

## Fujipoly Data Sheet

# SARCON GR25B series



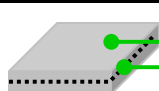
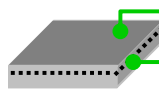
### Gap Filler Type

### FEATURES

Highly Conformable, Non-Flammable, Isolation and High Heat Conducting Gel materials.

- Gap filler materials are supplied in a fully cured state and remain pliable, easy conforming to minute surface irregularities.
- The basic Gap Filler Pad series can be further enhanced for special handling and die-cutting requirements.

### CONSTRUCTIONS

Series	Characteristics	Constructions
SARCON GR25B-00	Silicone compound with double sticky surfaces and Thermal Conductivity of GR25B material is 2.5W/m-K by using Hot Disk	 Plain Type
SARCON GR25B-0H	Silicone compound as above GR25B-00 plus additional hardening of the top surface to facilitate handling and installation during complex assemblies	 Hardened Surface
SARCON GR25B-T0	Silicone compound with Polyester mesh reinforcement stiffener to prevent stretching	 Plain Type Polyester Mesh
SARCON GR25B-TH	Silicone compound as above GR25B-T0 plus additional hardening of the top surface to facilitate handling and installation during complex assemblies	 Hardened Surface Polyester Mesh

### THERMAL RESISTANCE

#### GR25B-00

Unit : K-cm<sup>2</sup>/W (K-in<sup>2</sup>/W)

Compression Force	0.5mmT	1.0mmT	1.5mmT	2.0mmT	2.5mmT	3.0mmT	4.0mmT	5.0mmT
100kPa /14.5psi	1.8 (0.28)	2.9 (0.45)	4.4 (0.68)	5.7 (0.88)	6.3 (0.98)	7.5 (1.16)	9.3 (1.44)	10.6 (1.64)
300kPa /43.5psi	1.3 (0.20)	2.2 (0.34)	3.1 (0.48)	3.8 (0.59)	4.2 (0.65)	4.9 (0.76)	5.9 (0.91)	7.0 (1.09)
500kPa /72.5psi	1.2 (0.19)	1.8 (0.28)	2.4 (0.37)	2.9 (0.45)	3.2 (0.50)	3.8 (0.59)	4.9 (0.76)	5.8 (0.90)

#### GR25B-0H

Compression Force	0.3mmT*	0.5mmT	1.0mmT	1.5mmT	2.0mmT	3.0mmT	4.0mmT	5.0mmT
100kPa /14.5psi	1.6 (0.25)	2.3 (0.36)	3.8 (0.59)	5.2 (0.81)	6.1 (0.95)	8.2 (1.27)	10.6 (1.64)	11.6 (1.80)
300kPa /43.5psi	1.5 (0.23)	1.9 (0.29)	3.0 (0.47)	3.7 (0.57)	4.1 (0.64)	5.3 (0.82)	6.5 (1.01)	7.4 (1.15)
500kPa /72.5psi	1.4 (0.22)	1.7 (0.26)	2.4 (0.37)	2.8 (0.43)	3.0 (0.47)	4.0 (0.62)	5.2 (0.81)	6.1 (0.95)

\*SARCON GR25A-0H2-30PK

#### GR25B-T0

Compression Force	0.5mmT	1.0mmT	1.5mmT	2.0mmT
100kPa /14.5psi	2.5 (0.39)	4.2 (0.65)	6.0 (0.93)	7.0 (1.09)
300kPa /43.5psi	2.3 (0.36)	3.7 (0.57)	5.1 (0.79)	5.9 (0.91)
500kPa /72.5psi	2.2 (0.34)	3.4 (0.53)	4.6 (0.71)	5.1 (0.79)

#### GR25B-TH

Compression Force	0.5mmT	1.0mmT	1.5mmT	2.0mmT
100kPa /14.5psi	2.7 (0.42)	4.5 (0.70)	6.4 (0.99)	7.6 (1.18)
300kPa /43.5psi	2.6 (0.40)	4.2 (0.65)	5.5 (0.85)	6.4 (0.99)
500kPa /72.5psi	2.5 (0.39)	3.9 (0.60)	5.0 (0.78)	5.7 (0.88)

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	GR25B-00	Test method	Specimen		
Physical Properties	Color	-	Pink	Visual	-	
	Specific Gravity	-	2.5	ASTM D792	A	
	Hardness Highest Value	Shore OO (ASKER-C)	35 (14)	ASTM D2240 JIS K7312	B	
Electrical Properties	Volume Resistivity	Ohm-m	$6.0 \times 10^9$	ASTM D257	C	
	Breakdown Voltage	kV/mm (volts/mil)	12 (305)	ASTM D149	C	
	Dielectric Strength	kV/mm (volts/mil)	12 (305)	ASTM D149	C	
	Dielectric Constant	-	50Hz	7.27	ASTM D150	D
			1kHz	6.05		
			1MHz	5.76		
	Dissipation Factor	-	50Hz	0.559	ASTM D150	D
1kHz			0.073			
1MHz			0.014			
Thermal Properties	Thermal Conductivity	W/m-K	2.5 by Hot Disk	ISO 22007-2	E	
	Useful Temperature	°C (°F)	-40 to +150 (-40 to +302)	-	-	
	Low molecular Siloxane	wt%	D <sub>3</sub> to D <sub>10</sub> 0.0010 D <sub>11</sub> to D <sub>20</sub> 0.0038	Gas Chromatography	-	
	Flame Retardant	-	V-0 equivalent	UL 94	-	

- Specimen A : 2mmT • Specimen B : 80mmW x 50mmL x 12mmT (3mmT x 4pcs) • Specimen C : 120mmW x 120mmL x 1mmT
- Specimen D : 70mmW x 70mmL x 2mmT • Specimen E : 50mmW x 50mmL x 9mmT (3mmT x 3pcs)
- Test methods of Thermal Conductivity are based on Fujipoly Test Method, FTM P-1612 by Hot Disk.

## COMPRESSION FORCE

### GR25B-00

Unit : N/6.4cm<sup>2</sup> (psi)

Compression Ratio	0.5mmT	1.0mmT	1.5mmT	2.0mmT	2.5mmT	3.0mmT	4.0mmT	5.0mmT
10%	165 (37.4)	137 (31.0)	77 (17.4)	65 (14.7)	55 (12.5)	44 (10.0)	34 (7.7)	27 (6.1)
20%	362 (82.0)	220 (49.8)	125 (28.3)	105 (23.8)	90 (20.4)	74 (16.8)	53 (12.0)	47 (10.6)
30%	464 (105.1)	325 (73.6)	201 (45.5)	171 (38.7)	154 (34.9)	127 (28.8)	96 (21.8)	86 (19.5)
40%	605 (137.1)	496 (112.4)	314 (71.1)	271 (61.4)	242 (54.8)	203 (46.0)	153 (34.7)	139 (31.5)
50%	746 (169.0)	641 (145.2)	472 (106.9)	431 (97.6)	371 (84.1)	311 (70.5)	235 (53.2)	212 (48.0)
Sustain 50%	446 (101.0)	298 (67.5)	207 (46.9)	205 (46.4)	168 (38.1)	139 (31.5)	104 (23.6)	94 (21.3)

### GR25B-0H

Compression Ratio	0.3mmT*	0.5mmT	1.0mmT	1.5mmT	2.0mmT	3.0mmT	4.0mmT	5.0mmT
10%	80 (18.1)	200 (45.3)	208 (47.1)	148 (33.5)	99 (22.4)	58 (13.1)	43 (9.7)	32 (7.3)
20%	225 (51.0)	451 (102.2)	327 (74.1)	233 (52.8)	157 (35.6)	97 (22.0)	68 (15.4)	56 (12.7)
30%	397 (89.9)	630 (142.7)	487 (110.3)	362 (82.0)	255 (57.8)	165 (37.4)	117 (26.5)	100 (22.7)
40%	583 (132.1)	803 (181.9)	672 (152.3)	518 (117.4)	378 (85.6)	253 (57.3)	182 (41.2)	158 (35.8)
50%	835 (189.2)	1020 (231.1)	882 (199.8)	720 (163.1)	540 (122.3)	369 (83.6)	266 (60.3)	231 (52.3)
Sustain 50%	765 (173.3)	727 (164.7)	535 (121.2)	402 (91.1)	287 (65.0)	181 (41.0)	129 (29.2)	107 (24.2)

\*SARCON GR25B-0H2-30PK

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

**GR25B-T0**Unit : N/6.4cm<sup>2</sup> (psi)

Compression Ratio	0.5mmT	1.0mmT	1.5mmT	2.0mmT
10%	219 (49.6)	251 (56.9)	175 (39.6)	130 (29.5)
20%	515 (116.7)	531 (120.3)	381 (86.3)	282 (63.9)
30%	797 (180.6)	813 (184.2)	607 (137.5)	463 (104.9)
40%	1074 (243.3)	1122 (254.2)	888 (201.2)	695 (157.5)
50%	1378 (312.2)	1482 (335.8)	1203 (272.6)	977 (221.4)
Sustain 50%	1173 (265.8)	982 (222.5)	661 (149.8)	483 (109.4)

**GR25B-TH**

Compression Ratio	0.5mmT	1.0mmT	1.5mmT	2.0mmT
10%	234 (53.0)	335 (75.9)	200 (45.3)	153 (34.7)
20%	545 (123.5)	648 (146.8)	412 (93.3)	323 (73.2)
30%	846 (191.7)	956 (216.6)	650 (147.3)	522 (118.3)
40%	1127 (255.3)	1314 (297.7)	939 (212.7)	783 (177.4)
50%	1463 (331.5)	1703 (385.8)	1267 (287.1)	1115 (252.6)
Sustain 50%	1346 (305.0)	1208 (273.7)	707 (160.2)	574 (130.0)

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	-	2.5	2.5	2.5	2.5
Hardness	Shore OO	35	41	35	45
Breakdown Voltage	kV/mm	12	15	12	19
Thermal Conductivity	W/m-K	2.5	2.7	2.5	2.6

Test Property	Unit	60°C/95%RH		-40°C	
		Initial	After 1,000hrs	Initial	After 1,000hrs
Specific Gravity	-	2.5	2.5	2.5	2.5
Hardness	Shore OO	35	38	35	35
Breakdown Voltage	kV/mm	12	16	12	16
Thermal Conductivity	W/m-K	2.5	2.6	2.5	2.5

Test Property	Unit	-40°C(30min)↔+125°C(30min)	
		Initial	After 1,000hrs
Specific Gravity	-	2.5	2.5
Hardness	Shore OO	35	40
Breakdown Voltage	kV/mm	12	16
Thermal Conductivity	W/m-K	2.5	2.5

reduced temperature

-40°C = -40°F

60°C = 140°F

70°C = 158°F

125°C = 257°F

150°C = 302°F

- Specimen : GR25B-00 • Test methods of Thermal Conductivity base on Fujipoly Test Method, FTM P-1612 by Hot Disk.

## TYPES AND CONFIGURATION

Series	Product Name	Thickness	Sheet Size
SARCON GR25B-00	GR25B-00-50PK	0.5mm ± 0.05mm	300mm × 200mm (Recommended Usable Size: 290mm×190mm)
	GR25B-00-100PK	1.0mm ± 0.10mm	
	GR25B-00-150PK	1.5mm ± 0.15mm	
	GR25B-00-200PK	2.0mm ± 0.20mm	
	GR25B-00-250PK	2.5mm ± 0.25mm	
	GR25B-00-300PK	3.0mm ± 0.30mm	
	GR25B-00-350PK	3.5mm ± 0.30mm	
	GR25B-00-400PK	4.0mm ± 0.30mm	
	GR25B-00-450PK	4.5mm ± 0.30mm	
GR25B-00-500PK	5.0mm ± 0.30mm		
SARCON GR25B-0H	GR25B-0H2-30PK	0.3mm ± 0.06mm	300mm × 200mm (Recommended Usable Size: 290mm×190mm)
	GR25B-0H-50PK	0.5mm ± 0.05mm	
	GR25B-0H-100PK	1.0mm ± 0.10mm	
	GR25B-0H-150PK	1.5mm ± 0.15mm	
	GR25B-0H-200PK	2.0mm ± 0.20mm	
	GR25B-0H-250PK	2.5mm ± 0.25mm	
	GR25B-0H-300PK	3.0mm ± 0.30mm	
	GR25B-0H-350PK	3.5mm ± 0.30mm	
	GR25B-0H-400PK	4.0mm ± 0.30mm	
	GR25B-0H-450PK	4.5mm ± 0.30mm	
GR25B-0H-500PK	5.0mm ± 0.30mm		
SARCON GR25B-T0	GR25B-T0-50PK	0.5mm ± 0.15mm	300mm × 200mm (Recommended Usable Size: 290mm×190mm)
	GR25B-T0-100PK	1.0mm ± 0.20mm	
	GR25B-T0-150PK	1.5mm ± 0.20mm	
	GR25B-T0-200PK	2.0mm ± 0.30mm	
SARCON GR25B-TH	GR25B-TH-50PK	0.5mm ± 0.15mm	300mm × 200mm (Recommended Usable Size: 290mm×190mm)
	GR25B-TH-100PK	1.0mm ± 0.20mm	
	GR25B-TH-150PK	1.5mm ± 0.20mm	
	GR25B-TH-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.
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