

ELPLUS GS Series

Artificial Graphite Sheet

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1. Product Overview

ELPLUS GS Series Artificial Graphite Sheet is a high-performance thermal management material designed to provide excellent heat dissipation. Featuring outstanding thermal conductivity in the X-Y direction, this ultra-thin and flexible sheet effectively transfers heat away from critical components. It is engineered to withstand extreme temperatures and repetitive bending, making it an ideal cooling solution for advanced and compact electronic devices.

2. Core Features

- **Ultra-High Thermal Conductivity:** Achieves up to $1500 \pm 10\%$ W/m.K in the X-Y direction (for GS-18 and GS-25 models).
- **Excellent Flexibility:** Proven durability with a bending test rating of 10,000 cycles (180-degree bend).
- **Wide Operating Temperature:** Maintains stable thermal properties in harsh environments ranging from -40°C to $+400^{\circ}\text{C}$.
- **Ultra-Thin & Lightweight:** Available in thicknesses from 0.018mm to 0.040mm, with a density of 1.6 to 2.3 g/cm³.
- **High Safety Standards:** Meets the stringent UL94V-0 fire grade standard.

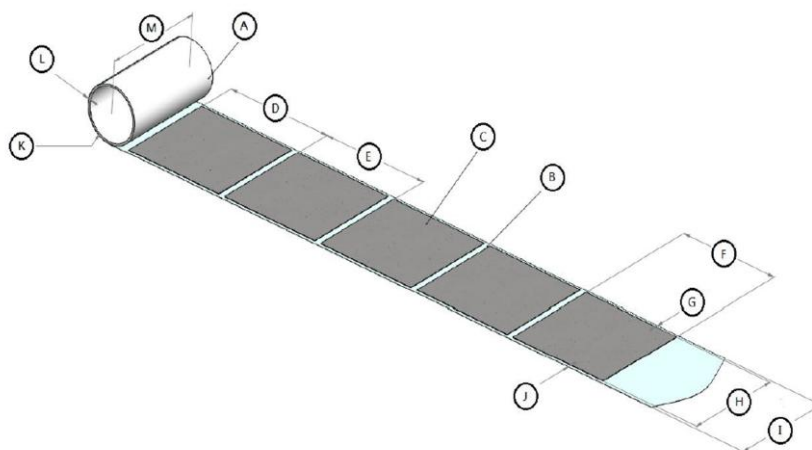
3. Applications

- CPU central processing units and graphics module chips.
- Power components and power conversion modules.
- Thermal modules for LED lighting fixtures.
- Motherboards, chassis, heat sinks, LCD TVs, tablets, and various mobile phones.

4. Typical Technical Properties

Properties	GS-18	GS-25	GS-40
Thickness (mm)	0.018 ± 0.003	0.025 ± 0.005	0.040 ± 0.008
Max. Dimension (mm)	300 X 300	300 X 300	300 X 300
Thermal Conductivity, X-Y direction (W/m.K)	$1500 \pm 10\%$	$1500 \pm 10\%$	$1200 \pm 10\%$
Thermal Conductivity, Z direction (W/m.K)	5 - 15	5 - 15	5 - 15
Thermal Diffusivity (cm ² /s)	7.5 - 8.5	7.5 - 8.5	7.2 - 8.0
Electric Conductivity (S/cm)	> 13000	> 13000	> 13000
Density (g/cm ³)	1.8 ~ 2.3	1.8 ~ 2.3	1.6 ~ 2.1
Bending Test (180 degree, times)	10000	10000	10000
Fire Grade	UL94V-0	UL94V-0	UL94V-0
Working Temp. (°C)	-40 ~ 400	-40 ~ 400	-40 ~ 400

5. Reel Type Dimension Specifications



Location	Description	Specifications	Remark
A, M, K, L	plastic tube	Width: Target(mm) +2 / -0 Diameter: Target(mm) ±1 Thickness: Target(mm) ±0.5	
B, I	PET film	Width: Target(mm) +2 / -0 Thickness: Target(mm) ±3	
C, F, H	Graphite Sheet	Width: ≥Target(mm) Length: ≥Target(mm) Thickness: same as GS Specification table	
D, E	Graphite Sheet Width + Graphite Sheet to Graphite Sheet gap	Target(mm) ±1	
G, J	Graphite Sheet edge to PET film edge of distance	1. Target 10mm: ±1 2. Target 20mm: ±2	

6. Packaging

Type	Sheet shipments	Roll shipments
Content	Only Graphite sheet with Dowling & tray	Graphite sheet + release film / protect film / tape
Front side	None	None
Rear side	None	release film / protect film / tape
Lamination Thickness	None	75um
Color	Tray's color → Crystal	Film / Type's color → Crystal
Figure		

7. Disclaimer

The technical data and recommendations provided in this document are based on laboratory test results that ELPLUS Enterprise Inc. believes to be reliable. However, due to the extreme variations in actual application environments, processing conditions, and design requirements across different clients, ELPLUS Enterprise Inc. makes no warranties, express or implied, regarding the final performance in specific applications. Users are strongly advised to request samples for actual application testing prior to mass production to ensure the product fully satisfies their requirements.

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