

Electric Vehicle Fire Blankets

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Contains Electric and Hybrid Vehicle fires Minimises collateral damage



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Launched after many months of research, development and testing the Fire Cloak™ EV Car fire blanket has been designed, to contain EV (electric vehicle) fires.

If an electric vehicle high energy propulsion battery is damaged, or a manufacturing fault causes just a single cell to short circuit this can start a fire, generating temperatures over 1,000°C (1,832°F). This fire spreads from cell to cell creating a domino-effect known as "Thermal Runaway" and in a short space of time an intense fire is established.

Lithium battery Thermal Runaway fires cannot be extinguished by conventional means. The battery electrolyte usually contains flammable hydrocarbons and the lithium oxide cathode is highly reactive and self-oxidising, so the fire feeds itself. If left unchecked extremely high temperatures and intense fires can result. When a Fire Cloak™ EV Fire Blanket is deployed the combustion potential can be minimised by depriving the fire of oxygen. This means that because the fire is contained, temperatures drop which helps prevent damage to surrounding vehicles and property.

Manufactured from a specially modified silica quartz material and coated with a fire-resistant polymer, the resulting Fire Cloak™ high-tech fabric has extremely high temperature resistance.

Fire Cloak[™] has been extensively tested in real-life EV fire demonstrations and has also been independently certified to a number of international fire and flame resistance standards.

BS476 Parts 6 & 7 = Class 0 (similar to UL Class A in USA) ASTM D6143 EN13501-1: 2018

Thermal Runaway fires cannot be extinguished by conventional means









CLASS 0 -FIRE RESISTANCE RATING

The Fire Cloak™ EV (electric vehicle) fire blanket leads the world in proven fire resistance, being the only product of its type to have achieved a CLASS 0 rating according to BS476: Part 6:1989+A1:2009 and Part 7:1997.

CLASS 0 is an amalgamation of some BS476 standards, which relate to spread of flame and fire propagation index. When combined, these demanding tests determined the fire resistance of the high tec fabric used in the manufacture of the Fire Cloak[™].

To achieve a **CLASS O rating** the fabric must demonstrate limited combustibility and a very low fire propagation index.

We contracted an independent, world renowned laboratory who are leaders in testing, inspection and certification services to achieve this objective.

FIRE CLOAK™ HAS ACHIEVED THE HIGHEST FIRE RESISTANCE RATINGS AGAINST GLOBAL STANDARDS

Not content with achieving the best possible British Standard for fire resistance **CLASS 0**, Fire Cloak[™] has been further subjected to **ISO** (European) and **ASTM** (USA) test standards. The results have yet again shown Fire Cloak[™] to be the class leading electric vehicle fire blanket.

ISO EN BS 13501-1:2018 - Classification of Reaction to fire performance

ASTM D6143 - Vertical Flame Resistance - Best possible result achieved against this standard. At the time of publication (Nov 2023) further testing against **FMVSS 302 - Flammability of Automotive Materials** is underway. This is a technically equivalent standard to **ISO 3795** (used in Europe, Canada and Japan) and also **ASTM D5132-04** used in USA.

Fire Cloak[™] will also undergo testing against **BS476: Part 20** (1.5m x 1.5m furnace test). This will expose the Fire Cloak[™] fabric to a temperature of 1,000°C (1,832°F) and based on information assimilated from the fabric supplier's database should retain its integrity for at least 90 minutes.

Q. Will the Fire Cloak™ EV fire blanket extinguish an EV Fire?

A. No the Fire Cloak[™] EV fire blanket will not extinguish an EV fire, although it has been designed to contain and control the burn preventing collateral damage to surrounding vehicles and property.

Q. Can the Fire Cloak™ be used on a Petrol or Diesel Car Fire?

A. - Yes, the Fire Cloak[™] EV fire blanket works equally as well on I.C.E. (internal combustion engine) vehicle fires and reduces the water required to put out the fire thus minimising polluted water run-off.

Q. Can anybody use the Fire Cloak™ EV fire blanket?

A. - Nobody, except trained fire and rescue personnel, should use the Fire Cloak[™] EV fire blanket in relation to a car that is actually on fire. In circumstances where the Fire Cloak[™] EV fire blanket is used on a precautionary or preventive basis, properly equipped and prepared personnel can use it in accordance with the Instructions for Use, provided that a proper assessment of all risks present is made and all relevant precautions taken.

Q. Has the Fire Cloak™ EV fire blanket been independently tested?

A. Yes, the Fire Cloak[™] EV fire blanket has been extensively tested by independent laboratories. It has passed internationally recognised fire resistance standards and reallife EV fire demonstrations.

Q. Is Fire Cloak™ EV fire blanket reuseable?

A. If the Fire Cloak[™] EV fire blanket is used where an EV fire event is avoided, for example, when it is used to isolate a quarantined or suspicious vehicle that is exhibiting an elevated battery temperature according to a Thermal Imaging Camera reading or hissing/popping sounds can be heard and the vehicle does NOT burst into flames, the answer is YES it can be reused PROVIDED THAT it has been fully checked for signs of mechanical damage, contamination or heat degradation and found to be fully undamaged before storage.

In general where any EV fire event has taken place the Fire Cloak[™] EV fire blanket is not reusable. ANY fire blanket that is deployed on a vehicle that ultimately sets on fire or is already alight will result in the blanket material being heavily contaminated after use. There will probably be deposits of heavy metals such as nickel, manganese and cobalt along with other chemicals that could include HF acid, organic carbonates and PCB's. ANY EV fire blanket would then need to be decontaminated and resealed before being used again. This is a specialised and expensive process.





WHAT CAUSES EV FIRES?

EV Battery fires are rare but present new risks and challenges for emergency responders.



TECHNIC	L DATA		 32186			FIRE CLOAK Electric Vehicle Fire Blankets
MATERIAL DESCRIPTION Silica quartz fabric blend both sides. Reinforced corners with All seams and handles s resistant thread. Size: 8 x 6 metres (48m ²	N: d with fireproof sil heavy duty silicor titched with high f) Weight: c.24Kg	icone coating ne fabric pull h temperature	to andles.		Fire blanket	High Performance Electric Vehicle Car Fire Blanket
MATERIAL SPECIFICATIO	DN – as per BS EN	112127:1998		Toloropor		
Weight Silicone Coating	g/m ² g/m2	420+100 50 (each si	de)	±5% ±10%	2	
TENSILE STRENGTH – IS Warp Weft	O 4606:1995 N/5cm N/5cm	4800 3700	ND 5457	RURUN		
MATERIAL TEST DATA: F	ESULTS				%. NN	
Test Standard BS 476: Part 7: 1997	Parameter Surface Spre	ad of Flame	# of Tests	Continuo Class 1	us Compl Best P	iance ossible Result
BS 476: Part 6: 1989 + A1	: 2009					
	Fire Propaga Index – I Sub index, i1 Sub index, i2 Sub index, i3		6 6 6 6	4.3 3.1 1.0 0.2	Compl Compl Compl Compl	iant iant iant iant
Based on the above test This is similar to the UL	results the produ Class A fire resista	ct is deemed a nce rating in t	as meeting (he USA.	CLASS 0 RA	TING for fire	e resistance.
D6413 / D6413M-22 - US by Kinectrics, Kentucky,	A standard for VE USA.	RTICAL FLAME	RESISTANC	E	1.	
After Flame Time (sec)	1.5	CER	5	0.0	Best P	ossible Result
Char Length	N 18. 1		5	0.0	Best P	ossible Result
Melting	38		5	NONE	Best P	ossible Result
Dripping	N 19	V m	5	NONE	Best P	ossible Result
Melting and Dripping	Directional (lengt	h and width) t	5 ests gave ide	NONE entical resu	Best P Ilts.	ossible Result
Additional Tests by Inte BS EN ISO 14419:2010	r tek Testing Servi Oil / Hydroca	ces (UK) Ltd arbon Resistan	H ce 7	igh	Low 7	Average 7
BS EN ISO 9237:1995	Air Permeab	ility @ 20°C	0.	.36mm/s	0.11mm/s	0.22 mm/s
BS EN ISO 9237:1995	Air Permeab	ility @ 400°C	1.0	00mm/s	0.31mm/s	0.63 mm/s
	Hydroctatic	Pressure Test -				

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OUR PRODUCTS

FIRE CLOAK[™] -EV CAR FIRE BLANKET

Product Code: **CFB2186** Size: **8 x 6 metres** (26 x 19½ feet) Weight: **c.24Kg** (53lbs) Suitable for most cars and small vans

FIRE CLOAK XL[™] -EV FIRE BLANKET

Product Code: **CFB1209** Size: **12 x 9 metres** (39 x 29¹/₄ feet) Weight: **c.28Kg** (62lbs) Suitable for Large Cars, 4x4s, SUVs Pick-Up Trucks and Panel Vans

FIRE CLOAK[™] - LITHIUM BATTERY BLANKET

Product Code: **LBB6143** Size: **4 x 3 metres** (13 x 9³/₄ feet) Weight: **c.11Kg** (24lbs) Designed for EV Lithium Battery Packs

STORAGE SOLUTIONS

Supplied in waterproof rolltop bag as standard. Personalised wall mounted box and mobile storage available

WALL MOUNTED STORAGE BOX





MOBILE STORAGE BOX



COMING SOON!

FIRE CLOAK[™] -SKOOTA

For safe charging of small electric scooters.

FIRE CLOAK[™] -POWER PACK

For safe charging of power tool and electric bike batteries.

FIRE CLOAK[™] -PALLET SAFE

For safe storage of Lithium battery powered products on pallets.





"The Pendragon Group has purchased a Fire Cloak™ vehicle blanket for each of its motor retail operations. It provides an effective option to manage the additional risks posed by the specific nature of fires involving electric vehicle batteries. A product that adds confidence to our operatives that our fire safety controls are robust and adopting to new challenges."

Oliver Walker, Pendragon Group Health and Safety Leader



"The Fire Cloak™ EV Blanket may appear straightforward, but it's a meticulously engineered product, unmatched in its class. It stands as a highly valuable asset for Fire and Rescue Services across the UK."

Andrew Smith, Business Development Manager, Fire and Rescue Equipment Manager, Rosenbauer



SOLD WORLDWIDE Just a few of our valued clients

London Luton Airport	BCA	Lookers Agood deal. Better.	FORMULAC	Gioucestershire College
GSK		IRISH FERRIES		KPMG
	Mercedes-Benz	PENSKE Automotive	PORSCHE	HUMBERSIDE Fire & Rescue Service
savills	SEALINK		# WURTH	



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