Insulating solutions for Aviation Lithium battery

Saint-Gobain Insulating Solution
Aviation Lithium ion Battery Constrains

Li-ion market evolution
- $1.6$ milliards in 2012 → $22$ milliards in 2020 (Pike research)
- 90% of the Li-ion batteries will be transported using cargo aircraft
- 80% of Li-ion batteries will come from Asia

Battery failure
- Electrical *(overcharge, rapide discharge...*)
- Mechanical *(physical damage, manufacturing defect, contaminant...*)
- In Fire *(separator melting, content mix,...*)
Cargo Aircraft Constraints

Fire Hazards of Lithium Ion Batteries - Richard E. Lyon, Richard N. Walters, Sean Crowley, and James G. Quintiere

Aviation Standard Use Constraints

The Investigation of a Lithium-Ion Battery Fire Onboard a Boeing 787: Aspects of the Laboratory Analysis
Joseph Kolly, PhD. Director, Research & Engineering Joseph Panagiotou; Barbara Czech
Insulating solutions – ProtectlON HPI 40

- Designed for thermal insulation of Li-ion EV and HEV battery packs
- Multi layer solution, matching the custom shape

- Fire resistant
- Ultra light product
- Thermal insulation $\lambda < 0.04$ W/m.K
- Acoustic insulation
- Electromagnetic shielding
- Low cost solution
- Low environmental impact

TRACEABILITY of the different pieces (serial number)

VIDEO TEST FEU SUR PRODUIT
Insulating solutions – ProtectION HPI 40

Implemented solutions on different battery packs:
- **BLUE CAR**
- **E-MEHARI CITROEN**
- **BLUE BUS**
- **BIG BLUE BUS USA**
Thank you

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**Gifted samples**
1. ProtectION HPI 40
2. Military solutions

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