



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT CLEVELAND
5405 East Schaaf Road
Cleveland, OH 44131
Jeffry Smith Phone: 216 525 8046
Jeffry.Smith@element.com

CHEMICAL

Valid To: September 30, 2022

Certificate Number: 0100.02

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 metals:

<u>Test</u>	<u>Test Method(s)</u>
Combustion Analysis (C, S) Low Alloy Steel Base Alloys, Stainless Steel Base Alloys, Ni Base Alloys, Co Base Alloys, Ti Base Alloys Exclusions: S in Ti Base, S in Co Base	ASTM E1019, SOP 10.04 ¹
Inert Gas Fusion (N, O) Low Alloy steel Base Alloys, Stainless Base Alloys Ni Base Alloys, Co Base Alloys, Cu Base Alloys	ASTM E1019, SOP 10.08 ¹
Inert Gas Fusion (N, O) Ti Base Alloys	ASTM E1409, SOP 10.08 ¹
Inert Gas Fusion (H ₂) Ti Base Alloys	ASTM E1477, SOP 10.09 ¹
Optical Emission / ICP Fe Base Alloys (Al, B, Co, Cr, Cu, Mn, Mo, Nb, Ni, P, Si, Ti, V, W)	ASTM D1976, E1479, D1976, SOP 10.30 ¹ ,
Stainless Steel Base Alloys (Al, B, Co, Cr, Cu, Mn, Mo, Nb, Ni, P, Si, Ti, V, W)	ASTM D1976, E1479, D1976, SOP 10.30 ¹ , SOP 10.21 ¹
Al Base Alloys (Be, Cr, Cu, Fe, Mg, Mn, Ni, Pb, Si, Sn, Ti, V, Zn, Zr)	ASTM D1976, E1479, D1976, SOP 10.30 ¹ , SOP 10.20 ¹
Ni Base Alloys (Al, Co, Cr, Cu, Fe, Mn, Mo, Nb, P, Si, Ti, W, Zr)	ASTM D1976, E1479, D1976, SOP 10.30 ¹ , SOP 10.19 ¹

Test

Test Method

Optical Emission / ICP continued

Co Base Alloys
(Al, Cr, Cu, Fe, Mn, Mo, Nb, Ni, P, Si, Ti, V, W)

ASTM D1976, E1479, D1976, SOP 10.30¹,
SOP 10.24¹

Cu Base Alloys
(Al, Be, Co, Cr, Fe, Mn, Ni, P, Pb, Si, Sn, Zn)

ASTM D1976, E1479, D1976, SOP 10.30¹,
SOP 10.23¹

Ti Base Alloys
(Al, Cr, Cu, Fe, Mn, Mo, Ni, Si, Sn, V, Zr)

ASTM D1976, E1479, D1976, E2371,
SOP 10.30¹, SOP 10.25¹

Mg Base Alloys
(Al, Cr, Cu, Fe, Si, Mn, Ni, Pb, Sn, Zn, Zr)

ASTM D1976, E1479, D1976, SOP 10.30¹,
SOP 10.29¹

Optical Emission / Spark

Low Alloy Steel Base Alloys
(Al, B, C, Cr, Cu, Mn, Mo, Ni, P, S, Si)

ASTM E415, SOP 10.05¹

Stainless Steel Base Alloys
(Al, C, Cr, Co, Cu, Mn, Mo, N, Nb, Ni, P, S, Si, Ti, V, W)

ASTM E1086, SOP 10.05¹

Al Base Alloys
(Be, Bi, Cr, Cu, Fe, Mn, Mg, Ni, Pb, Si, Sn, Ti, V, Zn, Zr)

ASTM E1251, E607, SOP 10.05¹

Ni Base Alloys
(Al, C, Co, Cr, Cu, Fe, Mo, Mn, Nb, P, Si, Ta, Ti, W, Zr)

SOP 10.05¹

Co Base Alloys
(Al, C, Cr, Cu, Fe, Mo, Mn, Nb, Ni, P, S, Si, V, W)

SOP 10.05¹

XRF

Low Alloy Steel Base Alloys
(Al, Co, Cr, Cu, Mn, Mo, Nb, Ni, P, Pb, Si, Sn, Ti, V)

ASTM E322, E1086, SOP 10.07¹

Stainless Steel Base Alloys
(Co, Cr, Cu, Mn, Mo, Nb, Ni, P, Si, Ta, Ti, V, W)

ASTM E572, E1086, SOP 10.07¹

Ni Base Alloys
(Al, Co, Cr, Cu, Fe, Mn, Mo, Nb, P, Si, Ta, Ti, V, W, Zr)

SOP 10.07¹

Cu Base Alloys
(Ag, Al, Co, Cr, Fe, Mn, Ni, P, Pb, S, Sn, Zn)

SOP 10.07¹

Ti Base Alloys
(Al, Cr, Cu, Fe, Mn, Mo, Nb, Ni, Si, Sn, V, Y, Zr)

ASTM E539, SOP 10.07¹

Graphite Furnace Atomic Absorption

Ni Base Alloys
(Ag, Bi, Pb, Se, Te, Tl)

ASTM E1184, SOP 10.40¹

¹ In-house test procedure.



Accredited Laboratory

A2LA has accredited

ELEMENT CLEVELAND

Cleveland, OH

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 laboratory also meets the requirements of R223 – Specific Requirements – GE Aviation S-400 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 14th day of October 2020.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0100.02
Valid to September 30, 2022

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