

**Brady T400-9 Thermally Conductive Material Tsoft® Elastomeric Thermal Pad**

TDS No. BT-8651  
 Effective Date: 08/03/2011

**Description:**

**GENERAL**

Tsoft® T400-9 is a fiberglass reinforced, aluminum oxide filled silicone elastomer designed to provide exceptional cost effective thermal management and high performance electrical properties.

**APPLICATION**

Tsoft® materials are thermally conductive insulators typically mounted between a transistor and a heat sink offering low thermal resistance as well as electrical insulation. Tsoft® materials do not require thermal grease. Using Tsoft® materials can lead to dramatic production cost reductions and improved product uniformity eliminating messy grease mica application, contamination, mica cracking, silicone migration and drying out.

Some of the common applications would include:

- Power Conversion
- Automotive electronics
- Consumer electronics

**COMPLIANCE**

BT-8651 is halogen-free in accordance to definition in IEC61249-2-21 and IPC-4101B, tested using IPC-TM-650.

BT-8651 is RoHS compliant in accordance to the EU Directive 2002/95/EC and its amendments.

BT-8651 is QMFZ2 recognized and V-0 rated as per UL94 standard. Refer to File# E316839 under *Certifications* at [www.ul.com](http://www.ul.com)

**Details:**

PHYSICAL PROPERTIES	TEST METHOD	TYPICAL RESULTS
Colour	-	Grey
Binder	-	Silicone elastomer
Reinforcement	-	Fiberglass
Filler	-	Aluminum oxide
Thickness	ASTM D374	9 mil
Specific Gravity	ASTM D792	2.1 g/cm <sup>3</sup>
Hardness (Shore A)	ASTM D257	85
Tensile Strength	ASTM D828	76 MPa
Elongation	ASTM D828	2-4 %
Breaking Strength	ASTM D828	18 KN/m
Cut-Thru Resistance	-	0.93 KN
<b>ELECTRICAL PROPERTIES</b>		
Dielectric Strength	ASTM D149	4500 volts
Volume Resistivity	ASTM D257	2 x 10 <sup>15</sup> ohm-cm
Dielectric Constant	ASTM D257	<ul style="list-style-type: none"> <li>• 2.36</li> <li>• 2.21</li> </ul>
<ul style="list-style-type: none"> <li>• 60Hz</li> <li>• 1KHz</li> </ul>		
Dissipation Factor	ASTM D257	<ul style="list-style-type: none"> <li>• 0.0013</li> <li>• 0.0011</li> </ul>
<ul style="list-style-type: none"> <li>• 60Hz</li> <li>• 1KHz</li> </ul>		
<b>THERMAL PROPERTIES</b>		

Thermal Impedance	ASTM D5470	0.5 C-in <sup>2</sup> /watt
Continuous Use Temperature	MIL-I-49546A	-60°C to +180°C
Weight Loss, 24hr @200°C	Modified UL746B	< 1%
Thermal Conductivity	ASTM D5470	0.9 W/mK

**Available Forms:**

Tsoff® thermal management materials are available in Sheet Form, Standard and Special Configurations.

**Trademarks:**

ASTM: American Society for Testing and Materials (U.S.A.)

UL: Underwriters Laboratories Inc. (U.S.A.)

**Note:** All values shown are averages and should not be used for specification purposes.

Test data and test results contained in this document are for general information only and shall not be relied upon by Brady customers for designs and specifications, or be relied on as meeting specified performance criteria. Customers desiring to develop specifications or performance criteria for specific product applications should contact Brady for further information.

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