The American Association for Laboratory Accreditation

World Class Accreditation

Accredited Laboratory

A2LA has accredited

MODERN INDUSTRIES, INC.

Erie, 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 23rd day of March 2012.

President & CEO
For the Accreditation Council
Certificate Number 2949.02
Valid to January 31, 2014

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

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

MODERN INDUSTRIES, INC
613 West 11th Street
Erie, PA 16501
Kevin Polito Phone: (814) 455-8061
kevin@modernind.com

CHEMCIAL

Valid To: January 31, 2014 Certificate Number: 2949.02

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: Aircraft components, automotive components, metals and alloys:

Test and Technology:	Test Methods:
Elemental Analysis (Combustion or Fusion) (C, N_2, O_2, S,)	
Carbon in Steel, Iron Nickel & Cobalt Alloys	ASTM E1019
Oxygen in Steel, Iron Nickel & Cobalt Alloys	ASTM E1019
Oxygen in Copper & Copper Alloys	ASTM B170
Oxygen in Titanium and Titanium Alloys	ASTM E1409
Nitrogen in Steel, Iron Nickel & Cobalt Alloys	ASTM E1019
Nitrogen in Titanium and Titanium Alloys	ASTM E1937
Sulfur in Steel, Iron Nickel & Cobalt Alloys	ASTM E1019
OES Analysis (Al, As, B, Be, C, Co, Cr, Cu, Fe, Mg, Mn, Mo, Nb, Ni, P, Pb, S, Sb, Si, Sn, Sr, Ta, Ti, V, W, Zn, Zr)	
Carbon and Low Alloy Steel	ASTM E415
Stainless Steel	ASTM E1086
Cast Iron	ASTM E1999
Aluminum and Aluminum Alloys	ASTM E1251
Cobalt Alloys	E-2 SM 5 – 26 (ASTM 8th Edition)
X-Ray Fluorescence Analysis (Ag, Al, As, Br, Ca, Cl, Co, Cr, Cu, Fe, Ga, K, La, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, S, Sb, Se, Si, Sn, Sr, Ta, Ti, Tl, V, W, Zn, Zr)	
Low Alloy Steels	ASTM E1085
Ni-Base Alloys	ASTM E2465
Titanium 6A14V Alloys	ASTM E539
Stainless Steels and Alloy Steels	ASTM E572
Low Carbon and Cast Irons	ASTM E322
Nickel Alloys	E-2 SM 5 – 27 (ASTM 8th Edition)

5301 Buckeystown Pike, Suite 350 | Frederick, Maryland 21704-8373 | Phone: 301 644 3248 | Fax: 301 662 2974 | www.A2LA.org

The American Association for Laboratory Accreditation

World Class Accreditation

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 23rd day of March 2012.

President & CEO
For the Accreditation Council
Certificate Number 2949.01
Valid to January 31, 2014

For the tests or types of 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
613 West 11th Street
Erie, PA 16501
Kevin Polito Phone: 814 455 8061
kevin@modernind.com

MECHANICAL

Valid To: January 31, 2014 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:

Test:	Test Methods:
Physical Testing:	
Bend Testing (Less Tubing)	ASME Sec IX; ASTM A370, A489, D790, E190; AWS B2.1, D1.1, D1.5
Compression	ASTM E9
Density	ASTM B311, B328-96 (2003) e1(Withdrawn 2009); 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
Impact	ASTM A370, E23; AWS D1.5
Jominy	ASTM A255
Proof, nut and bolt	ASTM F606, F606M; SAE J429
Shear, single & double	ASME QW196; NASM 1312-13
Stress Rupture	ASTM E139, E292
Tensile (Tension, Yield Modules) Ambient Temperature to 1800 °F	ASTM A370, D638, D638M, E8/E8M, E21, F606, F606M; AWS D1.1, D1.5; MIL-STD-1312-8
Axial / Wedge Tensile	ASTM A370, F606, F606M

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Test:	Test Methods:
Metallographic Evaluation:	
Preparation	ASTM E3
Coating Thickness	ASTM B487; MIL- STD-1312-6
Conductivity	AMS 2658
Decarburization	ASTM A574 / A574M, E1077; SAE J121, J429
Effective Case Depth	SAE J423
Ferrite Rating	AMS 2315; ASTM E562
Grain Size	ASTM E112, E1382
Inclusion Rating / Cleanliness	ASTM E45 Methods A & D, E1122; SAE J422
Intergranular Attack	ASTM A262 Methods A & E
Macroetch	ASTM A561, A604, E340, E381; AWS D1.1
Microhardness Knoop (500g, 1000g, 10Kg) Vickers (500g, 1000g, 10Kg)	ASTM E384, B578
Microstructure	ASTM E1268; ASM Metals Handbook, Volume 9
Microstructure in Cast Iron Graphite Evaluation	ASTM A247
Permeability	ASTM A342
Pitting and Crevice Corrosion and Integranular Corrosion	ASTM G28, G48
Photomicrograph	ASTM E883
SEM	ASTM E1508
Weld Operator and Procedure Qualification Testing (less Radiography)	ASME Sec IX; AWS D1.1, D1.2, D1.5, D11.2
Nondestructive Testing Methods:	
Liquid Penetrant Examination	ASTM E165, E1417; MIL-STD-6866, MIL-STD-271F
Magnetic Particle Examination	ASTM E709, E1444; MIL-STD-271F, MIL-STD-1949