



ESL LABS

TESTING YOUR LIMITS



**Full Range of Testing:
Environmental & Electromagnetic**



Environmental and electromagnetic testing

ESL Labs is a leading provider of electromagnetic, environmental, mechanical and chemical testing of military and commercial products.

Our facility is a centre of excellence for testing capabilities, and we have served our clients in the defence industry for the last 25 years.

Testing for the defence industry

RELIABLE TESTING FOR LAND, AIR AND SEA

With ESL Labs, you benefit from MIL-STD testing for extreme environments, reliable testing for any altitude, and specialized support for the marine industry. Our testing has supported gear that has gone into many major defense programs.

WHAT WE DO

- Simulate a variety of **transportation or vibration scenarios** to test performance and operational capability of both military wheeled and tracked vehicles.
- With a wide range of sizes and configurations, ESL's **thermal chambers** can meet military climatic and altitude testing requirements.
- Take your gear from **hot, humid conditions of the tropics to the cold dry conditions of the arctic** in seconds. We can determine how well it will survive a driving rainstorm, an ice storm or the effects of blazing persistent sunshine.
- Test a wide-range of **EMI/EMC scenarios** emulating radiated/conducted emissions and susceptibility.



Capabilities

ESL Labs offers standard and tailored tests to best match environmental conditions for your products. We are also able to design, manufacture and adapt test fixtures to ensure your product can be appropriately tested.



ELECTROMAGNETIC TESTS

EMI / EMC Testing for MIL STD-461

The state-of-the-art Frankonia EMI semi-anechoic chamber facilitated testing for radiated emissions, radiated susceptibility, and pre-compliance testing. EMI and EMC testing provides critical benchmarks and empirical data for many of ESL Lab's customers, especially those who may be involved in aerospace and defence, or those commercial applications where meeting specific test standards are required.

ESL Labs tests to MIL-STD-461G requirements for many applications such as surface ships, submarines, army aircraft, navy aircraft, space systems, and ground forces for army, navy & air force. Testing capabilities for commercial applications include commercial radiated emissions, conducted emissions, and RTCA/DO-160G.

Conducted susceptibility | conducted emissions | radiated susceptibility | radiated emissions



CLIMATIC TESTS

Low & high temperature thermal soak | thermal shock | humidity | blowing rain | icing/freezing rain | water immersion | enhanced solar radiation



DYNAMIC TESTS

Vibration (sine, random, mixed mode, loose cargo, transport) | classical shock (half-sine, sawtooth trapezoidal) | shock response spectrum | navy high impact



CORROSION TESTS

Salt fog/spray | accelerated weathering (i.e., UV) | fluid susceptibility



PRESSURE TESTS

Hydrostatic pressure testing (internal and external) | depth testing | altitude testing



MATERIAL TESTS

Tension | compression | fatigue cycling | viscosity | hardness | bend and shear | resin content | fiber volume | gel time

SUBSET OF MIL AND RUGGED TEST STANDARDS PERFORMED

MIL-STD-461
MIL-STD-810
MIL-STD-167

MIL-STD-1275
MIL-STD-1399
MIL-STD-704

MIL-DTL-901
MIL-STD-108
MIL-E-5400T

RTCA/DO-160
MIL-STD-2164
UN TDG

ASTM B117
ASTM G53
ASTM D4169

SAE
FCC
ICES

CISPR
Lloyd's Register
NATO:STANAG

NEW for 2025!

ESL Labs is proud to offer significant shock testing with our newly installed **Medium Weight Shock Machine (MWSM)** - one of only 2 in Canada, and only 18 worldwide!

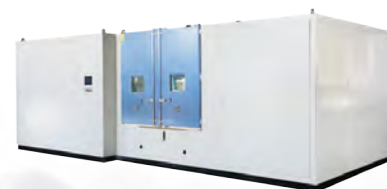
The MWSM, with a stress capacity of 5000lbs, ensures rigorous testing of larger products for naval vessels and submarines. Our testing meets Canadian, US, and UK standards - a rare capability in North America.

This capability supports defense contractors, marine system integrators, and government agencies in verifying equipment durability under naval combat conditions.

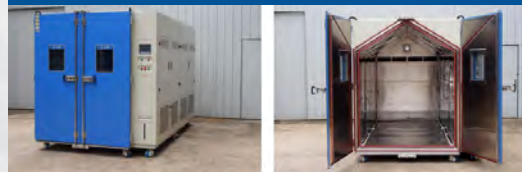
Designed to test mission-critical components for naval vessels, and simulates high-energy underwater shock loads.



MEDIUM WEIGHT SHOCK MACHINE



LARGER SAND & DUST CHAMBER



WALK-IN SALT CYCLIC & SO2 CORROSION TEST CHAMBER



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Choose ESL Labs for:

- ✓ Full service comprehensive testing facility
- ✓ Test to industry standards
- ✓ Observe tests real-time
- ✓ Collaborative customer engagements
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- ✓ Canadian Content Value for ITBs
- ✓ Flexible scheduling
- ✓ Experienced team

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