

Materials Testing

Intertek ETL SEMKO is an established, accredited, independent Materials Testing Laboratory. Possessing a wide range of laboratory equipment, chambers and set-ups, we test and evaluate products comprised of metals, polymers, elastomers, wood, fabric, coatings and more. Our diverse staff has serviced the automotive, aerospace, furniture, consumer product and nuclear industries for more than 25 years.

In combination with our Engineering and Performance Testing groups, the Materials Testing Laboratory helps make Intertek ETL SEMKO a single resource for comprehensive engineering and testing services, from project conception through completion.

Metallurgical

Hardness Testing

- Rockwell, Knoop
- Case Depth
- Microhardness (Case or Core)

Forming Evaluation

- Bend Test
- Coil Test
- Flare Test
- Olsen Cup
- Wrap Test

Coating Evaluation

- Coating/Plating Thickness
- Chrome Spot Test
- Pore Count
- Saw Grind

Mechanical Testing

- Max. Load Determination
- Proof Load
- Shear, Bearing & Compression
- Tensile, Yield, Elongation
- Fatigue

Microstructure Evaluation

- Case Depth
- Decarburization
- Grain Size
- Inclusion Content
- Weld Evaluations

General Metallurgical

- Chemical Analysis
- Failure Analysis
- General Consultation
- Legal Consultation
- Training

Plastics/Textiles/Rubbers

- Aging
- Chemical Exposure
- Cleanability
- Cleaners (Effect of)
- Cold Flex
- Color Crock
- Compression Deflection
- Compressive Set
- Compression Strength
- Copper/Titanium Content
- Dart Impact
- Density
- Dimensional Stability
- Failure Analysis
- Falling Weight Impact
- Flammability
- Flexural Modulus/Strength

- Fogging Evaluations
- Fuel and Chemical Exposure
- Glossmeter
- Grab Tensile
- Hardness-Rockwell, Shore
- Heat Deflection Temperature (HDT)
- Heat Sag
- Izod Impact
- Low Temperature Resistance (Brittleness)
- Melt Index
- Migration Staining
- Mold/Mildew
- Odor
- Ozone Resistance
- Peel Test

- Scuff & Mar
- Specific Gravity
- Stain & Solvent Resistance
- Sulfur Dioxide Exposure
- Taber Abrasion
- Tear Strength
- Temperature Deflection
- Tensile/Elongation
- Textiles/Adhesive Testing
- Thermal Cycling
- Thermal Expansion
- Training
- Trapezoidal/Tongue Tear
- Volume Change
- Water Absorption
- Weatherometer Exposure
- Xenon Arc Exposure

Simulated Environmental Testing

- Acoustic
- Adhesion
- Brittleness (Dime Scrape)
- CASS Test
- Cleanliness/Sediment Test
- Cyclic Corrosion
- DMC (Twin Enclosed Carbon Arc)
- Dust Test
- Electronics Stress Testing
- Explosion Test
- Fadeometer
- Filiform
- Gasoline Immersion, Puddle, Resistance

- Gravelometer (Chip Resistance)
- Humidity
 - Condensing
 - Non-Condensing
- Knife Peel Test
- Mandrel Bend Test
- Oil Immersion
- Pencil Hardness
- Programmable Chambers Exposures (-70°C to 177°C, 10% to 98%RH, 2°C/min up to 30°C/min, up to 20'x9'x9')
- QUV
- Safety Glass / Glazing
- Salt Spray

- Sediment Test
- Taber Abrasion
- Thermal Aging
- Thermal Cycling
- Thumbnail Test
- Training
- Vibration
- Walk-In Chambers
- Water Immersion
- Weatherometer
 - Xenon
 - XW (Sunshine, Single Open Flame)
 - Carbon Arc

Chemistry

- Cleanliness/Sediment Test
- Coating Weight, Verification
- Copper/Titanium Content
- Density (Powdered Metals, Ceramics)
- Mercurous Nitrate Test

Metals Chemistry Testing

- Optical Emission Spectrometer
- Inductively Coupled Plasma
- Leco Carbon/Sulfur

Non-Metals Testing

- Carbon Black
- Differential Scanning Calorimetry (DSC)
- Infrared, Spectrograph, Identification, Micro-FTIR

- Filler Content
- Melt Index
- Melt Point
- Moisture Content
- Relative Viscosity
- Specific Gravity
- Thermogravimetric Analysis (TGA)
- Training

Electronic Testing

- Dielectric Strength
- Failure Analysis
- HALT/HASS (Up to 60G's RMS random)
- Milli and micro voltage Drop Test
- Milli and micro ohm measurements
- Performance Testing
- Data Acquisition
- Safety Testing
- Submergence
- Temperature/Altitude Testing
- Thermal Shock
- Vibration:
 - Shock
 - Random
 - Sine
- Electronic Resistive and Inductive Loading

Product Endurance & Performance Testing

- Electro/Mechanical Cycling
- Fatigue
- Fixturing
- Design, Set-Up
- Pressure Testing
- Product Evaluation
- Design, Durability, Performance
- Thermal Shock Testing
- Vibration Testing (Sine, Random, Shock) (up to 6000 pound force, 1" p to p)
- Multi-Axis Testing (6DOF) (to 10,000 Hz)
- Durability Testing
- Static and Electro-Mechanical Cycling
- Shock 1/2 Sine, Sawtooth, Triangular (to 40G's, 11mS, to 100 G's, 6mS)
- Custom Designed Test Fixturing and Machinery
- Custom Designed Testing Programs
- Fire Testing
- Prototype Designed Testing Programs
- Training
- Safety Glass, Safety Glazing Testing (ANSI Z26)

Design Engineering

- Finite Element Analysis (FEA)
- Optimization

Accelerated Stress Testing

- Accelerated Reliability
- AST (Accelerated Stress Testing)
- 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



Lighting/Photometrics Testing

AMECA (Automotive Manufacturer Equipment Compliance Agency) Scope of Accreditation:

- Backup Lamps
- Center High Mounted Stop Lamp
- Clearance Lamps
- Cornering Lamps
- Headlamps - Sealed Beam
- Headlamp Aiming Equipment
- Identification Lamps
- License Plate Lamps
- Parking Lamps
- Reflex Reflectors (for autos, motorcycles, bicycles, pedals and tires)
- Side Marker Lamps
- Stop Signal Lamps
- Auxiliary Low Beam Lamps
- Driving Lamps
- Fog Lamps
- Spot Lamps
- High Mounted Stop & Turn Signal Lamps
- Warning Lamps
- School Bus Alternating Warning Lamps, Stop Arm & Roof Mounted Warning Lamps
- Motorcycle Headlamp Assembly, Turn Signal Lamps and Auxiliary Front Lamps
- Tail Lamps
- Turn Signal Lamps
- Headlamp - Replaceable Bulb

A2LA Scope of Accreditation:

- Forward Lighting Device
- Spectrophotometry
- Photometry of Retroreflective Materials
- Agricultural Machinery
- All-Terrain Vehicles
- Snowmobiles
- Signaling, Marking and Rear Lighting Devices, Reflex Testing
- Warning Lamps and Devices
- Construction and Industrial Machinery
- Motorcycles

Commercial, Residential and Office Furniture Testing

- ANSI/BIFMA Testing
 - ANSI/BIFMA X5.1 (Chairs)
 - ANSI/BIFMA X5.2 (Lateral Files)
 - ANSI/BIFMA X5.3 (Vertical Files)
 - ANSI/BIFMA X5.4 (Lounge Seating)
 - ANSI/BIFMA X5.5 (Desk Products)
 - ANSI/BIFMA X5.6 (Panel Systems)
 - ANSI/BIFMA X5.9 (Storage Units)
- SEFA 8 - Laboratory Furnishings
- ANSI/SOHO Testing (Small Office/Home Office)
 - ANSI/SOHO S6.5 (Modular Units)
- ANSI/KCMA A161.1 (Hardware)
- ANSI/BHMA A156.9 (Hardware)
- European Standards Testing
 - EN 1335 (Chairs)
 - EN 1021 (Parts 1 & 2) - Flammability Tests
- GSA FNEW 83-269E (Task Chairs)
- TB 133: Flammability Testing of Upholstered Seating
- TB 129 and 603: Flammability Testing of Mattresses
- TB 116: Cigarette Flammability
- Fatigue Testing
- Access Floor Panel Durability
 - CISCA Standard
- Auditorium and Stadium Seating
 - Swinging Impact
 - Vertical Drop Impact
 - Static Load
 - Fatigue
 - Self-Lifting Seat Oscillations ASTM F851
 - Vertical Arm Strength
 - Horizontal Arm Strength
 - Simulated Environmental Exposure for Outdoor Seating (UV and Weatherometer)
- Testing for all furniture components including; Textiles, Plastics, Metals, Hardware and Wood Products
- Custom and Non-standard Test Programs
- Fixtures
- Controls



Test Equipment

- Customized Machinery
- Design, Automation, Build Application
- Data Acquisition
- Process Control System
- Programming
- Electronic Loads
- Accelerated Testing/FMVT®

For more information, please feel free to visit our website at www.intertek-etlsemko.com, contact us via email at gr.services@intertek.com or call our Customer Service Department at 616-656-7401.

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