

UL 2580 2nd Edition - Batteries for use in Electric Vehicles

Design Testing



Dielectric Voltage Withstand Test (Hipot test)

Requirement:

Test Voltage = DC potential of 1.414 times twice rated voltage. **AC potential of 60 Hz at twice rated voltage may be applied instead of the dc potential*
Test Time = 60 seconds

Pass Criteria:

There shall be no evidence of a dielectric breakdown

Continuity Test (Ground Bond Test)

Test Current Requirement = 150% of the maximum current of the circuit under test or 25 A
Test Time = 5 s seconds
No load voltage = ≤ 60 Vdc

Pass Criteria:

The grounding system shall have no more than 0.1 Ω resistance

Safety Compliance Analyzer to meet your Standard:

HypotULTRA® Model 7804
AC / DC Hipot, 40A Ground Bond,
Insulation Resistance, Ground Cont.

Production Testing



Dielectric Voltage Withstand Test (Hipot test)

Requirement:

Test Voltage = 2.4 times the rated voltage for AC test or 3.4 times the rated voltage for DC test

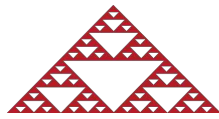
Test Time = 1 second

Continuity Test Requirement:

Simple continuity, resistance not exceeding 0.1 Ω

Safety Compliance Instrument to meet your Standard:

Hypot® Model 3870
AC / DC Hipot, Insulation Resistance,
Ground Cont.



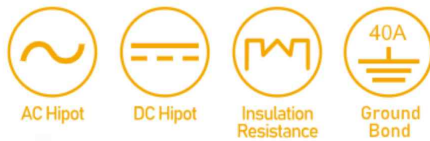
IKONIX USA

Safety Compliance Tester to meet your Standard:

Safety Compliance Tester to meet your Standard:



SCI 400 Series: Model 446
AC / DC Hipot, 40A Ground Bond,
Insulation Resistance



SCI 290 Series: Model 297
AC / DC Hipot, Insulation Resistance,
Ground Cont.



Other common safety standards that require high voltage testing for battery packs and battery cell insulation:

IEC 62133-2:2017 - *Safety requirements for portable sealed secondary lithium cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems*

UL 2054 2nd Edition - *Household and Commercial Batteries*