



## *Accredited Laboratory*

A2LA has accredited

**MODERN INDUSTRIES, INC.**

*Erie, PA*

for technical competence in the field of

**Mechanical 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 22<sup>nd</sup> day of December 2015.

A handwritten signature in black ink, reading "Peter Abney".

President & CEO  
For the Accreditation Council  
Certificate Number 2949.01  
Valid to January 31, 2018

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



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

MODERN INDUSTRIES, INC  
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 Erie, PA 16501  
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MECHANICAL

Valid To: January 31, 2018

Certificate Number: 2949.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on steel, stainless steel, cast iron, copper alloys, aluminum, nickel & cobalt alloys, titanium, miscellaneous metals, forgings, castings, machined components, billets, bars, ingot, powdered metals, fasteners, chain, and cable:

<u>Test:</u>	<u>Test Methods:</u>
Physical Testing:	
Bend Testing (Less Tubing)	ASME Sec IX; ASTM A370, A489, D790, E190; AWS B2.1/B2.1M, D1.1/D1.1M, D1.5/D1.5M
Compression	ASTM E9
Density	ASTM B311, B328-96 (2003) e1 (Withdrawn 2009) <sup>1</sup> ; MPIF Standard 42
Flattening / Flaring	ASTM A530/A530M, A1016/A1016M
Hardness Testing	
Brinell Hardness (500 kgf, 3000 kgf)	ASTM E10
Rockwell (A, B, C, F, 15N, 30N, 30T)	ASTM E18; MIL-STD-1312-6 <sup>1</sup> (withdrawn 1997, replaced by NASM 1312-6); NASM 1312-6
Impact (Charpy) ( -423 to +1000)°F	ASTM A370, E23; AWS D1.5/D1.5M
Jominy	ASTM A255
Proof (No Cone Proof)	ASTM F606, F606M
Shear, Single & Double	ASME QW196; NASM 1312-13
Stress Rupture	ASTM E139, E292
Tensile	ASTM A370, D638/D638M, E8/E8M, E21, F606, F606M; AWS D1.1/D1.1M, D1.5/D1.5M
Ambient Temperature to 1800 °F	
Tensile (Axial / Wedge)	ASTM A370, F606, F606M
Metallographic Evaluation:	
Preparation	ASTM E3
Conductivity	AMS 2658
Decarburization	ASTM E1077; SAE J121
Case Depth	SAE J423

*Peter Polito*

Test:

Test Methods:

Ferrite Rating	AMS 2315; ASTM E562
Grain Size (Comparison Method Only)	ASTM E112
Inclusion Rating / Cleanliness	ASTM E45 Methods A & D; SAE J422; SAE AMS2301, AMS2303
Intergranular Attack	ASTM A262 Methods A & E
Macroetch	ASTM A561, A604/A604M, E340, E381; AWS D1.1/D1.1M
Microhardness	ASTM E384
Knoop (500g, 1000g)	
Vickers (500g, 1000g)	
Microstructure	ASTM E1268; ASM Metals Handbook, Volume 9
Microstructure in Cast Iron Graphite Evaluation	ASTM A247
Permeability	ASTM A342/A342M Method 3
Pitting and Crevice Corrosion and Intergranular Corrosion	ASTM G28, G48
Photomicrograph	ASTM E883
SEM (Semi-quantitative, Material Identification)	ASTM E1508
Weld Operator and Procedure Qualification Testing (less Radiography)	ASME Sec IX; AWS D1.1/D1.1M, D1.2/D1.2M, D1.5/D1.5M, D11.2
Nondestructive Testing Methods:	
Liquid Penetrant Examination	
Visible	ASTM E165/E165M, E1417/E1417M; MIL-STD- 6866 <sup>1</sup> (Canceled 1996, Replaced by ASTM E1417), MIL-STD-271F <sup>1</sup> (Canceled 1998, Replaced by NAVSEA T9074-AS-GIB-010/271)
Fluorescent	
Magnetic Particle Examination	
Yoke – Visible (Dry)	ASTM E709, E1444/E1444M; MIL-STD-271F <sup>1</sup> (Canceled 1998, Replaced by NAVSEA T9074-AS- GIB-010/271), MIL-STD-1949 <sup>1</sup> (Canceled 1993, Replaced by ASTM E1444)
Bench (Fluorescent)	

<sup>1</sup>This 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.

This accreditation also includes an evaluation of the GE S-400 requirements for the tests listed above