Fujipoly®

Fujipoly Data Sheet

SARCON® GR130A series

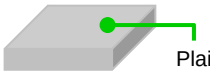
High Performance Gap Filler Type

FEATURES

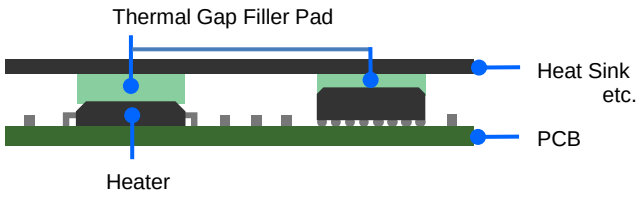
Highly Conformable and High Heat Conducting gel materials.

SARCON® Thermal Gap Filler Pads are highly conformable and high heat conducting gel materials in a versatile sheet form. They easily fit and adhere to most all shapes and sizes of components, including protrusions and recessed areas.

CONSTRUCTIONS

Series	Characteristics	Constructions
SARCON® GR130A-00	Silicone compound with double sticky surfaces and Thermal Conductivity of GR130A-00 material is 13.0W/m-K by using Hot Disk	 Plain Type

RECOMMENDED APPLICATION



In areas where space between surface is uneven or varies and where surface textures are a concern regarding efficient thermal transfer, the supple consistency of Gap Filler Pad is excellent for filling air gaps and uneven surfaces.

THERMAL RESISTANCE

GR130A-00

Unit : K-cm^2/W (K-in^2/W)

Compression Force	0.3mmT	0.5mmT	1.0mmT	1.5mmT	2.0mmT
100kPa /14.5psi	0.3 (0.04)	0.4 (0.06)	0.7 (0.11)	1.0 (0.16)	1.3 (0.20)
300kPa /43.5psi	0.2 (0.03)	0.3 (0.05)	0.6 (0.09)	0.8 (0.13)	1.0 (0.15)
500kPa /72.5psi	0.2 (0.03)	0.3 (0.05)	0.5 (0.08)	0.7 (0.11)	0.7 (0.11)

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		GR130A-00	Test method	Specimen
Physical Properties	Color	-		Light Gray	Visual	-
	Specific Gravity	-		3.0	ASTM D792	A
	Hardness Highest Value	Shore OO (ASKER-C)		74 (53)	ASTM D2240 JIS K7312	B
Electrical Properties	Volume Resistivity	Ohm-m		$1.0x10^{10}$	ASTM D257	C
	Breakdown Voltage	kV/mm (volts/mil)		14 (356)	ASTM D149	C
	Dielectric Strength	kV/mm (volts/mil)		7 (178)	ASTM D149	C
	Dielectric Constant	-	50Hz	9.44	ASTM D150	A
			1kHz	8.47		
			1MHz	7.97		
	Dissipation Factor	-	50Hz	0.157	ASTM D150	A
			1kHz	0.045		
			1MHz	0.010		
Thermal Properties	Thermal Conductivity	W/m-K		13.0	ISO 22007-2	
	Useful Temperature	℃ (°F)		-40 to +150 (-40 to +302)	-	-
	Low molecular Siloxane	wt%		D_4 to D_{20} Total 0.0194	Gas Chromatography	-
	Flame Retardant	-		V-0	UL 94	-

• Specimen A: 2mmT Specimen B: 60mmW x 120mmL x 20mmT • Specimen C: 120mmW × 120mmL × 1mmT

COMPRESSION FORCE

GR130A-00

Unit : N/6.4cm^2 (psi)

Compression Ratio	0.3mmT	0.5mmT	1.0mmT	1.5mmT	2.0mmT
10%	19 (4.3)	224 (50.8)	299 (67.7)	177 (40.1)	150 (31.7)
20%	370 (83.8)	460 (104.2)	529 (119.9)	387 (87.7)	364 (82.5)
30%	563 (127.6)	908 (205.7)	1026 (232.5)	807 (182.8)	701 (158.8)
40%	784 (177.6)	1559 (353.2)	1386 (314.0)	1391 (315.1)	1068 (242.0)
50%	1330 (301.3)	2030 (459.9)	2095 (474.6)	1949 (441.6)	1406 (318.5)
Sustain 50%	835 (189.2)	845 (191.4)	350 (79.3)	289 (65.5)	182 (41.2)

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

Test Property	Unit	70℃		150℃	
		Initial	After 1,000hrs	Initial	After 1,000hrs
Specific Gravity	-	3.0	3.0	3.0	2.9
Hardness	Shore OO	74	80	74	94
Breakdown Voltage	kV/mm	14	16	14	18
Thermal Resistance*	K·cm^2/W	0.54	0.50	0.58	0.66

Test Property	Unit	60℃/90%RH		-40℃/30min⇔125/30min	
		Initial	After 1,000hrs	Initial	After 1,000hrs
Specific Gravity	-	3.0	3.0	3.0	3.0
Hardness	Shore OO	74	89	74	91
Breakdown Voltage	kV/mm	14	18	14	17
Thermal Resistance*	K·cm^2/W	0.6	0.6	0.59	0.57

Test Property	Unit	-40℃	
		Initial	After 1,000hrs
Specific Gravity	-	3.0	3.0
Hardness	Shore OO	74	74
Breakdown Voltage	kV/mm	14	13
Thermal Resistance*	K·cm^2/W	0.53	0.57

reduced temperature

-40℃ = -40°F
60℃ = 140°F
70℃ = 158°F
125℃ = 257°F
150℃ = 302°F

*Test method : FTM P-3030 (ASTM D 5470 modified)

Themal resistance

Sample Size : 15mm x 15mm x 1mmt

Spacer : 0.7mmt (Comprssion ratio 30%)

Rt = (ΔT·S/Q)-0.34

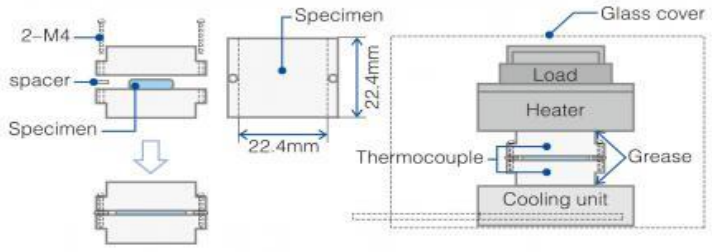
Rt : Thermal Resistance (℃·cm^2/W)

Q : Apply electricity (W)

ΔT : Top and bottom metal board difference of temperature T1-T2 (℃)

S : Sample contact area(cm^2)

0.34 : The thermal resistance revision of the aluminum blocks (℃·cm^2/W)



TYPES AND CONFIGURATION

Series	Product Name	Thickness	Sheet Size
SARCON® GR130A-00	GR130A-00-30GY	0.3mm ± 0.06mm	300mm × 200mm (Recommended Usable Size: 290mm×190mm)
	GR130A-00-50GY	0.5mm ± 0.10mm	
	GR130A-00-100GY	1.0mm ± 0.20mm	
	GR130A-00-150GY	1.5mm ± 0.20mm	
	GR130A-00-200GY	2.0mm ± 0.30mm	

HANDLING NOTES

- It is recommended to use the material in up to 30% of compression ratio. Using the material beyond the recommended compression rate may result in excessive silicone oil exudation.
- 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.
- Fujipoly Test method FTM-P3030 based on ASTM D5470 and ASTM C177 (GHP) method.
- 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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