

Data Sheet Compatherm thermal & absorber pad 9442

Compatherm thermal & absorber Pad 9442 is a soft 4.5 W/mK thermal pad with EMI absorption function high conformability and thermal performance. The material is a filled thermally conductive elastomer which provides good thermal performance with great reliability.

Compatherm thermal & absorber pad 9442 key properties

- 4.5 W/(mK) thermal conductivity
- Good EMI absorption
- Operating temperature -40 to +150 °C
- High Deflection
- Electrically insulating material
- Compliant elastomeric based material
- Naturally tacky on both sides, customised surface available
- Available in thickness from 1 to 5mm

1. Applications

The application of Compatherm thermal & absorber pad 9442 is mainly concentrated in the field of electronic devices, and its common feature is the need for efficient heat dissipation and electromagnetic wave interference control to ensure stable operation and improve performance of the equipment. Thermal conductive absorbing gaskets effectively solve the heat dissipation and electromagnetic compatibility issues in these fields through their unique high thermal conductivity and excellent electromagnetic wave absorption ability.

2. Typical Product Data

2.1. Thermal Properties

	Test procedure	Unit	9442
Thermal conductivity	ISO 22007-2 (Hot Disk)	W/(mK)	4.5
	ASTM D5470	W/(mK)	4.5

2.2. Material properties

	Test procedure	Unit	9442
Base material			Silicone
Colour	Visual		Grey
Hardness ¹⁾	ASTM D2240	Shore 00	30
Density	ASTM D792	g/cm ³	3.4
Outgassing, TML ²⁾	ASTM E595 (Modified)	%	0.3
Flammability ³⁾	UL94		V-0

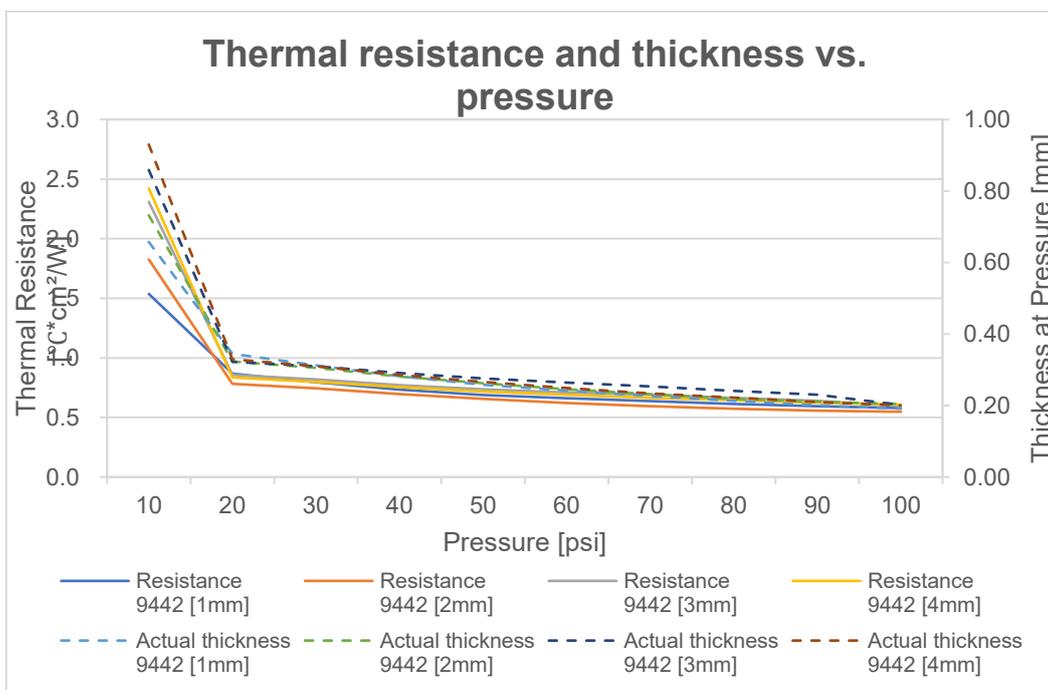
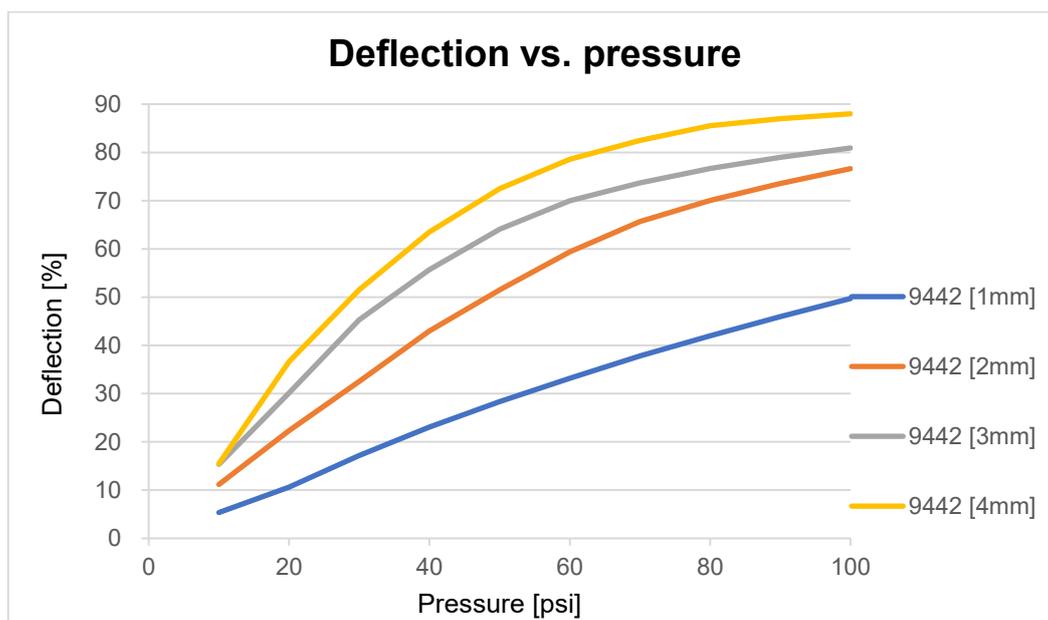
1) Hardness test is performed with 3 seconds delay. 2) Outgassing 24h at 150 °C under ambient pressure. 3) Tested at third-party accredited laboratory & the test report available on request.

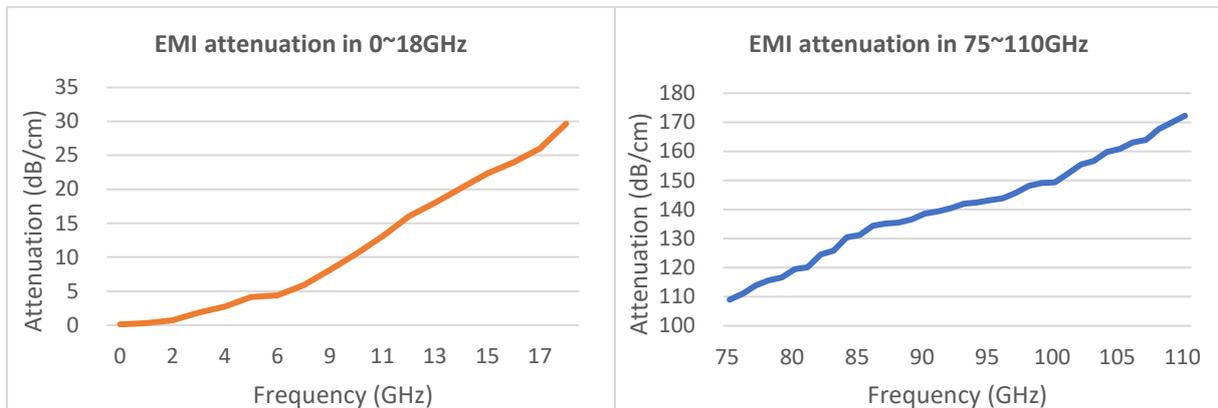
2.3. Electrical Properties

	Test procedure	Unit	9442
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Volume resistivity	ASTM D 257	$\Omega \cdot \text{cm}$	1.04×10^{11}
Dielectric constant at 1 MHz	ASTM D 150		6.2
Breakdown voltage	ASTM D 149	VAC/mm	>2300
EMI Attenuation @10GHz	ASTM D 7449	dB/cm	>10
EMI Attenuation @20GHz	ASTM D 5568	dB/cm	>30

2.4. Pressure dependence of critical properties and EMI attenuation





* Graphs are provided for general reference only. Actual performance will depend on surface properties and other application specific conditions. Engineers are therefore strongly recommended to test materials in conditions realistic to final application.

2.5. Dimensions Tolerances

Thickness tolerances are $\pm 0,1$ mm on pads thinner than 1 mm and $\pm 10\%$ on pads thicker than 1 mm.

XY tolerance is ± 1 mm on standard sizes. The tolerances on custom made pads varies please consult the Nolato marketing department.

2.6. Design Notes

It is recommended to use the material in up to 20%-35% of compression degree. A compression degree of 50% is possible to use but above that level is a thinner pad recommended.

3. Ordering

When ordering Compatherm material please refer to the thermal guide (<https://thermalguide.nolato.com/>) to see the standard products available or consult the Nolato marketing department.

Specialized pads are available in different shape and surface properties. See application note 1 for detailed information on customized surfaces.

4. Storage

The material can be stored one year after production date at 0 to 30°C.

5. RoHS Information

Compatherm thermal & absorber Pad 9442 fulfils the requirements set by the EU Directive 2011/65 (RoHS).

6. Safety Instructions

Compatherm thermal & absorber Pad 9442 is not considered as hazardous according to EU Directive 1272/2008 (CLP) and is not subject to the directive of

classification, packaging and labelling of dangerous goods. A material safety data sheet can be sent on request.

7. Warranty

The recommendations and data given are based on our experience to date, however, no liability can be assumed in connection with their usage and processing. The typical property data as shown above should not be used as a specification.