation of resin and silver filler. If necessary, re-mix slowly by hand until uniform.
3. Part B is sensitive when exposed to moisture and air, and may dry out if container is left open. Always blanket unused portion of part B with dry nitrogen or argon and reseal for maximum stability.

### MIXING INSTRUCTIONS

Weigh 100 parts of 6516 Part A into a clean, dry, glass, metal, or plastic container and then add 100 parts of 6516 Part B. DO NOT MACHINE MIX - hand stir with glass or metal stirrer until complete and thorough blending is achieved, Care should be taken to avoid any source of moisture contamination or air entrapment during mix. For best results and void-free bond line, vacuum mixture @ less than 10 mm Hg for 5 mins.

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**Notes:**

Work life depends on temperature and mass. If more material is mixed together work life will be drastically reduced.

**CURE SCHEDULE**

7 days @ RT  
or  
1 hour @ 65°C

**TYPICAL PROPERTIES**

(values not to be used for specification purposes)

<b><u>CHARACTERISTICS</u></b>	<b><u>6516-A</u></b>	<b><u>6516-B</u></b>	<b><u>TEST METHOD</u></b>
Color	Silver	Silver	Visual
Specific gravity	4.8	4.8	ASTM D-1475
Viscosity, @25°C,	Semi-paste	Semi-paste	ASTM D-1824
Flash Point, °C	>125	>125	ASTM D-92
Shelf life @ 25°C, mos factory sealed containers,	6	6	

<b><u>CURED ELECTRICAL PROPERTIES</u></b>	<b><u>APTEK 6516-A/B</u></b>	<b><u>TEST METHOD</u></b>
Volume resistivity @ 25°C, ohm-cm	<0.005	ASTM D-257
7 days at room temperature	0.005	ASTM D-257
1 hour at 65°C	0.001	ASTM D-257

<b><u>CURED PHYSICAL PROPERTIES</u></b>	<b><u>APTEK 6516-A/B</u></b>	<b><u>TEST METHOD</u></b>
Hardness	83D	ASTM D-2240
Lap Shear, Al to Al, psi	1000	ASTM D-1002

Cured 1 hr. at 65°C

**SAFETY AND FIRST AID**

APTEK 6516-A 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, do not induce vomiting, drink at least one pint of water and call a physician. Refer to Material Safety Data Sheet for more details.

APTEK 6516-B is considered a slight irritant however, may cause eye and skin irritation on prolonged and repeated exposure. Inhalation of vapors may be harmful in large amounts. Avoid skin and eye contact and use in a well-ventilated area. In case of eye contact or skin contact, flush profusely with water. If swallowed, do not induce vomiting, dilute with at least one pint of water and contact physician. Refer to Material Safety Data Sheet for more details.

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