



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

WESTMORELAND MECHANICAL TESTING & RESEARCH, INC.
221 Westmoreland Drive
Youngstown, PA 15696
Michael Self Phone: 724 537 3131
E-mail: mself@wmtr.com

CHEMICAL

Valid To: September 30, 2013

Certificate Number: 0621.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following metals and fastener tests on steel, stainless steel, aluminum & alloys, nickel & alloys, titanium:

Tests

Test Methods

Spectroscopy

Atomic Absorption*

Ba, Sb, As, Cd, Tl, Sn, Pb, Ag, Te, Bi, Se, Cr,
Ga, Ni, Pd, Ta, Zn

ASTM E34, E1184

Optical Emission (OES)*

Li, Be, B, Na, Mg, Al, Si, P, K, Ca, Sc, Ti, V, Cr,
Mn, Fe, Co, Ni, Cu, Zn, Ga, La, Hf, Ta, W, Ir, Pt,
Au, Pb, Bi, Th, Ge, As, Rb, Sr, Y, Zr, Nb, Mo,
Ru, Rh, Pd, Ag, Cd, In, Sn, Sb, Te, Cs, Ba, Ce,
Rb, Er

ASTM E415, E1086, E1251

ICP*

Li, Be, B, Na, Mg, Al, Si, P, K, Ca, Sc, Ti, V, Cr,
Mn, Fe, Co, Ni, Cu, Zn, Ga, La, Hf, Ta, W, Re,
Os, Ir, Pt, Au, Tl, Pb, Bi, Th, U, Ge, As, Se, Rb,
Sr, Y, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, In,
Sn, Sb, Te, Cs, Ba, Ce, Pr, Nd, Rb, Dy, Er, Eu,
Gd, Ho, Lu, Sm, Tb, Tm, Yb

WMTR 5900

Combustion / Fusion (LECO)*

C, S, H₂, N₂ & O₂

ASTM E1019, E1447, E1409

*This accreditation includes an evaluation of the GEAE S-400 requirements for the tests listed above using the GE AC1.1 checklist.



World Class Accreditation

The American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

WESTMORELAND MECHANICAL TESTING & RESEARCH, INC.

Youngstown, PA

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *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 8 January 2009*).

Presented this 10th day of November 2011.





Peter Meyer

President & CEO
For the Accreditation Council
Certificate Number 0621.02
Valid to September 30, 2013

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



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MECHANICAL

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Certificate Number: 0621.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on aircraft components, automotive components, fasteners, metals & alloys, and plastics & polymers:

<u>Tests</u>	<u>Test Methods</u>
Compression	ASTM E9 (2000)
Creep Rupture*	ASTM E139
Drop Weight	ASTM E208
Dynamic Tear Strength	ASTM E604
Ductility (Bend, Formability)	ASTM E190, E290
Fatigue*	
Crack Growth	ASTM E647
Axial, Flexural, Rotating Beam High / Low Cycle	ASTM E466; NASM-1312-11
Fracture Toughness* (-450 to 1500) °F	ASTM E399, E1290
Hardness*	
Brinell	ASTM E10
Rockwell (A, B, C, E, F)	ASTM E18; NASM-1312-6
Superficial (15, 30, 45 N & T)	ASTM E18; NASM-1312-6
Vickers (10gf to 10,000 gf)	ASTM E92-82 (Withdrawn 2010) ¹
Microhardness (Knoop 10gf to 10,000gf, Vickers 10gf to 10,000 gf)	ASTM E384; NASM-1312-6
High Pressure (Hydraulic) Burst	AMS 4081, 4083, 4071; MIL-T-7081D; ABM 2-3026
Impact (Charpy, Izod)*	ASTM E23
Shear / Double Shear	ASTM F606/F606M; NASM-1312-13, 1312-20
Stress Durability (Hydrogen Embrittlement)	ASTM F519; NASM-1312-5A

Tests

Stress Rupture*

Surface Roughness

Tensile*

Tensile and Proof Load

Tensile (1,000,000 lbs capacity)

Ambient Temperature

Temperature Range (-450 to 2200) °F

Tensile Properties of Aluminum and Magnesium Alloy

Weld Operator and Procedure Qualification Testing

Test Methods

ASTM E139, E292; NASM-1312-10

ANSI Standard B46.1

ASTM E8/E8M, F606/F606M; NASM-1312-8

ASTM A370, D638, E8/E8M, E21

ASTM B557

ASME Sec. IX, AWS D1.1, D1.2, D1.5, D4.0

Metallographic Evaluation

Alpha Case

Banding / Identification of Microstructures

Depth of Decarburization

Grain Size

Inclusion Content

Micro & Macro Exam*

Plating Thickness

Preparation

SEM with Energy Dispersive Spectroscopy

WMTR-7003

ASTM E1268; ASM Metals Handbook Vol. 9

ASTM E1077; SAE J121

ASTM E112

ASTM E45, Methods A & D

ASTM E407, E340

ASTM B487; NASM-1312-12

ASTM E3

ASTM E1508

Environmental Simulation

CASS

Corrosion Testing*

Exfoliation Corrosion

Intergranular Corrosions Susceptibility

Pitting & Crevice Corrosion Susceptibility

Stress Corrosion Cracking Susceptibility

Humidity Exposure

Salt Spray (Fog)*

ASTM B368

ASTM G34

ASTM A262 (Methods A & E), G28

ASTM G48

ASTM G38, G39, G44, G47, G49

MIL-STD-1312-3; NASM-1312-3

ASTM B117

*This accreditation includes an evaluation of the GEAE S-400 requirements for the tests listed above using the GE AC1.1 checklist.

¹This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.

Dimensional Testing²:

Parameter	Range	CMC ³ (±)	Technique / Method
Linear ⁴	(0 to 1) in	0.00016 in	Digital micrometers
	(0 to 4) in	0.001 in	Digital calipers
	(0 to 1) in	0.002 in	Digital & Analog dial indicators
	(0 to 1) in	0.00002 in	Laser micrometer
Angle ⁴	(0 to 180) °	18 minutes	Comparator
Radii ⁴	(0 to 10) in	0.0004 in	Comparator

²This laboratory offers commercial dimensional testing service only.

³Calibration and Measurement Capability (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine measurements of nearly ideal measurement standards or nearly ideal measuring equipment. Calibration and Measurement Capabilities represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific measurement performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific measurement.

⁴These tests are not equivalent to that of a calibration.



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Presented this 10th day of November 2011.





Peter Abney

President & CEO
For the Accreditation Council
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