



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ANALYTICAL PROCESS LABORATORIES, INC.

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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:

Test:

Test Method(s):

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DIN 10045-1(*Withdrawn 2010*)*;

ISO 148-1;

JIS-Z-2242

Metallographic Evaluation:

Depth of Decarburization

ASTM E1077

(Microscopic & Microhardness)

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

Physical Properties/NDT:

Density

ASTM B311

Electrical Conductivity

ASTM E1004

Liquid Penetrant Inspection (Visible)

ASTM E165/E165M

Salt Spray

ASTM B117

Test:

Tensile

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

Chemical Tests:

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)

Chemical Analysis by XRF
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
Failure Analysis

Melt Preparation for OES

Test Method(s):

ASTM A370, E8/E8M;
DIN 10002-1(*Withdrawn 2009*)*;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

ASTM E1508

ASTM E415, E1086, E1251, E1999;
APL 43

ASTM E1621

ASTM E1019
ASTM E1447
Using the methods listed above in
accordance with the ASM
Handbook Volume 11
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.