



Flame & Thermal Barriers

AeroZero® FTB

Lightweight Barriers for Extreme Heat Protection.

Product Overview

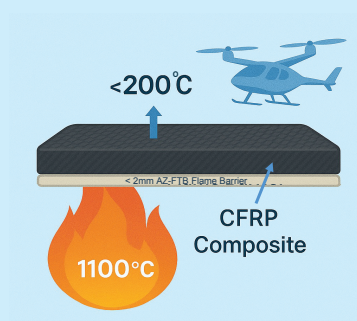
- Ultra-thin (<2 mm)
- Lightweight, highly flexible
- PFAs free and halogen-free
- Very low thermal conductivity
- High dielectric strength
- Wraps easily over complex shapes
- Proven to maintain cold-side temperatures below 200 °C when exposed to a 1,100 - 1,200 °C direct flame for up to 30 minutes

Applications

Designed for EV battery packs and housings, aerospace composites, and electronics enclosures

Key Benefits

- Flexible, conformable wrapping over complex edges
- Low thermal conductivity across temperature ranges
- High dielectric strength
- Easier integration compared to ceramics/foams
- Thinner and lighter than mica and ceramic barriers
- <2mm thickness and <1.5 kg/m²



Aircraft composite panel with AZ-FTB layer

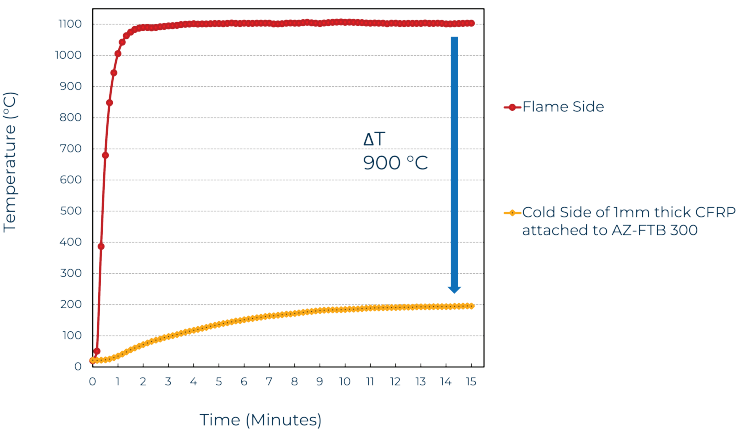
State-of-the-Industry

Thermal Runaway & Fire Safety Challenges

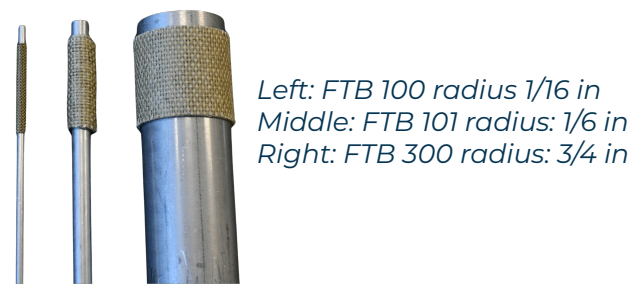
- EV battery packs face growing safety regulations and thermal runaway risks.
- Conventional barriers (mica, ceramics, foams) are bulky (3–10 mm) and heavy (>2 kg/m²), limiting EV range and aerospace efficiency.
- Current materials often allow cold-side temperatures above 400–600 °C, raising risk of propagation and secondary fires.

Performance Data

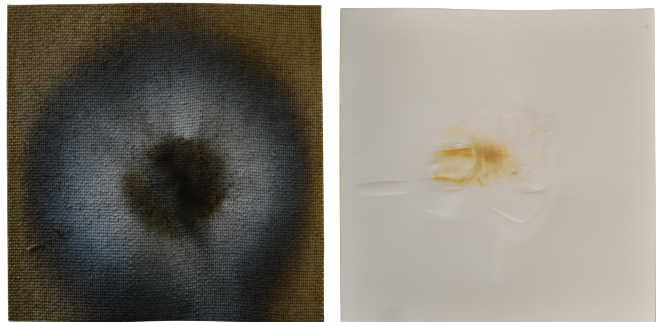
Time-Temperature Profile of AZ-FTB 300 on a 1 mm CFRP composite under a 1,100 °C direct flame test, showing ~900 °C ΔT between hot and cold sides



Bend Radius



Post-Flame Test Photos



AZ-FTB 300 after 15 min, 1,100 °C direct flame test
left (flame-side), right (cold-side)

Product Overview

Product Name	AZ-FTB 300	AZ-FTB 101	AZ-FTB 100
Application Example	Thermal runaway and direct flame protection in battery housings	Indirect flame, direct heat in pack walls, electronics	Indirect flame, direct heat for compact electronics
Exposure Temps	1,000 - 1,200 °C	500 - 800 °C	<500 °C
Exposure Time (mins)	15 - 30	15 - 30	15 - 30

Key Data

1200 °C

High-Flame Protection

Tested at 1,000–1,200 °C for 15 - 30 minutes, maintaining cold-side temp of < 200 °C

40%

Lightweight Advantage

Up to 40–50% lighter than conventional ceramic/mica barriers

- <1.5 kg/m² areal weight

Product Offerings



From left to right:
AZ-FTB 100,
AZ-FTB 101,
AZ-FTB 300



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Performance data based on Blueshift internal testing (2025).
Results may vary depending on substrate, assembly, and test conditions.