

Comprehensive Product Design Testing for High-Tech Automotive Components

Today's automotive industry is entering a new and demanding era. Still facing tighter-than-ever competitive pressures, automobile manufacturers are challenged with a fresh set of vehicle efficiency mandates: delivering more capable, cost-effective, and larger volumes of alternative-and flexible-fuel vehicles.

In a hotly pursued, global marketplace, the availability of superior automobile components unquestionably can determine a car's adoption viability. Proven, certified, and highly customized product design testing plays a big role in the development and sale of winning components. When procured from an expert supplier, design testing can reduce product time-to-market, increase end-use consumer confidence, and ensure product quality and reliability.

Each month, Hitachi Cable Indiana, Inc. (HCI) produces millions of sophisticated, highly rated components and systems for the automotive industry. Products

include: fluid-movement components, ABS braking systems, and new electrical cables for hybrid electric vehicles. HCI uses advanced design, manufacturing, and quality-control processes, employing both automation and analytics, to develop the best performing products for its customers. And, like many of its customers and partners, HCI is ISO/TS 16949 and ISO 14001 certified.

"CSZ's services validated the robustness of our design... Working with CSZ has been a very good experience...they are a true partner." – Rob Stocksdales, Validation Engineer and Lab Manager, Hitachi Cable Indiana, Inc.

Strategically located at the crossroads of Indiana and Kentucky, when combined with product and service quality, HCI is in a great position to effectively collaborate with its customers.

HCI manufactures wire-harness assemblies for hybrid electric vehicles. By applying its tubing and crimping proficiencies to its cable cylinder and fitting processes, HCI high-voltage power cables transmits corresponding advantages to its automotive cable customers: improved design flexibility and reduced routing concerns.

When the company found itself in need of significant, ongoing product design testing requirements, it arrived at the decision to construct its own test lab. To do that, HCI sought the same quality-and convenience-focused partnership it has with its automotive customers, with a testing equipment and services provider.

After careful evaluation, HCI opted to purchase all of its environmental test chambers from the industrial division of Cincinnati Sub-Zero (CSZ).

CSZ informed HCI while their new HCI Laboratory and CSZ Chambers were being built, that they could utilize CSZ testing division for their product testing needs. This allowed HCI to maintain product quality and continuity in product testing during their transition.

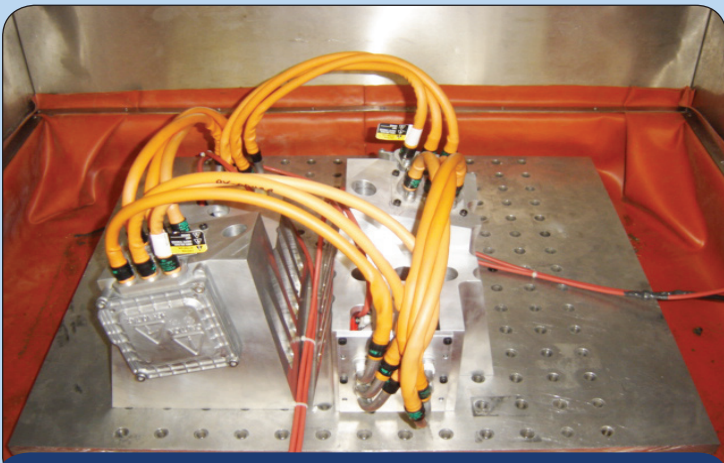


HCI CABLE TESTING

And, just like HCI's automotive industry partners, CSZ is situated very nearby, just up the road from Indiana, making it simple to transport products.

HCI Validation Engineer and Lab Manager, Rob Stocksdale, coordinates the work between HCI and CSZ. He and HCI have been extremely satisfied with CSZ quality, service and value offering. Remarkd Stocksdale, "Working with CSZ has been a very good experience. The testing and prices are right where we want them to be. And, we trust them because they are using and training us on the same equipment we are buying."

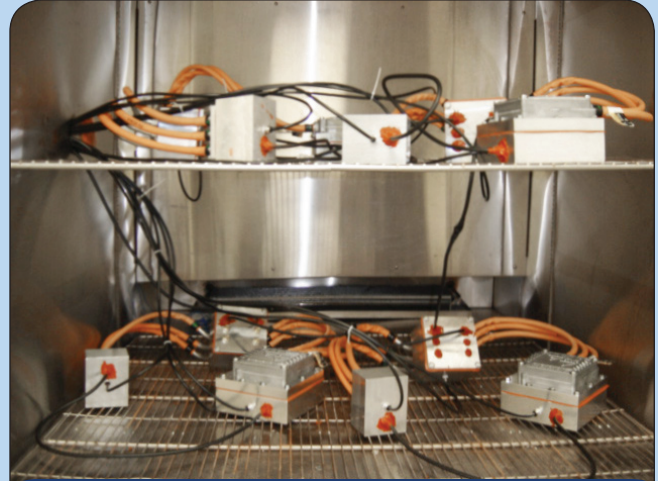
HCI opted for a variety of CSZ services – including vibration, thermal cycling, and corrosion, that have been provided on an ongoing and as-needed basis. CSZ vibration testing has simulated the effects of road conditions for HCI's automotive components. CSZ thermal cycling testing has tested HCI automotive component response to sudden and extreme temperature-change shocks. CSZ corrosion testing has evaluated HCI product corrosion properties and resistance. "CSZ testing division validated the robustness of our design," said Stocksdale.



COMBINED TEMPERATURE VIBRATION TESTING

Stocksdale continued, "Obviously using an accredited lab is a requirement. We, our lab, just received A2LA accreditation. CSZ testing division has A2LA accreditation also." And, like HCI, CSZ is also ISO certified (ISO/IEC 17025 certified), ensuring compliance with industry quality standards. Much like its automotive industry interactions, Stocksdale considers the HCI-CSZ relationship strong and trustworthy, characterizing it much more like a successful partner relationship than a vendor-customer relationship. He concluded "CSZ is a true partner."

Hitachi Cable, Ltd. was established in 1956 as an independent spinoff of Hitachi, Ltd. Hitachi Cable specializes in the manufacture and sale of industrial wires, cables, IT and electronics, copper and rubber products, as well as, other electrical equipment. Hitachi Cable Indiana, Inc. (HCI), a division of Hitachi Cable, has been operating in Indiana since 1987 and supplies the automotive industry with top quality components. For more information, please visit www.hci-in.com.



THERMAL CYCLING TESTING

CSZ testing operates as a division of Cincinnati Sub-Zero, Inc. to deliver tests specially suited for design verification, product performance, regulatory compliance, failure analysis, life cycle, and environmental stress testing. A2LA-accredited, CSZ offers a wide range of ready, sophisticated, environmental testing services, including climatic (temperature, humidity), salt-spray, shock, thermal, and vibration testing. CSZ Industrial division, manufactures a wide range of environmental test chambers, from bench-top to full walk-in rooms. For more information or to inquire about CSZ in-house testing division, please visit... www.csztesting.com.

Note: Effective January 2009, ESSC Test Laboratory changed the company name to CSZ Testing. The company still operates as a division of Cincinnati Sub-Zero. Customer testimonials contained herein have been updated to reflect the new company name.

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