WedGel · EV

Aerogel Insulation for EV Batteries

Four grades — 650EV · AISi 250EV · FSMP 1000EV · OXF — battery cell, module & pack barriers

WedGel EV thermal barriers are lightweight, ultra-thin, thermally- and electrically-insulating, flame-retardant pads designed to prevent cell-to-cell thermal runaway in lithium-ion battery packs. Four grades trade off flexibility, temperature ceiling and electrical strength — from 650EV high-conductivity aerogel to AISi 250EV high-flex composite. All pass UL94 V-0 and ISO 1182 / EN 13501-1 Class A1.

SERVICE RANGE
−50 → +1,300 °C across grades

Λ AT 25 °C
0.018 – 0.04 W/m·K

FIRE PERFORMANCE
A1 · V-0 Short-term ≥ 1,200 °C

FEATURES & ADVANTAGES

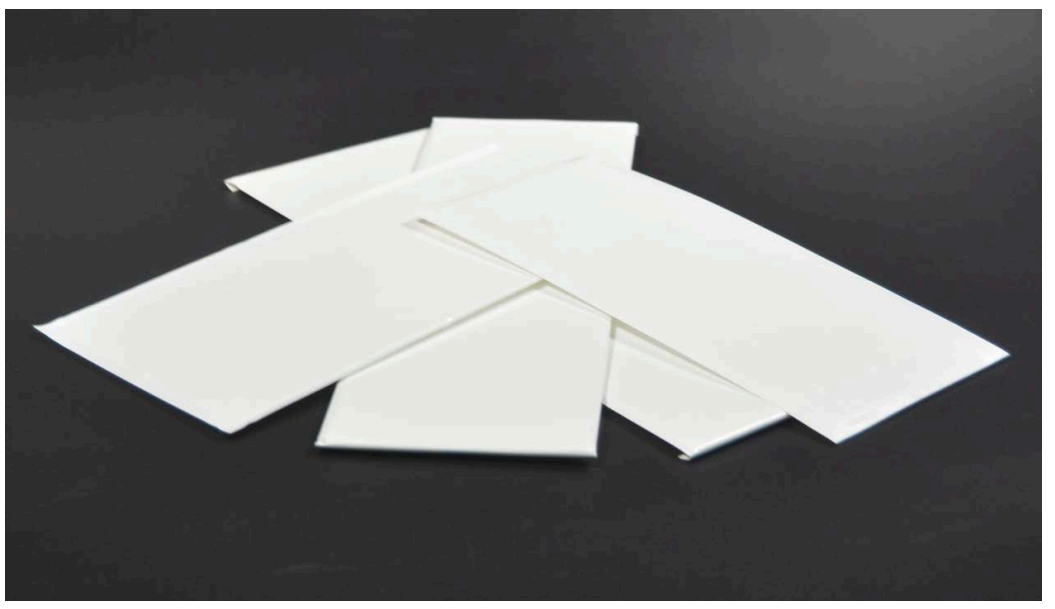
- Lowest λ among insulation pads — 0.018 W/m·K at 25 °C
- Prevents cell-to-cell thermal runaway propagation
- Lightweight — minimal impact on pack energy density
- Self-adhesive options — ≥ 50 N/100 mm peel strength
- Breakdown voltage ≥ 10 kV/mm; volume resistivity ≥ 10^{13} Ω·cm
- Conforms to cell contours; cuts cleanly with shears

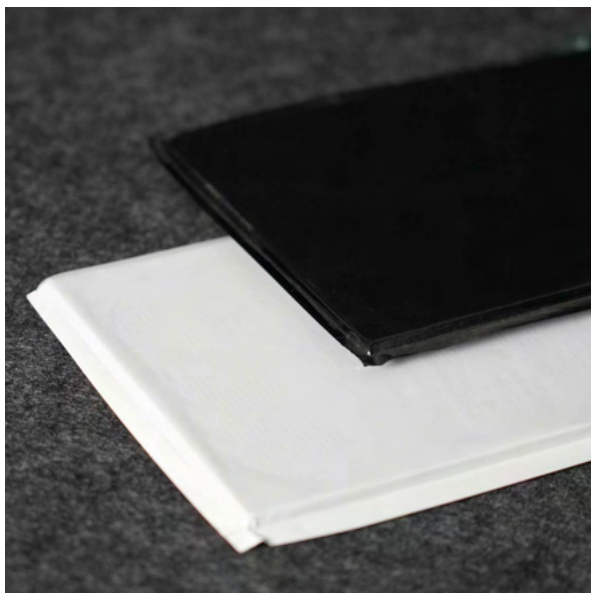
APPLICATIONS

- Cell-to-cell wrap inside lithium-ion modules
- Module-to-module barriers inside battery packs
- Top-of-pack heat shields under upper covers
- Gap fillers between cells and structural ribs
- BMS and busbar thermal isolation
- Phase-change-material substrate carrier

TECHNICAL PROPERTIES · 4 GRADES

Property	650EV	AISi 250EV	FSMP 1000EV	OXF
Aerogel / SiO_2 content %	≥ 90	> 50	> 75	≥ 90
Service temperature °C	−50 / +700	−10 / +1,300	+6 / +1,000	−50 / +700
Short-term temperature °C	1,400	≥ 1,500	≥ 1,400	1,400
Thickness mm	0.24–10	0.8–10	2–10	0.3–10
Density kg/m³	210 ± 42	240–300	260–320	210 ± 42
Flexibility	Low–Medium	High	Low	Very High
THERMAL CONDUCTIVITY (W/M·K)				
at 25 °C	0.018	0.04	0.021	0.023
at 100 °C	0.023	0.05	0.022	0.028
at 200 °C	0.028	0.06	0.023	0.031
at 400 °C	0.047	0.08	0.024	0.047
ELECTRICAL & COMPLIANCE				
Breakdown voltage kV/mm	≥ 10	2–8	≥ 10	≥ 10
Tensile strength MPa	≥ 1.0	1.0	≥ 1.0	≥ 1.0
Compression strength kPa	85 @10%	35 @10%	330	38 @10%
UL94 flame retardant	Pass	Pass	Pass	Pass
Fire reaction EN 13501-1	A1	A1	A1	A1





— CLOSE

Specify Wedge.

Request a sample, an engineering review, or a heat-loss calculation. A Wedge engineer will respond within 48 hours.

HEADQUARTERS

Delhi NCR

Galleria Tower, 6th Floor
DLF Phase 4 · Gurugram 122002
Haryana, India

SALES

Commercial

info@wedge-india.com
+91 9717506848
M–F · 09:00–18:00 IST

ENGINEERING

Technical

info@wedge-india.com
Heat-loss · specification
Drawing review · audits

REGIONAL

Network

Dubai · Singapore · Houston
Rotterdam · Shanghai
www.wedge-india.com

Wedge India

info@wedge-india.com | www.wedgeinsulation.com

Request a Quote / Consultation