



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

FME MATERIALS LABORATORY
701 White Avenue
Beloit, WI 53511
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MECHANICAL

Valid To: May 31, 2019

Certificate Number: 3417.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the physical testing, mechanical testing, metallography, and spectroscopy on metallic materials including fasteners as well as chemical testing on ferrous alloys, aluminum alloys, copper alloys, nickel alloys, and cobalt alloys:

Test(s):

Test Methods(s):

Physical:

Bend Test (Up to 300 000 lbf)	ASTM A370, E290
Compression (Up to 300 000 lbf)	ASTM E9
Tensile / Yield / ROA (Up to 300 000 lbf)	ASTM A48/A48M, B557, E8/E8M
Axial Tensile (Up to 300 000 lbf)	ASTM F606
Flattening Test of Metallic Material	ISO 8492

Hardness:

Brinell Hardness (500 kg and 3000 kg)	ASTM E10
Leeb Hardness (HV80 to HV940)	ASTM A956
Rockwell Hardness (A, B, C, E, 15N, 15T, 30N, 30T, 45T, and 45N)	ASTM E18
Hardness Testing of Welds	ISO 9015-1*

Microhardness:

Knoop (100 g and 500 g)	ASTM E384
Vickers (100 g and 500 g)	ASTM E384; ISO 6507-1

Test(s):

Test Methods(s):

Metallographic Evaluation:

Preparation
Graphite Microstructure
Macroetching
Photomicrograph
Decarburization
Effective Case Depth
Grain Size
Temper Etch Inspection

ASTM E3
ASTM A247; ISO 945-1
ASTM E340
ASTM E883
ASTM E1077
SAE J423
ASTM E112
ISO 14104

Failure Analysis:

Using methods listed on the scope,
referencing ASM handbook, Volume 11

Chemical:

Optical Emission Spectroscopy –

Ferrous Alloys (Al, As, B, C, Ca, Cr,
Co, Cu, Fe, Mn, Mo, Nb, Ni, P, S, Si,
Sn, Ti, V, W, Zr)

ASTM E415, E1476 (Section 7.2), E1086

Aluminum Alloys (Ag, Al, B, Ba, Be,
Bi, Ca, Cd, Cr, Co, Cu, Fe, Ga, In, Li,
Mg, Mn, Mo, Na, Ni, P, Pb, Si, Sn, Sr,
Ti, V, Zn, Zr)

ASTM E1251, E1476 (Section 7.2)

Copper Alloys (Ag, Al, As, Cu, Fe,
Mg, Mn, Ni, P, Pb, S, Sb, Si, Sn, Zn)

ASTM E1476 (Section 7.2)

Nickel Alloys (Al, B, C, Ca, Co, Cr,
Cu, Fe, Mg, Mn, Mo, Nb, Ni, P, Pb, S,
Si, Sn, Ta, Ti, V, W, Zr, Zn)

ASTM E1476 (Section 7.2)

Cobalt Alloys (Al, B, C, Co, Cr, Cu,
Fe, La, Mg, Mn, Mo, Nb, Ni, P, Pb, S,
Si, Sn, Ta, Ti, V, W)

ASTM E1476 (Section 7.2); FME-SP1111

**This lab is only accredited to perform Vickers microhardness for the Hardness Testing of Welds per the specifications outlined in ISO 9015-1.*





Accredited Laboratory

A2LA has accredited

FME MATERIALS LABORATORY

Beloit, WI

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 12th day of September 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 3417.01
Valid to May 31, 2019

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