



WESTMORELAND

MECHANICAL TESTING & RESEARCH

FRACTURE / FATIGUE TEST EXPERTS

Large Variety
of Machines
& Fixtures



Extensive
Scope

Cryogenic
to 2400°F

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

- Low Cycle Fatigue
- Fasteners
- Axial Fatigue
- Cantilever Fatigue
- Strain Controlled
- Load/Displacement
- KIC
- KR-Curve
- CTOD
- 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
- ✓ Customizable Test Setups and Fixtures
- ✓ Temperature Ranges from Cryogenic to 2400°F
- ✓ Accredited, High-Quality Testing and Analyzation
- ✓ Extensive Scope and Customized Data to Each Test
- ✓ On-Site Machining and Specimen Preparation
- ✓ High Cycle, Low Cycle, Fasteners and Fatigue Testing
- ✓ Entrusted by Thousands of Companies Worldwide
- ✓ Expansive Number of Machines and Fixtures



USA

(1)724 537 3131
us.sales@wmtr.com
www.wmtr.com

UK

+44(0)1295 261211
salesuk@wmtr.com
www.wmtr.co.uk

Fracture / Fatigue

Standardized Testing List



FRACTURE MECHANICS

ASTM E399

Standard Test Method for Linear-Elastic Plane-Strain Fracture Toughness K_{1C} of Metallic Materials

ASTM E561

Standard Test Method for K-R Curve Determination

ASTM E740

Standard Practice for Fracture Testing with Surface Crack Tension Specimens

ASTM E812

Standard Test Method for Crack Strength of Slow-Bend Pre-cracked Charpy Specimens of High-Strength Metallic Materials

ASTM E1290

Standard Test Method for Crack-Tip Opening Displacement (CTOD) Fracture Toughness Measurement

ASTM E1304

Standard Test Method for Plane-Strain (Chevron-Notch) Fracture Toughness of Metallic Materials

ASTM E1681

Standard Test Method for Determining Threshold Stress Intensity Factor for Environment Assisted Cracking of Metallic Materials

ASTM E1820

Standard Test Method for Measurement of Fracture Toughness

ASTM E1921

Standard Test Method for Determination of Reference Temperature, T_0 , for Ferritic Steels in the Transition Range.

FATIGUE TESTING

ASTM E606

Standard Practice for Strain-Controlled Fatigue Testing

ASTM E466

Standard Practice for Conducting Force Controlled Constant Amplitude Axial Fatigue Tests of Metallic Materials

ASTM E647

Standard Test Method for Measurement of Fatigue Crack Growth Rates

NASM 1312-11

Tension Fatigue Test Procedure for Aeronautical Fasteners