

NTS Facility Spotlight: Rustburg, Virginia

Specialists in Heavyweight Shock Testing and Engineering



Aerial view of NTS' heavyweight shock test facility, fabrication yard and office complex



MIL-S-901 Heavyweight Shock Testing



One of NTS' three Floating Shock Platforms (FSP)

About NTS Rustburg

In operation since 1985, NTS Rustburg is a full-spectrum test and research facility capable of managing your toughest environmental test requirements. Our engineers are recognized experts in the shock and vibration field, with extensive ship-design experience coupled with years of experience in dynamic structural analysis.

NTS performs a turnkey operation that includes pre-shock test analysis, comprehensive design and fabrication of equipment foundations, instrumentation design and installation, data analysis and report generation. NTS is uniquely qualified to guide clients through the Navy shipboard MIL-Standard shock and vibration requirements.

NTS design engineers can cost-effectively design shock and vibration test fixtures to meet your companies' unique technical requirements.

NTS Rustburg is conveniently located within 15 minutes from machine shops, hardware stores, electrical suppliers, hotels and restaurants located in Lynchburg, VA.

Dedicated MIL-S-901 / MIL-STD-167 Test Facility

NTS Rustburg has the expertise to accurately monitor equipment response and performance during severe environmental testing. Typical requirements include MIL-S-901, heavyweight and lightweight shock testing, as well as MIL-STD-167 vibration testing.

The one of a kind Rustburg facility includes a 36-acre quarry (1,800 feet long, 250 feet wide, and up to 130 feet deep) which is serviced by a 75-ton stiff-legged derrick. The test site offers easy access on and off barges from shore.

NTS Rustburg can support Delta and Wye power requirements. The site has multiple 440V, 220V, and 120V distribution services for both single and three phase systems. Custom power solutions are available. NTS Rustburg provides adequate space at the facility to store, set up and configure the equipment under test. NTS Rustburg provides operational support including cooling water, pumps, hoses, cables and shock isolation solutions.

Engineering Services

NTS Rustburg engineers have extensive ship-design experience coupled with years of experience in dynamic structural analysis using an array of finite element analytical tools. NTS has an excellent record in the engineering and design of shock isolator systems for COTS equipment to meet MIL-S-901 requirements.

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 onsite 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.



Dual shot on the EFSP



Deck Simulating Shock Machine (DSSM)

Highlights and Primary Test Specifications

Testing Capabilities and Facilities

- ▶ Shock Testing
 - MIL-S-901 Heavyweight and Lightweight
 - Certified by Naval Sea Systems Command
- ▶ Vibration Testing
 - MIL-STD-167
- ▶ Three floating shock platforms for MIL-S-901 testing:
 - Floating Shock Platform (FSP): 16' x 28', test loads up to 70,000 pounds (Qty 2)
 - Extended Floating Shock Platform (EFSP): 16' x 46', test loads up to 125,000 pounds (Qty 1)
- ▶ Deck Simulating Shock Machine (DSSM)
- ▶ Subsidiary Shock Machine (SSM)
- ▶ Multiple data acquisition systems
- ▶ Shock and vibration instrumentation
- ▶ High-speed photography / Digital Video
- ▶ Equipment storage / working areas
- ▶ Explosive storage magazine
- ▶ Conference room

Engineering Services

- ▶ 3D CAD Modeling and Design
- ▶ Finite Element Analysis
- ▶ Fixture Design and Fabrication
- ▶ Thermal Analysis
- ▶ Design Support for Shock and Vibration
- ▶ Failure Analysis

Fixtures Available

- ▶ Deck Simulator Fixture (DSF) - Qty 3
 - 40, 25, 14 and 8 Hz applications
- ▶ Mini DSF - Qty 2
 - 25 Hz applications
- ▶ Custom design and fabrication of test fixtures to simulate shipboard installations

Instrumentation

NTS instrumentation engineers have the capability of recording up to 100 channels of instrumentation data to monitor shock response. This includes acceleration, displacement, strain, pressure, velocity and voltage monitoring. All data is recorded and processed in accordance with the customer's requirements.

Shock Mounts

NTS offers shock mounts that have been designed and tested to substantially attenuate shock input loading for shipboard mounted equipment. Contact NTS Rustburg for shock mount information.



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