

FUJIPOLY Data Sheet

SARCON GR100A series

High Performance Gap Filler Type

FEATURES

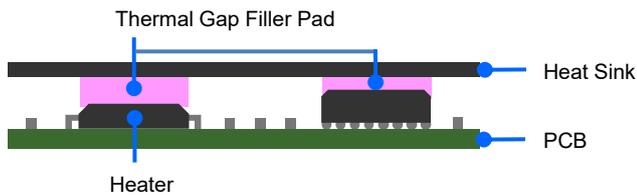
Highly Conformable and High Heat Conducting Gel materials.

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 GR100A-00	Silicone compound with double sticky surfaces and Thermal Conductivity of GR100A material is 10.0W/m-K by using Hot Disk.	 Plain Type
SARCON GR100A-0H	Silicone compound as above GR100A-00 plus additional hardening of the top surface to facilitate handling and installation during complex assemblies.	 Hardened Surface

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

GR100A-00

Unit : K-cm²/W (K-in²/W)

Compression Force	1.0mmT	1.5mmT	2.0mmT
100kPa /14.5psi	0.84 (0.13)	1.06 (0.16)	1.56 (0.24)
300kPa /43.5psi	0.54 (0.08)	0.67 (0.10)	1.06 (0.16)
500kPa /72.5psi	0.35 (0.05)	0.46 (0.07)	0.69 (0.11)

GR100A-0H

Compression Force	0.3mmT	0.5mmT	1.0mmT	1.5mmT	2.0mmT
100kPa /14.5psi	0.61 (0.09)	0.68 (0.11)	0.97 (0.15)	1.36 (0.21)	1.60 (0.25)
300kPa /43.5psi	0.42 (0.07)	0.56 (0.09)	0.83 (0.13)	1.07 (0.17)	1.20 (0.19)
500kPa /72.5psi	0.35 (0.05)	0.50 (0.08)	0.74 (0.11)	0.75 (0.12)	0.76 (0.12)

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	GR100A-00	Test method	Specimen		
Physical Properties	Color	-	Pink	Visual	-	
	Specific Gravity	-	3.2	ASTM D792	A	
	Hardness Highest Value	Shore OO	50	ASTM D2240	B	
		ASKER-C	30	JIS K7312		
Electrical Properties	Volume Resistivity	Ohm-m	3.0×10^9	ASTM D257	C	
	Breakdown Voltage	kV/mm (volts/mil)	10 (254)	ASTM D149	C	
	Dielectric Strength	kV/mm (volts/mil)	9 (229)	ASTM D149	C	
	Dielectric Constant	-	50Hz	11.4	ASTM D150	A
			1kHz	9.6		
			1MHz	8.4		
	Dissipation Factor	-	50Hz	0.372	ASTM D150	A
1kHz			0.070			
1MHz			0.024			
Thermal Properties	Thermal Conductivity	W/m-K	10.0 by Hot Disk	ISO 22007-2	D	
	Useful Temperature	°C (°F)	-40 to +150 (-40 to +302)	-	-	
	Low molecular Siloxane	wt%	D ₃ to D ₁₀ 0.0010	Gas Chromatography	-	
	Flame Retardant	-	V-0	UL 94	-	

- Specimen A : 2mmT • Specimen B : 100mmW x 50mmL x 10mmT (2mmT x 5pcs)
- Specimen C : 120mmW x 120mmL x 1mmT • Specimen D : 50mmW x 50mmL x 10mmT (2mmT x 5pcs)

COMPRESSION FORCE

GR100A-00

Unit : N/6.4cm² (psi)

Compression Ratio	1.0mmT	1.5mmT	2.0mmT
10%	100 (22.7)	96 (21.8)	107 (24.2)
20%	317 (71.8)	295 (66.8)	291 (65.9)
30%	642 (145.5)	618 (140.0)	573 (129.8)
40%	943 (213.6)	863 (195.5)	791 (179.2)
50%	1217 (275.7)	1150 (260.5)	1011 (229.1)
Sustain 50%	271 (61.4)	229 (51.9)	190 (43.0)

GR100A-0H

Compression Ratio	0.3mmT	0.5mmT	1.0mmT	1.5mmT	2.0mmT
10%	17 (3.9)	60 (13.6)	45 (10.2)	54 (12.2)	68 (15.4)
20%	44 (10.0)	333 (75.4)	405 (91.8)	298 (67.5)	344 (77.9)
30%	139 (31.5)	712 (161.3)	700 (158.6)	662 (150.0)	649 (147.0)
40%	314 (71.1)	1074 (243.3)	1196 (271.0)	1167 (264.4)	973 (220.4)
50%	1048 (237.4)	1742 (394.7)	2185 (495.0)	1608 (364.3)	1321 (299.3)
Sustain 50%	894 (202.5)	1335 (302.5)	1320 (299.1)	601 (136.2)	382 (86.5)

Test method : Measured by ASTM D575-91 for reference

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

DURABILITY

Test Property	Unit	70°C		150°C	
		Initial	After 1,000hrs	Initial	After 1,000hrs
Specific Gravity	-	3.2	3.2	3.2	3.2
Hardness	Shore OO	50	67	53	80
Volume Resistivity	Ohm-m	3x10 ⁹	1x10 ¹⁰	3x10 ⁹	2x10 ¹²
Breakdown Voltage	kV/mm	10	13	10	18
Thermal Resistance*	K-cm ² /W	0.61	0.66	0.65	0.66

Test Property	Unit	60°C/95%RH		-40°C	
		Initial	After 1,000hrs	Initial	After 1,000hrs
Specific Gravity	-	3.2	3.2	3.2	3.2
Hardness	Shore OO	51	74	52	57
Volume Resistivity	Ohm-m	3x10 ⁹	4x10 ¹¹	3x10 ⁹	4x10 ⁹
Breakdown Voltage	kV/mm	10	11	10	10
Thermal Resistance*	K-cm ² /W	0.59	0.57	0.64	0.65

Test Property	Unit	-40°C(30min)⇔+125°C(30min)	
		Initial	After 1,000hrs
Specific Gravity	-	3.2	3.2
Hardness	Shore OO	51	66
Volume Resistivity	Ohm-m	3x10 ⁹	2x10 ¹⁰
Breakdown Voltage	kV/mm	10	13
Thermal Resistance*	K-cm ² /W	0.60	0.65

reduced temperature

-40°C = -40°F

60°C = 140°F

70°C = 158°F

125°C = 257°F

150°C = 302°F

*Test method : FTM P-3030 (ASTM D 5470 modified) Sample Size : 10mm x 10mm x 1mm (Compression ratio 30%)

TYPES AND CONFIGURATION

Series	Product Name	Thickness	Sheet Size
SARCON GR100A-00	GR100A-00-100PK	1.0mm ± 0.20mm	300mm × 200mm (Recommended Usable Size: 290mm×190mm)
	GR100A-00-150PK	1.5mm ± 0.20mm	
	GR100A-00-200PK	2.0mm ± 0.30mm	
SARCON GR100A-0H	GR100A-0H-30PK	0.3mm ± 0.06mm	300mm × 200mm (Recommended Usable Size: 290mm×190mm)
	GR100A-0H-50PK	0.5mm ± 0.15mm	
	GR100A-0H-100PK	1.0mm ± 0.20mm	
	GR100A-0H-150PK	1.5mm ± 0.20mm	
	GR100A-0H-200PK	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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