www.nts.com
1.800.270.2516

WE ENGINEER SUCCESS

NTS Facility Spotlight: Santa Clarita, California

Specialists in Extreme Environmental Testing

Main Climatic Area

Remote Dual 220 Shaker Set-up

External Pressure Chamber

About NTS Santa Clarita

NTS Santa Clarita is one of the largest test facilities in the U.S., covering over 150 acres. From our 50-foot diameter centrifuge with over 200 slip ring channels and 5000 cubic foot acoustic chamber to our 1500 cubic foot space simulation chamber, NTS Santa Clarita is prepared to meet your most extreme testing challenges.

Major programs we have worked on include Space Shuttle, MX Peacekeeper, THAAD, International Space Station, EELV and Mars Rover. From launch-level acoustics, to climatic, environmental, and spacesimulation to hazardous vibration and acceleration, NTS has the proven track record and expertise to accurately monitor equipment response and performance during the most extreme test environments.

Dynamics / Acoustics

Vibration test facilities feature more than a dozen electrodynamic and hydraulic shaker systems with ratings of up to 70,000 force pounds. Digital control systems and multiple channel instrumentation simulate random, sinusoidal, SOR and other vibration environments to meet your needs. In addition, NTS can support your test programs for combined temperature, vibration and humidity environments.

Environmental / Space Simulation

Climatic and Space Simulation provides for demanding test requirements with combined environments of temperature, altitude and humidity from -70°F to +350°F in chambers up to 28' x 16' x 15'. Our sand and dust chamber provides wind velocities to 4400 FPM for sand/dust erosion testing. Thermal vacuum chambers to 10 feet diameter provide temperature extremes from -320°F to 1000°F with combined ambient pressures of 1 x 10 -8 TORR. Salt fog, Sulfur Dioxide (SO2) and Copper Chloride chambers are sized up to 6' by 10' by 8'. Explosive atmosphere chambers simulate 100,000 feet and temperatures to -320° F.

Mechanical, Fluids and Gas Systems

NTS has a thorough understanding of your mechanical, fluid and gas testing needs. Our facilities provide pressure, temperature and flow capabilities to meet extreme testing environments with gas and liquids. Test media can be air, water, seawater, oils, fuels, solvents, cryogenic liquids and others as needed to meet your test requirements. Air flow capability is provided up to 2000°F, 4 lbs/sec to 600 PSIG. Fluid flow is available to 850 GPM continuously. Santa Clarita has a Bleed/Ram Air Facility, Blow Down Facility and Fuel/Oil Flow setups to conduct performance testing, contaminated fluid, cracking pressure, leakage, pressure drop, burst and proof pressure, endurance/impulse life cycling, fuel icing and steam injection.

About NTS

NTS is a world leader in assisting organizations to access domestic and international markets. We are a single source for a full range of integrated engineering solutions, product testing, standards compliance, project management staffing solutions, engineering and managed services. Globally accredited by leading regulatory agencies, NTS can provide cost-effective programs to meet your requirements at one of our many U.S. or international facilities, or we can provide on-site solutions. NTS is the nation's largest independent standards compliance and product testing company serving companies within the aerospace, defense, automotive, telecommunications, electronics, power, medical device, computer, software and financial markets.

NTS Facility Spotlight: Santa Clarita, California
Specialists in Extreme Environmental Testing

High Temperature / Pressure Testing

Main Climatic Area / Environmental Chamber

T-4500 Bay

NTS
WE ENGINEER SUCCESS

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Highlights and Primary Test Specifications

Dynamics, Acceleration and Acoustics

- More than one dozen vibration exciters from 6,000 to 45,000 force-pounds
- Vibration - random, swept sine, sine-on-random, random on random
- Dual shaker system up to 70,000 force-lb, 4 to 3,000 Hertz
- Seismic system with 10.5 inch stroke, 14,000 force-lb, DC to 500 Hertz
- Combined thermal and vibration testing
- Shock – classical, half-sine, triangle, trapezoidal, ordnance
- Pyroshock – Shaker simulated, Metal to Metal Impact, True Ordnance
- Slosh and Vibration table with 2,000 lb payload
- Acceleration up to 750 g's, from 2 to 25 foot radius, 200 channels of slip rings
- Centrifuge load capacity up to 5,000 lbs.
- Progressive Wave and Reverberant Chambers: emission measurements or high-level noise
- Reverberant sound levels to 167 dB | Greater than 174 dB using progressive wave tube
- 3 Reverberation Chambers: 90, 126 and 5000 cubic feet
- 3 Progressive Wave Tubes

Environmental and Space Simulation

- 1500 cubic foot Thermal Vacuum Chamber 10' Diameter by 12' Long
- Multiple Temperature/Humidity Chambers from 2'x2'x2' to 25'X25'X15'H
- Combined Environmental Temperature Vibration facilities
- Temperature/altitude chamber up to 900 cubic feet 80,000' altitude
- Large Drive-in Temperature/Humidity Chambers
- Temperature Chambers up to 40' by 60' by 15' H
- Explosive Atmosphere Chamber 6' Diameter by 20' long
- Rapid and Explosive Decompression
- Sand and Dust Facility, Salt-fog and S02 chambers up to 10' by 10' by 8'
- Hail Strike - 800ft/sec and Wind-driven rain up to 100 MPH
- Fire resistance and solar radiation tests

Pneumatic, Hydraulic, Mechanical and Cryogenics

- Flow Testing - air to 4 LB/SEC, liquid to 850 GPM and pressure to 6,000 psig
- Fuel, propellant, oxidizer, chemicals, water, steam, and Liquid Hydrogen, Oxygen Testing
- Cryogenic - liquid oxygen, liquid nitrogen, liquid hydrogen, liquid natural gas
- Air Pad Testing – Ambient to 2000 Degrees F; flow to 4 lbs/sec and greater
- Hydraulic/Pneumatics - Pressure Impulse, Flow, Proof, Burst, Leakage
- Temperature - high/low gas flows - Hydraulic/pneumatic - static/dynamic
- Efficiency - filters, flow components
- Leak detection - helium mass spectrometer
- Proof/burst, Pulse/burst, Thermal shock
- Proof pressure: hydrostatic pressure to 40,000 psig; pneumatic pressure to 6,000 psig.
- Structural Load Testing to 100,000 force pounds
- Fire Resistance, Fire Spread
- Tensile Fatigue, Flexural Testing
- Development, Functional and Qualification testing

Primary Specifications

MIL-STD 810, MIL-STD 202, MIL-STD-883, MIL-STD-167, MIL-S-901, MIL-HDBK-338B, MIL-HDBK- 217, RTCA/DO160, ISTA,ASTM, UL 50, GR 63-CORE, GR 487-CORE, ETSI 300-019, IEC 60068-2, FAA AC20-135, ISO 2685, SAE ARP 1383, SAE ARP 603, and customer specific requirements.