

Fujipoly Data Sheet

SARCON® PG45A series


Extremely Compressible Gap Filler Type

FEATURES

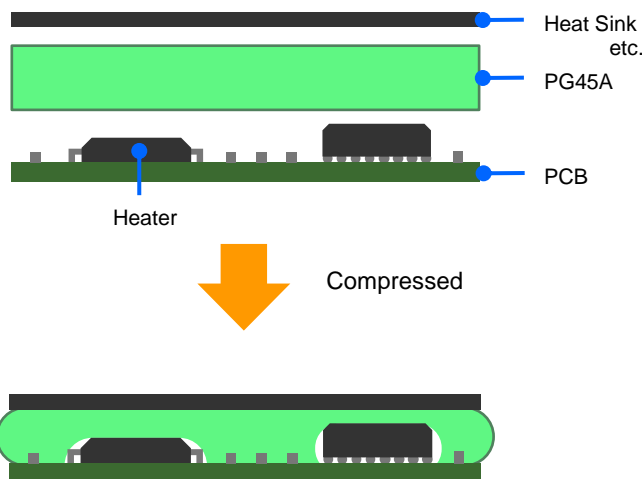
Very Low Modulus, Highly Thermally Conductive and Non-Flammable interface materials.

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® PG45A	Silicone compound with double sticky surfaces and Thermal Conductivity of PG45A material is 4.5W/m-K by using Hot Disk.	 Plain Type

RECOMMENDED APPLICATION



PG45A is the lowest modulus type of Putty Type available. Ideally suited for applications requiring low compression force on the component. It offers the high performance that very easily conforms in and around protrusions and depressions on components to make complete, reliable physical contact.

- **Absolute lowest modulus with high adhesion**
- **Easily fills air gaps, uneven surfaces**
- **Lower thermal resistance due to complete surface contact**

THERMAL RESISTANCE

Unit : K-cm²/W (K-in²/W)

Compression Force	1.5mmT		2.0mmT		2.5mmT	
100kPa /14.5psi	0.75	(0.12)	0.83	(0.13)	0.86	(0.13)
300kPa /43.5psi	0.13	(0.02)	0.14	(0.02)	0.38	(0.06)
500kPa /72.5psi	0.09	(0.01)	0.09	(0.01)	0.37	(0.06)

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	PG45A		Test method	Specimen
Physical Properties	Color	-	Gray		Visual	-
	Specific Gravity	-	3.3		ASTM D792	A
Electrical Properties	Dielectric Constant	-	50Hz	7.31	ASTM D150	B
			1kHz	7.30		
			1MHz	7.17		
	Dissipation Factor	-	50Hz	0.035	ASTM D150	B
			1kHz	0.010		
			1MHz	0.006		
Thermal Properties	Thermal Conductivity	W/m-K	4.5		ISO 22007-2	C
	Recommended operating temperature	°C (°F)	-40 to +150 (-40 to +302)		-	-
	Low molecular Siloxane	wt%	D ₄ to D ₁₀ Total	0.0010	Gas Chromatography	-
			D ₁₁ to D ₂₀ Total	0.0328		
Flame Retardant	-	V-0 Equivalent		UL 94	-	

• Specimen A: 2mmT • Specimen B: 100mmW × 100mmL × 3mmT • Specimen C: 50mmW × 50mmL × 3mmT, 3 sheets stacked

COMPRESSION FORCEUnit : N/6.4cm² (psi)

Compression Ratio	1.5mmT		2.0mmT		2.5mmT	
10%	70	(15.9)	58	(13.1)	36	(8.2)
20%	115	(26.1)	88	(19.9)	54	(12.2)
30%	175	(39.6)	112	(25.4)	75	(17.0)
40%	228	(51.7)	156	(35.3)	94	(21.3)
50%	307	(69.6)	207	(46.9)	132	(29.9)
Sustain 50%	6	(1.4)	4	(0.9)	2	(0.5)

Test method: Measured by ASTM D575-91 for reference

- Specimen Area; DIA.28.6mm (1.13in) • Platen Area; DIA. 28.6 (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	-	3.3	3.3	3.3	3.3
Thermal Conductivity	W/m-K	4.6	4.7	4.6	4.8
Thermal Resistance	K-cm ² /W	0.9	0.9	0.9	1.0

Test Property	Unit	60°C/95%RH		-40°C	
		Initial	After 1,000hrs	Initial	After 1,000hrs
Specific Gravity	-	3.3	3.3	3.3	3.3
Thermal Conductivity	W/m-K	4.6	4.6	4.6	4.5
Thermal Resistance	K-cm ² /W	0.9	0.9	0.9	1.0

Test Property	Unit	-40°C(30min)⇄+125°C(30min)	
		Initial	After 1,000hrs
Specific Gravity	-	3.3	3.3
Thermal Conductivity	W/m-K	4.6	4.6
Thermal Resistance	K-cm ² /W	0.9	1.0

reduced temperature

-40°C = -40°F

60°C = 140°F

70°C = 158°F

125°C = 257°F

150°C = 302°F

- Test methods of Thermal Conductivity base on Fujipoly Test Method, FTM P-1612 by Hot Disk.
- Thermal Resistance ; Measured by using ASTM D5470 modified, refer to Fujipoly Test method FTM P-3030
 - Specimen Area; 10mm square , initial thickness 1.5mm • Compression ratio; 30%

TYPES AND CONFIGURATION

Series	Product Name	Thickness	Sheet Size
SARCON® PG45A	PG45A-00-150GY	1.5mm ± 0.25mm	300mm × 200mm (Recommended Usable Size:290mm×190mm)
	PG45A-00-200GY	2.0mm ± 0.30mm	
	PG45A-00-250GY	2.5mm ± 0.35mm	

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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