APTEK LABORATORIES, INC.
ISO 9001 / AS9100 Certified

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

TECHNICAL DATA & INFORMATION

APTEK® 2120-PMF

Premixed-frozen, low modulus urethane staking compound

PRODUCT DESCRIPTION

APTEK 2120-PMF is a one component, premixed-frozen, thixotropic, electrically insulating soft urethane adhesive. It was designed for the staking of electrical/electronic components to printed circuit boards. **APTEK 2120-PMF** is a 100% solids, solvent free system that will not form voids during cure or outgas after being fully cured.

APTEK 2120-PMF is a non-TDI based urethane system which has outstanding reversion resistance and physical stability when subjected to high heat and humidity environments. As a urethane, this system displays higher ionic purity than epoxy systems minimizing the chance of corrosion around sensitive components and circuitry.

- 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

HANDLING INFORMATION

Work life in syringe after thaw @25°C, 10 gm mass, hours >2

Note: Viscosity increases with time,~ 50-70% over 4 hours duration. Work life to be determined by user for specific application.

- **APTEK 2120-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 10cc syringe @25°C ambient is approximately 15-20 minutes.

CURE SCHEDULE*

5 hours @ 85°C
OR
3 hours @ 100°C
OR
1½ hours @ 125°C

* Alternative cure schedules may be possible depending on application requirements.
Note: As typical with urethane systems, a relaxation/stabilization period after cure of 2-4 days at room temperature is required to reach final properties.

TYPICAL PROPERTIES

(Values not to be used for specification purposes)

CHARACTERISTICS	APTEK 2120-PMF	TEST METHOD
Color	hazy/translucent	Visual
Specific gravity	0.98	ASTM D-1475
Viscosity @25°C, initial cps	188,000	ASTM D-1824
Flash point, °C	>150	ASTM D-92
Shelf life @-40°C, months in factory sealed pre-mixed frozen-syringes	6	

CURED PHYSICAL PROPERTIES	APTEK 2120 PMF	TEST METHOD
Hardness, Durometer A	63	ASTM D-2240
Tensile Strength @ 25°C 0.058" thickness, psi	450	ASTM-D-638
Elongation, %	110	ASTM-D-638
Glass transition temp., °C	<-60	JMTP P-200
Thermal coefficient of expansion, in/in/C°		
alpha 1	70×10^{-6}	
alpha 2,	225×10^{-6}	ASTM E831-86

CURED ELECTRICAL PROPERTIES	APTEK 2120-PMF	TEST METHOD
Volume resistivity @25°C, ohm-cm	$>1 \times 10 x^{15}$	ASTM D-257
Dissipation factor (D)/Dielectric constant (K) @25°C, 1 KHz	0.024/3.5	ASTM D-150
Dielectric strength, 0.5" thick, volts/mil	>350	ASTM D-149

SAFETY AND FIRST AID

APTEK 2120-PMF is a mineral filled polyol resin/organic isocyanate 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: 07/10/12 – jv