

A 3D architectural rendering of the DEKRA Batterie Test Center. The main building is a large, modern, white structure with a flat roof and large windows. The DEKRA logo is prominently displayed on the side of the building. In front of the building is a paved area with a crosswalk and some greenery, including trees and grass. The background shows other industrial buildings and a clear sky.

Mechanical Tests DEKRA Batterie Test Center

Resilience and durability under extreme conditions

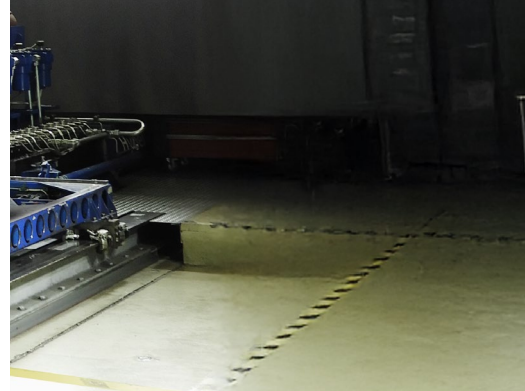
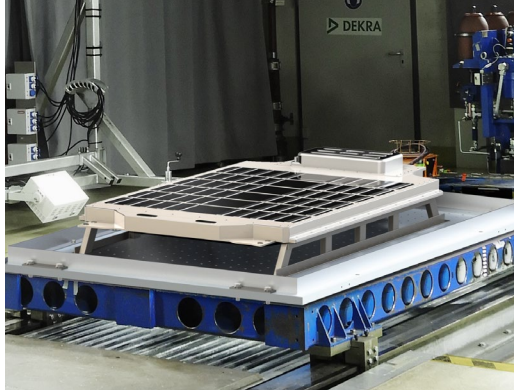
The safety of energy storage systems is a central topic in electromobility. For battery and vehicle manufacturing companies, ensuring and demonstrating operational safety in the event of an accident is absolutely crucial. Inadequate safety standards endanger not only type approvals but also consumer trust. Our independent mechanical tests deliver valid results and the foundation for safe, high-performance batteries.

Why is DEKRA the right choice?

- ▶ **Extensive experience:** Our in-depth know-how and close collaboration with leading manufacturers set us apart in battery safety.
- ▶ **State-of-the-art testing environment:** Our central battery test centre offers cutting-edge testing facilities and reproducible conditions for valid results.
- ▶ **Regulatory expertise:** We ensure that your products comply with international standards and are future-proof.
- ▶ **Holistic approach:** We offer comprehensive tests from a single source for cells, modules, and complete battery systems.
- ▶ **Global network:** Our worldwide infrastructure and state-of-the-art test labs, as well as our expert knowledge, are at your disposal.

Service overview

Our mechanical tests are based on international requirements and standards for electric drives. We test battery modules and packs with dimensions up to 3 m x 2 m and a weight of up to 1,000 kg. Our experts provide solid development expertise and cutting-edge testing technology to ensure products meet the highest quality and safety standards.



Our Tests at a Glance

► Non-destructive tests:

- **Vibration tests (shaker):** We simulate vibrations up to 2000 Hz, test objects weighing up to 2,000 kg and pulse forces of up to 1 MN under climate-controlled conditions.
- **Mechanical shock tests:** These tests simulate sudden accelerations and shocks up to 1 MN, determining structural stability and safety.

► Destructive tests:

- **Crash tests:** We execute tests on charged high-voltage storage systems, battery packs, and drive units on a specially optimized crash facility.
- **Drop test:** Testing robustness through targeted drops from up to 5 m height to ensure everyday safety.
- **Climatic tests:** We combine mechanical loads with temperature and humidity adjustments in large climate chambers.

Additional services

- **Test adapter planning:** We plan and produce test adapters to meet your specific requirements.
- **Pre-test conditioning:** We adjust temperature, humidity, and state of charge (SOC) to create realistic test conditions.
- **Real-time monitoring:** Inspection and recording of battery parameters via data logging during tests for comprehensive analyses.

We offer testing and secure storage for new and tested batteries, even in critical condition. We also provide transport support for critically assessed test objects.

At our state-of-the-art DEKRA Battery Test Center, we test your batteries safely and accurately, whether individual modules or complete systems. Our cutting-edge test equipment and a specially optimized crash facility guarantee valid results according to international standards. Contact us for expert support and reliable testing!

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Mechanical tests: Accurate tests for operational safety under realistic conditions.

Find out more now.

