



Super Thermal-Conductive Sheets (MANION)

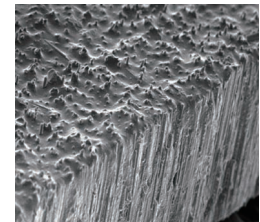
By applying its unique magnetic filed orientation technology, SEKISUI POLYMATECH has succeeded in producing a thermal conductive sheet that allows optimum use of the high thermal conductivity of carbon fiber without sacrificing the flexibility and adhesive performance of polymer.

Super Thermal-conductive Sheets are ideal for cooling high-heat sources such as CPUs, GPUs and high energy-density LEDs. The low-molecular siloxane content is no more than 70ppm, making possible to use the product near contact.

By eliminating surface of polymer, Super Thermal-conductive Sheets focus on improving thermal conductivity of contact surface and this grade is specialized in high thermal conductivity more than double-sided adhesive grades.

This grade has high thermal conductivity with flexibility by adjusting our recipe.

It is enable higher thermal conductivity of 25W/m · K with sustaining flexibility by adjusting our formulation design. MANION-ST is a very thin sheet and can be alternative use of grease.



Carbon fiber orientation

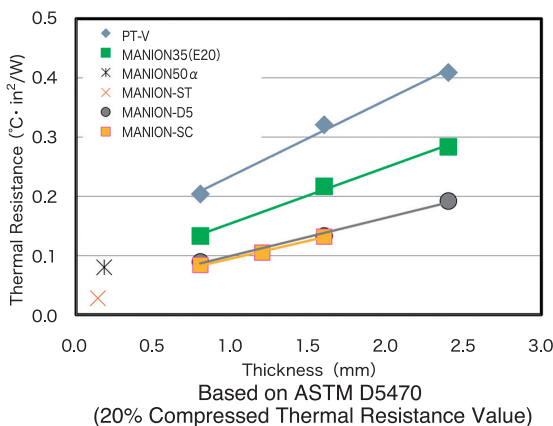
Image of carbon fiber orientation

Characteristics

Specifications	Unit	MANION35(E20)	MANION50α	MANION-ST	MANION-D5	MANION-SC
Appearance	—					
Features	—	Double-sided Non-adhesive	Double-sided Non-adhesive	Double-sided Non-adhesive	Double-sided Non-adhesive	Double-sided Non-adhesive
Thermal Conductivity ^{※1}	W/(m · K)	16	17	25	25	25
Hardness	TypeE	20	50	40	22	22
	TypeOO	40	75	65	45	50
Specific Gravity	—	2.4	2.4	2.1	1.9	1.85
Breakdown Strength	AC kV/mm	<0.1	<0.1	<0.1	<0.1	<0.1
Flame Retardance	UL 94	V-0	V-0	V-0	HB	V-0
Thickness	mm	0.5 ~ 3.0	0.2 ~ 3.0	0.2 ~ 0.3	1.0 ~ 3.0	1.0 ~ 3.0
Operating Temperature Range	°C	-40 ~ 150	-40 ~ 150	-40 ~ 150	-40 ~ 150	-40 ~ 150

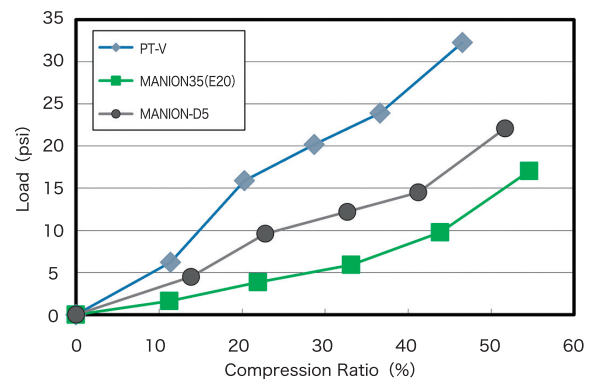
※1 Thermal conductivity is based on ASTM D5470 and measured under 20% of compression.

Comparison of Thermal Resistance



※ Numerical values shown in the graphs and table are actual measured, not product standard values.

Comparison of Compressibility





Thermal-Conductive Sheets TIMLIGHT (High Thermal Conductive Series)

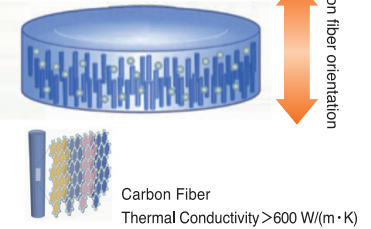
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This grade has been given features of high thermal conductivity and double-sided adhesive by making use of tackiness of polymer. It is excellent in adhesion and followability.

PT-V, for example, has variety of customization such as adjusting hardness and handling property.

【Sheet Image】



Characteristics

Specifications	Grade		PT-UT	PT-V	PT-VII
	Unit				
Features	—		Double-sided adhesive	Double-sided adhesive	Double-sided adhesive
Thermal Conductivity ^{※1}	W/(m · K)		6	12	15
Hardness	TypeE		30	30	35
	TypeOO		55	55	60
Specific Gravity	—		1.8	2.4	2.3
Breakdown Strength	AC kV/mm		1.0	0.9	0.5
Flame Retardance	UL 94		V-0	V-0	Less than 3.0t : V-1 More than 3.0t : V-0
Thickness	mm		0.5 ~ 3.0	0.5 ~ 3.0	0.5 ~ 3.0
Operating Temperature Range	°C		-40 ~ 150	-40 ~ 150	-40 ~ 150

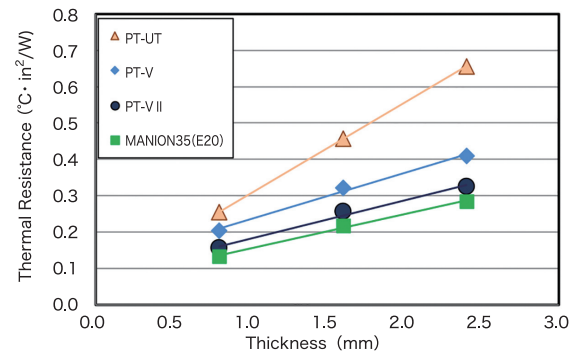
※1 Thermal conductivity is based on ASTM D5470 and measured under 20% of compression.

※ Specifications of PT-VII is subject to change without any notification.

Custom Lineup of PT-V

Grade	PT-V	PT-VM	PT-VS
Appearance			
Features	Normal Specification Double-sided adhesive	Mesh inside Better handling Double-sided adhesive	Single-sided film Better handling Single-sided Non-adhesive Better insulation
5kgf Thermal Resistance(0.25t)°C/W	0.42	0.62	0.83
Breakdown Strength(1t) kV/mm	0.9	—	2.0

Comparison of Thermal Resistance



Based on ASTM D5470
(20% Compressed Thermal Resistance Value)

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