



# WESTMORELAND

MECHANICAL TESTING & RESEARCH

MECHANICAL  
TEST EXPERTS

1 Million Lb  
Capacity

Cryogenic  
to 2400°F

Extensive  
Scope

## Do You Need To...

- Gain regulatory approval?
- Improve product performance?
- Verify engineering specifications?
- Determine material characterization?
- Identify material failures?
- Outsource Quality Assurance or Quality Control?

## Services

- Charpy, IZOD
- Dynamic Tear
- Various Atmospheres
- Subsize Specimens
- Automatic Job Status Updates
- Stress and Creep Rupture
- Hydrogen Embrittlement
- Tension and Compression
- Rapid Turnaround
- and much more ...

## Why Westmoreland?

Westmoreland Mechanical Testing & Research is a family owned and operated, independent testing and research laboratory that provides all-inclusive testing for a wide variety of non-metallic and metallic materials, offering standardized and customized testing solutions.

- ✓ Over 50 Years of Materials Testing Expertise
- ✓ Capacity to Test Variety of Specimen Shapes and Sizes
- ✓ Nadcap, A2LA, and ISO Accredited
- ✓ High-Quality Testing and Analyzation
- ✓ Extensive Scope and Customized Data to Each Test
- ✓ On-Site Machining and Specimen Preparation
- ✓ Hundreds of Customizable Machines and Fixtures
- ✓ Entrusted by Thousands of Companies Worldwide
- ✓ On-Site Heat Treatment Services



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# Mechanical Testing

## Standardized Testing List



<b>Tensile</b>	
<b>ASTM E8</b>	Standard Test Methods for Tension Testing of Metallic Materials
<b>ASTM B557</b>	Standard Test Methods for Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products
<b>ASTM E111</b>	Standard Test Method for Young's Modulus, Tangent Modulus, and Chord Modulus
<b>ASTM E21</b>	Standard Test Methods for Elevated Temperature Tension Tests of Metallic Materials
<b>Creep/Stress Rupture</b>	
<b>ASTM E139</b>	Standard Test Methods for Conducting Creep, Creep-Rupture, and Stress-Rupture Tests of Metallic Materials
<b>ASTM E292</b>	Standard Test Method for Stress Rupture Combination
<b>ASTM E328</b>	Standard Test Methods for Stress Relaxation Tests for Materials and Structures
<b>NASM 1312-10</b>	Tension Fatigue Test Procedure for Aeronautical Fasteners
<b>Hydrogen Embrittlement</b>	
<b>ASTM F519</b>	Standard Test Method for Mechanical Hydrogen Embrittlement Evaluation of Plating/Coating Processes and Service Environments
<b>NASM 1312-5</b>	Stress durability of externally threaded fasteners
<b>Impact Testing</b>	
<b>ASTM E23</b>	Standard Test Methods for Notched Bar Impact Testing of Metallic Materials
<b>ASTM E208</b>	Standard Test Method for Conducting Drop-Weight Test to Determine Nil-Ductility Transition Temperature of Ferritic Steels
<b>Bend Testing</b>	
<b>ASTM E290</b>	Standard Test Methods for Bend Testing of Material for Ductility
<b>ASTM E190</b>	Standard Test Method for Guided Bend Test for Ductility of Welds
<b>Compression</b>	
<b>ASTM E9</b>	Standard Test Methods of Compression Testing of Metallic Materials at Room Temperature
<b>Bearing</b>	
<b>ASTM E238</b>	Standard Test Method for Pin-Type Bearing Test of Metallic Materials
<b>Dynamic Tear</b>	
<b>ASTM E604</b>	Standard Test Method for Dynamic Tear Testing of Metallic Materials
<b>Shear</b>	
<b>ASTM F606</b>	Standard Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners, Washers, Direct Tension Indicators, and Rivets
<b>ASTM B565</b>	Standard Test Method for Shear Testing of Aluminum and Aluminum-Alloy Rivets and Cold-Heading Wire and Rods
<b>ASTM B769</b>	Standard Test Method for Shear Testing of Aluminum Alloys
<b>ASTM B831</b>	Standard Test Method for Shear Testing of Thin Aluminum Alloy Products
<b>ASTM B871</b>	Standard Test Method for Shear Testing of Thin Aluminum Alloy Products