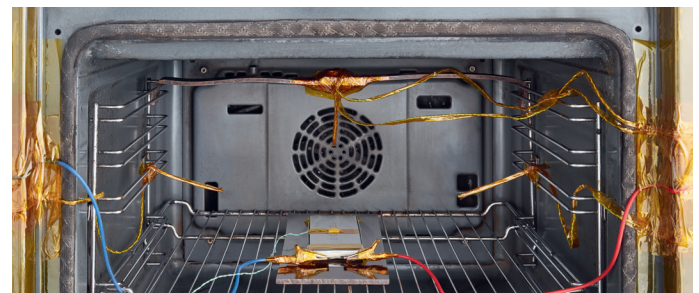


ABUSE TESTS FOR BATTERIES

- *Investigation of the behaviour in extreme situations*
- *Support for cell selection, module and pack design*
- *Validation of simulation results*
- *Validation of the battery requirement profile*

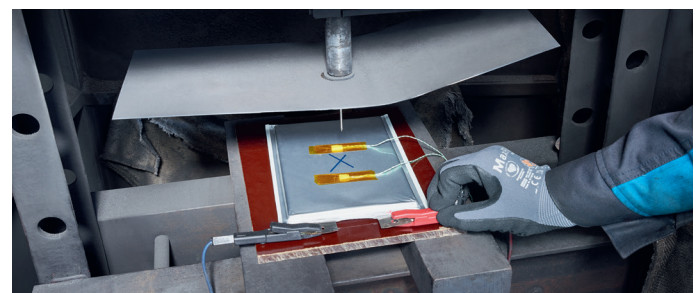


//01 Thermal Tests

TEST METHODS

THERMAL

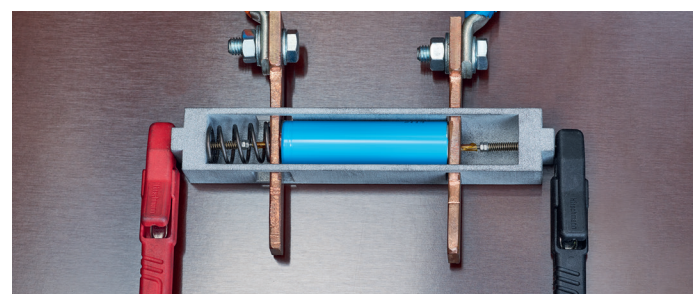
- Thermal stability
- External fire
- Storage at elevated temperature
- Thermal cycling



//02 Mechanical Tests

MECHANICAL

- Internal short circuit / nail penetration
- Controlled crush
- Drop
- Corrosive environment / dust
- Altitude simulation
- Vibration / shock



//03 Electrical Tests





ELECTRICAL

- Overcharge
- Overdischarge / voltage reversal
- External short circuit ($R_s \leq 137 \mu\Omega$, 20 kA)
- Fast charge / discharge

DATA ACQUISITION

- Up to 20 kHz
- Up to 40 temperature sensors
- Video

OPTIONAL

- Gas analysis for small cells
- Spark ignition source
- Post-mortem analysis

ACCREDITATIONS

- IEC 62281
- IEC 62133-2
- IEC 62660-2
- UN38.3



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