



APTEK LABORATORIES, INC.

ISO 9001 / AS9100 Certified

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TECHNICAL DATA & INFORMATION

APTEK® 6114-2-PMF

Optoelectronic Encapsulant for IR Devices

PRODUCT DESCRIPTION

APTEK 6114-2-PMF is a one component, unfilled, dark brown, rigid system designed for the encapsulation of IR LED chips in OPTO devices. **APTEK 6114-2-PMF** provides excellent environmental protection and when casted becomes the lens portion of the device designed to be transparent to IR light while blocking out visible light and therefore appears black when cast in mass.

KEY FEATURES AND BENEFITS

- High purity system to minimize potential of corrosion to die and lead frame surfaces.
- Thixotropic consistency to minimize flow.

HANDLING INFORMATION

Work life, 25°C, 45% RH, 2 gram mass, hours 4-5*
(adversely affected by heat and humidity)

*Material does not gel and viscosity remains relatively stable for this time-period and ambient conditions

Gel time, 3 gms, 125°C, mins. 5-10

1. Syringes are shipped in dry ice. Upon receipt, transfer frozen syringes to a storage freezer @-40°C or below.
2. To thaw, remove from freezer and allow to warm to room temperature. Do not place in oven or microwave as this will shorten work-life.
3. Typical thaw time for 0.5cc of material packaged in a 3cc syringe @ 25°C ambient temperature is approximately 5-10 minutes.
4. For partial syringes used which have been exposed to RT conditions for up to half of its worklife, the syringe may be refrozen and rethawed and reused at another time for the remaining unused portion of its work-life.

CURE SCHEDULES*

4 hours @ 125°C

or

2 hours @ 150°C

Note: The user to confirm the proper cure schedule for individual application requirements.

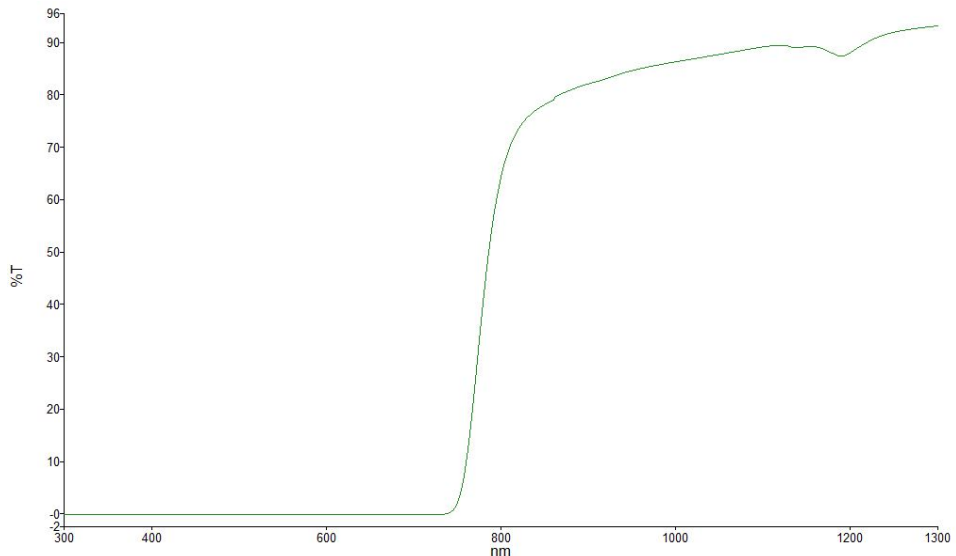
TYPICAL PROPERTIES

(values not to be used for specification purposes)

<u>CHARACTERISTICS</u>	<u>6114-2-PMF</u>	<u>TEST METHOD</u>
Color	Dark brown	Visual
Specific gravity	1.17	ASTM D-1475
Viscosity @ 25°C, cps	Thixotropic liquid	ASTM D-1824
Flash point, °C	>200	ASTM D-92
Shelf life, months @ ≤ -40°C, factory sealed containers	6	

<u>CURED PHYSICAL PROPERTIES</u>	<u>APTEK 6114-2-PMF</u>	<u>TEST METHOD</u>
Hardness, durometer D	87	ASTM D-2240
Glass transition temp., °C	110	ASTM E-831
Thermal coefficient of expansion, in/in/°C	alpha 1 78 x 10 ⁻⁶ alpha 2 231 x 10 ⁻⁶	ASTM E-831 ASTM E-831

<u>CURED ELECTRICAL PROPERTIES</u>	<u>APTEK 6114-2-PMF</u>	<u>TEST METHOD</u>
Volume resistivity @ 25°C, ohm-cm	5.0 x 10 ¹⁵	ASTM D-257
Dissipation factor/dielectric constant @ 25°C, 1 KHz	0.010/3.1	ASTM D-150

Transmission curve at 0.020" thickness:

SAFETY AND FIRST AID

APTEK 6114-2-PMF is safe to use when handled properly. Contact with skin or eyes may cause irritation and possible allergic skin reaction with prolonged or repeated use. 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.

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