

# Physical Environmental Testing Services

**S**outhwest Research Institute® (SwRI®) provides research, development, and independent testing services to a broad client base to ensure the functionality, structural integrity, and environmental compatibility of systems and components subjected to adverse storage, transportation, and operating environments.

## CAPABILITIES

The Physical Environmental Testing Laboratory staff provides technical evaluations and assistance, test design and tailoring, and standardized testing to a variety of government and industry standards, including:

- ▶ National (ASTM, IEEE, ASME)
- ▶ Military (MIL-Spec)
- ▶ International (IEC, ISO)
- ▶ Telecom (Telcordia, UL, NEBS, ETS)

The laboratory is certified under an ISO 9001:2008 Quality Management System, and has personnel specially trained to conduct nuclear component qualification and testing for the US Department of Defense and NASA.

## FACILITIES

Very often, the best assurance of reliability to avoid costly problems in the field is simulation testing at expected conditions before use. SwRI offers unique facilities in one location for simulating and evaluating multiple physical environments, including:

- ▶ Simulated earthquake vibration
- ▶ Ground or air transportation vibration
- ▶ Installation and handling shock
- ▶ Temperature and humidity
- ▶ High-altitude transportation and operation
- ▶ Airborne contamination
- ▶ Acoustic noise measurement
- ▶ Wind and rain
- ▶ Corrosive atmosphere
- ▶ UV exposure and solar loading

## ADDITIONAL FEATURES

Other features of the Physical Environmental Testing Laboratory include:

- ▶ Uninterruptible -48 VDC power for long-term operating tests
- ▶ Remote client monitoring of equipment being tested
- ▶ Remote monitoring of test chamber performance
- ▶ Accommodation of large equipment for temperature, altitude, and earthquake testing



*Equipment is evaluated for corrosion resistance of coatings and connections by exposure to simulated marine, coastal, and other corrosive environments.*



*The SwRI Physical Environmental Testing Laboratory houses multiple environmental simulation facilities in one location.*



Southwest Research Institute is an independent, nonprofit, applied engineering and physical sciences research and development organization using multidisciplinary approaches to problem solving. The Institute occupies more than 1,200 acres in San Antonio, Texas, and provides nearly two million square feet of laboratories, test facilities, workshops, and offices for more than 3,000 employees who perform contract work for industry and government clients.

**We welcome your inquiries.**  
**For additional information, please contact:**

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**Benefiting government, industry  
and the public through innovative  
science and technology**



*Equipment is placed in environmental chambers to evaluate performance in various temperature and humidity conditions.*



*Instrumentation attached to a test item during vibration testing can aid in frequency response analysis.*



*Equipment is exposed to simulated vibration and shock on electrodynamic shakers for evaluation of performance during transport and operation.*