



# ENVIRONMENTAL

# CHAMBERS

NATC has five state-of-the-art environmental chambers. These chambers are capable of providing conditions to meet commercial and military specifications, including MIL-STD-810E/F certification tests. Two of the chambers are situated end-to-end and can be operated independently or interconnected for a total length of 88 feet. This combined chamber can accommodate Class 8 tractors and trailers, combat and tactical support vehicles, electronics shelters and antennas, heavy equipment, construction equipment and large ground based vehicles and equipment. The chambers are used for vehicle and component storage tests and operational testing with natural, breathable atmospheres suitable for internal combustion engine evaluations at environmental extremes. All of NATC's environmental chamber tests are designed to integrate with durability and reliability tests to ensure complete exposure to the entire vehicle system.



## Five Environmental Chambers

- Chamber #1 - 16 x 16 x 56 feet
- Chamber #2 - 18 x 20 x 32 feet
- Chambers #1 and #2 combined - 88 feet long
- Chamber #3 - Fungus - 8 x 6.5 x 18.5 feet
- Chamber #4 - Conditioning - 6 x 6 x 6 feet
- Chamber #5 - Corrosion - 17 x 16 x 40 feet

## One-Stop Environmental Testing Solutions



- High temperature (160°F) with/without solar radiation (to 1120 W/m<sup>2</sup>)
- Low temperature to -60°F
- Thermal shock -60°F to +160°F
- Humidity 2% to 100% natural, induced or aggravated
- Salt fog
- Blowing dust
- Blowing sand
- Rain/blowing rain
- Ice/freezing rain
- Blowing wind to 40 MPH
- 13-28 DC voltage capability
- Variable AC/DC 120v to 460v power supply
- Fungus
- Electromagnetic interference
- Salt troughs with and without spray fixtures
- Grit trough
- All chambers natural breathable atmospheres
- 24 hours per day, 7 days per week operation
- State-of-the-art systems - all automated
- Testing to MIL-STD-810E/F, ASTM, SAE, IEC, EEC/ECE



## Chamber Data Acquisition/Instrumentation

All of NATC's environmental chambers have state-of-the-art data acquisition systems. This chamber data acquisition system is capable of handling up to 250 channels of both digital and analog data signals. The dedicated corrosion chamber has a ph meter in the salt solution supply line for monitoring and recording ph of the salt solution during each salt fog application. NATC designs instrumentation applications to meet customer needs and all necessary instrumentation is available on site, allowing for efficient, "one-stop" testing.

## NATC Dedicated Corrosion Chamber

- 17 x 16 x 40 feet
- Custom designed testing
- Component and full vehicle testing
- State-of-the-art dehumidification system
- Controlled storage (ambient) conditions for consistent, repeatable storage cycles and controlled ramp times from high to low RH conditions
- Integrated refrigeration system with controlled storage conditions
- Automated Salt Fog System
- Coupon Racks
- Temperature Range            50°F to 160°F
- Humidity Range                2% to 100%
- Cooling Capacity               25,500 BTU/hr



NATC conducts corrosion testing to the following standards:

- GM9540P
- GM4298
- MIL-STD-810E/F
- ASTM B117
- SAE
- EEC/ECE
- IEC



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