

LITHIUM BATTERY FIRE BLANKETS



Technical Specification & Verification Document

- Refractory coated glass textile for effective protection for Lithium battery fires
- Controls and suppresses Lithium battery fires quickly and effectively
- Multi-use with various blanket sizes suitable for all applications up to EV vehicles
- Delivered in a carry bag for easy portability and quick application
- Coatings offer prolonged protection to control Lithium battery fires

Fabric Specification

Multi-use Blanket	Fabric Technical Specification	
Base Fabric	Woven 600 gsm High Temperature Resistant-Silica Glass Fibre Fabric	
Fabric Thickness with Coatings	Thickness ~0.75 mm and ~850 gsm	
Coatings	Proprietary Refractory and Sacrificial Polymeric	
Temperature Resistance	Peak temperature 1400 °C, continuous working temperature >1000 °C	

Key Technical Features

Feature	Description
Base Fabric	Crafted from high-quality woven glass fibre with exceptional fire and temperature resistant properties.
Refractory Textile Coating	A proprietary refractory surface coating enhances flame deflection protection and elevates fire and temperature resistance.
Oxidized Base Fabric	The fully oxidised base textile is incapable of ignition and effectively withstands the formidable thermal challenges posed by lithium-ion battery fires.
Outer Plastic Layer	A protective polymer treatment enhances abrasion resistance, extends the blankets' overall durability and improves its usability and handling during application.

Independent Temperature Resistance Verification

To verify the performance on Lithium battery fires AVD fire blankets have undergone stringent independent testing conducted by the prestigious **Korea Analytical Technique Research Institute (KATRI)**.

These assessments focused on temperature resistance under extreme conditions. The test protocol exposed the blankets to escalating temperatures over a prolonged duration, starting with an initial temperature of 1000 °C. The temperature was incrementally increased in 100 °C intervals every 20 minutes, ultimately reaching a maximum temperature of 1400 °C, which was sustained for 5 minutes.

The KATRI independently verified test results are as follows:

Temperature (°C)	Temperature (°F)	Duration	Result
1000 °C	1832 °F	20 minutes	Blanket insulates without degradation.
1100 °C	2012 °F	20 minutes	Blanket insulates without degradation.
1200 °C	2192 °F	20 minutes	Blanket insulates without degradation.
1300 °C	2372 °F	20 minutes	Blanket insulates without degradation.
1400 °C	2552 °F	5 minutes	Blanket insulates without degradation.

The test was terminated at 1500 °C. These results verify the remarkable temperature resistance of AVD Fire's fire blankets.

Performance Comparison

KATRI also conducted comparative testing on fire blankets from various fire blankets marketed as suitable for Lithium battery fires in the Korean market under identical conditions.

Under the same test conditions all competing blankets showed signs of failure and burn through at temperatures as low as 1100 °C.

While the AVD Fire Blanket consistently withstood temperatures up to 1400 °C, demonstrating its exceptional performance and fire resistance.

Multi-Use Performance Verification

To verify the outstanding performance of these fire blankets, they were subjected to a series of open battery fire tests, reaching energy levels of up to 840 Wh.

These tests were independently witnessed and thoroughly documented with the test protocol designed to confirm the following:

- Control and Suppression of the battery fire through peak to burnout
- Safeguard against shrapnel and debris expelled from the batteries
- Facilitate a safe and controlled burnout and venting of batteries
- Offer effective, prolonged protection and safe burnout of the batteries
- No degradation or reduction in performance of the blanket

Each test was independently witnessed, confirming the blankets' effectiveness to protect and control during multiple lithium-ion battery fires, without any perceptible degradation of the fabric or reduction in performance.

After each test, the blanket was inspected in line with our user guidelines to verify it could be re-used and offer effective performance and protection for each lithium-ion battery fire test through peak temperatures to a controlled burnout of batteries.

Key Technical Benefits

AVD Fire blankets have established an unparalleled standard in lithium-ion battery fire safety, substantiated by rigorous independent technical assessments and verifications.

AVD fire blankets are engineered to deliver exceptional temperature resistance, flame deflection capabilities, protection against shrapnel/debris, and sustained multi-use potential, making them the most effective passive fire protection asset for lithium-ion battery fire safety in any application.

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