



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Q. C. METALLURGICAL LABORATORY
 17048 215th Street
 Davenport, IA 52804
 Todd Bloodsworth Phone: 563 386 7827

MECHANICAL

Valid To: July 31, 2017

Certificate Number: 1238.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following metals (or materials) tests:

Test:

Test Methods:

Mechanical

Hardness (Rockwell: B, C)	ASTM E18
Brinell Hardness (3000 kg)	ASTM E10
Hydrogen Embrittlement	ASTM F519
Plastic Strain Ratio (r Value)	ASTM E517
Proof (External Threaded)	ASTM F606/F606M; SAE J429, J1199
Strain Hardening Exponent (n Value)	ASTM E646
Tension (Complete, Axial <= 60 klbs at room temp.)	ASTM E8/E8M, A370, F606/F606M; SAE J429, J1199
Charpy Impact (-90 °F to room temp.), (10 to 360) ft-lbs	ASTM E23, A370
Tape Adhesion	ASTM D3359

Metallographic Evaluation

Standard Guide for Reflected-light Photomicrography	ASTM E883
Case Depth by Microhardness	SAE J423
Depth of Decarburization	ASTM E1077; SAE J121 (Withdrawn 2013, Replaced by ASTM F2328)
Grain Size	ASTM E112 (Intercept Method Only)
Inclusions	ASTM E45 (Method A)
Microhardness – Knoop/Vickers (100 to 500) g	ASTM E384
Preparation	ASTM E3
Plating Thickness	ASTM B487
Macro Etch	ASTM E381
Microstructure Analysis	ASM Metals Handbooks
Standard Guide for Qualitative Analysis by Energy-Dispersive Spectroscopy (EDS, SEM)	ASTM E1508 (standard less technique)

Corrosion

Salt Spray	ASTM B117
Susceptibility to Inter-Granular Corrosion	ASTM A262 (Method A)

Test:

Test Methods:

Chemical Spectroscopy

Atomic Absorption

(Al, As, Sb, Ba, Be, Cd, Ca, Cr, Co, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, Sr, Ti, Tl, Sn, V, Zn)

ASTM E1452 (Withdrawn 2005),
E1812 (1996, Withdrawn 2004),
E1024 (Withdrawn 2004)

Optical Emission

(C, Co, Cr, Cu, Si, Mn, Mg, S, P, Ni, Cr, Ti, Mo, Al, V, Pb, Zn, Fe, Nb, W)

ASTM E415, E1086, E1251, E1999

Portable X-ray Fluorescence *

ASTM E572

General Techniques for Obtaining Infrared Spectra for Qualitative Analysis

ASTM E1252

Standard Test Methods for Rubber-Identification by Infrared Spectrometry

ASTM D3677

Failure Analysis

ASM HDBK 11 Using the methods listed above

* This laboratory meets A2LA R104 – *General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these tests. This analysis can be performed at their facility or in the field.

NOTE: This laboratory's scope contains withdrawn or superseded methods.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

QC METALLURGICAL LABORATORY

Davenport, IA

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 7th day of August 2015.

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

President & CEO
For the Accreditation Council
Certificate Number 1238.01
Valid to July 31, 2017

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