



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY DALEVILLE

9301 Innovation Dr., Suite 175

Daleville, IN 47334

Jon Wagner Phone: 215 579 7500

CHEMICAL

Valid To: August 31, 2026

Certificate Number: 0174.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on materials, metals and fasteners:

<u>Test(s):</u>	<u>Test Method(s):</u>
<u>Spectroscopy</u>	
ICP - (Ag, Al, Ar, As, Au, B, Ba, Be, Bi, C, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Ge, Hf, Hg, Ho, I, In, Ir, K, La, Li, Lu, Mg, Mn, Mo, N, Na, Nb, Nd, Ni, Os, P, Pb, Pd, Pr, Pt, Rb, Re, Rh, Ru, S, Sb, Sc, Se, Si, Sm, Sn, Sr, Ta, Tb, Te, Th, Ti, Tl, Tm, U, V, W, Y, Yb, Zn, Zr)	ASTM E1479, E2594, E2371; CTP 3101 ^{1,2}
Atomic Absorption - Graphite Furnace (Ag, Al, As, Au, B, Ba, Be, Bi, Ca, Cd, Ce, Cl, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Ge, Hf, Hg, Ho, In, Ir, K, La, Li, Lu, Mg, Mn, Mo, Na, Nb, Nd, Ni, Os, P, Pb, Pd, Pr, Pt, Rb, Re, Rh, Ru, S, Sb, Sc, Se, Si, Sm, Sn, Sr, Ta, Tb, Te, Th, Ti, Tl, Tm, U, V, W, Y, Yb, Zn, Zr)	ASTM E1184; CTP 3096-2 ²
Optical Emission - (Al, As, B, Be, Bi, C, Cd, Ce, Co, Cr, Cu, Fe, Hf, Mg, Mn, Mo, N, Nb, Ni, P, Pb, S, Sb, Si, Sn, Ta, Te, Ti, V, W, Y, Zn, Zr)	ASTM E415, E1086, E1251; CTP 3094 ²
X-ray Analysis - (Ag, Al, As, B, Ba, Be, Bi, Co, Cr, Cu, Fe, Ga, Hf, La, Mg, Mn, Mo, Nb, Ni, P, Pb, Rh, Ru, S, Si, Sn, Sr, Ta, Ti, V, W, Y, Zn, Zr)	ASTM E322, E539, E572, E1085, E1621; CTP 3093 ²
<u>Combustion / Inert Gas Fusion</u>	
Combustion (LECO) (C, S)	ASTM E1019, E1941; CTP 3098 ²
Inert Gas Analysis (LECO) (H, N, O)	ASTM E1019, E1409, E1447; CTP 3097 ² , CTP 3008-1 ²

<u>Test(s):</u>	<u>Test Method(s):</u>
<u>Wet Chemistry</u>	
Gravimetric	ASTM E478; CTP 3024 ²
Electrochemical Deposition	ASTM E53; CTP 3024 ²
<u>Physical Properties</u>	
Density	ASTM B311; CTP 3030-1 ²
Coating Weight	ASTM A90/A90M; CTP 3068 ² , CTP 3069 ²
Mercurous Nitrate	ASTM B154; PTP 1044 ²

¹This standard is a specification and is used to support the ICP test methods on the Lab's scope.

²In-House Test Method.



Accredited Laboratory

A2LA has accredited

ELEMENT MATERIALS TECHNOLOGY DALEVILLE

Daleville, IN

for technical competence in the field of

Chemical 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 22nd day of November 2024.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0174.01
Valid to August 31, 2026

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



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MECHANICAL

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<u>Test(s):</u>	<u>Test Method(s):</u>
<u>Physical Properties:</u>	
Bend	ASTM A370, E290, E190
Coating and Plating Adhesion	ASTM B571 (Less Sec. 6 & 10), C633, E290, F1147; Federal Test Method Standard 141, Method "Adhesion (Wet) Tape Test"
Creep, Stress Rupture	ASTM E139, E292
End Quench Hardenability - Jominy	ASTM A255; SAE J406
Hardness Testing	
Rockwell (A, B, C, E, F)	ASTM A370, E18; Bell Helicopter BPS 4467
Rockwell Superficial (15N, 30N, 45N, 15T, 30T, 45T)	ASTM A370, E18; Bell Helicopter BPS 4467
Brinell Hardness (500, 1000, 3000 Kg)	ASTM A370, E10
Microhardness	
Vickers (50, 100, 200, 300, 500, 1000g)	ASTM B578, E92, E384; NASM 1312-6
Knoop (25, 50, 100, 200, 300, 500, 1000g)	ASTM B578, E92, E384; NASM 1312-6
Hydrogen Embrittlement	ASTM F519
Impact Testing	
Charpy Impact (Room Temperature to 150°F)	ASTM A370, A923, E23
Izod Impact (Room Temperature)	ASTM E23

<u>Test(s):</u>	<u>Test Method(s):</u>
<u>Physical Properties (cont'd):</u>	
Tension / Tensile	
Elevated Temperature Tension / Tensile	ASTM E21
Tensile (60K max)	ASTM A370, B557/B557M, E8/E8M, E345, F1147; ISO 6892-1
Specimen Conditioning (HT)	MTP 2070 ¹
<u>Metallographic Evaluations:</u>	
Alpha Case	PTP 1007 ¹ ; GEAE P3TF19, P3TF32; PW MCLM E142
Bond Integrity / Oxide Content / Cracking	PTP 1060 ¹ ; GEPG P16B-AG11; PW MCLM E53
Case Depth	ARP 1820; SAE J423
Coating / Plating Thickness (Metallographic)	ASTM B487
Corrosion and Exfoliation Corrosion Susceptibility	ASTM A262 (Practice A, E), A763 (Practice W), A923, G28 (Method A), G34, G110, F2111; PTP 1048 ¹ , PTP 1026 ¹
Depth of Decarburization	AMS-H-6875; ASTM E1077, F2328
Grain Size	ASTM E112, E883, E930, E1181
Image Analysis (Second Phase Analysis)	ASTM E1245
Inclusion Content	ASTM E45; SAE J422
Macroetching	ASTM A604, E340, E381
Microetching	ASTM E407
Microstructure Evaluation	ASM Metals Handbook (Volume 7, 8 th Edition); NAS 4002, 4004; PTP 1010 ¹ ; FTP 4004 ¹
Preparation	ASTM E3
Recast / Re-melt	PTP 1049 ¹
Surface Finish	SAE J448; ASME B46.1
Visual / Microscopic Metallurgy	GE P3TF3, PTP 1055 ¹

<u>Test(s):</u>	<u>Test Method(s):</u>
<u>Metallographic Evaluations (cont'd):</u>	
Welder Certification / Weld Procedure Testing (Visual, Mechanical)	Using the methods listed above in accordance with: ASME Section IX; AWS: D1.1/D1.1M, D1.2/D1.2M, D1.3/D1.3M, D1.5/D1.5M, D1.6/D1.6M, D9.1/D9.1M, D10.9/D10.9M, D17.1/D17.1M; MIL-STD-248D (Withdrawn 1997); NAVSEA S 9074-AQ-GIB-010/248
<u>Environmental Simulation:</u>	
Salt Spray	ASTM B117, D1654; NASM 1312-1; GM4298P (Superseded 2010)

¹In-House Test Method.



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