



APTEK LABORATORIES, INC.

ISO 9001 / AS9100 Certified

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TECHNICAL DATA & INFORMATION

APTEK® 6505-L.V.

Electronic-grade, non-conductive adhesive

PRODUCT DESCRIPTION

APTEK 6505-L.V. is a one component, 100% solids, mineral-filled epoxy adhesive specifically designed for the attachment of electronic components to printed circuit boards as well as a protective barrier underneath epoxy over-molded devices.

APTEK 6505-L.V. displays excellent adhesion to various metal, ceramic, and PC board substrates.

KEY FEATURES AND BENEFITS

- Long RT pot life/snap heat cure--ideal for automated systems
- High purity resin system for minimum level of ionic contamination to prevent corrosion problems
- Smooth consistency for machine stamping and syringe dispensing applications.
- Capable of full cure @ 80°C to minimize harming heat- sensitive components.
- Changes color when gelation occurs--takes the guess work out of knowing when material is gelled.
- Lower Tg version available for "reworkable-grade" adhesive for SMT
- Available in various size syringes and alternative containers to meet application requirements.

HANDLING INFORMATION

1. **APTEK 6505-L.V.** is a one component system usually packaged in syringes. Therefore, no mixing or handling is required. Syringes should be stored at or below -40°C. When ready to use remove syringe from freezer and allow to reach RT. Do not place syringe in oven to thaw. Typical thaw time for a 10 cc syringe is 15-30 mins. at 25°C.
2. Work life @ 25°C, 50% RH, 20 gms, days >5. Actual work life may vary depending on how critical viscosity tolerances are for the application. For manual operations a work life of >10 days may be achieved.
3. For high production rate operations, this adhesive may be firmly gelled per following guideline. Enough adhesive strength will be developed such that parts may be moved/handled prior to heat post cure which could occur at a later time in the operation.

Temperature (°C)

Gel Time (Minutes)

@ 80	15
@ 100	10
@ 125	5
@ 150	2.5
@ 175	1.0

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@ 200

0.3

Notes:

1. Test performed on 10 mil thick FR-4 laminate; adhesive dot size approx. 0.045" diameter; air circulating oven. Cure and gel times are dependent on mass.
2. Adhesive changes color from yellow to reddish-brown to indicate that gelation has occurred.

CURE SCHEDULE

<u>Temperature (°C)</u>	<u>Cure Time (minutes)</u>
@ 80	90
@ 100	45
@ 125	20
@ 150	10
@ 175	5
@ 200	2

Note: Above schedule should be used as a guideline. Each user should test the cured adhesive per application requirements and adjust cured times as required.

TYPICAL PROPERTIES

(values not to be used for specification purposes)

<u>CHARACTERISTICS</u>	<u>APTEK 6505-L.V.</u>	<u>TEST METHOD</u>
Color	Yellow	Visual
Viscosity @ 25°C, cps (spindle/rpm)	52,000 (7/10) 260,000 (7/1)	ASTM D-1824
Specific gravity	1.59	ASTM D-1475
Flash point, °C	>150	ASTM D-92
Shelf life, months factory sealed containers		
@ -40°C	8	
@ -20°C	4	

<u>CURED PHYSICAL PROPERTIES</u>	<u>APTEK 6505-L.V.</u>	<u>TEST METHOD</u>
Hardness, durometer D	90	ASTM D-2240
Lap shear @ 25°C, Al to Al (Cured one hour at 150°C)	> 2000	ASTM D-1002

<u>CURED ELECTRICAL PROPERTIES</u>	<u>APTEK 6505-L.V.</u>	<u>TEST METHOD</u>
Volume resistivity @25°C, ohm-cm	2×10^{14}	ASTM D-257

SAFETY AND FIRST AID

APTEK 6505 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.

Current Revision: 09/25/12 – jv

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