APR2024/RE/SN-1

TECH FLASH

Battery Testing and Evaluation

The testing and evaluation of energy storage systems is an important part in the development chain for energy - automotive applications. Due to the complex issues involved, a significant number of attributes has to be investigated. In addition to standard tests, the facilities available within the Fraunhofer Battery Alliance enable specialized and highly scientific tests on specific topics, on cell, module, and system level.

The Fraunhofer Battery Alliance (consisting of 26 Fraunhofer institutes) deals with broad research and development in the field of electrochemical energy storage devices in order to develop technical and conceptual solutions for commercial applications. Fraunhofer is having extensive experience in wide varieties of technologies from state-of-the-art (Lithium-Ion, Lithium-polymer…) to next gen (lithium Sulphur, metal-air, solid state…) battery technologies. Fraunhofer works on battery materials, cells, modules and systems, investigate new material combinations, cell architecture and manufacturing processes, construction and interconnection technology, formation, Lifetime and aging mechanism, Battery management technologies, recycling and reuse of the batteries, battery safety & quality assurance.

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Test facility for battery cells with over 400 test channels.

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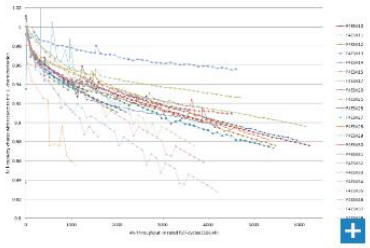
Climatic chambers for battery test objects of various sizes.



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Scientific monitoring and evaluation of our tests.

At Fraunhofer ISE Battery Testing Lab, we provide comprehensive testing capabilities for battery cells, modules, and systems, which allows us to conduct research on new methods for battery quality assurance and provide industry support in safety assessments of new battery types. Our testing covers all common cell formats, chemistries and systems regarding efficiency and effectiveness, aging tests as well as safety and reliability tests.

Our Services:

- Tests according to common standards and customer-specific battery testing
- Comprehensive testing services for battery cells, modules, and systems, including performance, safety, and reliability.
- Battery test facility for testing small and large size battery cells up to battery systems.
- Full range of testing capabilities for various battery chemistries and types
- Battery aging: calendric and cyclic
- Performance: efficiency and effectiveness, Reliability under a wide range of operating and aging conditions
- Validation of technical and functional advanced Safety tests on cell, module, and system level
- Development and evaluation of methods to prevent thermal runaway and propagation.
- Non-contact quality determination and assessment in battery cell production
- Non-destructive defect localization in battery cells
- Mechanical measurement and evaluation of battery cells and modules under pressure/compression
- cutting-edge facilities, including explosion-proof testing rooms

>>CLICK HERE<< to receive more info on this TechFlash.

Kindly get in touch with us if you are interested in this technology or require further information.
Thanks and Regards,

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