

Bicycle Association statement on e-bike battery fire safety

July 2023

The Bicycle Association (BA) is the trade body representing the UK cycle industry, with ca. 130 member companies including manufacturers, distributors, retailers and service providers. All BA members sign a Code of Practice which commits them to compliance with the well-established product safety regulations, and with the regularly updated international standards for bicycles and electrically assisted pedal cycles (e-bikes).

The Bicycle Association and its member companies have noted with concern recent reports of lithium battery fires, including e-scooter and e-bike related fires. Our condolences to all affected by these incidents.

We would emphasise that reputable e-bike suppliers conduct extensive testing to ensure that e-bike batteries are extremely fire-safe and we would reassure users of good quality e-bikes that in normal use these are very safe products.

The safety measures applied to battery packs by reputable suppliers in the e-bike industry include:

- Safeguards against fire risk at the design stage
- Extensive testing of battery packs to relevant international standards such as UN38.3 and BS EN 50604, and proper CE / UKCA marking of the pack and charger
- Testing of battery packs, e-bike power systems and chargers as a complete system, as part of compliance with the e-bike safety standard BS EN 15194.
- These standards also require that clear instructions on safe battery use must be included in the e-bike user manual.

Unfortunately, we are aware that some suppliers are placing products on the market which may not meet these high standards. The London Fire Brigade has noted¹ that:

“Lithium-ion batteries are susceptible to failure if incorrect chargers are used and there is a significant risk posed by e-bikes which have been converted, such as in this case. We are predominantly seeing fires in ones which have been purchased from online market places and batteries which have been sourced on the internet, which may not meet the correct safety standards.”

We would therefore advise e-bike users to follow the advice provided by the National Fire Chiefs Council² and especially:

- To **buy e-bikes only from reputable brands and retailers.**
- To **be especially wary of purchasing e-bikes, e-bike conversion kits or battery packs from overseas sellers via online marketplaces**, and to consider using a UK supplier instead. UK companies have clear legal obligations to place only safe products on the market, and can be

¹ For example here: <https://www.london-fire.gov.uk/incidents/2022/july/house-fire-walthamstow>

² <https://www.nationalfirechiefs.org.uk/E-bikes-and-e-scooters-fire-safety-guidance> and London Fire Brigade also have useful battery safety advice here: <https://www.london-fire.gov.uk/safety/lithium-batteries/>

held to account by UK enforcement authorities if any issues arise with the product. In contrast, the National Audit Office identifies³ online marketplaces as of particular concern when it comes to product safety.

- To use **only genuine battery packs** which are supplied by or authorised by the e-bike manufacturer.
- To use **only genuine chargers specifically designed for use with that battery pack**, as supplied by or authorised by the e-bike manufacturer.
- To **refrain from modifying or tampering with e-bikes** in any way not authorised by the manufacturer.
- To **consult the retailer or manufacturer immediately if there is any damage or fault** in the e-bike, battery pack or charger.
- To **follow all instructions in the e-bike user manual** about use and charging of batteries, especially any notes about using only the correct charger, and not leaving battery packs on charge unattended.
- That if contemplating fitting an e-bike conversion kit to a cycle not originally designed as an e-bike, to **consider carefully the safety and legal issues** set out in our guidance⁴, and purchase kits from reputable companies only. The Bicycle Association recommends that in general, end users will be best served with a purpose-built e-bike from a reputable brand which has been designed and tested as a complete system so that it will be safe and enjoyable to use.

Finally, the Bicycle Association, for the UK cycle industry, is working actively to further improve e-bike battery safety for the products we supply, including:

- Publishing free guidance for end users and businesses⁵ on lithium battery safety and best practice, including around safe and legal transportation, on highlighting the potential risks of fitting e-bike conversion kits, and of tampering with e-bikes.
- Participating actively via the British Standards Institution (BSI) on international work to further strengthen e-bike battery safety requirements in product safety standards.
- Developing an industry-level end-of-life battery collection and recycling scheme.
- Engaging actively with fire services to understand and help mitigate lithium battery fire risk.
- Taking every opportunity to support the work of the UK agencies and authorities and officials responsible for the enforcement and development of product safety regulations.

³ See page 39: <https://www.nao.org.uk/wp-content/uploads/2021/02/Protecting-consumers-from-unsafe-products.pdf>

⁴ Access at: <https://www.bicycleassociation.org.uk/technical/?jump=guides>

⁵ Access at: <https://www.bicycleassociation.org.uk/technical/?jump=guides>