



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

METALLURGICAL ASSOCIATES, INC.
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Waukesha, WI 53186
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MECHANICAL

Valid To: April 30, 2020

Certificate Number: 1529.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on the following products and materials: aircraft components, automotive components, coatings, fasteners, metals and alloys, plastics, pipes, valves and fittings, pressure vessels, rubber and rubber products, and tools.

<u>Test</u>	<u>Test Methods</u>
Microscopy	
Light Microscopy	ASTM E883
SEM (Scanning Electron Microscopy)	ASM Handbook Volume 12 (p.166-178)
Energy-Dispersive Spectroscopy	ASTM E1508
Hardness	
Rockwell (B, C, N, and T)	ASTM B294, E18
Brinell (500kg and 3000 kg)	ASTM E10
Leeb Hardness ¹	ASTM A956
Microhardness (Vickers, Knoop) (200 gm and 500 gm)	ASTM B578, E384; ISO 9015-2
Metallographic evaluation	
Preparation	ASTM B665, E3
Grain Size	ASTM B390 (Withdrawn 2006) ² , E112 (Comparison procedure only)
Graphite Microstructures	ASTM A247
Depth of Decarburization (Optical, microhardness)	ASTM E384, E1077; SAE J121, J419
Macroetch ¹	ASTM E340
Microetch ¹	ASTM E407
Case Depth (Optical, microhardness)	ASTM E384; SAE J423
Inclusion Content	ASTM E45, Methods A and D
Field Replicas ¹	ASTM E1351
Discontinuities	ASTM F788, F812; SAE J122 (Withdrawn 2017) ² , J123 (Withdrawn 2012) ² , J1061 (Withdrawn 2012) ²
Coating Thickness	ASTM B487

Test

Failure Analysis

Test Methods

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

¹ This laboratory meets A2LA R104 – *General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these tests.

² This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.

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Accredited Laboratory

A2LA has accredited

METALLURGICAL ASSOCIATES, INC.

Waukesha, 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 April 2017).



Presented this 9th day of May 2018.

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President and CEO
For the Accreditation Council
Certificate Number 1529.01
Valid to April 30, 2020

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