



TÜV SÜD's ISO 17025-accredited battery testing labs across Europe, the USA, and Asia make us the preferred technical partner for leading battery and vehicle manufacturers globally.



www.tuev-sued.com/e-mobility

Why choose TÜV SÜD?

With over 140 years of experience and 15,000 employees worldwide, the TÜV SÜD Group is one of the world's leading technical service organisations. Leveraging on the latest technology in more than 600 locations across the globe, we add real value to a myriad of industries by providing testing, certification, inspection, training and consulting services.

TÜV SÜD is the technical solutions partner of choice to e-mobility industries. We support manufacturers throughout the e-mobility value chain, from electric vehicle components and systems to batteries and charging infrastructure. Our technical and training services enable the global electric vehicle industry by ensuring safety, marketability and compliance.

Contact us for more information:

e-mobility@tuev-sued.de

Western Europe

TÜV SÜD AG
Martin Altepost
Daimlerstraße 11
85748 Garching
Germany
Martin.Altepost@tuev-sued.de

Asia Pacific

TÜV SÜD Asia Pacific
Alexander Kraus
3 Science Park Drive
#04-01/05, The Franklin
Singapore 118223
Alexander.Kraus@tuv-sud.sg

Central Eastern Europe

TÜV SÜD Sava d.o.o.
Tadej Borstnar
Likozarjeva ulica 14
1000 Ljubljana
Slovenia
Tadej.Borstnar@tuv-sud.si

Americas

TÜV SÜD America
Douglas Hughes
47523 Clipper Street
Plymouth, MI 48170
USA
DHughes@tuvam.com



Service overview

Battery testing and certification: facilitating access to global markets

Accelerate your speed to market with TÜV SÜD's testing and certification services. Our capabilities in power cells and battery systems extend across electrical and environmental safety evaluations to performance testing services.

TÜV SÜD is fully qualified to conduct testing and to issue CB reports and certificates that are accepted by more than 50 IEC member states. These test results can be used to obtain certifications or approval at national levels. Even if no certifications exist yet, TÜV SÜD can develop individual programs to meet your needs.

Product certification marks: demonstrating your commitment to safety and quality

Distinguish yourself from the competition with the GS Mark and the TÜV SÜD Mark. These show that a battery product has been tested and approved for safety and that the battery production line has passed an annual inspection and audit. The marks are extremely effective brand promotion tools and demonstrate the manufacturer's continuing commitment to safety and quality.

TÜV SÜD One-Stop Service: reducing costs and time-to-market

Expand into world markets with the "TÜV SÜD ONE-STOP SERVICE": a customised certification service that offers customers easy and convenient access to multinational markets. With our growing global network of laboratories and experts, we can help battery manufacturers obtain the necessary certifications they need to access international markets. By reducing the costs for certification and your time-to-market, you can build a solid foundation for future market expansion.



Choose certainty.
Add value.

Batteries

Powering the global electric vehicle industry

TÜV SÜD Group

TÜV®



Battery safety in the electric vehicle industry

While automotive and battery manufacturers prepare to supply the world with a new generation of electric and hybrid vehicles, battery safety remains a key concern among regulatory and safety bodies. Governments are already setting the standards that will ensure these high-voltage products are safe for use, and the future of the e-mobility industry will depend upon how it keeps up with these emerging standards and regulations.

TÜV SÜD can ensure that the power components used in all these electric vehicles receive unequalled market acceptance and support from regulatory authorities. We provide testing and certification services for today's most advanced energy storage devices and systems, including primary and secondary battery cells and packs, ultracapacitors and other electric vehicle components and systems.

With our ISO 17025-accredited laboratories and technical expertise, we can help develop, validate, and certify your electro-mobility (e-mobility) products for global markets. Our battery testing labs in Germany, the USA, China and Singapore and other key markets make us the preferred technical partner for leading battery and vehicle manufacturers worldwide.

Global test standards

IEC 61982-2	- Secondary batteries for the propulsion of electric road vehicles - Dynamic discharge performance test and dynamic endurance test
IEC 61982-3	- Secondary batteries for the propulsion of electric road vehicles - Performance and life testing (traffic compatible, urban use vehicles)
IEC 62660-1 (ex-61982-4)	- Secondary batteries for the propulsion of electric road vehicles - Performance testing for lithium-ion cells
IEC 62660-2 (ex 61982-5)	- Secondary batteries for the propulsion of electric road vehicles - Reliability and abuse testing for lithium-ion cells
SAE J2464	- Electric and hybrid electric vehicle Rechargeable Energy Storage System (RESS) safety and abuse testing
SAND 99-0497	- USABC battery testing-United States advanced battery consortium - Electrochemical storage - System abuse test procedure manual
SAND 2005-3123	- Abuse test manual for electric and hybrid electric vehicles applications
DOE/ID-11070	- FreedomCAR 42V battery test manual
DOE/ID-11069	- FreedomCAR battery test manual for power-assisted hybrid electric vehicles
DOE/ID-11173	- FreedomCAR ultracapacitor test manual
UN 38.3	- Transportation of lithium batteries
IEC 62281	- Safety of primary and secondary lithium cells and batteries during transportation
IEC 62133	- Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications
SAE J2288	- Life cycle testing of electric vehicle battery modules

Complete range of testing capabilities

Electrical Testing

- Power availability
- Capacity / Energy density measurement
- Self-discharge test
- Rapid charge / discharge
- Dynamic discharge performance test
- Parameter measurement
- Energy efficiency
- Corrosion
- HALT / HASS

Mechanical Testing

- Crush
- Crash
- Vibration / Shock
- Drop
- Altitude simulation
- Projectile
- Roll over
- Nail / Penetration test

Environmental Testing

- Thermal abuse
- Elevated temperature storage
- Extreme cold / heat
- Temperature cycling / shock

Abuse Testing and Others

- Immersion
- Short-circuit (external, partial)
- Overcharge
- Fire test
- Forced discharge

Lifecycle Testing

- Dynamic endurance test
- Cycle life test
- Environmental cycle testing
- Vibration cycle testing

Electromagnetic (EMC) Capabilities

- Radiated emissions
- Radiated immunity
- Conducted emissions
- Conducted immunity