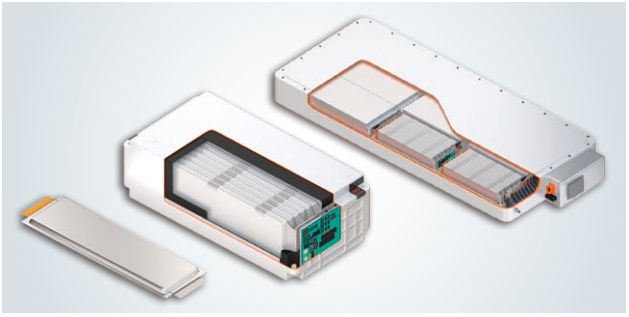
Application Note

Example Applications

Detecting Minuscule Insulation Defects Caused by Arc Discharges

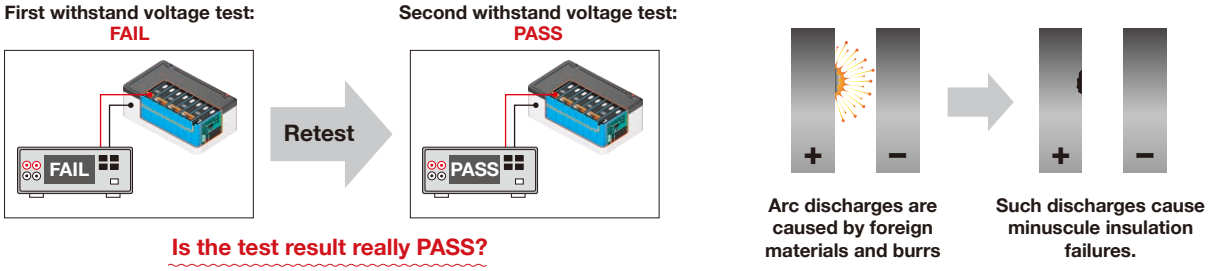
Improving testing quality with arc detection functionality

When it comes to batteries used in electric vehicles, issues like initial defects and degradation over time pose a risk of serious accidents such as fire, making battery safety and quality control vital. Since defects such as contamination of metal, minuscule scratches, and burrs occurring during the manufacturing process can cause degradation of batteries' insulation performance, it's essential to detect reliably detect them during the shipping inspections.



Issue Are you failing to detect arc discharges caused by foreign materials and burrs?

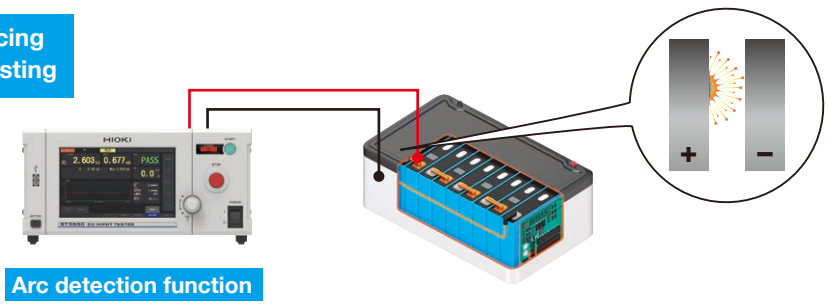
Have you ever had this experience? ▶▶▶ **An arc discharge may have occurred!**



Arc discharges can be caused by foreign material (burrs) between test locations, leaving a minuscule insulation failure where the arc occurred. Since arc discharges are caused by high-speed changes in the high-frequency component of the current, it may not be possible to detect them by the normal withstand voltage test.

Solution The ST5680's arc detection function reliably detects arc discharges.

The instrument detects arcing during withstand voltage testing



It's necessary to accurately detect arc discharges in order to supply high-quality batteries.
The ST5680's arc detection function can help improve the long-term reliability and quality of batteries.

Instrument used	**DC HIPOT TESTER ST5680**	Hioki product

HIOKI

application_ST5680_arc_E2_221019