

# Intertek: Detroit, MI

An overview of our laboratory capabilities

**Intertek**

Valued Quality. Delivered.



Intertek operates in more than 100 countries with over 30,000 employees. Across our network of laboratories, we maintain superior industry knowledge and expertise in testing and certifying products to virtually any standard. Our advanced operations increase efficiencies in your production cycle and speed your turnaround.

#### Product Safety Testing & Certification

- Industrial Truck & Forklift Certification
- Household Appliances
- Commercial Appliances
- Luminaires
- Electric Vehicle Supply Equipment (EVSE)
- Vehicle Battery Chargers

#### Electrical Testing

- Electric Vehicle Components and Charge Stations
- Thermal Rise and Thermal Imaging
- Dry Circuit Measurements
- Insertion/Extraction Force - Connectors
- Insulation Resistance to 50Gohm
- Hi Pot to 6kv/5mA DC, 5kv/20mA AC
- Terminal Performance
- Glitch (.1ns - 100ms)
- Transient Testing
- Current Cycling to 900 amps
- Test Automation (Labview, PLC)
- Electric Vehicle ETL Certification
- Multi-channel DC Programmable Load
- 700+ channels of loads w/current measurement
- 2200A power supply @ 14VDC
- 1000+ switching relays w/custom PLC control
- 500+ voltage and temperature monitoring channels

## Complete Testing Solutions from a Single Source

- Intertek's Detroit facility provides world-class Safety and Performance testing services utilizing state-of-the-art equipment.
- As experts in the industries of our clients, we provide complete quality and safety solutions to meet your specific testing needs.



## Simulated Environmental Performance

- 1 to 6 Axis Vibration PSD or Time Data (5-300 Hz with Temp & Humidity)
- Tuned Shock Pulses: half-sine, sawtooth, square wave (0.1 - 60ms, 3 - 3000g)
- Programmable Chamber Exposures (-70°C to 177°C, 10% to 98% RH, 2°C/min, 8 to 128 ft3)
- Thermal Shock Testing and Thermal Aging
- Thermal Cycling (up to 20°C/min)
- Salt Spray: ASTM B117, USCAR-1, ISO 16750-4
- Dimensional Stability with Portable CMM Measurement
- Altitude simulation with temperature to 100,000 feet/30,000 meter

## Battery Testing

- Consumer – EV – Industrial Applications
- 44 Large Format, Full Hybrid Vehicle Pack Cycling (including AV900's – up to 900v/1000A)
- 100+ Rechargeable Charge/Discharge
- 400 Channels Primary Battery Discharge Points
- UN DOT 38.3 T1-T8 Testing
- Fire Testing
- Mechanical Shock to 60ms/1000 lb.
- Thermal Shock (up to 1000 lbs, auto-transfer)
- Vibration
- Environmental Exposure
- Endurance Cycle Set-up
- Terminal Cycle
- ETL Listing to UL 1642, UL 2054, UL 2089
- CE marking, CB Certification to IEC 60086-4, IEC 62133

## Accelerated Stress Testing (AST)

- Accelerated Reliability
- FMVT® (Failure Mode Verification Testing)
- HALT/HASS/Step Stress (Up to 60G's RMS Random)
- Key Life Testing
- MEOST (Multi Environment Overstress Testing)
- Test Design

## Durability Performance Testing

- Max Strength Force (10klbF)
- Repetitive Cycle (fatigue)
- 1 - 10 in Displacement, .5 - 200Hz, 0 - 3000lbs
- Pressure / Burst Testing - Air and Fluids
- Vacuum Testing
- Pressurized Flow
- Cyclic Pressure

## USCAR Testing

- Chrysler, Ford, GM
- Wire Harnesses
- Connectors
- Power Distribution Fuse Assemblies
- Relays

## Road Load Data Acquisition & Data Analysis

- Vehicle Instrumentation to Daimler Chrysler, Ford and GM Methods
- Track Measurements and Analysis
- Energy Calculation - 10year, 150,000miles
- Conversion from Time Date to PSD

## Exposure - Contaminants, Water Spray

- SAE, USCAR, DCX, Ford, GM, JIS
- 360° High Pressure Spray, -30°C to 85°C
- Contaminants - w/Die Penetrates
- Cyclic Heat w/Salt
- High Pressure Spray to 3000 psi
- Ingress Protection (IEC, DIN, ISO, SAE, NEMA)

## Audio Performance Testing

- Speaker Testing
- NVH (Noise, Vibration, Harshness) Testing
  - BBR (Buzz, Bottom, Rattle) and BSR (Buzz, Squeak, Rattle)
- Acoustic Noise Measurements
  - 1n Octave; A, B, and C Weighted or Un-Weighted Noise Measurements; Ambient Noise Below 26 dBA
- Head Acoustics SQLAB/Artemis
- Audio Precision System 2

## Military Testing

- Shock Pulse, Thermal Shock, and Drop Shock
- Vibration Testing
- Salt and Dust Testing

## Consulting

- Bid Packages
- Statement of Work (SOW)
- DVP&R
- DFMEA
- Program Management

## Intertek

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