

## Data Sheet Compatherm Pads 9451

Compatherm Pad 9451 is a cost effective thermally conductive interface material. The material is a filled thermally conductive elastomer which provides good thermal performance with great reliability.

Compatherm pad 9451 key properties

- 5 W/(mK) thermal conductivity
- Operating temperature -40 to +150° C
- Electrically insulating material
- Compliant elastomeric based material
- Naturally tacky on both sides, customised surface available
- Available in thickness from 0.5 to 5mm

### 1. Applications

Compatherm pad 9451 is designed to provide efficient heat transfer for cooling of modern electronics.

### 2. Typical Product Data

#### 2.1. Thermal Properties

	Test procedure	Unit	9451
Thermal conductivity	ISO 22007-2 (Hot Disk)	W/(mK)	5
	ASTM D5470	W/(mK)	5

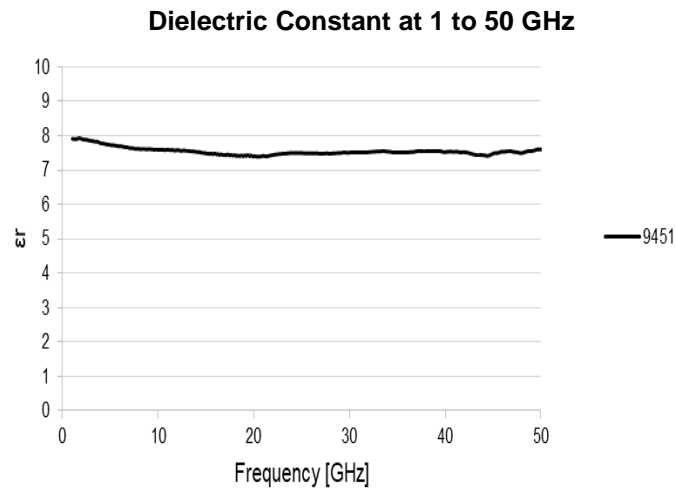
#### 2.2. Material properties

	Test procedure	Unit	9451
Base material			Silicone
Colour	Visual		Grey
Hardness	ASTM D2240	Shore 00	28
Density	ASTM D792	g/cm <sup>3</sup>	3.07
Outgassing, TML <sup>1)</sup>	ASTM E595 (Modified)	%	0.04
Flammability <sup>2)</sup>	UL94		V0

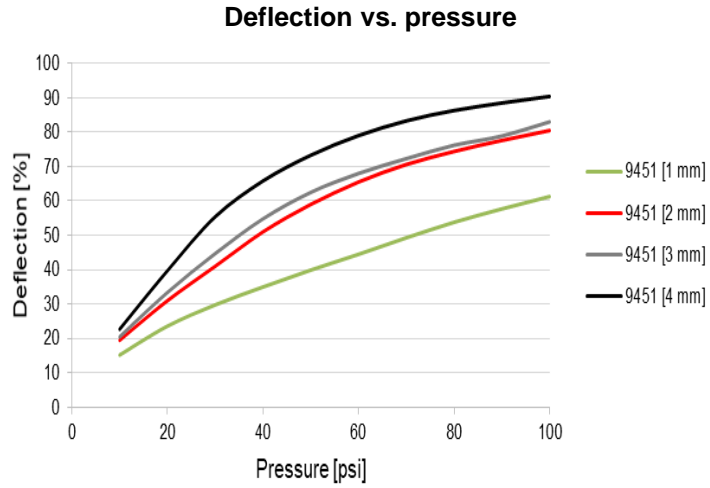
1) Outgassing 24h at 150 °C under ambient pressure 2) UL file number QMFZ2.E483565

#### 2.3. Electrical Properties

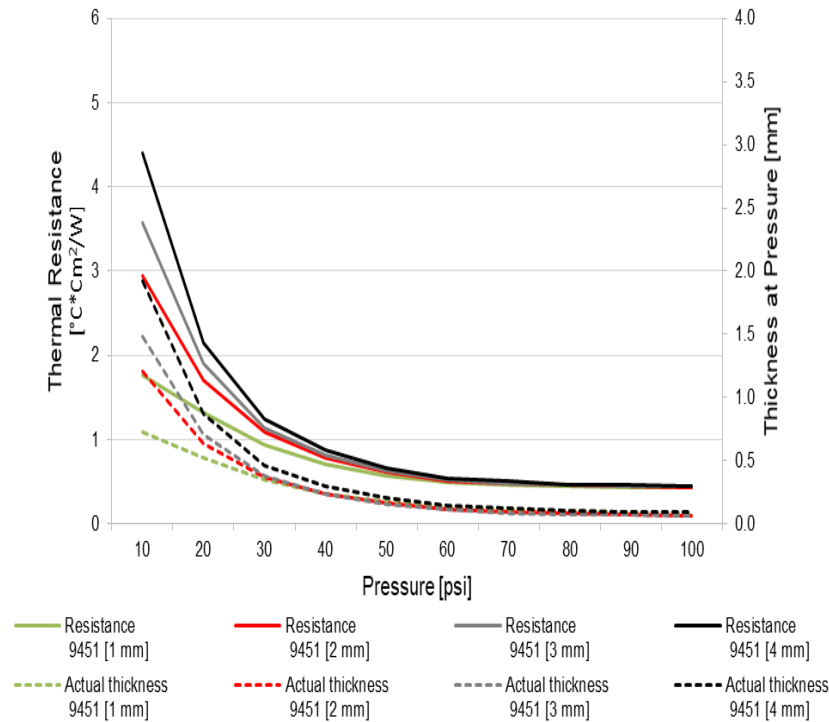
	Test procedure	Unit	9451
Volume resistivity	ASTM D 257	Ω·cm	3.15x10 <sup>14</sup>
Dielectric constant at 1 MHz	ASTM D 150		7.57
Breakdown voltage	ASTM D 149	VAC/mm	> 5000



## 2.4. Pressure dependence of critical properties



**Thermal resistance and thickness vs. pressure**



\* 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  $\pm 1$ 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%-30% 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**

Compashield pad 9451 fulfils the requirements set by the EU Directive 2011/65 (RoHS).

#### **6. Safety Instructions**

Compashield pad 9451 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.