



Product Service

**Choose certainty.
Add value.**

Electric Vehicle Battery Testing and Certification

Powering the Global Electric Vehicle Industry

Battery safety and performance is the critical factor in the overall success of electric powered vehicles. TÜV SÜD Product Service has expertise in testing from individual cells, through to modules and packs, to globally accepted test standards as well as customer specific test programs.

Our global network of battery testing laboratories and technical expertise can be found in all key automotive markets worldwide, helping to validate and certify your product. This is why we are the preferred technical partner for leading battery and vehicle manufacturers worldwide.

By choosing TÜV SÜD Product Service for battery testing for Electric Vehicle or Hybrid applications you can be assured that your product can be brought to market quickly and efficiently.

International Test Standards:

IEC EN 61982-2	– Secondary batteries for the propulsion of electric road vehicles – Dynamic discharge performance test and dynamic endurance test
IEC EN 61982-3	– Secondary batteries for the propulsion of electric road vehicles – Performance and life testing (traffic compatible, urban use vehicles)
IEC EN 62660-1	– Secondary batteries for the propulsion of electric road vehicles – Performance testing for lithium-ion cells
IEC EN 62660-2	– Secondary batteries for the propulsion of electric road vehicles – Reliability and abuse testing for lithium-ion cells
IEC EN 62281	– Safety of primary and secondary lithium cells and batteries during transportation
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	– FreedomCar Abuse test manual for electric and hybrid electric vehicles applications
DOE/ID-11069	– FreedomCAR battery test manual for power-assisted hybrid electric vehicles
DOE/ID-11070	– FreedomCAR 42V battery test manual
DOE/ID-11173	– FreedomCAR ultracapacitor test manual
UN 38.3	– UN Manual of Tests and Criteria
SAE J2288	– Life cycle testing of electric vehicle battery modules
USABC	– USABC Electric Vehicle Battery Test Procedures Manual

TÜV SÜD Product Service
TÜV SÜD Group





Product Service

www.tuvps.co.uk

ELECTRICAL TESTING Power availability Capacity / Energy density measurement Self-discharge test Rapid charge / discharge Dynamic discharge performance Parameter measurement Energy efficiency	MECHANICAL TESTING Crush Crash Vibration / Shock / Drop Altitude simulation Projectile Roll over Nail / Penetration test HALT / HASS	ABUSE TESTING & OTHERS Immersion Short-circuit (external, partial) Overcharge Fire test Forced discharge
ENVIRONMENTAL TESTING Thermal abuse Elevated temperature storage Extreme cold / heat Temperature cycling / shock Corrosion	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 Electrostatic discharge

Electric Vehicle Battery Certification

TÜV SÜD Product Service has a proven reputation for quality and safety assurance that has strong market recognition both by automotive manufacturers and consumers alike. Our certification marks enable battery manufacturers to demonstrate to vehicle manufacturers that their product has been independently verified for safety, performance and quality.

The TÜV SÜD Mark can be awarded to published standards such as IEC, EN, ISO as well as custom test standards which can be devised in partnership with automotive and battery manufacturers.

Unique custom Octagon Marks can be issued to identify key requirements and parameters such as performance.



Example Mark

Benefits of Choosing TÜV SÜD Product Service:

- **Management of global requirements** – from the convenience of a UK based laboratory.
- **Single point of contact project management** – enables clear communication for efficient project progression.
- **Worldwide network of accredited testing laboratories** – battery testing laboratories accredited to ISO 17025 to ensure a quality service.
- **Achieving your product's maximum potential** – our growing network of laboratories and technical experts can help you gain access to international markets.
- **Technical Auditing** – ensure that your manufacturing and production facilities produce consistently safe, reliable and compliant products.

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