SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

METCUT RESEARCH INC.
3980 Rosslyn Drive
Cincinnati, OH 45209
Jeff Viney Phone: 513 271 5100 x363

MECHANICAL

Valid To: June 30, 2028 Certificate Number: 0296.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above as well as the one satellite laboratory location listed below to perform the following types of tests on metallic and nonmetallic materials:

Mechanical Testing Capabilities

Load, Strain and / or Stroke control, uniaxial to 15 axis multi-axial.
Load Capacity: 2 lbs (1000g) to 200,000 lbs. (890kN)
Strain Capacity: (+/- .5 to +/- 20) %
Frequency Capacity: Indefinite hold to 80Hz
Temperature Capability: -320°F (-196°C) to 2600°F (1427°C)

Test Name (Specific Methods)	**Test Method(s)**
Physical Testing	
Fatigue Crack Growth	ASTM E647
Flat Bending Fatigue	ASTM E466
Fracture Toughness	ASTM E399, E1820
High Cycle Fatigue	ASTM E466; GE: E50TF148
Low Cycle Fatigue	ASTM E606; GE: E50TF148
Rotating Bar Bending Fatigue	ISO 1143
Specimen Preparation	
Conventional Machining	Metcut MRI Series 200 Procedures; GE: P1TF79
Electron Discharge Machining	Metcut MRI Series 200 Procedures; GE: P1TF79
Low-Stress Grinding & Polish	Metcut MRI Series 200 Procedures; GE: P1TF79
Inertia Welding (Less than 1.0 in)	Metcut MRI Series 200 Procedures; GE: P1TF79

Structural Testing within the following envelope: STR-100 and customer requirements

Load, Strain and / or Displacement control
Uniaxial to 27 axis axis-controlled loading
Load Capacity Tension: 2 lbs (1000g) to 200,000 lbs (890kN)
Load Capacity Compression: 600,000 lbs. (2668kN)
Strain Capacity: (+/- .2 to +/- 20) %, 1-300 channels
Pressure: 150000 psi, Static & Dynamic
Strong Floor: 22' by 82'
Strong Wall: to 16'
Actuator Displacement: ≤ 36"
Frequency Capacity: Indefinite hold to 80Hz
Temperature Capability: -320°F (-196°C) to 2600°F (1427°C)

Metallography Lab
1775 Carillon Blvd.
Cincinnati, OH 45240

Test Name (Specific Methods)	**Test Method**
Physical Testing	
Creep/Stress Rupture	ASTM E139, E292
Metallography	
Case Depth	ASTM B934, F2328/F2328M
Hardness – Rockwell (B, C, 15N, 15Y)	ASTM E18
Inclusion Content	ASTM E45 (Method A)
Microhardness	
Knoop (500 gf)	ASTM E384/E92
Vickers (100, 300, 500 gf)	ASTM E384/E92
Met. Preparation & Evaluation	ASTM E3; GE: P29TF25
Macroetching/Microetching	ASTM E340, E381, E407
Grain Size	ASTM E112, E1181, E930; GE: E50TF133
Depth of Decarb	ASTM E1077; SAE J419, J423
Alpha Case (Titanium)	AMS 2380; GE: P3TF19
IGA & Pitting for Aircraft Chemical Processes	ASTM F2111
Metallographic Inspection of Turbine Blades/Vanes	GE: P29TF34
PM Density Measurement	ASTM B311
Surface Integrity Acceptability	GE: P29TF73
Coatings Testing & Evaluation	
Bond Strength of Thermal Sprayed Coatings	GE: E50TF60; ASTM C633
Hoffman Scratch Test	GE: E50TF61
Met. Prep. & Eval. Of Thermal Sprayed	GE: E50TF65
Lap Shear Bond Strength of Thermal Sprayed	GE: E50TF66
Room Temp. Erosion Test Method for Coatings	GE: E50TF121

Test Name (Specific Methods)	Test Method
Failure Analysis	
Fractography	ASM Handbook (Volumes 7, 9-12)
Macroscopic and Microscopic Analysis	ASM Handbook (Volumes 7, 9-12)
Scanning Electronic Microscopy (SEM)	ASTM F1372
Energy Dispersive Spectroscopy (EDS)	ASTM E1508
Failure Analysis	Using the methods listed on this and other scopes in accordance with the AMS Handbook Volume 11
Chemical Analysis	
Optical Emission Spectroscopy (OES)	
Iron-Based Alloy (Al, As, B, Bi, C, Ce, Co, Cr, Cu, Fe, Mg, Mo, Mn, N, Nb, Ni, P, Pb, S, Si, Sn, Ti, V, W)	ASTM 415, E1086, E1999
Nickel-Based Alloy (Al, As, B, C, Co, Cr, Cu, Fe, Mg, Mn, Mo, N, Nb, Ni, P, S, Si, Sn, Ti, V, W)	ASTM E3047
Cobalt-Based (Al, C, Co, Cr, Fe, Mn, Mo, N, Nb, Ni, Si, Ti, V, W)	MRI 700.13
Titanium-Based (Al, C, Cr, Fe, Mo, N, Ni, Si, Sn, V)	ASTM E2994
Aluminum-Based Alloy (Al, B, Cr, Cu, Fe, Mg, Mn, Ni, Pb, Si, Sn, Ti, V, Zn, Zr)	ASTM E1251
Copper-Based Alloys (Ag, C, Cu, Fe, Mn, Ni, Pb, Sb, Si, Sn, Zn)	MRI 700.13

Accredited Laboratory

A2LA has accredited

METCUT RESEARCH INC.

Cincinnati, OH

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 29th day of April 2026.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0296.01
Valid to June 30, 2028

For the tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.