Graphene Thermal Plate

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EN-PLT series · 1200 W/m·K through-thickness · 0.5–3 mm

Lenecold Graphene Thermal Plate is a machinable, structural heat-conducting plate built from oriented graphene. It forms a continuous conduction network through its thickness, delivering 1200 W/m·K through-thickness conductivity at 1.5–4 g/cm³ — roughly one sixth the weight of copper for the same footprint. It is designed for applications where thermal performance and mass both matter.

Key properties

Property	Value	Remark
Thermal conductivity	1200 W/m·K (through-thickness)	≈ 3× copper, 6× aluminium
Density	1.5–4 g/cm³	≈ 1/6 of copper at equal thickness
CTE	4–12 ppm/K, tunable	Reduces interfacial mismatch
Thickness	0.5–3 mm	Machined to specification
Operating temperature	–40 to +200 °C	Continuous
Max sheet size	300 × 400 mm	Tileable for larger panels
Machining	Cut, drill, surface-laminate	Irregular 2D outlines supported
Vacuum compatibility	Solid, no volatile content	Operates below 10–3 Pa; TML/CVCM on request

Why it replaces copper and aluminium

Material	Conductivity (W/m·K)	Relative weight for the same part
Lenecold graphene plate	1200	1× (baseline)
Copper	~400	≈ 6× heavier
Aluminium	~200	≈ 1.8× heavier

Typical applications

- Commercial space — satellite payloads, phased-array T/R modules, on-orbit computing
- Low-altitude economy — eVTOL avionics, UAV flight controllers, onboard compute, battery and e-drive
- 6G / mmWave — base station RF front ends and phased-array antennas
- Power electronics — IGBT / SiC module baseplates and heatsink interfaces

Formats and ordering

Item	Standard	Custom
Code	EN-PLT-100 / EN-PLT-200	EN-PLT-xxx (thickness in 1/100 mm)
Form	Machined plate to drawing	Cut, drilled, laminated, tiled
MOQ	1 piece (sample)	Production 500+ pieces
Lead time	~2 weeks (standard thickness)	4–6 weeks (custom geometry)

Samples: one piece minimum, die-cut to your drawing · Standard specifications in ~2 weeks · Custom geometries in 4–6 weeks · FOB Ningbo · Global shipping with export documentation.