

High Thermal Conductive Graphite Sheet

Preliminary



HIGH THERMAL CONDUCTIVE GRAPHITE SHEET

Tgon™ 9000 is a synthetic graphite thermal interface material consisting of carbon in-plane mono-crystal structure.

Tgon™ 9000 is ultra-thin, light-weight, flexible and offers excellent in-plane thermal conductivity. Ideal for variety of heat spreading applications where in-plan thermal conductivity dominates and limited spaces.

FEATURES AND BENEFITS

- Thermal Conductivity: 500 to 1900W/mK
- 4 times thermal conductivity than copper
- Reduce hot spots and protect sensitive areas
- Enables slim device designs with ultra-thin of 17um
- Light weight with density of 2.05~2.25 5g/cm³ for thickness of 17um & 25um
- Flexible (Withstand more than 10,000 times bending with R=5mm)
- Ease of manufacturing for high volume production

MARKETS

- Handheld devices
- Mobile computing
- Display
- Lighting
- Telecom

PRODUCT NAME AND KEY PROPERTIES AS BELOW:

Product Name	Test Method	Tgon 9017	Tgon 9025	Tgon 9040	Tgon 9070	Tgon 9100
Thickness (mm)	ASTM D374	0.017+/-0.005	0.025+/-0.005	0.04+/-0.005	0.07+/-0.01	0.1+/-0.01
Thermal conductivity (W/mK)	X,Y direction	1650~1900	1500~1700	1150~1400	700~1000	500~700
	Z direction	15	15	15	15	15
Thermal diffusivity (cm ² /s)	ASTM E1461	9	9	8	7	7
Density (g/cm ³)	ASTM D792	2.05~2.25	2.05~2.25	1.65~1.85	1.0~1.3	0.7~1.0
Specific heat (50°C)(J/gK)	ASTM E1269	0.85	0.85	0.85	0.85	0.85
Heat resistance (°C)	Over 100 hours of testing	400	400	400	400	400
Extensional strength (MPa)	X,Y direction	39	28	23	20	19.2
	Z direction	0.1	0.4	0.4	0.4	0.65
Bending test(times) (R5/180°)	ASTM D2176	10,000 or more	10,000 or more	10,000 or more	10,000 or more	10,000 or more
Electric conductivity (S/cm)	ASTM E1269	20000	20000	20000	96000	96000

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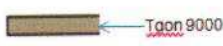
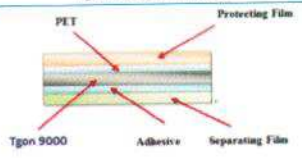
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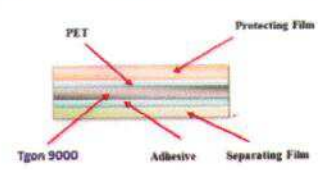
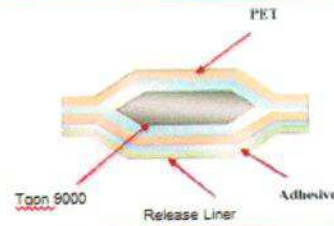
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PRODUCT STRUCTURE

- There are two types of product structure as follows
 - Tgon™9000 series: Tgon™9000 sheet only
 - Tgon™9000PA series: Tgon™9000 with one-side PET film & one-side adhesive
- Below is the product structures available:

Type	Graphite Only Tgon 9000 series	Laminated (Insulation & Adhesive) Tgon 9000PA series
Structure		
Features	Graphite Sheet	With PET film & Adhesive
Thickness	Graphite: 17µm, 25µm, 40µm, 70µm, 100µm	PET film: 5µm, 10µm Adhesive: 5µm, 10µm, 30µm Graphite: 17µm, 25µm, 40µm, 70µm, 100µm
Standard Size	180 x 220mm	180 x 220mm

- Die-cut edge options:

Type	Flush Edge Tgon 9000PA series	Envelope Seal Tgon 9000EPA series
Structure		

PART NUMBER INFORMATION

T g o n 9 0 2 5 P A ,		1 0 1 0	
Product Code		PET Thickness	Adhesive Thickness
Graphite Thickness	Structure & Edge Options		
17=> 17µm	PA Laminated with PET & Adhesive with flush edge	05=> 5µm	05=> 5µm
25=> 25µm		10=> 10µm	10=> 10µm
40=> 40µm			30=> 30µm
70=> 70µm	EPA Laminated with PET & Adhesive with envelope seal		
100=> 100µm			

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