



BERGQUIST SIL PAD TSP 900

Known as BERGQUIST SIL-PAD 400
October 2018

PRODUCT DESCRIPTION

The Original Sil-Pad® Material.

| | |
|------------------------------------|--|
| Technology | Silicone |
| Appearance | Gray |
| Reinforcement Carrier | Fiberglass |
| Total Thickness | 0.178, 0.229mm |
| Application | Thermal management, Thermally conductive adhesive |
| Operating Temperature Range | -60 to 180°C |

FEATURES AND BENEFITS

- Thermal impedance: 1.13°C-in²/W @ 50 psi
- Original Sil-Pad material
- Excellent mechanical and physical characteristics
- Flame retardant

TYPICAL APPLICATIONS

- Power supplies
- Automotive electronics
- Power semiconductors
- Motor controls

BERGQUIST SIL PAD TSP 900 is a composite of silicone rubber and fiberglass. The material is flame retardant and is specially formulated for use as a thermally conductive insulator. The primary use for BERGQUIST SIL PAD TSP 900 is to electrically isolate power sources from heat sinks.

BERGQUIST SIL PAD TSP 900 has excellent mechanical and physical characteristics. Surfaces are pliable and allow complete surface contact with excellent heat dissipation.

BERGQUIST SIL PAD TSP 900 actually improves its thermal resistance with age. The reinforcing fiberglass provides excellent cut-through resistance. In addition, BERGQUIST SIL PAD TSP 900 is non-toxic and resists damage from cleaning agents.

TYPICAL PROPERTIES

Physical Properties

| | |
|---|-----|
| Hardness, Shore A, ASTM D2240 | 85 |
| Breaking Strength, ASTM D1458, KN/m | 5 |
| Elongation, 45° to warp and fill, ASTM D412,% | 54 |
| Tensile Strength, ASTM D412, MPa | 20 |
| Flammability Rating, UL 94 | V-0 |

Electrical Properties

| | |
|--|--------------------|
| Dielectric Breakdown Voltage, ASTM D149, Vac | 3,500 to 4,500 |
| Dielectric Constant, ASTM D150 @ 1,000 Hz | 5.5 |
| Volume Resistivity, ASTM D257, ohm-meter | 1×10 ¹¹ |

Thermal Properties

| | |
|---|-----|
| Thermal Conductivity, ASTM D5470, W/(m-K) | 0.9 |
|---|-----|

Thermal Performance vs. Pressure

TO-220 Thermal Performance, °C/W

| | |
|-----------|------|
| @ 0.007": | |
| @ 10 psi | 6.62 |
| @ 25 psi | 5.93 |
| @ 50 psi | 5.14 |
| @ 100 psi | 4.38 |
| @ 200 psi | 3.61 |
| @ 0.009": | |
| @ 10 psi | 8.51 |
| @ 25 psi | 7.62 |
| @ 50 psi | 6.61 |
| @ 100 psi | 5.63 |
| @ 200 psi | 4.64 |

Thermal Impedance, ASTM D5470, °C-in²/W ⁽¹⁾

| | |
|-----------|------|
| @ 0.007": | |
| @ 10 psi | 1.82 |
| @ 25 psi | 1.42 |
| @ 50 psi | 1.13 |
| @ 100 psi | 0.82 |
| @ 200 psi | 0.54 |
| @ 0.009": | |
| @ 10 psi | 2.34 |
| @ 25 psi | 1.83 |
| @ 50 psi | 1.45 |
| @ 100 psi | 1.05 |
| @ 200 psi | 0.69 |

¹⁾ The ASTM D5470 test fixture was used. The recorded value includes interfacial thermal resistance. These values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied.

GENERAL INFORMATION

For safe handling information on this product, consult the Safety Data Sheet, (SDS).



www.orionindustries.com

ORION INDUSTRIES INCORPORATED
1 Orion Park Drive
Ayer, MA 01432



Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

CONFIGURATIONS AVAILABLE

BERGQUIST SIL PAD TSP 900 are supplied in:

- Sheet form, die-cut parts and roll form; with or without pressure sensitive adhesive

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\text{N} \times 0.225 = \text{lb}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{psi} \times 145 = \text{N/mm}^2$

$\text{MPa} = \text{N/mm}^2$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

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Reference 1