

ATS

Materials Testing

Materials Testing Services

As an independent multidiscipline testing laboratory in business since 1967, Applied Technical Services, Inc. has the experience to conduct product performance and qualification testing.

With an on-site fabrication and machine shop, we have the ability to design and implement full-scale tests on large components for determination of fatigue levels and durability.

Vibration

Vibration is performed on two electrodynamic shock and vibration systems rated up to 12,000 lbs. force (sine and random) and 24,000 lbs. force (shock) with a 2 inch peak-to-peak displacement.

Vibration may be controlled for sine, random, shock, random on random, and sine on random test profiles with a frequency range of 5 to 2,500 Hz.

Detailed structural dynamics (Modal) studies may be performed in-house or on site with a multi-channel noise and vibration analyzer.



Leak Testing

Helium provides the most sensitive method to detect leaks due to its small molecular size. The Mass Spectrometer Leak Detector (MSLD) can accurately detect and measure leaks to 4×10^{-10} std cc/sec.

The equipment is portable, making field tests possible. Vessels, piping systems, medical devices or other products may be tested to verify their hermetic characteristics.

Product Testing

Our Special Testing Group can design and build custom fixtures to fulfill unique customer requirements and verify product performance.

Test protocols are developed to verify conformance to customer requirements and standards, evaluate advertised product features, or recommend improvements.

Whether it is life cycle testing of playground slides or performance testing of automotive steering pumps, ATS has the experience and capabilities to satisfy your needs.



Accelerated Weathering Services

By accelerating and intensifying environmental conditions, it is possible to predict how products will perform during their lifetime. Applied Technical Services, Inc. has the capability to conduct a wide variety of simulated weathering and artificial aging tests.

The Analytical Approach

We have computer controlled environmental simulators and accelerated aging test chambers for conducting corrosion tests (salt fog, cyclic corrosion, C.A.S.S., water fog and condensing humidity), and weathering tests (xenon arc, sunshine carbon arc, and fluorescent U.V.).

Capabilities & Equipment

Testing is directed not only to internal requirements, but also to determine product conformance with ASTM, automotive, commercial, military, aerospace, and nuclear specifications.

Because product development cannot wait for years of actual outdoor exposure, accelerated laboratory weathering can provide results in a fraction of that time. With a clear understanding of the mechanisms and variables of natural weathering, it is possible to obtain reliable comparative results in a matter of weeks, not years.

A partial list of ATS' testing equipment includes:

- Conical Mandrel**
- Impact Testers**
- Taber Abraser**
- Crock Tester**
- Flammability Chamber**
- Balanced Beam Mar-Resistance Tester**
- Coating Thickness Gauges (Wet and Dry Film)**
- Gloss Meter**
- Spectrophotometer (Color Meter)**
- Gravelometer**
- Xenon Arc Chambers**
- Sunshine Carbon Arc Chamber**
- Fluorescent U.V. Chambers**
- Temperature/Humidity Cycling Chambers**
- Salt Fog Chambers**
- Cyclic Salt Fog and Humidity Chambers**



Evaluation of Coatings

Once a sample has been exposed to laboratory weathering, it is important to provide test results in a clear, quantified form. This information must describe the amount of change in a material's visual and physical properties.

ATS can perform a variety of coating tests including color, gloss, abrasion, adhesion, impact, mar-resistance, and pencil hardness. Laboratory and field inspections and failure analysis is available for various coating systems.



Applied Technical Services, Inc.

Engineering, Consulting, Testing and Inspection

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