LIQUID ARMOUR

E BIKE BATTERY EXPLOSIONS & FIRE PREVENTION SOLUTIONS

PDQ appreciate the problems of e-bike battery explosions and fires does not occur with high quality E-bikes and their batteries due to the quality manufactured and installed, however this problem, occurs on cheaper models of bikes and is increased by customers buying replacement batteries directly via online sites, and from non verified and certified manufacturers etc.

We have all watched in horror at the many stories of serious injuries and fatalities caused by such incidents, which are only increasing as E-bike sales gain worldwide expansion.

Who is responsible for E-bike battery safety? Manufacturers, traders or consumers? E-bikes and E-scooters are eco-friendly modes of transportation but they come with certain risks, particularly concerning the safety of their lithium-ion batteries. These batteries, while efficient and powerful, can pose significant dangers if not correctly managed. Widely used in E-bikes due to their lightweight nature, they can present safety risks if not properly manufactured, maintained or handled, leading to overcharging, and therefore potential fire hazards.

Manufacturers must bear the initial responsibility for battery safety, ensuring rigorous quality control, the incorporation of safety features and compliance with international standards. Unfortunately, some manufacturers have been known to use Grade B or even Grade C battery cells, which are purchased second-hand. In particular, several manufacturers in Asia, are entering the E-bike market without any history or experience in the industry, viewing this as a fast money-making opportunity.

Importers and trading companies that bring E-bikes into new markets, must play a significant role in ensuring the safety of the products they distribute. However, many traders just view these products as ‘boxes on shelves’, focusing on cost and profit, rather than quality and therefore safety, while others aim for larger market share by reducing retail pricing and ignoring quality.

The consumers themselves, also play a crucial role in ensuring battery safety and should make informed purchasing decisions and only buy from reputable brands and importers that prioritise battery safety. They must follow strictly the instructions for charging, maintaining and using the battery and regularly inspect the battery for any signs of wear or damage. Batteries must be handled correctly, any physical damage must be avoided and they must be stored in a cool, dry place when not in use.

Our aim is to develop, alongside highly respected E-bike manufacturers and their battery supply partners, either a coating directly on to the battery itself or alternatively a protective battery bag using Kevlar and coated with our nano-protective blast mitigation solution, to contain explosions and therefore extend the time for possible victims to escape a potentially fatal fire.

PDQ, collaborates closely with UK company Hardshell, with manufacturing facilities in the UK, USA, Turkey and India. and offices and facilities also in Dubai, who are specialists in ballistic, personal protective and tactical products and has become one of the world's most trusted and reliable suppliers for personal protective equipment. Our group is one of the world's most vertically integrated company's by having its own ability to weave Kevlar® TM (Duly Supported by DuPont) and in-house manufacturing capability to produce hard armour composite panels which are lighter and stronger than steel and technical expertise in designing and tailoring clothing for different military and security applications.

With BLAST MITIGATION properties, our products offer superior energy absorption and fragment containment. Working with end-users and industry experts, our Liquid Armour coating uses a super nano advanced blast mitigating polymer. This patented and proprietary polymer, provides military assets and structures with a flexible and dependable debris penetration solution that can be applied to almost any existing surface, and forms a seamless, super-resistant barrier, ensuring the assets and structures are able to absorb the blast energy. The absorption and elongation of our coating extend the blast duration, significantly reducing the peak shock wave.

Model: EBC-1 – E-Bike Battery Cover

Standard Features:

YKK Heavy Duty Zips

Liquid Armour Coating

Heavy Duty Nylon Material

Inner Zip Covering ‘fly’ for Extra Protection

Custom Colours Available

2-Way Charging Connector

Extra Strong Carry Handles

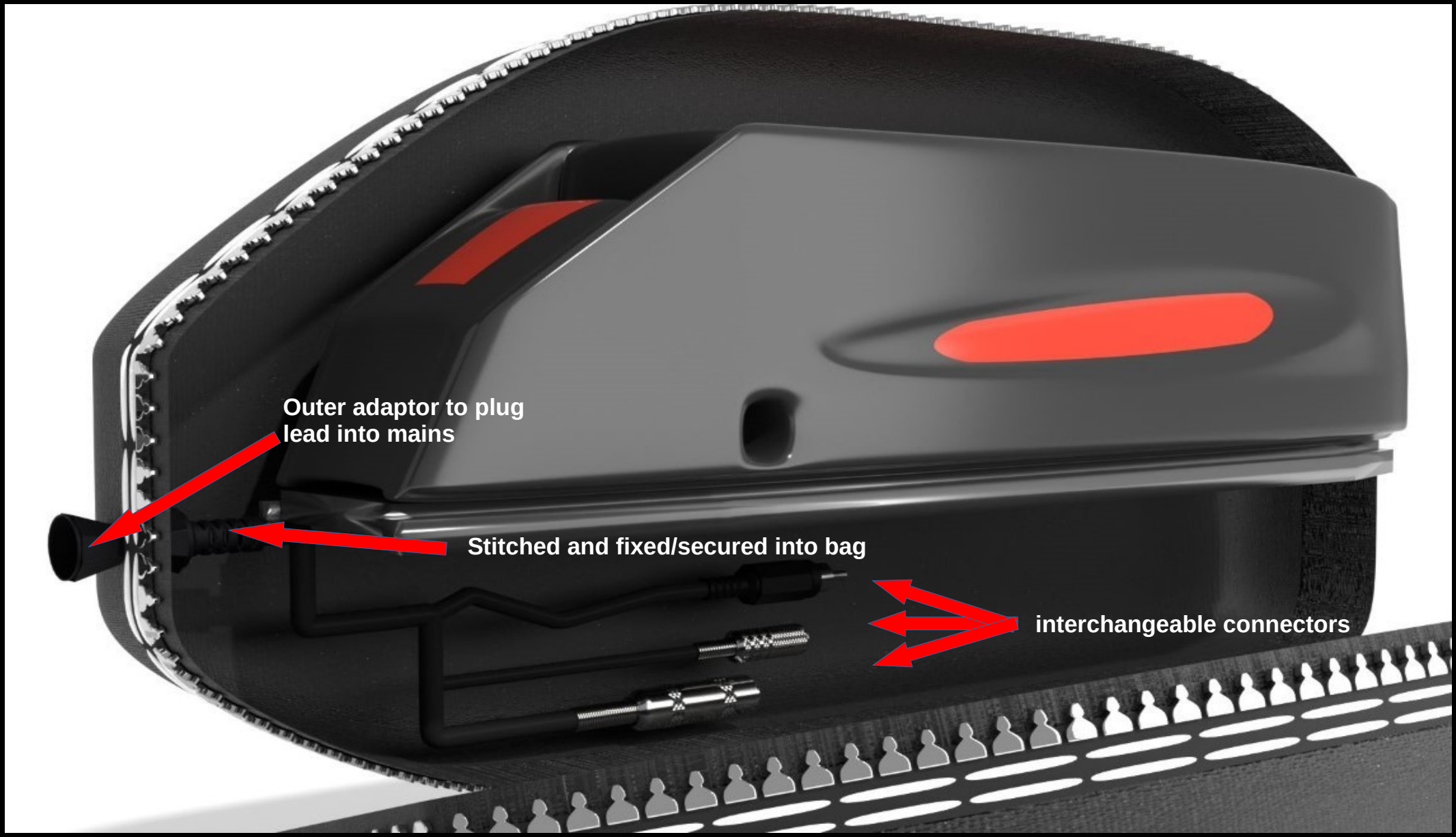
All Seams Double for Reinforced Protection

Sizes Available: From: 32.5 x 9.2 x 9.0cms -

To: 37.2 x 12.2 x 8.0cms

2-Way Charging Connector:

Fixed unit – Outer standard connection via plug to local country specification (2/3 pin)
– inner interchangeable connector to fit different battery types/makes



LIQUID ARMOUR

BLAST MITIGATION

Liquid Armour offers superior energy absorption and fragment containment. Working with end-users and industry experts, our Liquid Armour uses a super nano advanced blast mitigating polymer.

This patented and proprietary polymer, provides military assets and structures with a flexible & dependable debris penetration solution, that can be applied to almost any existing surface.

SUSTAINABLE

All our nano polymers are 100% VOC (Volcanic Organic Compound}

Liquid Armour is available in a spray form. This allows you to vary the thickness to meet the full range of threat and weight criteria.

ADVANTAGES

* Maintenance free

* Superior weight to protection.

* Simple spray-on protection, eliminating complex training requirements.

* Photo stabilised long-lasting formula, means Liquid Armour will not break down, delaminate or lose strength after long exposure to the sun.

* Can add colour to match the application surface, making it difficult to distinguish where it has been applied.

LIQUID ARMOUR

Liquid Armour® is a patented Super-Nano high-strength armour regenerative coating

We weave specialised Para-Aramid fibres, high molecular polyethylene and Aramid fabric from Dupont, USA (Kevlar) and Teijin, Netherlands (Twaron) that are very tough & strong polymer materials.

They are widely used in the manufacture of high performance industrial textiles, as the fibres also offer good resistance to abrasion, chemical and thermal degradation.

The following are the major yarns used and the fabrics produced from them:

3,000 Denier ➡ 460 GSM
1,000 Denier ➡ 190 GSM

TYPICAL APPLICATIONS OF LIQUID ARMOUR INCLUDE:

* Spall liners.
* STANAG 4569 panels.
* Blast-proof wallpapers
* Bullet resistant helmets.
* Fuel tanks and Armoured vehicles.
*Blast mitigation for military structures.

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