



# Accredited Laboratory

A2LA has accredited

**AADFW, INC.**

*Eules, TX*

for technical competence in the field of

**Mechanical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *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 9<sup>th</sup> day of January 2023.

A blue ink signature of Mr. Trace McInturff, written over a horizontal line.

Mr. Trace McInturff, Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 0603.01  
Valid to January 31, 2025

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



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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MECHANICAL

Valid To: January 31, 2025

Certificate Number: 0603.01

In recognition of the successful completion of the A2LA evaluation process (including compliance to R223—Specific Requirements—GE Aviation S-400 Accreditation program), accreditation is granted to this laboratory at the location listed above to perform the following tests on composites, adhesives, metals and metal fasteners:

**Test:**

**Test Method:**

Mechanical Testing

Knoop and Vickers Hardness (HV0.5, HV1, HV5, HV10; HK200, HK500, HK1000)	ASTM E384, ASTM E92
Brinell Hardness (500 and 3000) kgf	ASTM E10, ASTM E110
Rockwell Hardness (A, B, C, E, 15N, 30N, 45N, 15T, 30T, 45T)	ASTM E18, ASTM F3125
Leeb Portable Hardness <sup>2</sup>	ASTM A956
Fatigue Testing (+58 to +350) °F, (1 to 50) Hz	ASTM E466; NASM 1312-11
Bend	ASTM E190; ASME Section IX; AWS D1.1, 17.1; BPS 4431
Magnetic Permeability	ASTM A342
Weld Operator and Weld Procedure Qualification	API 1104; ASME Sect. IX; AWS B2.1/B2.1M, B4.0, D1.1/D1.1M, D1.2/D1.2M, D1.3/D1.3M, D17.1, D17.2/D17.2M, D1.5, ISO 15614
Hydrogen Embrittlement (Notch Tension)	ASTM E292, ASTM F519; NASM 1312-5, -14
Weld Hardness Profile	SP0472; RP0472 <sup>1</sup> (Superseded by SP0472, 2005)
Jominy End-Quench	ASTM A255
Tensile Properties	ASTM A370, ASTM B557, ASTM E8/E8M; ISO 6892-1, 898-1; AWS D1.1, 1.2, 1.3, 1.6, B4.0; ASME Section IX; BPS-4431; ISO 3506-2
Impact Properties (Charpy) (-320 °F to RT)	ASTM A370, ASTM E23

**Test:**

Nick Break Testing  
Fillet Break  
Compression Testing

**Test Method:**

API 1104, ASP 1107<sup>1</sup> (Superseded by 1104)  
AWS B4.0  
ASTM E9

**Chemical Properties**

Carbon/Sulfur Determination  
Oxygen/Nitrogen/Hydrogen Determination  
Spectroscopy, OES (Al, Fe, Cu, Ti, Mg, Ni base)

ASTM E1019  
ASTM E1019, ASTM E1409, ASTM E1447  
ASTM B954, ASTM E415, ASTM E1086,  
ASTM E1251, ASTM E1999, ASTM E2994,  
ASTM E3047; DIN EN 15079

- Aluminum Base:

Ag, Al, B, Be, Cr, Cu, Fe, Li, Mg, Mn, Ni, Pb, Sb, Si,  
Sn, Sr, Ti, V, Zn, Zr

- Iron Base:

As, Al, B, C, Co, Cr, Cu, Fe, Mg, Mn, Mo, N, Nb, Ni,  
P, Pb, S, Si, Sn, Ta, Ti, V, W

- Copper Base:

Ag, Al, As, Be, Co, Cr, Cu, Fe, Mn, Ni, P, Pb, S, Sb,  
Si, Sn, Zn

- Titanium Base:

Al, B, C, Cr, Cu, Fe, Mo, Ni, Si, Sn, Ti, V, Zr

- Nickel Based:

Al, B, C, Co, Cr, Cu, Fe, Mn, Mo, N, Nb, Ni, P, Pb,  
S, Si, Ta, Ti, V, W, Zr

- Magnesium Base:

Al, Be, Cu, Fe, Mg, Mn, Ni, Pb, Si, Sn, Zn

EDS in SEM (Semi-Quantitative)

ASTM E1508

**Metallographic Evaluation**

Metallographic Preparation/Microetch  
Grain Size (Comparison)

ASTM E3, ASTM E407  
ASTM E112

Inclusion Rating  
Carburization/Decarburization

ASTM E45 (Method A)  
ASTM E1077; ARP 1820;  
AMS-H-6875

Microstructure Evaluation

ASTM E1268; AMS 2380, AMS 4911;  
BAC 5636; AMS 2759; NAS 4002, NAS 4003,  
NAS 4004, NAS 4008; ASM Hbk Vol. 9

Graphite in Cast Iron  
Plating/Coating Thickness  
Case Depth  
Macroetching

ASTM A247  
ASTM B487, ASTM B748  
SAE J423  
ASTM A604/A604M, ASTM E340,  
ASTM E381; AMS 6400

Corrosion Susceptibility

ASTM A262 (Rapid Screening),  
ASTM A923 (Methods A & B)

**Test:**

Volume Percent  
IGA, Eutectic Melting, HTO

IGO/IGA  
Alpha Case  
Dendrite Arm Spacing  
End Grain Pitting

**Corrosion**

Exfoliation Corrosion  
Pitting / Crevice Corrosion Resistance  
Salt Spray

**Test Method:**

ASTM E562  
BPS 4139; BHT LTI-1005; BAC 5602;  
STP54-101; ASTM G110  
ASTM F2111; BSS 7219  
P3TF19; BATS 2751  
ARP 1947  
BSS 7219; ASTM F2111

ASTM G34  
ASTM G48  
ASTM B117; NASM 1312-1; MIL-STD-1344;  
ISO 9227

**Physical Properties / NDT**

Electrical Contact Resistance  
Electrical Conductivity  
Surface Roughness  
Coating Weight  
Coating Adhesion (Bend test)  
Adhesion Test (Tape Adhesion)  
Liquid Penetrant Inspection (Water Washable  
Fluorescent)<sup>2</sup>  
Magnetic Particle Inspection (Bench Fluorescent)  
Magnetic Particle Inspection (Yoke)<sup>2</sup>  
Visual Inspection

Nital Etch Inspection

MIL-DTL-5541  
ASTM E1004  
ASME B46.1  
ASTM A90/A90M, A428, B137; MIL-A-8625  
ASTM B571  
ASTM D3359  
ASTM E1417/E1417M; BPS 4089; SS8806;  
BSS 7039  
ASTM E1444; E709; BPS-4075; SS8805  
ASTM E1444; E709; BPS-4075; SS8805  
EN 970; AWS D1.1, 1.2; BATS 2333;  
ASME Section XI  
AMS 2649; NDTs 9111; MIL-STD-867;  
STP 53-701

**Fastener Testing**

Fastener Hardness  
  
Stress Durability  
Decarburization  
  
Discontinuities  
  
Rotational Capacity  
  
Wedge and Axial Tensile  
  
Axial Proof Load (Internal & External Threads)  
  
Double Shear

ASTM F606/F606M, ASTM F3125,  
ASTM A325, ASTM A490; NASM 1312-6  
ASTM B839, F606; NASM 1312-5, -14  
ASTM F2328; SAE J419,  
SAE J121<sup>1</sup> (Superseded by F2328)  
ASTM F788, ASTM F812; SAE J122; NAS 498,  
NAS 4002, NAS 4003, NAS 4004, NAS 4008  
ASTM A325 Section 6.3, ASTM A490,  
ASTM F3125; DOT TEX 452A  
ASTM F606/F606M, ASTM F3125,  
ASTM A325; NASM 1312-8  
ASTM F606/F606M, ASTM F3125; SAE J995;  
NASM 1312-32  
NASM 1312-13



**Test:**

**Test Method:**

Composites and Adhesives Testing

Lap Shear, Single (+58 to +350) °F	MMM-A-132B; GM 4362A; ASTM D1002
Flow, Film Adhesive	SS8612; MMM-A-132B
Drape, Film Adhesive	SS8612; MMM-A-132B
Weight, Film Adhesive	SS8612; MMM-A-132B
T-Peel Strength	MMM-A-132B
Sandwich Beam Flexure (+58 to +350) °F	ASTM C393/C393M; C-M605; GM4309A
Climbing Drum Peel	ASTM D1781

Other Testing

Failure Analysis	ASM Handbook 11 (Using Other Test Methods on Scope)
Lab Specimen Heat Treatment	AMS-H-6875; BPS 4017, BPS 4140
SEM	OEM Manual

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<sup>1</sup> 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.

<sup>2</sup> This laboratory performs field testing activities for these tests.

*The laboratory is accredited for the test methods listed above. The accredited test methods are used in determining compliance with the material and general processing specifications listed below; however, the inclusion of these material specifications on this Scope does not confer laboratory accreditation to the material specifications. Inclusion of these material specifications on this Scope also does not confer accreditation for every method embedded within the specification. Only the methods listed above on this Scope are accredited.*

AMS: 2759/1, 2759/2, 2759/3, 2759/4, 2759/5, 2759/6, H-6875, H-6088<sup>1</sup> (Superseded by SAE AMS 2770, 2771 & 2772)  
ASTM: F3125  
NACE: MRO175 / ISO 15156

