

FUJIPOLY[®]**SARCON[®] 25G-Td**FUJIPOLY[®] and SARCON[®], are registered Trademarks of Fujipoly.**FUJIPOLY DATA SHEET NUMBER FPDS 2K-28 / Version 6****Fuji Polymer Industries Co.,Ltd.** (Overseas office)**JAPAN**

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FUJIPOLY[®] DATA SHEET FPDS 2K-28 (Version 6)

1] Product Name :
Sarcon[®] 25G-Td (Gel Tape)

2] Features. :

Sarcon[®] 25G-Td is a highly conformable, thermally conductive material in areas where space between surfaces is uneven and surface textures vary. Sarcon[®] 25G-Td material conforms to irregular surfaces and fills air gaps.

Applications include.

- 1) Between a chassis wall and other surface.
- 2) Between a “CPU” and heat sinks.
- 3) Between a semiconductors and heat sinks.
- 4) Areas where heat needs to be transferred to some type of heat spreader.
- 5) CD-ROM DVD-ROM cooling.

3] Types and Configuration.

Table - 1

Series	Width x Length	Thickness
Sarcon[®] 25G-Td sheet	200mm x 300mm	0.25mm ± 0.05mm
Sarcon[®] 25G-Td 100W Roll	100mm x 10m	0.25mm ± 0.05mm
Sarcon[®] 25G-Td 200W Roll	200mm x 10m	0.25mm ± 0.05mm
Sarcon[®] 25G-Td 400W Roll	400mm x 10m	0.25mm ± 0.05mm

*Available in thicknesses only 0.25mm.

*Can be designed for custom applications.

*Flame retardant silicone polymer filled with an special organic substance.

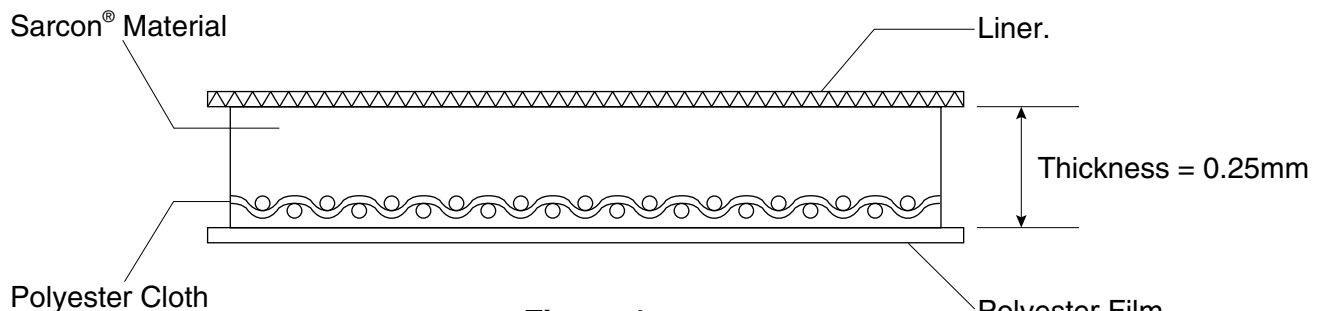


Figure 1

4] Typical Properties.

Table - 2

Property	Unit	Sarcon® 25G-Td	Test Method	Specimen
Color	–	Dark Gray	Visual	–
Operating Temp. range	°C / °F	–40°C ~ 150°C / –40°F ~ 300°F	–	–
Specific Gravity	gr/cm ³	2.6	JIS-K-6220 ASTM D-792	–
Hardness	ASKER-C (Shore 00)	18 (49)	JIS-K-7312 ASTM D-2240	B (–)
Tensile Strength	(MPa)	11.0 / 0.25mm	JIS-K-6251 (#2) ASTM D-412	A
Elongation	%	15 / 0.25mm	JIS-K-6251 (#2) ASTM D-412	A
Tear Resistance	(KN/m)	21.0 / 0.25mm	JIS-K-6252 (Angle) ASTM D-624	A
Volume Resistivity	(MΩ·m)	2.9 x 10 ⁵ / 0.25mm	JIS-K-6249 ASTM D-257	C
Breakdown Voltage	(KV)	5 / 0.25mm	JIS-K-6249 ASTM D-149	C
Withstand Voltage	(KV)	3 / 0.25mm	JIS-K-6249 ASTM D-149	C
Flammability	–	UL94VTM-0	UL94CFile#E58126	–

Remarks/ Specimen A : 0.25mm Thickness.

Specimen B : 60mm Width x 120mm Length x 20mm Thickness.

Specimen C : 120mm Width x 120mm Length x 0.25mm Thickness.

5] Thermal Properties.

1) Thermal Resistance.

(Unit: °C·inch² / watt) Table - 3

Thickness	GR-d
0.25mm	0.39

Test Method : Fujipoly Test Method FTM P-3020 which gives ASTM D5470 equivalent value.

2) Thermal Resistance.

(Unit : °C·cm² / watt) Table - 4

Item	GR-Td		
	100	300	500
0.25mmT	3.10	–	–

Test Method : Fujipoly Test Method TIM1300 Tester based on ASTM D5470

3) Thermal Conductivity.

Table - 5

	Unit	25G-Td
Thermal Conductivity	watt / m-k	1.50

Test Method : Fujipoly Test Method FTM P-1620 (JIS R2616 / ASTM D2326 equivalent)

6] Heat Aging Test.

6] -1) Test Condition : 70°C x 1,000hrs (42 days)

Table - 6

Property	Unit	Initial	100Hrs	500Hrs	1,000Hrs	Test Method
Specific Gravity		2.45	2.49	2.51	2.51	JIS-K-6220
Tensile Strength	MPa	11	7	7	6	JIS-K-6251
Elongation	%	15	15	15	15	JIS-K-6251
Tear Strength	KN/m	20	14	11	11	JIS-K-6252
Volume Resistivity	MΩ-m	2.9 x 10 ⁵	7.8 x 10 ⁵	1.5 x 10 ⁶	7.8 x 10 ⁵	JIS-K-6249
Thermal Conductivity	watt/m-k/°C	1.5	1.5	1.5	1.5	JIS-R-2616 equivalent

6] -2) Test Condition : 150°C x 1,000hrs (42 days)

Table - 7

Property	Unit	Initial	100Hrs	500Hrs	1,000Hrs	Test Method
Specific Gravity		2.45	2.52	2.54	2.56	JIS-K-6220
Tensile Strength	MPa	11	6	5	5	JIS-K-6251
Elongation	%	15	15	15	15	JIS-K-6251
Tear Strength	KN/m	20	14	11	11	JIS-K-6252
Volume Resistivity	MΩ-m	2.9 x 10 ⁵	7.8 x 10 ⁵	7.8 x 10 ⁵	1.6 x 10 ⁶	JIS-K-6249
Thermal Conductivity	watt/m-k/°C	1.5	1.5	1.5	1.5	JIS-R-2616 equivalent

7] Test Condition : 60°C x 1,000hrs (42 days) x 90%RH.

Table - 8

Property	Unit	Initial	100Hrs	500Hrs	1,000Hrs	Test Method
Specific Gravity		2.45	2.47	2.5	2.52	JIS-K-6220
Tensile Strength	MPa	11	7	7	7	JIS-K-6251
Elongation	%	15	15	15	15	JIS-K-6251
Tear Strength	KN/m	20	14	14	14	JIS-K-6252
Volume Resistivity	MΩ-m	2.9 x 10 ⁵	1.6 x 10 ⁵	3.9 x 10 ⁵	1.5 x 10 ⁶	JIS-K-6249
Thermal Conductivity	watt/m-k	1.5	1.5	1.5	1.5	JIS-R-2616 equivalent

8] Pressure VS. Percent Deflection

Table - 9

Percent Deflection (%)	Pressure
00% (Thickness 0.250mm)	00Kgf
10% (Thickness 0.250mm)	5.5Kgf
20% (Thickness 0.250mm)	17.4Kgf
30% (Thickness 0.250mm)	33.6Kgf
40% (Thickness 0.250mm)	51.0Kgf
50% (Thickness 0.250mm)	69.5Kgf

9] Extractable Volatiles.

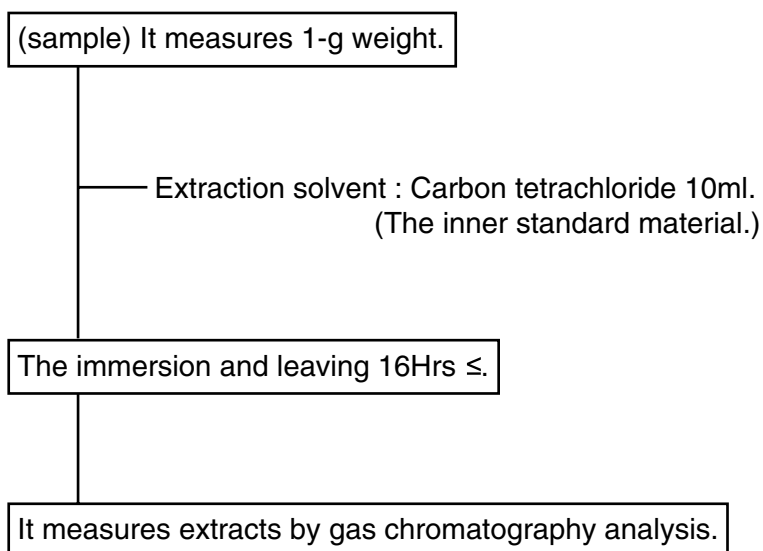
Table - 10

D_n	Sarcon® 25G-Td
D₄ ~ D₁₀	Less than 0.0010wt %
D₁₁ ~ D₂₀	0.0091wt %
total D₂₀ or less	0.0091wt %

Test Method : Gas Chromatographic Analysis.

[Test method]

[The preprocessing]



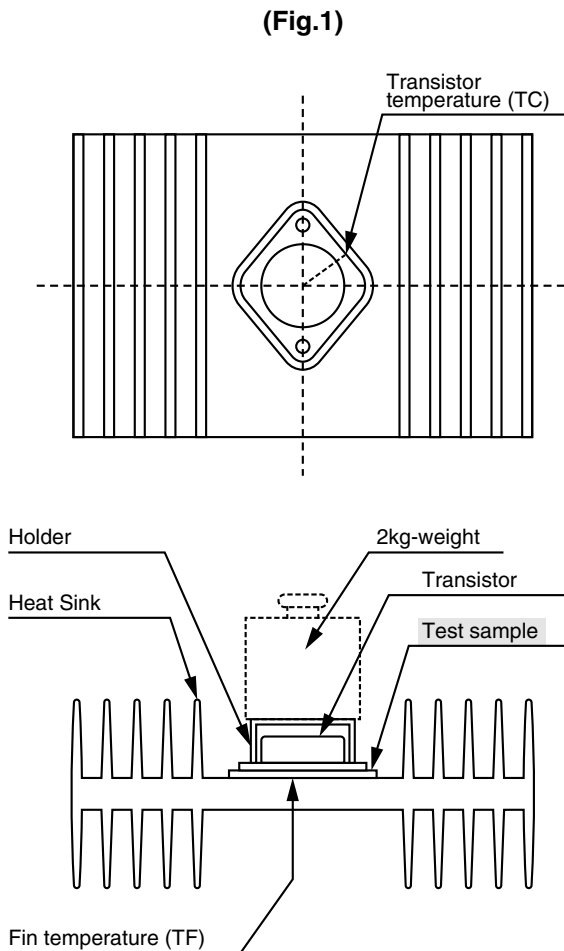
[The measurement condition]

- model : SHIMAZU SEISAKUSHO Co., Ltd. GC-12A
- detector : FID (The hydrogen flame ionization detector.)
- column : OV-17 (3m)
- column temperature : 60°C · 2min temperature-programmed 16°C / min maintenance 300°C
- ventage temperature : 280°C
- carrier gas flow rate : 40ml / min
- inculcating quantity : 2μl

10] Test method for thermal resistance.

Fujipoly test method FTM P- 3020 which gives ASTM-D 5470 equivalent value.

- 1) Punched-out specimen in TO-3 package is located between a transistor and heat sink.
(Fig.1)
- 2) The transistor is covered with resin holder and added 2kg -weight as a load.
- 3) DC 10V, 2A (20W) current is applied to the transistor.
- 4) After three minutes, the thermal resistance is calculated based on the following formula.



Test Apparatus

Transistor : 2SC2245

Heat Sink : 40CH104L-90-K
(manufactured by Ryosan Co., Ltd)

Heat Sensor : 2SC1-OHK300 x 532W x JOO2Y
(manufactured by Chino Co., Ltd)

Condition : 25°C 60%RH

Formula for Thermal resistance calculation.

$$R_t = (T_c - T_f) / P_C$$

R_t : Thermal resistance ($^{\circ}\text{C}\cdot\text{inch}^2 / \text{watt}$)

T_c : Transistor temperature $^{\circ}\text{C}$

T_f : Heat sink temperature $^{\circ}\text{C}$

P_C : Power applied to transistor

Notes :

- All Fujipoly test data in this document is based on Fujipoly test method and is believe to be accurate and reliable. Nevertheless, any Fujipoly test data shows typical product properties, and does not show the guaranteed product properties.
- Some Silicone oil could exude from the product according to operating conditions.
- Some low molecular Siloxane could vaporize from the product according to operating conditions.
- It is advisable to use the product under recommended operating condition. Some more Silicone oil could exude from the product if it was used over the recommended condition.
- It is advisable to use the product under parallel and even compression. Some more Silicone oil could exude from the product if it was used under excessive or partial stress.
- Products testing by the purchaser is recommended in order to meet expected results such as performance and application.

: April.18th 2008	version 6
: January.16th 2006	version 5
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: February.14th 2003	version 3
: January.31th 2002	version 2
ISSUED : March 28th. 2000	version 1

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