

Fujipoly New Product Technical Information

NEW PRODUCTS: SARCON[®] GR-Sd

(Development Material Code : SMX-7423 & 7488)

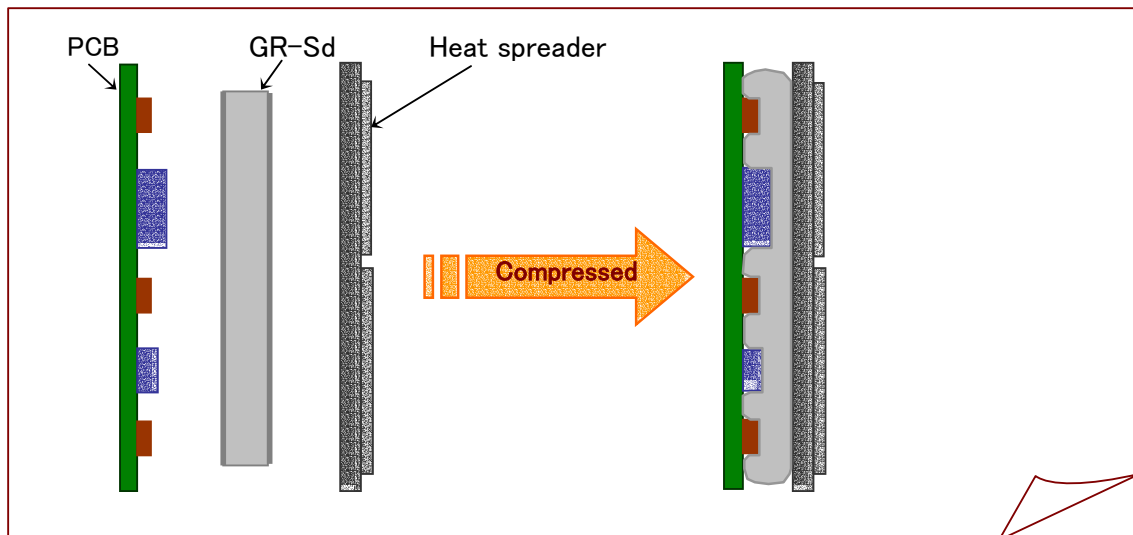
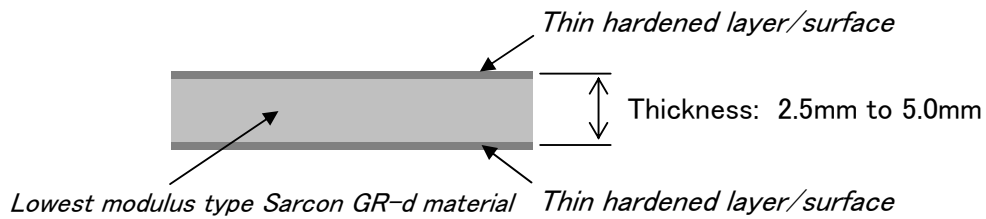
Very Low Modulus , Highly Thermal Conductive and Non-Flammable Silicone Gel Sheets

1) Features;

Sarcon[®] GR-Sd is the lowest modulus type Thermal Gap Filler Material. It preserves thermal performance of the original Sarcon[®] GR-d material, **1.5 Watt/m-K** (No electricity conductive) in a versatile sheet form that easily fit and adhere to most of shapes and sizes of components, and makes reliable and complete physical contact. The surface consistency of the pads is excellent for filling air gaps and uneven surfaces.

- 1) Easy to fill air gaps and uneven surfaces using the lowest modulus and high adhesion.
- 2) Has a flame retardancy of UL specification 94 V-1.
- 3) Gives the lower thermal resistance.
- 4) Low Molecular Silicone contact is very low.
(Passed Bellcore Specification TR-NWT000930)

2) Construction;



3) Typical material properties;

[Table-1] Thermal / Mechanical / Electrical properties;

Specimen	Sarcon® GR-Sd		Sarcon® GR-d	
Thickness (mm)	2.5	5.0	2.5	5.0
Thermal Conductivity *1 (Watt/m-K)	1.4		1.5	
Thermal Impedance *2 (°C·inch ² /Watt) at @70kPa	1.72 (11.1 °C·cm ² /W)	2.33 (15.0 °C·cm ² /W)	2.25 (14.5 °C·cm ² /W)	3.10 (20.0 °C·cm ² /W)
Compression Modulus *3	126kPa (25%) 342kPa (50%)	63kPa (25%) 135kPa (50%)	282kPa (25%) 678kPa (50%)	157kPa (25%) 295kPa (50%)
Tensile Strength *4	0.1 MPa (14 psi)		0.2 MPa (28 psi)	
Breakdown Voltage *5	14 kV/mm (350 V/mil)		17 kV/mm (430 V/mil)	

Notes / Test method;

- *1: ASTM D 5470 equivalent: Specimen: 5.0 cm², Compression Load: @70kPa
- *2: ASTM D 5470 equivalent: Specimen: 5.0 cm², Compression Load: @70kPa
- *3: Referred to ASTM D575:
 Compression Velocity: 5.0mm/minute with 200kgf load cell
 Compression Area: 25mm-square (25mm x 25mm)
- *4: ASTM D412 equivalent: Specimen: 2.5mm thickness
- *5: ASTM D149 equivalent: Specimen: 2.5mm thickness

4) Typical product properties;

[Table-2] Compression Load;

Specimen		Compression Load (kgf)			
		Sarcon® GR-Sd		Sarcon® GR-d	
Thickness (mm)		2.5	5.0	2.5	5.0
Compression	10%	6.1	2.2	6.8	3.9
	20%	9.5	4.4	13.8	8.6
	30%	14.8	7.3	24.5	14.5
	40%	23.2	12.3	34.2	25.4
	50%	35.7	20.6	56.3	36.5
	Sustain 50%	18.2	9.1	28.0	16.5

*Notes / Test method: Fujipoly Test Method:

- *Compression Velocity: 5.0mm/minute with 200kgf load cell
- *Compression Area: 25mm-square (25mm x 25mm)
- *Sustain 50% at 1 minute after

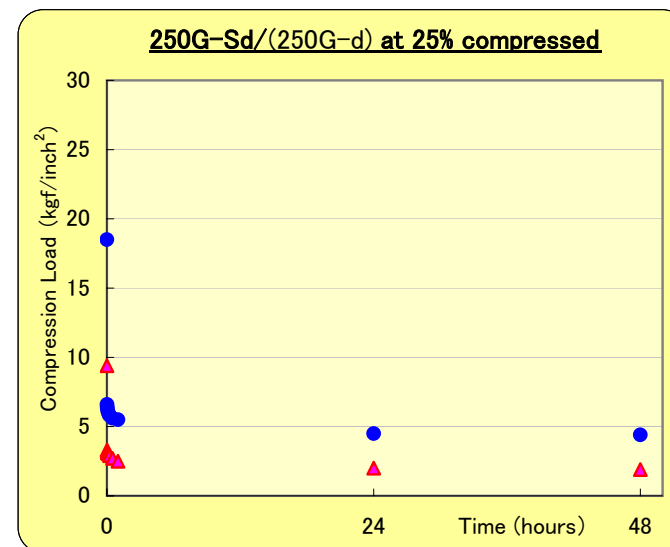
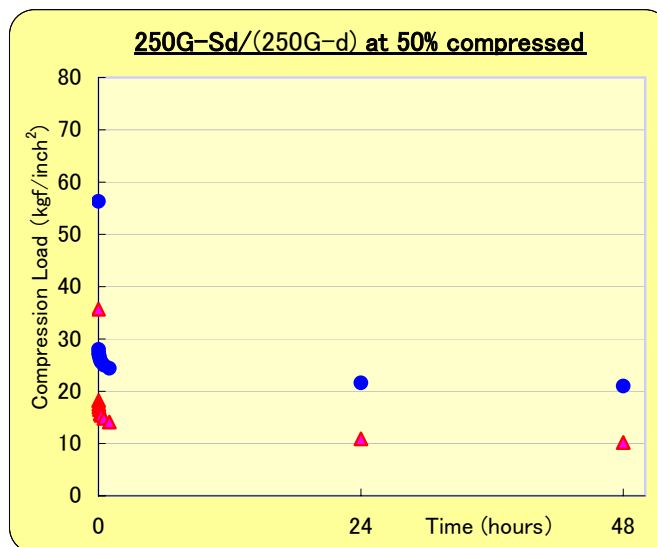
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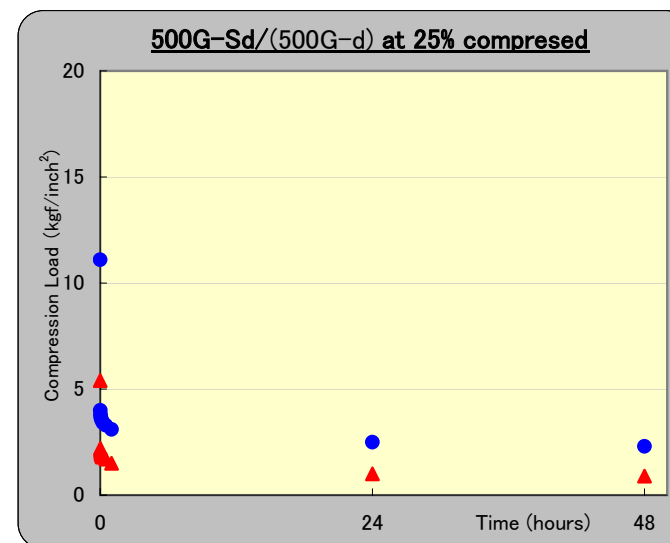
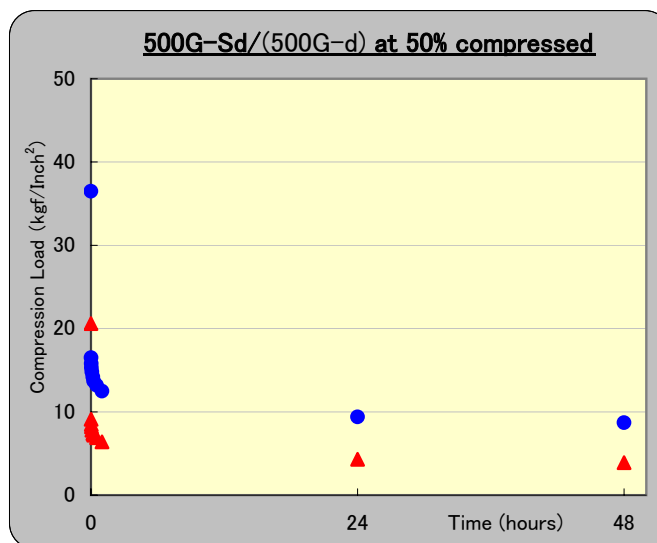


5) The relaxation of compression load data on Sarcon[®] GR-Sd materials

	250G-Sd	(Reference) 250G-d
Comp. Rate	50% / 25%	50% / 25%
Time	Comp. Load	
Peak (0)	35.7 / 9.4	56.3 / 18.5
1 minute	18.2 / 3.3	28.0 / 6.6
2 minutes	17.5 / 3.2	27.3 / 6.4
3 "	17.0 / 3.1	27.0 / 6.3
5 "	16.5 / 3.1	26.6 / 6.1
10 "	15.7 / 3.0	26.0 / 5.9
15 "	15.4 / 2.9	25.6 / 5.8
30 "	14.8 / 2.7	25.0 / 5.6
60 "	14.1 / 2.5	24.4 / 5.5
24 hours	10.9 / 2.0	21.6 / 4.5
48 hours	10.2 / 1.9	21.0 / 4.4



	500G-Sd	(Reference) 500G-d
Comp. Rate	50% / 25%	50% / 25%
Time	Comp. Load	
Peak (0)	20.6 / 5.4	36.5 / 11.1
1 minute	9.1 / 2.2	16.5 / 4.0
2 minutes	8.5 / 2.1	15.8 / 3.8
3 "	8.2 / 2.0	15.3 / 3.7
5 "	7.8 / 1.9	14.8 / 3.6
10 "	7.4 / 1.8	14.2 / 3.5
15 "	7.2 / 1.8	13.7 / 3.4
30 "	6.9 / 1.7	13.2 / 3.3
60 "	6.4 / 1.5	12.5 / 3.1
24 hours	4.3 / 1.0	9.4 / 2.5
48 hours	3.9 / 0.9	8.7 / 2.3



Test method;
 *Specimen: 25mm square, 2.5mmT & 5.0mmT
 *Compression Velocity: 5mm/min.
 *Compression Rate: 25%, 50%