Graphene Thermal Pad

Document: TDS-EN-PAD-180
Revision: 1.0
Date: 2026-10-07
Language: EN

EN-PAD series · 180 W/m·K through-thickness · 0.3–3 mm

Lenecold Graphene Thermal Pad is a solid, compressible thermal interface material built from vertically oriented graphene. The structure forms a continuous heat path through the thickness of the pad — the direction heat actually travels — giving high through-thickness conductivity without the pump-out, dry-out or migration problems of thermal grease. It is supplied die-cut to drawing or as standard sheets.

Key properties

Property	Value	Test condition
Thermal conductivity	180 W/m·K (through-thickness)	Directional, Z axis
Thermal resistance	< 0.05 °C·cm²/W	50 psi, 0.5 mm
Standard thickness	0.3 / 0.5 / 0.7 mm	Custom 0.2–2.0 mm
Operating temperature	–40 to +200 °C	Continuous
Dielectric strength	> 5 kV/mm	Material
Die-cut tolerance	± 0.05 mm	Dimensional
Sheet size	150 × 150 mm standard	Die-cut to drawing

Reliability

Test	Condition	Result
High-temperature aging	150 °C × 1500 h	Thermal resistance change ≤ 10%
High-temperature aging	150 °C × 1500 h	Compression change ≤ 10%
Interface stability	Power cycling / thermal cycling	Solid — no pump-out, no dry-out
Outgassing	Solid, no liquid vehicle	TML / CVCM report on request

Typical applications

- AI accelerators and server CPUs/GPUs — 500–1200 W packages, 0.3–0.7 mm bond lines
- IGBT and SiC power modules, EV traction inverters, on-board chargers
- EV and ESS battery cold-plate interfaces, including cell swelling and gap stack-up
- Telecom / mmWave RF modules, LED and Mini-LED arrays, advanced packaging (SiP)

Formats and ordering

Item	Standard	Custom
Code	EN-PAD-030 / 050 / 070	EN-PAD-xxx (thickness in 1/100 mm)
Form	Sheet 150 × 150 mm, or die-cut part	Die-cut to drawing, release liner or tray
MOQ	1 piece (sample)	Production 1000+ pieces
Lead time	~2 weeks	4–6 weeks

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.