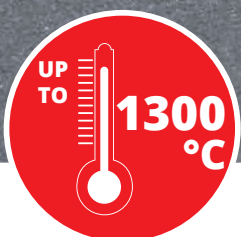


*your partner
for safety!*

E-MOBILITY PROTECTION CONCEPT

FIRE CONTAINMENT BLANKETS AND
PROTECTION CONCEPTS FOR HV WORKPLACES



PREMIUM E-MOBILITY PROTECTION
MADE IN  GERMANY.

E BATTERIES LI-ION AND LIMH

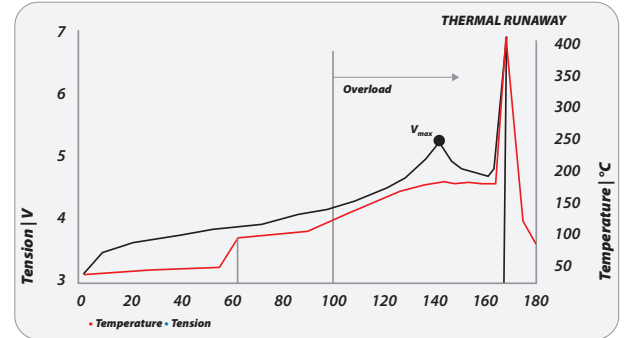
Most electric vehicles use lithium-ion technology (Li-ion) for the battery. The reason is the higher power storage capacity. This is important for electric vehicles, as only a good value enables acceptable ranges in the first place. Li-ion batteries are not only found in electric vehicles, but also in forklifts, electric bikes, laptops, mobile phones and electric tools.

However, the increasingly powerful Li-ion batteries can also be dangerous. Lithium is extremely reactive and highly flammable. There is always a fire risk when an occurs accident - the so-called THERMAL RUNAWAY.

THERMAL RUNAWAY - LI-ION AND LIMH E-BATTERY ACCIDENT

The term thermal runaway describes the destruction process of an Li-ion battery, usually triggered by overheating. The overheating of a single cell is enough to trigger a chain reaction, that also burns the neighbouring cells. The reaction temperature of an Li-ion battery is typically 850 °C.

In addition, this thermal runaway produces toxic gases and individual cells can be explosively destroyed. This leads to widespread spurting flames. Temperatures of 100 to 250 °C are sufficient to initiate such a process, depending on the installed cell.

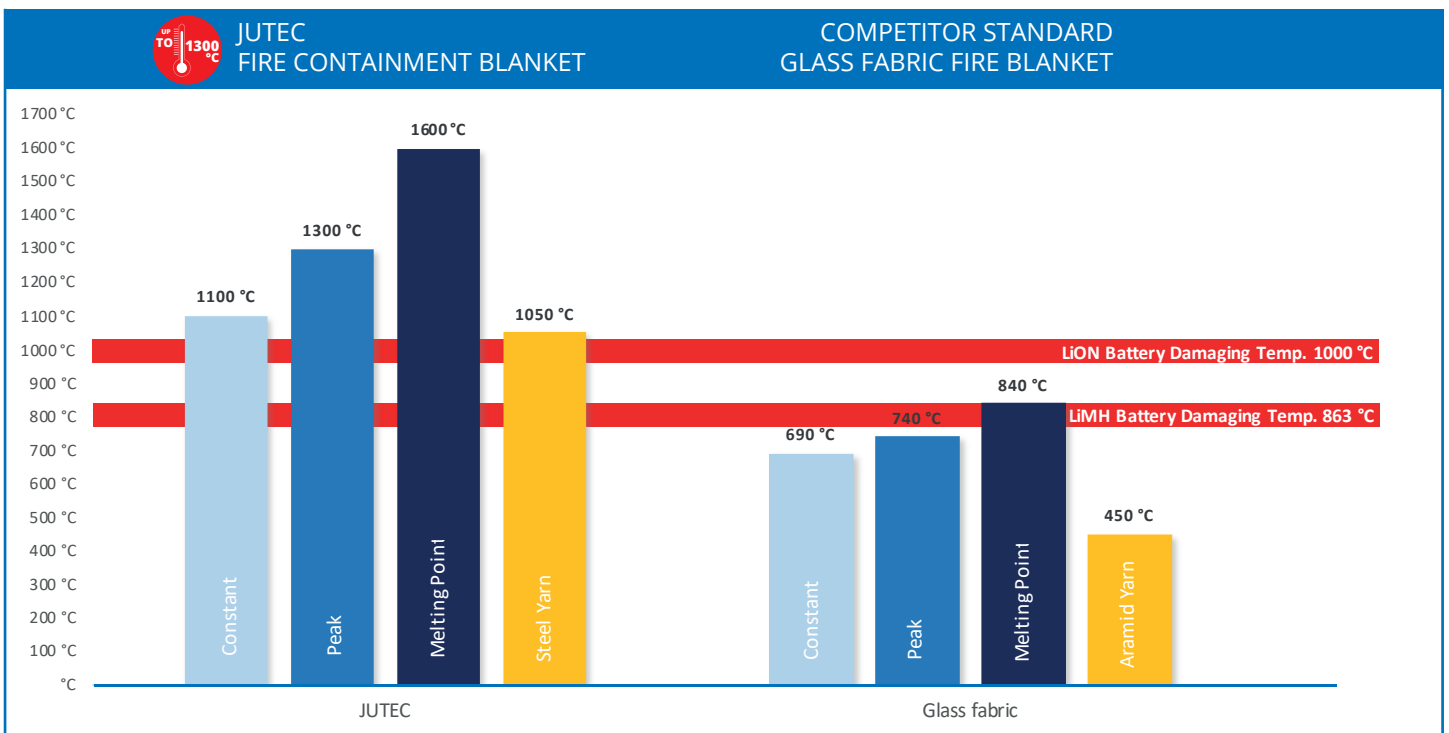


OVERHEATING OF AN LI-ION BATTERY CAN HAVE SEVERAL CAUSES:

- Mechanical stress
- Warming from the outside
- Overheating during charging
- Deep discharge
- Ingress of moisture
- Overcharging

In the event of an accident involving an Li-ion battery with a high energy density, only high-temperature fabrics offer sufficient fire-limiting and heat protection for the best possible extension of the emergency response time.

The comparison shows the temperature values of a high-purity HT special fabric with a mineral coating compared to a widely available glass fabric with a silicone coating. Temperatures above 350°C cause the silicone coating to evaporate. The red bars show typical reaction temperatures for Li-ion fires for classification of an adequate protection concept.





FEATURES OF THE JUTEC FIRE CONTAINMENT BLANKETS

- Made of special high-temperature fabric classified according to European fire protection test according to DIN EN 13501-1, class A1, non-combustible
- Special coating on both sides
- Electrostatic report according to DIN 54345-1, non-conductive
- Complies with the test principle of DIN Spec 91489
- Thermal application up to 1,300 °C, melting point 1,600 °C
- No fiber breakage when exposed to temperature changes, e.g. common with fiberglass blankets
- Open-pored fabric allows the use of extinguishing and sprinkler water (cooling effect)
- Limited gas permeability prevents cover ballooning in the event of an accident
- Outstanding chemical resistance
- Double seam overlap with steel thread processing
- Fabric grammage approx. 625 g/m², thickness approx. 0.7 mm (double fabric thickness available as an option)
- Registered design protected
- Four loops at the corners with special corner reinforcement, allow for easy, safe handling

FIRE CONTAINMENT CONCEPTS AS SOLUTIONS

JUTEC has developed fire protection concepts for a wide variety of Li-ion battery applications:

FIRE CONTAINMENT BLANKETS

- for damaged electric vehicles

WALL CABINET OR CART

- with fire containment blanket for damaged electric vehicles

HV BATTERY SAFETY CABINET

- with fire containment blanket, heat protection gloves and optional mask





FIRE CONTAINMENT BLANKETS

The JUTEC fire containment blanket made of high-temperature fabrics with a Special coating on both sides is flexible. Four loops on the corners with special corner reinforcement allow easy, safe handling. The blankets differ in their size and the different folds for trolleys or bags.

The fabric is classified according to the European fire protection test according to DIN EN 13501-1, non-combustible, A1. In addition, an electrostatic report (non-conductivity) is available. The fire containment blankets can be delivered as a set in a rollable trolley, transport bag or wall cabinet.

ITEM DESCRIPTION

Order #	Designation	Blanket Dimensions	Cars
BS-Set-6080-T	Fire Containment Blanket and trolley in a set	6000 x 8000 mm	Audi E-Tron Hyundai Ioniq 5 VW ID.3 Tesla Model 3
BS-Set-6080-B	Fire Containment Blanket and bag in a set	6000 x 8000 mm	Audi E-Tron Hyundai Ioniq 5 VW ID.3 Tesla Model 3
BS-Set-6080-B-S	Fire Containment Blanket with surface-mounted cabinet & transport bag	6000 x 8000 mm	Audi E-Tron Hyundai Ioniq 5 VW ID.3 Tesla Model 3
BS-Set-5060-T	Fire Containment Blanket and trolley in a set	5000 x 6000 mm	Smart Opel Corsa-e Mini Renault Zoe
BS-Set-5060-B	Fire Containment Blanket and bag in a set	5000 x 6000 mm	Smart Opel Corsa-e Mini Renault Zoe
BS-Set-3040-T	Fire Containment Blanket and trolley in a set	3000 x 4000 mm	

Defective or contaminated blankets can be reordered!

Other dimensions available on request at short notice!

FOLDS & SETS:



Fire Containment Blanket
B-fold for bag and cabinet



BS-Set-6080-B
Fire Containment Blanket and bag in a set



BS-Set-6080-B-S
Cabinet
1200 x 350 x 350 mm

Fire Containment Blanket
T-fold for trolley

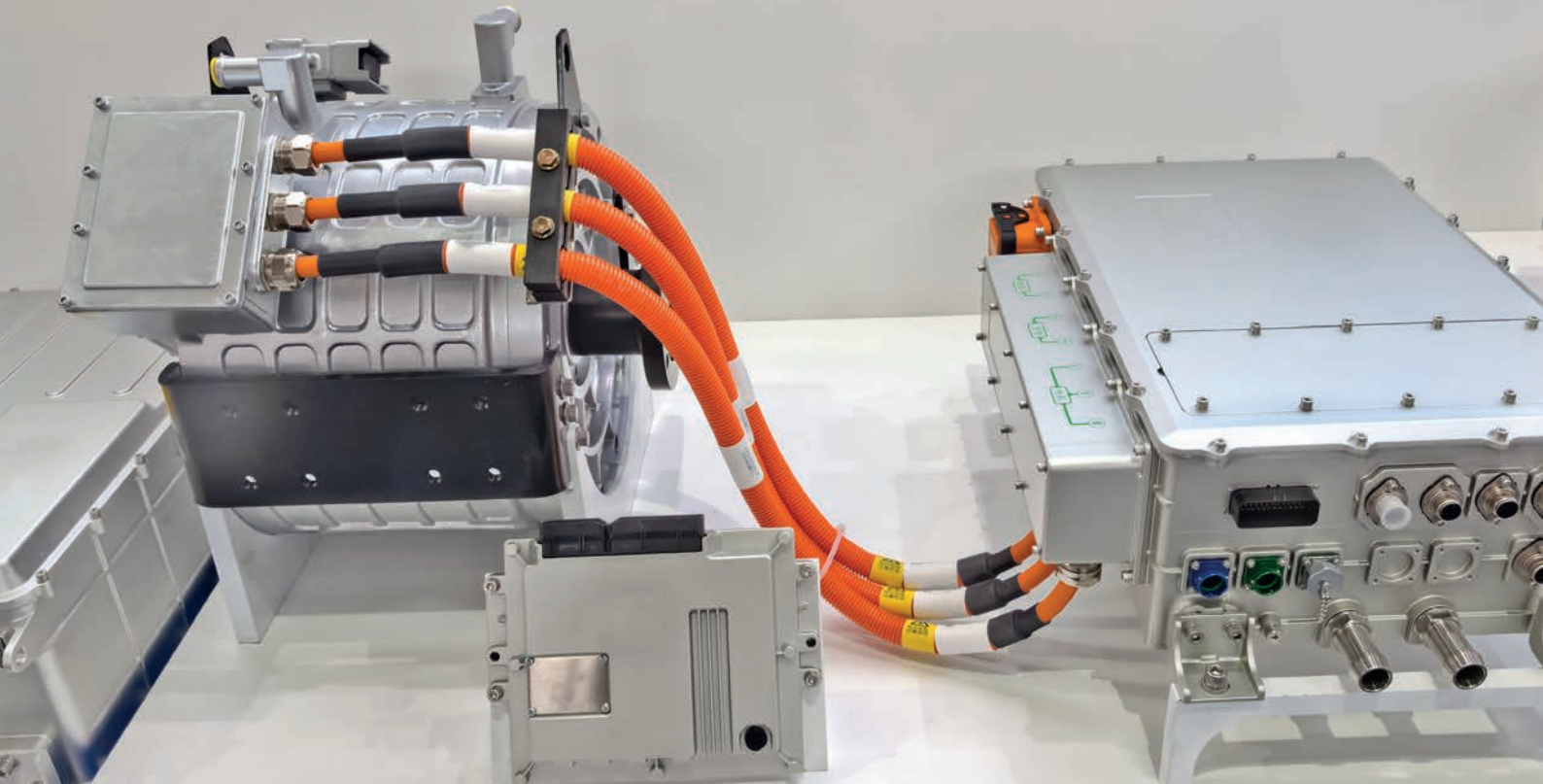


BS-Set-5060-T | BS-Set-3040-T
Fire Containment Blanket
and trolley in a set



BS-Set-6080-T
Fire Containment Blanket
and trolley in a set





HV BATTERY SAFETY CABINET

JUTEC has developed the HV safety cabinet especially for car workshops, where an increased number of damaged electric vehicles and dismantled HV batteries can be expected. In addition to the JUTEC fire containment blanket made of special high-temperature fabric with a Special coating on both sides, the HV safety cabinet also contains additional protective equipment, such as a pair of heat protection gloves and an optional eye and respirator mask.

Surface-mounted cabinet with twist lock

W x H x D = 300 x 810 x 220 mm

Material: metal | Colour: red

Contents:

- 1 fire containment blanket (3000 x 2700 mm) for dismantled HV batteries
- 1 pair of certified heat protection gloves CE KAT III, EN 388, EN 407

optionally:

- 1 respirator mask EN 140
- 1 protection mask

BENEFITS:

- Fire Prevention
- Defensive fire protection
- Extremely easy handling
- Everything within reach



BS-HV-Set-2730-H-V2
Cabinet
including heat protection gloves
and respirator and eye protection mask

ITEM DESCRIPTION

Order	Designation	Blanket Dimensions	
BS-HV-Set-2730-H-V1	Surface-mounted cabinet with a small fire containment blanket, 1 pair of heat gloves	2700 x 3000 mm	for dismantled HV batteries
BS-HV-Set-2730-H-V2	Surface-mounted cabinet with a small fire containment blanket, 1 pair of heat gloves, 1 x respirator with eye protection mask	2700 x 3000 mm	for dismantled HV batteries
BS-HV-Set-2730-H-V3	Surface-mounted cabinet with a small fire containment blanket, 2 pair of heat gloves, 2 x respirator with eye protection mask	2700 x 3000 mm	for dismantled HV batteries

Other dimensions available on request at short notice!

MADE IN  GERMANY.

SPECIAL SOLUTIONS

- The goal is to ensure a higher security barrier
- To prevent the flames from spreading
- Protection of the environment

WORKSHOP EQUIPMENT

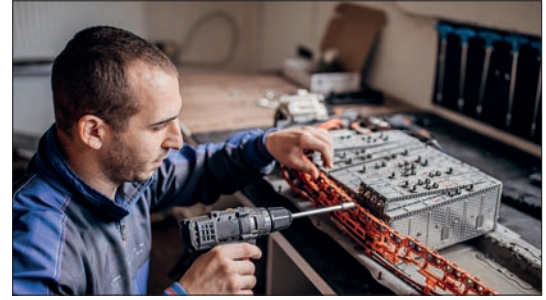
Battery workplaces

RECOMMENDATION

- HV set with fire protection blanket for battery modules, optionally also in a trolley

APPLICATION

- In the event of an accident - use fire containment blanket to cover battery
- Flame protection



PARKING GARAGES | UNDERGROUND GARAGES

Hotels, airports, car parks, city halls, football stadiums

RECOMMENDATION

- Fire containment blanket in wall cabinet
- Installation near the charging stations

APPLICATION

- Rapid deployment - extension of the assistance period
- Fast evacuation possible



FILLING STATIONS

Motorway filling stations and parking lots with charging stations

RECOMMENDATION

- Fire containment blanket in cabinet
- Installation near the charging stations

APPLICATION

- Rapid deployment - extension of the assistance period
- Fast evacuation possible
- Prevention of flame spreading to other vehicles



FIRE BRIGADE | THW | TOWING SERVICES

Mobile use in the event of battery damage

RECOMMENDATION

- Fire protection blanket in the trolley or in bag on emergency vehicles

APPLICATION

- Securing broken-down electric vehicles directly at the place of use



CAR FERRIES | TRAIN | LOGISTICS | DISPOSAL

Vehicle transport, disposal

RECOMMENDATION

- Fire protection blanket in a trolley or bag, ceiling mounting

APPLICATION

- Electric vehicles next to vehicles can be secured, to prevent flames escaping and spreading
- Isolation of parking areas for electric vehicles





- JUTEC has many years of experience with technical textiles of all kinds, their processing, assembly and application.
- JUTEC is a certified supplier to industry in the areas of heat protection, occupational safety and technical insulation. The products in this area are subject to regular testing by various institutes. JUTEC's quality management is certified according to ISO 9001:2015.
- JUTEC has over 70 industrial sewing workstations and its own prototype shop, its own CAD pattern development and 4 large-scale fabric cutting systems.

