Battery and E-Vehicle Testing

Based on our combined experience as world leader on vehicle safety and R&D testing we, RISE Research Institutes of Sweden and Autoliv, are your ideal supplier of R&D testing as well as regulatory and standard testing on battery systems and E-Vehicles.

Safety and Performance Testing
- Fire tests on battery packs & cells
- Electrical abuse testing
- Performance testing

Battery safety testing can be performed in accordance with UN Transportation Testing (UN DOT 38.3) and IEC 62133.

In addition RISE is able to support the industry in sustainability issues, life cycle assessments, energy system modelling, EMC and cell chemistry.

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Climatic • Altitude simulation, thermal test
Electric • Overcharge, external short circuit and over discharge
Emissions • HF (hydrogen fluoride) and POF3 (Phosphorus Oxyfluoride) during fire exposure
Fire Safety • UNECE Reg. 100 - E/ECE/324/Rev.2/ Add.99/Rev.2, Annex 8E • Heat Release Rate
Functional safety • Battery Management Systems in accordance with ISO 26262
Impedance • Measurement on various battery types: Lead-acid, NiMH, Li-ion, future high-voltage Li-ion
Life time and performance • Battery life time and performance testing
Mechanical • Drop testing, vibration, shock, impact, earthquake conditions
Modelling • Thermal runaway propagation
Mechanical Integrity Testing
Engineering teams for CAE simulations and crash tests with dummy batteries are available for preparatory evaluation of safety and risk levels.

Capabilities available for vehicle and component crash tests such as ECE R94/R95/R100, FMVSS 301/305 and NCAP.

Low Risk
*Indoor crash track*

Payload: <8 tons  
Frontal impact: <70 kph  
Side impact: <70 kph  
Rear impact: <90 kph  
Roll-over: <70 kph

Medium Risk
*Outdoor crash track*

Car-to-car: <100 kph  
Car-to-barrier: <100 kph  
Fully wireless vehicle control

High Risk
*Sled crash track*

Sled weight: 200 kg  
Load: <200 kg  
Track length: 15 m  
Sled speed: <100 kph  
Crash energy: <75 kJ