LABCO

We Shape the Future of Testing

This is LABCO

We are an independent test laboratory, operating for our customers worldwide.

Accredited according to DIN EN ISO/IEC 17025.

Our history

1978
Lab of origin in Brake: As a development lab for cables and wires.

2000
First Accreditation by “DAkkS”

2003
Founding of LABCO

2009
Enlargement of test scope and equipment

2014
Expansion of the lab by moving to Loxstedt

2022
Opening of the LABCO Battery Test Centre

2024
Foundation of the Joint Venture CVL

Our business sectors

LABCO
Loxstedt-Stotel
“Loxpark”

- Household and domestic
- Aviation
- Electrical energy storage
- Defence
- Automotive
- Maritim
- Agricultural
- And more

Our accreditation

DIN EN ISO/IEC 17025

- Received in July 2000
- Includes >500 specifications
- Flexible accreditation for many tests
- Tests without accreditation / specification also possible

OEM recognition

OEMs worldwide appreciate our service as

Independent **Trustful** **High-qualitative**

Re-testing in OEM internal laboratories is not necessary. We have direct contact with many OEM development departments.

Our core test samples

Wires and cables

- High and low voltage single and multicore cables
- RF cables e. g. coaxial, LVDS, CAN Ethernet, Flexray
- Twisted cables

Connection systems

- High and low voltage terminals, connectors and housings
- RF terminals, connectors and housings
- Sockets and plugs: e. g. charging devices, trailer couplings

Protection systems

- Adhesive tapes
- Sleeves, hoses, tubes: e. g. smooth, braided, corrugated, heat-shrink
- Longitudinal wrapping systems

Batteries, interfaces and assemblies

- Batteries: cells, modules, packs
- Interfaces: e. g. fuse boxes, controllers, relays
- Assemblies: e. g. mountings, fixtures, fasteners

And more...

Our core test scope

Performance Analyses

Electrical

Special or Customised

Material Analyses

Vibration

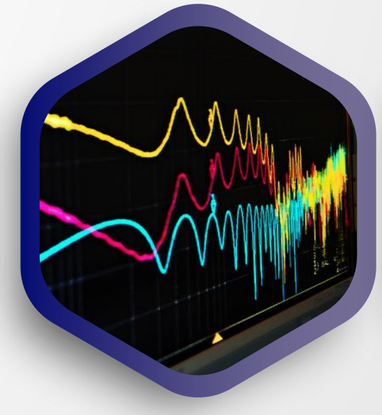
Environmental Simulation

Mechanical

Chemical

Radio Frequency

And more...

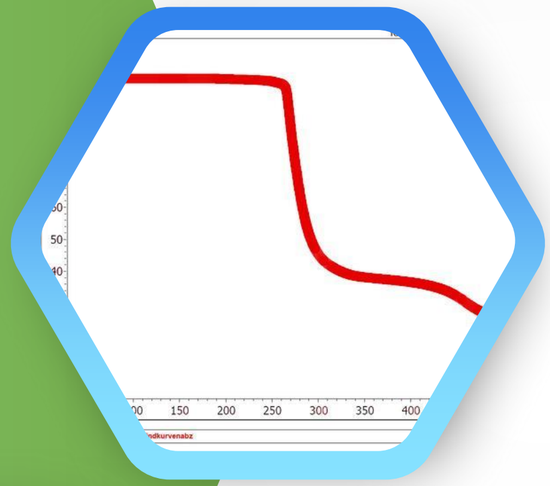


Further activities

- Pre-development projects
- Competitive analysis
- Development of new tests
- Failure-cause analysis

- Over 20 years of membership in (inter-) national committees of specifications
- Contribution to important work groups in the German automotive industry

Material Analyses



- DSC
  - Differential scanning calorimetry
- TGA
  - Thermogravimetric analysis
- FTIR
  - Fourier-transform infrared spectrometer
- MFR/ MVR test equipment
  - Mass flow rate / Mass volume rate
- X-ray-fluorescencespectroscopy

Electrical

- Derating systems
- Electrical power supply and loads up to 3000 A
- Precision resistance measuring equipment into the µOhm range
- High resistance measuring equipment covering the TOhm range
- High voltage testing equipment up to 50 kV

Mechanical

- Tensile testing machines
- Bending cycle testing apparatus
- Impact testing equipment
- Abrasion test devices
- Motorised mandrels for winding tests

Chemical

- Extraction test equipment
- Equipment for different chemical tests,

  e. g. storage in
  - oil
  - fuels
  - battery acid
  - other fluids and chemicals

Microscopic

- Video microscope
- Stereo microscope
- Digital microscope with a magnification of 0 – 200x and a depth of focus of 4 cm
- Overhead-light microscope
- Fully automatic microscope equipment for cables and wires
- Micro-section laboratory for measuring crimp contacts
- 3D Optical Profilometer

Thermal and climatic

- > 40 climatic/temperature test cabinets and chambers up to 11,5 m^3 test space
  - Temperature range: - 80 °C to + 250 °C
  - Humidity range: 10 % to 98 % RH
- Temperature shock chamber
- Tests under thermal/climatic profiles are possible, e. g. vibration tests
- > 100 ovens for ageing tests up to 1200 °C

Environmental simulation

- Laboratory for storing in environmental fluids, e. g. storage in salty fluids
- Salt spray chamber
- Ozone chamber
- Flame test apparatus
- IPX-chamber
- Water storage apparatus for hydrolysis

Radio frequency

- Network analysers (5 Hz to 26,5 GHz)
- Triaxial-measurement tubes (40 mm and 90 mm diameter)
- Line injection measurement equipment
- Extract of the measurement possibilities:
- Return and insertion loss
- Characteristic impedance
- Determination of shielding effectiveness
- Line symmetry

Vibration

Shaker 1

Shaker 2

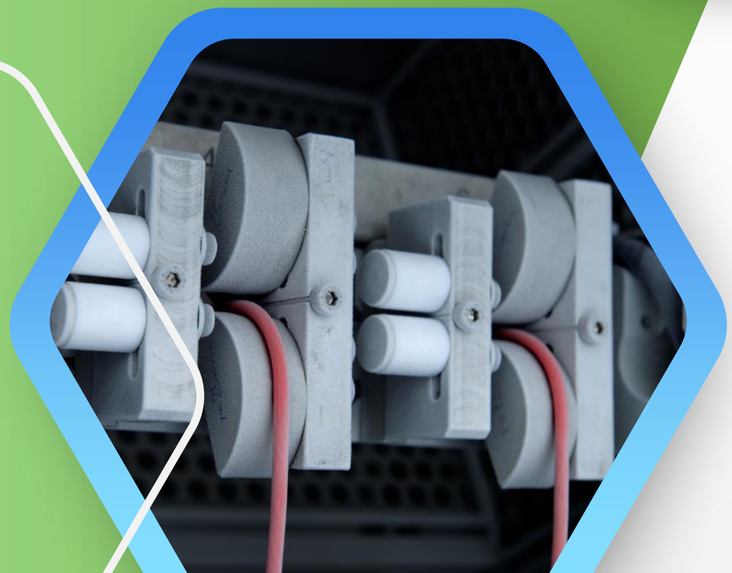
Nominal force sine / random / shock (kN)	50 / 50 / 100	80 / 80 / 160
Frequency range (Hz)	5 to 2700	5 to 2500
Smax (Peak to peak: sine / random + shock) (mm)	36 / 50, 8	50,8 / 76,2
Dimensions slip table and head expander (mm)	600 x 600	600 x 600
Test space of the climatic chamber (WxDxH in mm)	1040 / 960 / 1080	1020 / 890 / 1120
Temperature range (°C)	- 70 to 180	- 70 to 180

Vibration

Shaker 3 - 4

Nominal force sine / random / shock (kN)	300 / 270 / 900
Frequency range (Hz)	5 to 2700
Smax (Peak to peak: sine / random + shock) (mm)	63,5 / 63,5 / 76,2
Dimensions slip table and head expander (mm)	2100 x 2100 / 2100 x 1900
Test space of the climatic chamber (WxDxH in mm)	2500 / 3115 / 1500
Temperature range (°C)	- 70 to 180

Special and customised



- Door slam trial apparatus
- Micro- and shore-hardness test equipment
- ABS-Simulation test equipment
- Slow-motion-test apparatus (up to 260 °C)
- Flexural strength (from -40 °C to 180 °C)

Battery cyclers

Test equipment	Max. power simultaneous	Max. voltage per battery	Max. current per battery
Cell tester	10, 8 kW	6 V	1500 A
Module tester	64 kW	60 V	1200 A
Pack tester	1100 kW	1200 V	4000 A

Possible combinations:

- Climatic chambers
- Cooling systems
- Vibration test systems

Protected by our high-pressure water mist extinguishing system

Thank you for your attention

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