



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ANALYTICAL PROCESS LABORATORIES, INC.

8222 West Calumet Road

Milwaukee, WI 53223

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MECHANICAL

Valid To: September 30, 2019

Certificate Number: 0431.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on metals and fasteners:

<u>Test:</u>	<u>Test Method(s):</u>
Bend Test	ASTM E190
Hardness:	
Brinell (500 & 3000 Kg)	ASTM E10, E110; ISO 6506-1
Microhardness (Knoop, 500 g)	ASTM E384
Rockwell (B, C, 30N, 30T, E)	ASTM E18
Vickers (10 Kg)	ASTM E92
Impact (V-notch and U-notch)	ASTM E23; DIN 10045-1(<i>Withdrawn 2010</i>)*; ISO 148-1; JIS-Z-2242
Metallographic Evaluation:	
Depth of Decarburization (Microscopic & Microhardness)	ASTM E1077
Evaluation of Graphite in Fe Castings	ASTM A247
Inclusion Content	ASTM E45 (Method A)
Intergranular Attacks	ASTM A262 (Practice B, E, and F)
Grain Size (Comparison and Intercept Methods)	ASTM E112 (Sections 10 and 13)
Macroetch	ASTM E340, E381
Microetch	ASTM E407
Photography using SEM (Qualitative)	APL 83
Plating Thickness	ASTM B487
Plating Mass per Unit Area	ASTM B767
Preparation	ASTM E3

Test:

Physical Properties/NDT:

Density
Electrical Conductivity
Liquid Penetrant Inspection (Visible)
Salt Spray

Tensile

Weld Operator and Weld Procedure Qualifications
(Tensile, Bend, Impact, Macroetch)

Test Method(s):

ASTM B311
ASTM E1004
ASTM E165/E165M
ASTM B117

ASTM A370, E8/E8M, B557;
DIN 10002-1(*Withdrawn 2009*)*;
ISO 6892-1;
JIS-Z-2241

ASTM A488/A488M;
ASME Section IX;
AWS B4.0, D1.1;
NAVSEA S9074-AQ-G1B-10/248

CHEMICAL

Test:

Chemical Analysis by EDS

(Semi-quantitative with SEM)
Detectable Elements Down to Boron

Chemical Analysis by OES

Carbon and Low Alloy Steel:
(Al, B, C, Co, Cr, Cu, Mn, Mo, Nb, Ni, P, Pb, S, Si,
Sn, Ti, V, W)

Stainless Steel:

(Al, C, Co, Cr, Cu, Mn, Mo, Nb, Ni, P, S, Si, Sn, Ti,
V, W)

Aluminum Alloys:

(Cr, Cu, Fe, Mg, Mn, Ni, Pb, Si, Sn, Ti, Zn)

Cast Iron:

(Al, B, C, Cr, Cu, Mg, Mn, Mo, Ni, P, Pb, S, Si, Sn,
Ti, V)

Copper Alloys:

(Al, Co, Fe, Mn, Nb, Ni, P, Pb, S, Si, Sn, Zn)

Test Method(s):

ASTM E1508

ASTM E415, E1086, E1251, E1999;
APL 43



Test:

Test Method(s):

Chemical Analysis by XRF

ASTM E1621

Slags:

(Al₂O₃, CaO, Cr₂O₃, CuO, FeO, K₂O, MgO, MnO,
Na₂O, Nb₂O₅, P₂O₅, S, SiO₂, SrO, TiO₂, V₂O₅, ZrO₂)

Trace Elements:

(Ag, As, Bi, Ca, Ce, La, Sb, Se, Ta, Te, Zn, Zr)

Combustion:

C, S, N and O

H in Titanium

ASTM E1019

ASTM E1447

Failure Analysis

Using the methods listed above
in accordance with the ASM
Handbook Volume 11

Melt Preparation for OES

ASTM E1306

** 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.*





Accredited Laboratory

A2LA has accredited

ANALYTICAL PROCESS LABORATORIES, INC.

Milwaukee, 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 18th day of September 2017.

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

President & CEO
For the Accreditation Council
Certificate Number 0431.02
Valid to September 30, 2019

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