



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

MATERIALS ENGINEERING OF ILLINOIS, INC.

47W605 I. C. Trail

Virgil, IL 60151

Melanie Reibly Phone: 630 365 9060

MECHANICAL

Valid To: March 31, 2020

Certificate Number: 1523.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on aircraft components, automotive components, ceramics, coatings, metals and alloys, and tools:

<u>Test</u>	<u>Standard Test Methods</u>	<u>In-house Test Methods</u>
Hardness		
Rockwell (A, B, C, 15N, 15T)	ASTM E18	Procedure 2.1.1
Brinell (500 kg, 3000 kg)	ASTM E10	Procedure 2.1.6
Knoop and Vickers (500 gf)	ASTM E384	Procedure 2.1.2
Shore Hardness (A, D, M)	ASTM D2240	Procedure 2.9.6
Corrosion Resistance (Salt Spray)	ASTM B117	Procedure 2.6.7
Plating Adhesion (Less Draw)	ASTM B571	Procedures 2.5.3, 2.5.8 thru 2.5.14
Density	ASTM B311, B962	Procedure 2.6.4
Passivation Verification	ASTM A967 Practice C, D, & F	Procedures 2.5.16 thru 2.5.18
Metallographic Evaluation		
Preparation	ASTM E3	Procedure 2.3.1
Grain Size	ASTM E112	Procedure 2.3.3
Carburization/Decarburization Depth	ASTM E1077, F2328; SAE J121	Procedures 2.1.5 & 2.3.4
Case Depth	SAE J423	Procedure 2.1.4
Inclusion Content	ASTM E45 (Method A)	Procedure 2.3.2
Coating Thickness	ASTM B487, B748	Procedures 2.2.1 & 2.2.2
Scanning Electron Microscopy (SEM)		Procedure 2.4.1
Energy Dispersive Spectroscopy (EDS)		Procedure 2.4.2
Surface Finish (RA)		Procedure 2.5.6

<u>Test</u>	<u>Standard Test Methods</u>	<u>In-house Test Methods</u>
Specific Gravity or Density	ASTM D792, D297 (Sec. 16.3)	Procedure 2.9.5
Melt Flow Rate	ASTM D1238; ISO 1133	Procedures 2.9.1 & 2.9.2
Differential Scanning Calorimetry (DSC)	ASTM D3418	Procedure 2.8.1
DSC OI Time	ASTM D3895	Procedure 2.8.2
Thermogravimetric Analysis (TGA)	ASTM D6370, E1131	Procedure 2.8.4
Carbon Black by TGA	ASTM D5805	Procedure 2.8.5
Ash Analysis	ASTM D5630	Procedure 2.9.3
Ignition Loss	ASTM D2584	Procedure 2.9.4
Fourier Transform Infrared Spectroscopy (FTIR) ATR	ASTM E1252	Procedure 2.7.1
FTIR Microscope	ASTM E334	Procedure 2.7.2
FTIR Rubber Analysis	ASTM D3677	Procedure 2.7.3
Taber Abrasion	ASTM D4060 (Except Sec. 10); Fed. Std. 141; MIL-A-8625F (Sec. 4.5.5)	Procedure 2.6.6
Chemical Composition (OES)		
Low-alloy Steel (Al, B, C, Ca, Ce, Co, Cr, Mn, Mo, Nb, Ni, P, Pb, S, Si, Sn, Ta, Ti, V, W, Zr)	ASTM E415	Procedure 2.4.4
Stainless Steel (Al, B, C, Co, Cr, Cu, Mn, Mo, Nb, Ni, P, S, Si, Sn, Ti, V, W)	ASTM E1086	Procedure 2.4.4
Aluminum Alloys (Be, Cd, Co, Cr, Cu, Fe, Mg, Mn, Ni, Pb, Si, Sn, Ti, Zn)	ASTM E1251	Procedure 2.4.4
Tool and High Alloy Steel (Al, As, C, Co, Cr, Cu, Mn, Mo, Nb, Ni, P, S, Si, Ti, V, W)	ASTM E415	Procedure 2.4.4
Copper Alloys (Ag, Al, Fe, Mn, Ni, P, Pb, S, Sb, Si, Sn, Zn)		Procedure 2.4.4

Failure analysis, using the methods listed above in accordance with the ASM Handbook Volume 11 and Procedure 2.4.3



Accredited Laboratory

A2LA has accredited

MATERIALS ENGINEERING OF ILLINOIS, INC.

Virgil, IL

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 2nd day of April 2018.

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

President and CEO
For the Accreditation Council
Certificate Number 1523.01
Valid to March 31, 2020

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