



APTEK LABORATORIES, INC.

ISO 9001 / AS9100 Certified

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TECHNICAL DATA & INFORMATION

THERM-PAD™ 1100

Ultra Soft, Thermally Conductive Silicone Pad

PRODUCT DESCRIPTION

THERM-PAD-1100 is a mineral filled, highly conformable, void-free, electrically insulating silicone pad designed to fill air gaps and dissipate heat between devices and substrates such as heat sinks.

THERM-PAD-1100 is a 100% solids, fully crosslinked (C-staged), thermoset silicone polymer which will not outgas while in place and is suitable for high vacuum environments.

KEY FEATURES AND BENEFITS

- Uniform filler distribution for consistent thermal dissipation capability throughout pad segment
- Easily compressible up to 50% of it's thickness to conform to various component heights
- Very low modulus for minimum stress buildup around components
- Low Tg (-60°C) for excellent low temperature cycle performance
- -110°C Tg version available for space applications designated as THERM-PAD 1102
- Exceeds NASA outgassing requirements for high vacuum environments
- Typical pad thickness, 0.030" to 0.125". Custom thicknesses available.
- Available in sheet or die-cut forms

HANDLING INFORMATION

THERM-PAD-1100 is fully cured and no further processing is necessary. The pad is packaged between protective layers and it is suggested that pad be removed from packaging only at time of use to keep pad surfaces free from contamination. For best results, store **THERM-PAD-1100** in original containers at 20-30°C and less than 50% relative humidity. Pad may be easily cut with scissors or standard die cutting equipment.

TYPICAL PROPERTIES

(values not to be used for specification purposes)

<u>CHARACTERISTICS</u>	<u>THERM-PAD-1100</u>	<u>TEST METHOD</u>
Color	Off white/light gray	Visual
Specific gravity	1.4	ASTM D-1475
Standard thickness, mils	30-125	JMTP C-101
Shelf life @25°C, months	12	

- DISCLAIMER NOTICE -

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<u>PHYSICAL PROPERTIES</u>	<u>THERM-PAD-1100</u>	<u>TEST METHOD</u>
Hardness, Durometer A	0-3	ASTM D-2240
Tensile strength, 0.062",psi	75	ASTM D-638
Elongation, 0.062", %	350	ASTM D-638
Glass Transition Temp., °C	-60	TMA
Thermal conductivity @10 psi W/m°K	1 minimum*	APTEK

*Thermal conductivity up to 2 W/m°K is achieved with increased pressure

Outgassing at 10 ⁻⁶ Torr		
TML, %	0.11	ASTM E-595
CVCM, %	0.02	

<u>ELECTRICAL PROPERTIES</u>	<u>THERM-PAD-1100</u>	<u>TEST METHOD</u>
Volume resistivity, @ 25°C, ohm-cm	1.6 x 10 ¹⁴	ASTM D-257
Dissipation Factor (D)/ Dielectric Constant (K)		
@ 25°C, 1 KHz	0.003/4.2	ASTM D-150
@ 25°C, 100 KHz	0.002/3.8	
Dielectric strength, 0.040", volts/mil	550	ASTM D-149

SAFETY AND FIRST AID

THERM-PAD-1100 is a fully cured polymer and is thus very safe to handle with almost no possibility of allergic reactions. However it is suggested that gloves be worn while handling the film to eliminate any chance of skin contact and to prevent contamination of the film surface. Avoid placing film in or near mouth. Do not burn unused film. Dispose of unwanted waste film in certified landfill area. Material Safety Data Sheet is available upon request.

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