

ExtremeEvent

Destructive battery testing in environmental simulation.

Destructive battery tests are so-called abuse tests. In this type of test, the battery is exposed to influences outside the specified operating range in order to gain important insights into its functionality and safety. These tests require suitable test environments. Weiss Technik is planning the market launch of a newly developed test chamber for this purpose.

Extreme conditions for batteries.

Thermal shock, fire, short circuits, the penetration of other components or other misuse - the special safety tests simulate extreme conditions up to the total destruction of the battery. This is the only way to comprehensively determine the hazard potential and functional safety. This is a challenge for personnel and equipment alike. Because in most cases, the test items overheat, gas out, catch fire or explode.

Too hot for the lithium-ion cell.

Depending on the cell composition of a lithium-ion battery, exothermic reactions occur from a temperature range of 160 °C - 200 °C. This temperature level is also characteristic for the beginning of the thermal runaway of the battery. Due to the temperature rise in the battery, high pressure builds up, which leads to the battery bursting at a certain pressure level. In this state, hot gas (venting gas) flows out of the battery and is either ignited directly by the high cell temperature or reignited a short time later when the minimum ignition energy is present.



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Sustainable testing with ExtremeEvent.

Environmental regulations and an increasing awareness of occupational safety require exhaust gas treatment during destructive battery testing. The execution in free environment or empty buildings (bsw. hangars, bunkers) does not provide reproducible environmental conditions and therefore cannot be part of a professional test concept.

Weiss Technik provides the solution with the new ExtremeEvent. The specially designed test chamber allows mechanical, thermal and electrical abuse tests under constant test conditions. The reinforced chamber design and the innovative flap mechanism for pressure release create a safe test environment for operator and test specimen.

Conclusion: Effektive and safe.

weisstechnik ExtremeEvent will enable you to perform battery abuse tests safely and reproducibly in the future. With this technology, we are opening up new areas of application and respond to our customers' need for precise and qualitative solutions.



Good to know!

At the moment, the final beta tests and validation procedures are underway. In the process all abuse tests at cell and module level can be performed with the accustomed quality of **weisstechnik**.

Advantages at a glance:

- ▮ Mechanical, thermal and electrical abuse tests
- ▮ Reinforced chamber with high pressure capability
- ▮ Reproducible test results
- ▮ Reversible pressure release through flap mechanism
- ▮ Replaceable test chamber shell for more sustainability



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