

Fujipoly NEW Product Technical Information

SARCON[®] SPG-20B

Highly Thermal Conductive, Electricity Insulative, Low Viscosity type Silicone Compound

1. Features

Sarcon[®] SPG-20B is highly conformable / thermally conductive, low viscosity and easier dispensable type silicone compound. It provides a thermal solution for the recent trends of higher frequencies and integration in the development of electronic devices. **Sarcon[®] SPG-20B** easily forms and adheres to most of surfaces, shapes, and sizes of components.

Sarcon[®] SPG-20B makes complete and reliable physical contact with the component and opposing surfaces. It provides handling properties that are superior to thermal grease & potting materials.

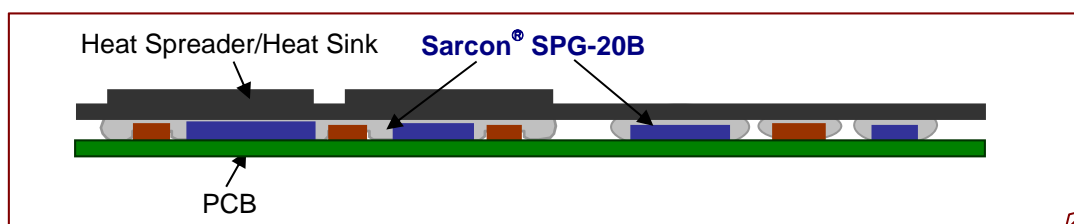
- 1) Suitable for filling the delicate gaps and still provide superior thermal transfer.
- 2) Highly conformable with very low compression forces.
- 3) Has excellent vibration absorption capabilities.
- 4) Maintains thermal properties across a wide temperature range.
- 5) Can be used to "Form-In-Place" and will remain form stable.
- 6) Requires no heat curing.
- 7) Will not cause corrosion on any metal surface.

2. Recommended application

Thermal transfer from heat-generating device to heat spreader or heat sink

3. Description

Material Code	Construction
Sarcon[®] SPG-20B	Low Viscosity type Silicone compound



4. Typical Properties

4-1. Typical Material Properties

Item	Unit	SPG-20B	Test method
Specific Gravity	-	2.8	JIS K 6220/(ASTM D792)
Viscosity	Pa·s	1,000	Fujipoly test method ^{*1}
		1,400	Fujipoly test method ^{*2}
Thermal Conductivity	(W/m·K)	2.1	Fujipoly test method ^{*3}

*1: Accurate Rotary Viscometer (RV1) Shearing Speed:1.0 (1/S)

*2: Accurate Rotary Viscometer (RV1) Shearing Speed:0.5 (1/S)

*3: Hot Disk method tester (TPA-501) Based on ASTM D2326 equivalent.

**Confidential****4-2. Typical Product Properties**

Item	Unit	SPG-20B	Test method
Operating Temperature Range	°C	-40 to +150	
Thermal Resistance	°C·cm ² /W	1.8	ASTM D5470 equivalent *4

*4: Contact Surface: 3.14 cm², (0.49 inch²) Filled material's weight: 0.45g for 0.5mm gap

4-3. Typical Durability (Reliability)

Thermal resistance under Heat, Cold, Humid and Thermal Shock conditions.

+70°C Aging**120°C Aging**

Gap	Initial	100 h	250 h	500 h	1,000 h	Gap	Initial	100 h	250 h	500 h	1,000 h
0.5mm	1.8	1.8	1.8	1.8	1.8	0.5mm	1.8	1.8	1.8	1.8	1.8

+150°C Aging**-40°C Aging**

Gap	Initial	100 h	250 h	500 h	1,000 h	Gap	Initial	100 h	250 h	500 h	1,000 h
0.5mm	1.8	1.8	1.8	1.8	1.8	0.5mm	1.8	1.8	1.8	1.8	1.8

+60°C 95%RH Aging**-40°C⇄+125°C Heat Shock**

Gap	Initial	100 h	250 h	500 h	1,000 h	Gap	Initial	100 h	250 h	500 h	1,000 h
0.5mm	1.8	1.8	1.8	1.8	1.8	0.5mm	1.8	1.8	1.8	1.8	1.8

Remark: *Unit of Thermal Resistance: °C·inch²/W based on ASTM D5470 equivalent method

*Contact Surface: 3.14 cm², (0.49 inch²)

*Filled material's weight: 0.44 g for 0.5 mm gap

Notes:

- Some silicone oil may exude from the product according to operating conditions.
- Some low molecular siloxane may vaporize from the product according to operating conditions.
- It is advisable to use the product under recommended operating condition. Some more silicone oil may exude from the product if it was used over the recommended condition.
- It is advisable to use the product under parallel and even compression. Some more silicone oil may exude from the product if it was used under excessive or partial stress.

Sarcon® is registered as a trademark of Fujipoly

STATEMENT OF LIEU OF WARRANTY: All technical information in this document is based on tests and is believed to be accurate and reliable. Nevertheless, since the products described herein are not provided to conform with mutually accepted specifications and the use thereof is unknown. The manufacturer and seller of the product does not guarantee results, freedom from patent infringement, or suitability of the product for any application thereof. The manufacturer and seller of the product described in this document will provide all possible technical assistance and will replace any products proven defective. No statement or recommendation made by the manufacturer or seller not contained herein shall have any force of effect unless in conformity with an agreement signed by an officer of the seller or manufacturer. Product testing by the purchaser is recommended in order to confirm expected results.