PRIME LABS
Battery and Environmental Testing
Prime Labs

- State-of-the-art testing laboratories
- Over 3,000 m² test area
- Unique testing possibilities
  - Electrical
  - Mechanical
  - Environmental
  - Abuse
- Operating world-wide
Our Vision

**Industrial R & D**
Solving challenges for companies using and manufacturing batteries; from improvements to cell design to battery pack development

**Public research & Own projects**
Grant-based research in cooperation with academia and industry as well as own projects to explore novel ideas and stay up-to-date

**Guidance**
Providing added value to testing, technology scouting, product development as well as conducting seminars and training courses

**Testing + Certification**
Testing of battery materials, cells, modules and packs based on customer test plans to support development and accredited testing and certification based on international standards (IEC, ISO)
For the success of our customer our employees provide:

- competence and passion
- high quality work
- reliability
- independency
- fast decision times
- customer focus
- support and guidance

Combined decades of battery experience
Testing of batteries, modules and battery assemblies, consisting of multiple modules, intended for use in electric vehicles and stationary ESS

- Performance
- Life-cycle/Ageing
- External short circuit
- Internal short circuit
- Overcharge
- Overdischarge

### Highlights

- Voltages from 0 V to 1 kV DC
- Currents up to 1.440 A
- Power rates up to 500 kW

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Mechanical Testing

- Vibration
- Shock
  - half sine
  - saw tooth
  - rectangle
- Drop
- Crush

**Highlights**
- Shaker 120kN
- 1.2 m x 1.2 m base
- 1.000 kg max. load
- With climate chamber
Environmental Testing

- Altitude simulation (2.4 m³)
- Temperature shock and cycling
- Corrosion
- Sun simulation
- Ingress protection
- EMC
- REACh/RoHS

Highlights
- More than 30 climate chambers
- Up to 1200L
- -70 °C to +180 °C
- 25 K/min
Abuse Testing

- Crush
- Nail penetration
- Short circuits
- Overcharge
- Overdischarge
- Overheat / Thermal abuse
- Fire Propagation
- Battery forensics

**Highlights**
- Four abuse chambers
- Innovative fire fighting equipment
- Venturi gas washer (100 m³/min)
Standards and Certifications

Power Tools and Consumer Products
- UN 38.3
- IEC 60086
- IEC 60335-2-107 Annex KK
- IEC 61960
- IEC 62133
- IEC 62281
- IEC 62841-1 Annex K

Automotive and LEV
- UN 38.3
- UN ECE R100 Rev.2 screening
- UN ECE R136 screening
- ISO 12405
- ISO 16750
- IEC 62660
- DIN EN 50604-1
- AK-LH 5.21

Stationary Energy Storage Systems
- UN 38.3
- DIN/EN 62619
- DIN/EN 62620
- VDE AR 2510-50
- BVES Safety Guidelines

Our certifications
- VDE mark, VDE-GS mark
- VDE test report for information
- CB certificate
Thank you for your attention!

We are shaping the e-deal future. Join in.

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