



APTEK LABORATORIES, INC.

ISO 9001 / AS9100 Certified

28570 Livingston Avenue, Valencia, CA 91355-4171 • (661) 257-1677 FAX (661) 257-8939

PRELIMINARY TECHNICAL DATA & INFORMATION

APTEK® 2312LV-PMF

Premixed-frozen, low-outgassing, electrically conductive, low modulus adhesive.

PRODUCT DESCRIPTION

APTEK 2312LV-PMF is a one component, premixed-frozen, silver filled, electrically conductive soft paste adhesive. It is designed to bond many dissimilar substrates and dissipate device generated heat. **APTEK 2312LV-PMF** is a 100% solids, solvent free system that will not form voids during cure or outgas after being fully cured.

KEY FEATURES AND BENEFITS

- Premixed-frozen and packaged in syringes for convenient dispensing to circuit board
- Low modulus to minimize stress to sensitive components and ceramic substrates
- Low Tg for excellent low temperature cycling and performance
- Excellent substrate adhesion, superior to silicones
- Also available with spacer beads for precise bond line control
- Exceeds NASA outgassing requirements for high vacuum environments

HANDLING INFORMATION

Work life in syringe after thaw @25°C, 5 cc, minutes 90

APTEK 2312LV-PMF syringes are shipped in dry ice. Upon receipt, transfer frozen syringes to a storage freezer @-40°C or below.

To thaw remove a syringe from freezer and allow to warm to room temperature. Do not place in oven or microwave- this will shorten use life.

Typical thaw time for 5cc syringe @25°C ambient is approximately 15 minutes.

CURE SCHEDULE*

6 hours @ 85°C
or
3 hours @ 100°C
or
1 ½ hours @ 125°C

*Alternative cure schedules may be possible depending on application requirements.

- DISCLAIMER NOTICE -

All statements, technical data, and recommendations expressed herein are based on tests believed to be reliable and accurate. However, APTEK LABORATORIES, INC. gives no warranty, expressed or implied, regarding the accuracy of this information. It is intended that the buyer and user of these products shall determine the suitability of the information provided for his specific application, and is responsible for its selection.

APTEK LABORATORIES, INC. shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use or misuse of these products, or of the information given in these data bulletins. Purchasers assume all risk and liability whatsoever in connection with the use of these products and this information.

TYPICAL PROPERTIES

(Values not to be used for specification purposes)

<u>CHARACTERISTICS</u>	<u>APTEK2312LV-PMF</u>	<u>TEST METHOD</u>
Color	Silver	Visual
Specific gravity, cured	3.5	ASTM D-1475
Viscosity @25°C,	Smooth thixotropic flowable paste	ASTM D-1824
Flash point, °C	>200	ASTM D-92
Shelf life @-40°C, months in factory sealed pre-mixed frozen-syringes	3	JMTP C-100

<u>CURED PHYSICAL PROPERTIES</u>	<u>APTEK 2312LV-PMF</u>	<u>TEST METHOD</u>
Lap shear, @25°C, Al to Al*, psi	200	ASTM D-1002
Glass transition temp., °C	≤-60	TMA
Thermal conductivity, @25°C (cal) (cm)/ (sec.m ² °C)	0.0042	COLORA
Outgassing @ 10 ⁶ Torr TML, % CVCM, %	0.65 0.03	ASTM E-595 ASTM E-595

*Scuff sanded 60 grit, IPA wiped T3-2024Al; cohesive failure

<u>CURED ELECTRICAL PROPERTIES</u>	<u>APTEK 2312LV-PMF</u>	<u>TEST METHOD</u>
Volume resistivity @25°C, ohm-cm	0.007	ASTM D-257

SAFETY AND FIRST AID

APTEK 2312LV-PMF is a silver filled hybrid polymer blend which is safe to handle as it is packaged in sealed syringes. There should be no need to touch the adhesive. 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 one pint of water and call a physician. Refer to Material Safety Data Sheet for more details.

Revised: 12/02/09 mv

Issued: 01/10/08

APTEK[®] is a registered trademark of Aptek Laboratories, Inc.