

UL STP5800 Standard for Battery Fire Containment Products

Presented to: Int'l Aircraft Systems Working Grp

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Federal Aviation
Administration



Hazard

- **Lithium-ion batteries may experience thermal runaway.**
- **Fire, smoke and toxic gases.**
- **Multiple events as thermal runaway propagates between cells.**
- **Flight deck and cabin**



Current FAA Guidance

- **SAFO 09013: Fighting Fires Caused By Lithium Type Batteries in Portable Electronic Devices**
 - Do not pick up or move smoking or burning device, risk of bodily harm
 - Extinguish open flames with Handheld Extinguisher
 - Cool remaining cells with water or other aqueous liquid



Current FAA Guidance

- **SAFO 09013 Industry Identified Limitations**
 - No proactive option
 - Accessing burning device without moving it may be difficult depending on location
 - Overhead bins
 - Inside carryon luggage
 - Under or inside seat pocket
 - Passenger issues
 - Isolation from event
 - Smoke
 - Panic
 - Need to divert



Industry Response

- Various fire containment bags and devices have been produced.
- Several airlines have purchased.
- Wide range of designs and capabilities.
- No set standard for testing



HOT-STOP 'L'
LITMUM CON FIRE CONTAINMENT KIT



Underwriters Laboratories (UL)

- “UL has been approached by industry to develop a safety standard test for thermal containment products which would be used in commercial, private and military aviation to contain lithium battery fires and the related smoke during flight. These products are intended to be used for cell/mobile phones, laptops, tablets, etc. by authorized personnel only.”



UL STP 5800

- **UL has convened a panel to develop a standard for testing PED fire containment bags and Devices.**
- **Standards Technical Panel (STP) 5800 Battery Fire Containment Products**
- **Panel is comprised of representatives from testing labs, manufacturers, airlines and government.**



UL STP 5800

- **First meeting was held at UL in Northbrook, IL, on October 24-25**
- **UL Standards development and UL test capabilities were presented**
- **A draft test standard for Fire Containment Devices was presented and discussed by the Panel members**
 - Fire load, test conditions and test procedures are being developed
 - Standard will assess the ability of the device to contain a Portable Electronic Device battery fire.
 - Standard will not cover installation or human interface.



UL STP 5800

- **Next meeting is being scheduled for March-April 2019**
- **Voting membership is limited, however, participation is open to all interested parties**
- **Anyone interested in participating in the Panel should contact the STP Project Manager:**
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Questions?

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