



LITHIUM-ION FIRE RISK ASSESSMENT –

CHARGING & STORAGE

RISK OVERVIEW

Lithium-ion batteries can develop thermal runaway, leading to extreme heat, explosive gases, and rapid fire escalation.



CHALLENGES WITH TRADITIONAL FIRE SUPPRESSION

- Water can create hazardous gases such as hydrogen fluoride (HF).
- Foam and powder systems may trap heat and fail to stop the reaction.



CONSEQUENCES WITHOUT PROTECTION

- Rapid fire spread
- Severe damage to property and assets
- Operational downtime



RISK MITIGATION WITH MAUS SYSTEM

- Fire is contained within the cabinet
- No external flame spread
- External temperature remains below critical levels

CONCLUSION

The risk cannot be eliminated, but it can be controlled to a manageable and predictable level.

KIWA REFERENCE:



“This is an almost unstoppable chain of exothermic reactions that continue to spontaneously raise the temperature in a lithium-ion battery.” (Kiwa Test Report, 2025, p.7)



“The consequences are very high temperatures, the release of dangerous gases, a fierce conflagration...” (Kiwa Test Report, 2025, p.5)



“Lithium fires are difficult to extinguish.” (Kiwa Test Report, 2025, p.5)



“Conventional extinguishing systems that contain water are less suitable... foam and powder are also not suitable...” (Kiwa Test Report, 2025, p.5)



“No flames or sparks were observed outside the cabinet.” (Kiwa Test Report, 2025, p.16)



“The packaging has retained its structural integrity to safely contain the battery.” (Kiwa Test Report, 2025, p.19)