SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

IMR TEST LABS
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MECHANICAL

Valid to: April 30, 2028 Certificate Number: 1140.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on: adhesives, aluminum alloys, brass and bronze, cables, carbon steel, cast iron, ceramics, coatings, composites, copper alloys, electronics, elastomers, fasteners, labels, low alloy steel, nickel, magnesium, cobalt, additive manufacturing parts, paints, plastics, powder metals, power and hand tools, rubber, stainless steel, super alloys, titanium alloys, zinc alloys, thermal spray, oil and oil products for the following industries: aerospace, automotive, nuclear, medical device, consumer products and industrial goods, metal production, general manufacturing, utilities, petrochemical and power generation:

Test[1]:	**Test Method(s):**
Mechanical Properties	
Bend	ASTM A370; ASME Section IX
Ductility (Bend)	ASTM E290
Elevated Tensile Test ≤ 2000 °F	ASTM E21
Impact (Charpy) (-320 to 400) °F	ASTM A370, E23, ISO 148-2
Lap Shear	ASTM D1002, D3163, D3528
Surface Roughness	ANSI/ASME B46.1
Strain Gaging	ASTM E1237
Tension (TS, YS, EL, RA) (up to 60,000 lbs.)	ASTM A370, B557, E8/E8M, E345, F606/F606M
Compression	ASTM E9
Young's, Tangent, and Chord Modulus (Room Temperature)	ASTM E111
Shear Testing of Aluminum	ASTM B769
Coatings & Platings	
Adhesion	ASTM B571 (Except Methods 4, 6, 7, 10, 11, 12, and 13), D3359
Adhesion or Cohesion Strength of Thermal Spray Coatings	ASTM C633
Microhardness of Coatings	ASTM B578
Tension Testing of Calcium Phosphate & Metal	ASTM F1147
Thickness by SEM	ASTM B748
Thickness by Cross Section	ASTM B487
Wet Tape Adhesion	FED-STD-141 Method 6301

Test[1]:	**Test Method(s):**
Corrosion / Environmental Testing	
Evaluation of Passivated Corrosion Resistant Stainless Steel Parts	ASTM A967/A967M; AMS 2700
Conversion Coatings	MIL-DTL-5541, MIL-DTL-81706
Salt Spray	ASTM B117, D610, G85; ISO 9227
Susceptibility to Stress Corrosion Cracking in Copper Alloys	ASTM B154
Fasteners	
Hardness	ASTM F606/F606M
Tensile (up to 60,000 lbs.)	
Axial	ASTM A370, E8/E8M, F606/F606M;
Proof (Internal & External Threads)	ASTM A370, F606/F606M
Stress Durability (Hydrogen Embrittlement)	ASTM F606/F606M; SAE/USCAR-7
Fatigue	
Axial (High Cycle/Low Cycle Fatigue) (0 to 55) kip	ASTM E606, E466, F1624
Shear Fatigue Testing	ASTM F1160
Measurement of Fatigue Crack Growth Rates	ASTM E647
Fracture Toughness/Mechanics	ASTM B645, E399, E1820
Creep Fatigue	ASTM E2714
Hardness	
Brinell (500, 1000, 1500, 3000 Kgf)	ASTM A370, E10
Rockwell & Superficial (A, B, C, F, 15N, 30N, 45N, 15T, 30T, 45T, E, 15Y)	ASTM A370, E18, F606/F606M
Macro-Vickers (1 to 10) kg	ASTM E92
Microhardness	
Knoop (10 to 1000) gf	ASTM E384/E92
Vickers (10 to 1000) gf	ASTM E384/E92
Hydrostatic Leak Testing	MAP-063
Metallurgical Exam	
Preparation of Specimens	ASTM E3
Alpha Case	FAP-032; GE P3TF19
Case Depth / Carburization	SAE J423
Depth of Decarburization	ASTM E1077, F2328; SAE J419
Delta Ferrite Content	AMS 2315
Grain Size	ASTM E112, E1382; GE E50TF133
Inclusion Content	ASTM E45
Intergranular Attack	AMS 2772; ASTM A262, G28, G110, BSS 7219
Microstructure	ASTM A247, E1268; ISO 945-1
Microetching	ASTM E407
Macroetching	ASTM E340, E381, A604
Chord Method-Microstructure	SAE ARP 1820
Non-Traditional Machining Exam	FAP-034

Test[1]:	Test Method(s):
Non-Metallic Testing	
Abrasion (Taber)	ASTM C501, D4060, F1978; MIL-PRF-8625F
Brookfield Viscometry	ASTM D2196
Compressibilty and Recovery of Gasket Material	ASTM F36
Compression Set	ASTM D395 Method B, D3575 (Suffix B)
Compressive Properties	ASTM D695, D3575 (Suffix D)
Conditioning	ASTM D618
Durometer (A, D, M)	ASTM D2240
Flammability	FAR 25.853
Flexural Properties of Plastics	ASTM D790
Gardner Impact	ASTM D2794, D5420
Mass Per Unit Area of Fabric	ASTM D3776
Melt Index	ASTM D1238
Rockwell (E, R, M)	ASTM E18
Rubber O-Rings	ASTM D1414 (Sections 7, 8, 11, 12)
Polymer Aging (Air, Liquids)	ASTM D573
Tear – Rubbers & Elastometers	ASTM D624 (Type B & C), D3575 (Suffix G)
Tensile/Elongation	ASTM D412, D638, D882, D3575 (Suffix T)
Vickers Hardness Testing of Advanced Ceramics	ASTM C1327, C1326
Paint & Coatings	
Adhesion	ASTM D3359
Blistering	ASTM D714
Coefficient of Friction	ASTM D1894
Corrosion Creepback	ASTM D1654
Polymer Composite Materials Testing	
Bearing/Bypass Interaction Response Polymer Matrix Composite Laminates	ASTM D5961, D7248
Climbing Drum Peel Strength of Adhesives	ASTM D1781
Compressive Properties Using Combined Loaded Compression	ASTM D6641
Compressive Properties with Unsupported Gage Section by Shear Loading	ASTM D3410
Conditioning of Polymer Composites	ASTM D5229
Constituent Content	ASTM D2584, D2734, D3171, D3529
Core Shear Properties of Sandwich Construction by Beam Flexure	ASTM C393
Curved Beam Strength of Fiber Reinforced Polymer Matrix Composite	ASTM D6415/D6415M
Filled Hole Tension & Compression Testing of Polymer Matrix Composite Laminates	ASTM D6742/D6742M
Flatwise Compressive Properties of Sandwich Core Materials	ASTM C365
Flexural Properties of Polymer Matrix Composites	ASTM D7264, D6272
Floating Roller Peel Strength	ASTM D3167
Gel Time	ASTM D3532
In-Plane Shear Response	ASTM D3518/D3518M

Test[1]:	**Test Method(s):**
Polymer Composite Materials Testing continued	
Open Hole Compression	ASTM D6484
Open Hole Tensile Testing	ASTM D5766
Shear Properties of Polymer Materials (V-Notch)	ASTM D5379/D5379M, D7078
Short Beam Strength	ASTM D2344
Resin Flow of Carbon Fiber-Epoxy PrePreg	ASTM D3531
Tensile Properties of Polymer Composites	ASTM C297/C297M, D3039/D3039M
Void Content	ASTM D2734
Volatiles Content	ASTM D3530, D3532
Powdered Metals	
Case Depth	MPIF 52
Charpy Impact	ASTM E23; ISO 148-1
Microhardness (HV 500g)	ASTM E384; MPIF 51
Tensile Properties	ASTM E8/E8M
Stereological Evaluation of Porous Coatings on Medical Implants	ASTM F1854
Shot Peen Qualification	MI-QC0-01-11A
Weld Testing	Using the methods listed above (and if applicable, on Scope of Accreditation 1140.02) in accordance with ASME Section IX, AWS D1.1/D1.1M, D1.2/D1.2M, D1.5/D1.5M, D17.1/D17.1M; BS EN ISO 9606-1, BS EN ISO 15614-1; ISO 5173, BS EN ISO 5817; DIN ISO 9015-1
Failure Analysis	Using the test methods listed above and on Scope 1140.01 and 1140.02, referencing the ASM handbook; ASTM E620, E678, E860, E883, and E1188

I. Dimensional Testing[2]

Parameter/Equipment	Range	Uncertainty (±)	Comments
Linear (1D)	Up to 1 in Up to 1 in Up to 8 in Up to 24 in	0.0001 in 0.0005 in 0.001 in 0.001 in	Digital dial indicators Digital micrometers Digital calipers Vernier caliper

[1]The laboratory is only accredited for the test methods listed above. The accredited test methods are used in determining compliance with any material specifications included on this scope and listed below. The inclusion of these material specifications on this Scope does not confer laboratory accreditation to the material specifications nor does it confer accreditation for the method(s) embedded within the specifications.

- Steel Tubing for Fluid Handling (Pressure Test) – GMW 17334, SAE J526

[2]This laboratory offers commercial dimensional testing service only. These tests are not equivalent to that of a calibration.

Accredited Laboratory

A2LA has accredited

IMR TEST LABS

Lansing, NY

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 7th day of April 2026.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1140.01
Valid to April 30, 2028

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