

Fujipoly Data Sheet SARCON[®] GR80A series

High Performance Gap Filler Type

FEATURES

Highly Conformable and High Heat Conducting gel materials.

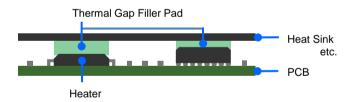
SARCON[®] Thermal Gap Filler Pads are highly conformable and high heat conducting gel materials in a versatile sheet form. They easily fit and adhere to most all shapes and sizes of components, including protrusions and recessed areas.

CONSTRUCTIONS

Series	Characteristics	Constructions
SARCON [®] GR80A-00	Silicone compound with double sticky surfaces and Thermal Conductivity of GR80A-00 material is 13.0W/m-K by using ASTM D5470 modified ^{*1} (8.0W/m-K by using Hot Disk)	Plain Type
SARCON [®] GR80A-0H	Silicone compound as above GR80A-00 plus additional hardening of the top surface to facilitate handling and installation during complex assemblies	Hardened Surface

*1) Thermal Conductivity ; Measured by using ASTM D5470 modified, refer to Fujipoly Test method FTM P-3030.

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

GR80A-00		Unit : K-cm ² /W (K-in ² /W)			
Compression Force	1.0mmT	2.0mmT	3.0mmT		
100kPa /14.5psi	1.1 (0.17)	2.3 (0.36)	3.7 (0.57)		
300kDa /43 Enci	1 0 (0 16)	2.0 (0.31)	30(0.17)		

1.6(0.25)

500kPa /72.5psi GR80A-0H

Compression Force	0.3mmT	0.5mmT
100kPa /14.5psi	0.6 (0.09)	0.8 (0.12)
300kPa /43.5psi	0.5 (0.08)	0.7 (0.11)
500kPa /72.5psi	0.4 (0.06)	0.7 (0.11)

0.9 (0.14)

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

2.4 (0.37

Specimen Area; DIA.33.0mm (1.30in)

	Properties	uni	t	GR	80A	-00	Test method	Specimen
Physical	Color	-		Light Gray		Visual	-	
Properties	Specific Gravity	-			3.3		ASTM D792	А
	Hardness Highest Value	Shore OO		75		ASTM D2240	В	
	Tensile Strength	MPa (psi)	0.	3 (43	.5)	ASTM D412	А
	Elongation	%			50		ASTM D412	А
	Tear Strength	N/mm	(ppi)	0	.7 (4.	0)	ASTM D624	А
Electrical	Volume Resistivity	Ohm	-m	1	.0x10) ¹¹	ASTM D257	С
Properties	Breakdown Voltage	kV/mm (vo			ASTM D149	С		
	Dielectric Strength	kV/mm (vo	olts/mil)	8 (203)		ASTM D149	С	
			50Hz		9.54			
	Dielectric Constant		1kHz 1MHz		8.82 7.92		ASTM D150	A
			50Hz		0.063	3		
	Dissipation Factor	-	1kHz		0.044	4	ASTM D150	A
			1MHz		0.014	4		
Thermal	Thermal Conductivity	W/m-K		1	3.0	by ASTM D5470	ASTM D5470 ^{*1}	_
Properties					8.0	by Hot Disk	ISO/CD 22007-2	-
	Useful Temperature	°C (°F)		-40 to +150 (-40 to +302)		-	-	
	Low molecular Siloxane	wt%		D ₄ to D ₂₀ Total	().0010 or less	Gas Chromatography	_
	Flame Retardant	UL94			V-0		UL 94	-

TYPICAL PROPERTIES

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

*1) Thermal Conductivity ; Measured by using ASTM D5470 modified, refer to Fujipoly Test method FTM P-3030.

GR80A-00	Unit : N/6.4cm ² (psi)				
Compression Ratio	1.0mmT	2.0mmT	3.0mmT		
10%	82 (18.6)	60 (13.6)	49 (11.1)		
20%	229 (51.9)	183 (41.5)	163 (36.9)		
30%	468 (106.0)	379 (85.9)	318 (72.0)		
40%	698 (158.1)	608 (137.8)	535 (121.2)		
50%	930 (210.7)	794 (179.9)	713 (161.5)		
Sustain 50%	389 (88.1)	319 (72.3)	286 (64.8)		

COMPRESSION FORCE

GR80A-0H

Compression Ratio	0.3mmT	0.5mmT
10%	68 (15.4)	106 (24.0)
20%	193 (43.7)	312 (70.7)
30%	356 (80.7)	568 (128.7)
40%	510 (115.5)	832 (188.5)
50%	678 (153.6)	1145 (259.4)
Sustain 50%	660 (149.5)	861 (195.1)

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

Toot Droporty	Unit	70	3 °C	150°C			
Test Property	Onit	Initial	After 1,000hrs	Initial	After 1,000hrs		
Specific Gravity	-	3.3	3.3	3.3	3.3		
Hardness	Shore OO	75	72	75	92		
Volume Resistivity	Ohm-m	2.4x10 ¹¹	2.8x10 ¹¹	2.4x10 ¹¹	1.8x10 ¹³		
Breakdown Voltage	kV/mm	15	14	15	20		
Thermal Conductivity	W/m-K	8.0	8.0	8.0	8.0		
Test Drenerty	l lució	60°C/90%RH		-40°C/30min⇔125/30min			
Test Property	Unit	Initial	After 1,000hrs	Initial	After 1,000hrs		
Specific Gravity	-	3.3	3.3	3.3	3.3		
Hardness	Shore OO	75	80	75	70		
Volume Resistivity	Ohm-m	2.4x10 ¹¹	3.7x10 ¹¹	2.4x10 ¹¹	1.3x10 ¹²		
Breakdown Voltage	kV/mm	15	17	15	17		
Thermal Conductivity	W/m-K	8.0	8.0	8.0	8.0		
Test Dreverty	l lucit	-40°C		-40°C		re	educed temperature
Test Property	Unit	Initial After 1,000hrs		$-40^{\circ}C = -40^{\circ}F$			
Specific Gravity	-	3.3	3.3	$60^{\circ}C = 140^{\circ}F$			
Hardness	Shore OO	75	70	70°C = 158°F			
Volume Resistivity	Ohm-m	2.4x10 ¹¹	2.6x10 ¹¹	125°C = 257°F			
Breakdown Voltage	kV/mm	15	15	150°C = 302°F			
Thermal Conductivity	W/m-K	8.0	8.0				

•Specimen : GR80A-00 • Thermal Conductivity ; Measured by using Hot Disk.

TYPES AND CONFIGURATION

Series	Product Name	Thickness	Sheet Size	
	GR80A-00-100GY	1.0mm ± 0.15mm		
	GR80A-00-150GY	1.5mm ± 0.20mm	300mm × 200mm	
SARCON [®] GR80A-00	GR80A-00-200GY	2.0mm ± 0.30mm	(Recommended Usable Size:	
	GR80A-00-250GY	2.5mm ± 0.30mm	290mm×190mm)	
	GR80A-00-300GY	3.0mm ± 0.30mm		
SARCON [®] GR80A-0H	GR80A-0H-30GY	0.3 mm ± 0.06 mm		
	GR80A-0H-50GY	0.5mm ± 0.10mm		
	GR80A-0H-100GY	1.0mm ± 0.15mm	300mm × 200mm	
	GR80A-0H-150GY	1.5mm ± 0.20mm	(Recommended Usable Size:	
	GR80A-0H-200GY	2.0mm ± 0.30mm	290mm×190mm)	
	GR80A-0H-250GY	2.5mm ± 0.30mm		
	GR80A-0H-300GY	3.0mm ± 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
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