APTEK LABORATORIES, INC.
ISO 9001 / AS9100 Certified

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TECHNICAL DATA & INFORMATION

APTEK® 6512-PMF

Electronic-grade, conductive adhesive

PRODUCT DESCRIPTION

APTEK 6512-PMF is a one component, 100% solids, silver-filled, electrically conductive epoxy adhesive specifically designed for the attachment of electronic components to printed circuit boards. **APTEK 6512-PMF** 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, highly thixotropic consistency for machine stamping and syringe dispensing applications. Holds it's shape during heat cure for component staking applications.
- Capable of curing @ 80°C to minimize harming heat- sensitive components.
- Lower Tg version available for "reworkable-grade" adhesive for SMT
- Available in various size syringes and alternative containers to meet application requirements.

HANDLING INFORMATION

APTEK 6512-PMF 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.

Work life @ 25°C, 50% RH, 20 gms, hours >8

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	60
@ 100	30
@ 125	15
@ 150	5
@ 175	3

Note
Test performed on 20 mil thick FR-4 laminate; adhesive dot size approx. 0.045" diameter; air circulating oven. Cure and gel times are dependent on mass.

CURE SCHEDULE

Temperature (°C)	Cure Time (minutes)
@ 80	240
@ 100	120
@ 125	60
@ 150	20
@ 175	10

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)

CHARACTERISTICS	APTEK 6512-PMF	TEST METHOD
Color	Silver/gray	Visual
Viscosity @ 25°C,	Smooth thixo-paste	ASTM D-1824
Specific gravity	3.1	ASTM D-1475
Flash point, °C	>150	ASTM D-92
Shelf life, months factory sealed containers, @ -40°C	6	

CURED PHYSICAL PROPERTIES	APTEK 6512-PMF	TEST METHOD
Lap shear @ RT,Al to Al, psi (Cured 1 hour @ 125°C, 5 mil bond line)	1000	ASTM D-1002

CURED ELECTRICAL PROPERTIES	APTEK 6512-PMF	TEST METHOD
Volume resistivity @25°C, ohm-cm (cured 1 hour @ 125°C)	0.006	ASTM D-257

SAFETY AND FIRST AID

APTEK 6512-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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