

Fujipoly Data Sheet

# SARCON PG130A series

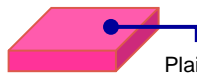
## Extremely Compressible Gap Filler Type

### FEATURES

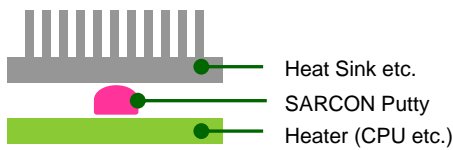
Highly Conformable and Non-Flammable, Higher Thermal interface materials.

SARCON Extremely Compressible Gap Filler Type (Putty Type) is a highly conformable, thermally conductive, non-flammable interface materials. The surface consistency is excellent for filling small air gaps and uneven mating surface, making reliable contact with various shapes and sizes of components.

### CONSTRUCTION

Series	Characteristics	Constructions
SARCON PG130A	Silicone compound with double sticky surfaces and Thermal Conductivity of PG130A material is 13.0W/m-K by using Hot Disk.	 Plain Type

### RECOMMENDED APPLICATION



To determine the size and volume of SARCON Putty Type to be used, follow this helpful example:



EX.  
Original Gap : V=90.0mm<sup>3</sup>  
(0.4mm H x 15mm W x 15mm L)

Decide Thickness of SARCON depend on the compression force  
e.g. Decided Thickness = 1.0mm

$$\sqrt{90.0(V) / 1 (T)} = 9.486 \text{ mm}$$

⇒ use ; 9.5 mm x 9.5 mm x 1.0 mmT

### THERMAL RESISTANCE

Unit : K-cm<sup>2</sup>/W (K-in<sup>2</sup>/W)

Compression Force	0.3mmT	0.5mmT	1.0mmT	1.5mmT	2.0mmT
100kPa /14.5psi	0.20 (0.03)	0.29 (0.04)	0.65 (0.10)	0.83 (0.13)	1.07 (0.17)
300kPa /43.5psi	0.17 (0.03)	0.23 (0.04)	0.34 (0.05)	0.39 (0.06)	0.41 (0.06)
500kPa /72.5psi	0.14 (0.02)	0.19 (0.03)	0.21 (0.03)	0.21 (0.03)	0.22 (0.03)

Test method : Fujipoly Test method, FTM-P3050 by TIM Tester 1300 which is ASTM D5470 equivalent

• Specimen Area : DIA.33.0mm (1.30in)

**TYPICAL PROPERTIES**

Properties		unit		PG130A	Test method	Specimen
Physical Properties	Color	-		Pink	Visual	-
	Specific Gravity	-		3.0	ASTM D792	A
Electrical Properties	Volume Resistivity	Ohm-m		$2 \times 10^9$	ASTM D257	B
	Breakdown Voltage	kV/mm (volts/mil)		13 (330)	ASTM D149	B
	Dielectric Strength	kV/mm (volts/mil)		8 (203)	ASTM D149	B
	Dielectric Constant	-	50Hz	13.60	ASTM D150	A
			1kHz	10.60		
			1MHz	9.30		
Dissipation Factor	-	50Hz	0.500	ASTM D150	A	
		1kHz	0.095			
		1MHz	0.029			
Thermal Properties	Thermal Conductivity	W/m-K		13.0	ISO 22007-2	-
	Useful Temperature	°C (°F)		-40 to +150 (-40 to +302)	-	-
	Low molecular Siloxane	wt%	D <sub>3</sub> to D <sub>10</sub>	0.0010	Gas Chromatography	-
			D <sub>11</sub> to D <sub>20</sub>	0.0054*		
Flame Retardant	UL94		V-0	UL 94	-	

• Each Specimens are cured for measurement. • Specimen A : 2mmT • Specimen B : 120mmW × 120mmL × 1mmT

\* Siloxane concentration (D20) unknown due to the influence of other extracted components.

**COMPRESSION FORCE**Unit : N/6.4cm<sup>2</sup> (psi)

Compression Ratio	0.3mmT	0.5mmT	1.0mmT	1.5mmT	2.0mmT
10%	22 (5.0)	57 (12.9)	60 (13.6)	54 (12.2)	37 (8.4)
20%	253 (57.3)	440 (99.7)	159 (36.0)	258 (58.5)	99 (22.4)
30%	541 (122.6)	782 (177.2)	431 (97.6)	534 (121.0)	294 (66.6)
40%	931 (210.9)	930 (210.7)	846 (191.7)	838 (189.9)	730 (165.4)
50%	1112 (251.9)	1549 (350.9)	1364 (309.0)	1097 (248.5)	940 (213.0)
Sustain 50%	769 (174.2)	723 (163.8)	333 (75.4)	209 (47.4)	176 (39.9)

Test method : Measured by ASTM D575-91 for reference

- Specimen Area : DIA.28.6mm (1.13in)
- Platen Area : DIA. 28.6mm (1.13in)
- Sustain 50% : Sustain 50% at 1 minute later
- Compression Velocity : 5.0mm/minute

**DURABILITY**Unit : K-cm<sup>2</sup>/W

Test Property	Compression Ratio	70°C					150°C				
		Initial	100hrs	250hrs	500hrs	1,000hrs	Initial	100hrs	250hrs	500hrs	1,000hrs
Thermal Resistance	30%	0.53	0.55	0.55	0.57	0.52	0.51	0.48	0.48	0.54	0.55
	70%	0.29	0.32	0.30	0.30	0.32	0.27	0.25	0.25	0.27	0.26

Test Property	Compression Ratio	60°C/95%RH					85°C/85%RH				
		Initial	100hrs	250hrs	500hrs	1,000hrs	Initial	100hrs	250hrs	500hrs	1,000hrs
Thermal Resistance	30%	0.56	0.53	0.53	0.54	0.51	0.62	0.64	0.66	0.60	0.61
	70%	0.33	0.30	0.31	0.27	0.30	0.29	0.24	0.30	0.29	0.28

Test Property	Compression Ratio	-40°C(30min)↔+125°C(30min)				
		Initial	100hrs	250hrs	500hrs	1,000hrs
Thermal Resistance	30%	0.50	0.52	0.53	0.50	0.49
	70%	0.34	0.27	0.28	0.27	0.28

- Thermal Resistance : Measured by using ASTM D5470 modified, refer to Fujipoly Test method FTM P-3030.

reduced temperature

- Specimen Area : 30% = 15mm square , initial thickness = 1.0mm

-40°C = -40°F

- Specimen Area : 70% = 10mm square , initial thickness = 1.0mm

60°C = 140°F

(Specimen is sandwiched between aluminum blocks.)

70°C = 158°F

125°C = 257°F

150°C = 302°F

**TYPES AND CONFIGURATION**

Series	Product Name	Thickness	Sheet Size
SARCON PG130A	PG130A-00-30PK	0.3mm ±0.06mm	300mm × 200mm (Recommended Usable Size:290mm×190mm)
	PG130A-00-50PK	0.5mm ±0.10mm	
	PG130A-00-100PK	1.0mm ±0.15mm	
	PG130A-00-150PK	1.5mm ±0.20mm	
	PG130A-00-200PK	2.0mm ±0.30mm	

**HANDLING NOTES**

- It is recommended to compress the material with the equal ratio on the whole surface. Partial excessive stress may also result in excessive silicone oil exudation.

**WARRANTY STATEMENT**

- Fujipoly has been utilizing Hot Disk method and TIM Tester method since Fujipoly defined them as Fujipoly standard.
- Properties of the products may be revised due to some changes for improving performance.
- Properties values in this document are not specification or guaranteed.
- This product is made of silicone, and silicone oil may exude from the product.
- This product is made of silicone, and low molecular siloxane may vaporize depending on operating conditions.
- The product is designed, developed, and manufactured for general industrial use only. Never use for medical, surgical, and/or relating purposes. Never use for the purpose of implantation and/or other purposes by which a part of or whole product remains in human body.
- Before using, a safety must be evaluated and verified by the purchaser.
- Contents described in the document do not guarantee the performances and qualities required for the purchaser's specific purposes. The purchaser is responsible for pre-testing the product under the purchaser's specific conditions and for verifying the expected performances.
- Statements concerning possible or suggested uses made herein may not be relied upon, or be constructed, as a guaranty of no patent infringement.
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