



CHARGING CORDLESS HAND TOOL BATTERIES ON MCWPS AND CONSTRUCTION HOISTS TOOLBOX TALK

Mast Climbing Work Platforms (MCWPs) and Construction Hoists (CHs) are sometimes fitted with electrical outlets on the platform that enable operatives to use electrically powered hand tools and other equipment. IPAF does not recommend these electrical outlets are used to charge hand tool batteries.

It is becoming increasingly more common for rechargeable hand tools to be fitted with Lithium-Ion (Li-Ion) batteries. These are now the most common type of batteries used in rechargeable hand tools. This is mainly due to their:

- Small size.
- High energy density.
- Better power efficiency.

WHAT IS THE RISK?

Li-Ion battery failures are relatively rare, but in the event of a malfunction, they can represent a serious fire risk. They are safe products and meet many global safety standards. However, when charged, Li-Ion battery cells store a large amount of energy, and are especially sensitive to high temperatures and damage, such as penetration and crushing.

If a Li-Ion battery degrades, gets hot, or suffers a short circuit, heat and pressure will build up inside; this can lead to fire or explosion.

WHO NEEDS TO KNOW?

This Toolbox Talk applies to all individuals involved with the use of rechargeable hand tools containing lithium-ion batteries, including:

- Users (those in control of the equipment).
- Operators of hand tools.
- Managers and supervisors.
- MCWP CH Installers.

WARNING SIGNS TO LOOK FOR

- **Overheating:** Is the battery extremely hot to the touch? Batteries should not get too hot during normal use.
- **Bulging:** Is the battery swollen or bloated? This could be due to a buildup of gas or electrolyte.
- **Leaking:** Is the battery leaking a fluid or gel-like substance.
- **Unusual smells:** Is the battery emitting a strong, unusual, acidic, or chemical-like odour? Li-Ion batteries release toxic fumes when they fail.
- **Unusual sounds:** Hissing, cracking, or popping sounds could indicate a defective battery.
- **Unexpected Shutdowns:** The device may shut down unexpectedly even when the battery shows a charge.
- **Inaccurate Battery Indicators:** The battery level indicator may show incorrect readings.
- **Performance issues:** If the battery takes longer or shorter to charge, or doesn't fully charge.
- **Smoke:** Is the battery or device emitting smoke when being used? Any signs of smoke coming from the battery or charger could mean a fire has already started.

CONTROL MEASURES

Cordless batteries should be charged within controlled areas such as on-site charging banks and not on the MCWP platform or in the CH cabin.

The hand tool operator should carry out a pre-use inspection of the hand tool before use. If any faults are found it should be removed from service and reported immediately.

USEFUL REFERENCES

- IPAF Construction Hoist Operator Safety Guide
- IPAF Construction Hoist Loading Toolbox Talk [Construction Hoist Loading Toolbox Talk | IPAF](#)
- Manufacturer Operators Manual (available via www.ipaf.org/manufacturers)