



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ELEMENT MATERIALS TECHNOLOGY DALEVILLE LLC

9301 Innovation Dr., Suite 175

Daleville, IN 47334

Teent Hoagland Phone: 765 378 4170

CHEMICAL

Valid To: August 31, 2020

Certificate Number: 0174.01

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 to perform the following tests on materials, metals and fasteners:

| Test | Test Method(s) |
|---|---|
| <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; CTP 3101 ³ |
| 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 ¹ |
| 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 ¹ |
| DCP (Ag, Al, As, Au, B, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Ge, Hf, Hg, Ho, In, Ir, K, La, Li, Mg, Mn, Mo, Na, Nb, Nd, Ni, P, Pb, Pd, Pr, Pt, Re, Rh, Ru, S, Sb, Sc, Se, Si, Sm, Sn, Sr, Ta, Te, Th, Ti, Tl, Tm, U, V, W, Y, Yb, Zn, Zr) | ASTM E1097; CTP 3005 ¹ |
| 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 ¹ |

| <u>Test</u> | <u>Test Method(s)</u> |
|--------------------------------------|---|
| <u>Combustion / Inert Gas Fusion</u> | |
| Combustion (LECO) (C, S) | ASTM E1019, E1941; CTP 3098 ¹ |
| Inert Gas Analysis (LECO) (H, N, O) | ASTM E1019, E1409, E1447; CTP 3097 ¹ , CTP 3008-1 ¹ |
| <u>Wet Chemistry</u> | |
| Gravimetric | ASTM E478; CTP 3024 ¹ |
| Electrochemical Deposition | ASTM E53; CTP 3024 ¹ |
| <u>Physical Properties</u> | |
| Density | ASTM B311, B328 (Withdrawn 2009) ² , B962, B963; CTP 3030-1 ¹ , CTP 3071 ¹ |
| Coating Weight | ASTM A90/A90M; CTP 3069 ¹ |
| Mercurous Nitrate | ASTM B154; PTP 1044 |
| Porosity | ASTM B328 (Withdrawn 2009) ² , B962, B963; CTP 3071 ¹ |
| Oil Content | ASTM B328 (Withdrawn 2009) ² , B962, B963; CTP 3071 ¹ |
| <u>Failure Analysis</u> | Using the methods listed above in accordance with ASM Handbook Volume 11 and QAP-1031 ¹ |

¹In-House Test Methods.

²This 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.

³This standard is a specification and is used to support the ICP test methods on the Lab's scope.





Accredited Laboratory

A2LA has accredited

ELEMENT MATERIALS TECHNOLOGY DALEVILLE LLC

Daleville, IN

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of R223 – Specific Requirements: GE Aviation S400 Accreditation Program. 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 21st day of May 2018.

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

President and CEO
For the Accreditation Council
Certificate Number 0174.01
Valid to August 31, 2020

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