



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

DETROIT TESTING LABORATORY, INC.
27485 George Merrelli Drive
Warren, MI 48092
Mike Trombley Phone: 586 754 9000

ELECTRICAL

Valid To: December 31, 2012

Certificate Number: 0038.03

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests:

<u>METHOD</u>	<u>TEST</u>
ASTM D149	Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Ins
ASTM D257	DC Resistance of Conductance of Insulating Materials
Chrysler PF 9590 (Section 2.5 to 2.6)	Automotive Electrical Device Connection Systems
DCX DC-10611	Electrical/Electronic Component Environmental Testing Specifications
DOE/ID-11069	Ineel Battery Test Manual For Test: Static Capacity, Hybrid Pulse Power Characterization, Self Discharge, Cold Cranking, Thermal Performance, Efficiency, Operating Set Point Stability, Cycle Life, Calendar Life, Reference Performance, Impedance Spectrum Testing.
DOE NE-ID-11173	FreedomCAR Ultracapacitor Test Manual
FMVSS 571.108	Lamps, Reflective Devices, and Associated Equipment
Ford SDS 17	Interior Lighting
ISO 6722	Road Vehicle 60 V To 600 V Single Core Cable Methods
GM 9110P (Section 8.1 only)	Testing Switches
GM 9123P	Electronic Module (Interior Mounted, Unexposed) Validation Test Method
GMN 3148TP	Lamps – Component Laboratory Tests
GMN 8020TP	Lamps – Development and Validation Test Procedures
GMW 3172 (Section 8 and 9 only)	Specification For Electrical/Electronic Component Analytical/Development/Validation (A/D/V) Procedures for Conformance to Vehicle Environmental, Reliability, and Performance Requirements
GMW 3191	Connector Test and Validation Specification
GMW 3431	General Procedures for Testing Switches

METHODTEST

GMW 14906	Lamp Development and Validation Test Procedures
John Deere JDQ 53.3	Environmental Testing of Electrical/Electronic Components/Assemblies
RTCA DO-160	Environmental Conditions/Test Procedures for Airborne Equipment
SAE J560	Primary and Auxiliary Seven Conductor Electrical Connector for Truck-Trailer Jumper Cable
SAE J1128	Low Tension Primary Cable
SAE J1798	Rating of Electric Vehicle Battery Modules
SAE J2288	Life Cycle Testing of Electric Vehicle Modules
SAE J2464	Shock (mid-1 and Mid-2 only), Drop, Penetration, Roll-Over, Immersion, Crush, High Temperature Hazard, Thermal Stability, Cycling without Thermal Management, Thermal Shock Cycling, Passive Propagation Resistance, Short Circuit, Overcharge, Overdischarge, Separator Shutdown Integrity
Nissan 26010NDS00	Front Lamp
UL 1642	Safety for Lithium Batteries
UL 2054	Safety for Household and Commercial Batteries
UL Subject 2271	Outline of Investigation for Batteries for use in Light Electric Vehicle (LEV) Applications
UL Subject 2580	Outline of Investigation for Batteries for use in Electric Vehicles
UN ST/SG/AC.10	Transport of Dangerous Goods Lithium Batteries
USCAR2	Performance Specification for Automotive Electrical Connector Systems
USCAR15	Specification For Testing Automotive Miniature Bulb Socket/Circuit Plate Assemblies
USCAR20	Field Correlated Life Test
USCAR21	Performance Specification for Cable-To-Terminal Electrical Crimps
VDA AK 1.4.2	Qualification Test for E-Fan With EC/DC Drive Motor

Also using customer specific test methods utilizing any combination of test equipment parameters and ranges listed above as well as the following tests and standards but not limited to.

<u>Parameter</u>	<u>Range</u>
Voltage –	
AC – Measure	100 μ V to 40 kV
AC – Generate	100 mV to 40 V, 1 Hz to 1.3 MHz
	3 V to 50 kV, (50 to 60) Hz
	(3 to 300) V, (45 to 1000) Hz
DC – Measure	1 μ V to 40 kV
DC – Generate	100 μ V to 1.5 kV
Resistance	100 $\mu\Omega$ to $1.6 \times 10^{16} \Omega$
Resistivity	$1 \times 10^6 \Omega$ to $1.6 \times 10^{16} \Omega$
Frequency	1 Hz to 400 MHz, Measure
	1 Hz to 20 MHz, Generate

<u>Parameter</u>	<u>Range</u>
Dielectric Testing –	
DC	100 V to 15 kV
AC	100 V to 50 kV
Inductance	100 micro-henries to 1000 H
Capacitance	0.1 pF to 19 mF

on the following products and components: motors, alternators, generators, controllers, starters; coils, inductors, transformers; connectors, relays, switches, solenoids, resistors, capacitors, cables, feeders; conductive materials; printed circuits; batteries (hybrid and lithium/ion); exterior/interior lighting components.

The laboratory is accredited for the test methods listed above. The accredited test methods are used in determining compliance with any material specifications included on this Scope below; however, the inclusion of these material specifications on this Scope does not confer laboratory accreditation to the material specifications. Inclusion of these material specifications on this Scope also does not confer accreditation for every method embedded within the specification. Only the methods listed above on this Scope are accredited.

USABC:
 USABC Electrochemical Storage System Abuse Test Procedure Manual: Test for
 The Following: Short Circuit, Partial Short Circuit, Overcharge, Over-
 Discharge, Ac Exposure Testing.



The American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

DETROIT TESTING LABORATORY, INC.

Warren, MI

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Presented this 30th day of March 2011.



A handwritten signature in black ink, appearing to read "Peter M. Meyer", written over a horizontal line.

President & CEO
For the Accreditation Council
Certificate Number 38.03
Valid to December 31, 2012

For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.