FUJIPOLY

FUJIPOLY Data Sheet

SARCON GR130A series

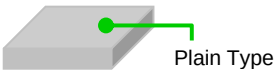
High Performance Gap Filler Type

FEATURES

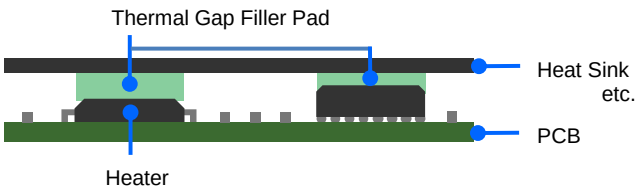
Highly Conformable and High Heat Conducting gel materials.

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	0.25 (0.04)	0.37 (0.06)	0.70 (0.11)	1.01 (0.16)	1.26 (0.20)
300kPa /43.5psi	0.22 (0.03)	0.32 (0.05)	0.60 (0.09)	0.84 (0.13)	0.99 (0.15)
500kPa /72.5psi	0.20 (0.03)	0.30 (0.05)	0.53 (0.08)	0.71 (0.11)	0.70 (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		$2.0x10^{10}$	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_3 to D_{10} 0.0010 D_{11} to D_{20} 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)	140 (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	98
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℃/95%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	0.59	0.55	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	0.64

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

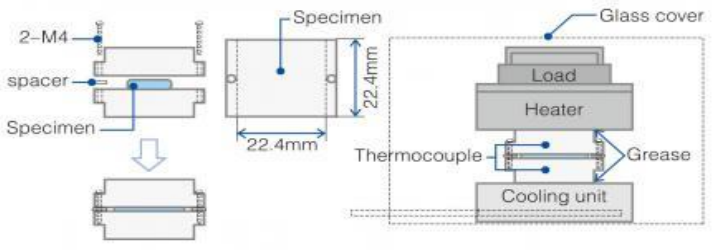
Rt : Thermal Resistance (℃·cm^2/W)

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 ± 0.15mm	
	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.
- 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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