SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY BOXBOROUGH
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MECHANICAL

Valid to: September 30, 2027 Certificate Number: 0214.15

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory, to perform the following environmental simulation tests:

Test Technology:	**Test Methods**[1]:
Vibration[2] Sine, Random, High Frequency, Fatigue, Shock, Gunfire, SRS, Kurtosis, Mixed Mode, Seismic. 1Hz to 20kHz 40,000 pounds force 3" Stroke Combined Environment of (-100 to 250°C)	ETSI 300 019; MIL-STD-167-1; MIL-STD-167-1A; MIL-STD-202 (Methods 201, 201A, 202, 202D, 203B, 204, 204D, 205, 212, 213, & 214); MIL-STD-740-2; MIL-STD-750, -781; MIL-STD-810 A, B, C, D, E (all changes), F (all notices), G, G(1), H, H(1) (Methods 514, 516, & 519); MIL-STD-883C, E(all notices), F, G, H, J(all changes), K(all changes), L (Methods 2002, 2005, 2007, & 2026); MIL-STD-1344 (Methods 2004, 2005); ANSI/IEEE 344, 382; ANSI/IEEE C37.98; ATIS 0600329; ASTM D999, D5276; ASTM D4169-05, -08, -09, -14, -16, -22, -23e; GR-63-CORE; GR-3108-CORE; GR-3160-CORE; GR-487-CORE; GR-2834-CORE; EN/IEC 60065, 60204-1; ETS EN 300 019; IEC 68-2-27, 68-2-34; IEC 60068; RTCA/DO-160B, C, D(all changes), E, F, G, G(1) (Sections 7 & 8)

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Test Technology:	**Test Methods**[1]:
Vibration[2] Sine, Random, High Frequency, Fatigue, Shock, Gunfire, SRS, Kurtosis, Mixed Mode, Seismic. 1Hz to 20kHz 40,000 pounds force 3" Stroke Combined Environment of (-100 to 250°C) (continued)	ISTA Pre-shipment Test Procedures (1A, 1B, 1C, 1D, 1E, 1G, 1H, 2A, 2B, 2C, 2D, 2E, 3A, 3E, 3F, 3H, 5B, 7B, 7C, 7D, 6-series*)* (excluding horizontal impact test); ATIS 0600329; IEEE STD 344-2004; IBC 2000; AC156
Environmental[2] Temperature -150°C to 250°C Humidity 5%RH to 95%RH Altitude (-100°C to 250°C) – Up to 30,000 ft in walk-in chamber Up to 78,000 ft in 64 cubic feet chamber, Thermal Shock (-100°C to 250°C)	ETSI 300 019; MIL-STD-202 (Methods 101, 103, 104, 105, 106, 107, 108, 111, 215, 301, 302, 303, 305, 307, & 310); MIL-STD-810 A, B, C, D, E (all changes), F (all notices), G, G(1), H, H(1) (Methods 500, 501, 502, 503, 506, 507, 509, 512, 521); MIL-STD-883C, E(all notices), F, G, H, J(all changes), K(all changes), L (Methods 1001, 1002, 1003, 1004, 1005, 1007, 1008, 1009, 1010, 1011, 1012, & 1013); GR-63-CORE (Sections 4.1.2, 4.1.3); GR-3108-CORE; GR-3160-CORE; RTCA DO-160 B, C, D(all changes), E, F, G, G(1) (Sections 3, 4, 5, 6,); IEC 60068; ASTM D4169-05, -08, -09, -14, -16, -22, -23e; ISTA Pre-shipment Test Procedures (1A, 1B, 1C, 1D, 1E, 1G, 1H, 2A, 2B, 2C, 2D, 2E, 3A, 3E, 3F, 3H, 5B, 7B, 7C, 7D, 6-series)
Salt Fog[2]	MIL-STD-810 A, B, C, D, E (all changes), F (all notices), G, G(1), H, H(1) (Method 509, p1, 518); ASTM B117; ASTM G85-11; RTCA DO-160 B, C, D(all changes), E, F, G, G(1) (Section 14)
Acidic Atmosphere[2]	MIL-STD-810 A, B, C, D, E (all changes), F (all notices), G, G(1), H, H(1) (Method 518)
Leak testing[2]	MIL-STD-202 (Method 112) Except Conditions E & F
Degrees of Protection Provided by Enclosures[2] (Hazardous Parts, Solid Foreign Objects, Dust, Rain, Water spray, Immersion, Protection of Electrical Equipment)	MIL-STD-810 A, B, C, D, E (all changes), F (all notices), G, G(1), H, H(1) (Method 506); RTCA DO-160 B, C, D(all changes), E, F, G, G(1) (Section 10); IEC 60068-2-18

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Test Technology:	**Test Methods**[1]:
Degrees of Protection Provided by Enclosures[2] (Hazardous Parts, Solid Foreign Objects, Dust, Rain, Water spray, Immersion, Protection of Electrical Equipment) (cont.)	CEI/IEC 60529:1989/AMD2:2013/COR1:2019, (Sections 12.3.1, 12.3.2, 12.3.3, 13.2, 13.3, 13.4, 14.2.1, 14.2.2, 14.2.3, 14.2.4, 14.2.5, 14.2.6, 14.2.7, 14.2.8, 15.2); ISO 20653 IPX9K
Drop Testing[2]	ISTA Pre-shipment Test Procedures (1A, 1B, 1C, 1D, 1E, 1G, 1H, 2A, 2B, 2C, 2D, 2E, 3A, 3E, 3F, 3H, 5B, 7B, 7C, 7D, 6-series) (excluding horizontal impact test); ASTM D4169-05, -08, -09, -14, -16, -22, -23e; GR-63-CORE; MIL-STD-810 A, B, C, D, E (all changes), F (all notices), G, G(1), H, H(1) (Method 516)
Freezing Rain/Icing[2]	MIL-STD-810 A, B, C, D, E (all changes), F (all notices), G, G(1), H, H(1) (Method 521); RTCA/DO-160 B, C, D(all changes), E, F, G, G(1) (Section 24)
HALT/HASS[2] (-100 to 200) °C Up to 50 gRMS	BOX-SOP-ENV-005
Acceleration[2]	RTCA/DO-160 B, C, D(all changes), E, F, G, G(1) (Section 7.3); MIL-STD-810 A, B, C, D, E (all changes), F (all notices), G, G(1), H, H(1) (Method 513.5)
Fluid Testing[2]	RTCA/DO-160 B, C, D(all changes), E, F, G, G(1) (Section 11); MIL-STD-810 A, B, C, D, E (all changes), F (all notices), G, G(1), H, H(1) (Method 504); MIL-STD-202 (Method 215)
Sun Simulation[2]	MIL-STD-810 (Method 505 Heat Load)
Explosive Atmosphere[2]	MIL-STD-810 A, B, C, D, E (all changes), F (all notices), G, G(1), H, H(1) (Method 511.4); RTCA/DO-160 B, C, D(all changes), E, F, G, G(1) (Section 9)
Test Methods for Semiconductor Devices[2]	MIL-STD-750 (Methods 1001, 1011, & 1021)
Fire Testing[2] (Needle Flame, Flammability, NEBS (Bellcore) Fire Spread)	EN/IEC 60695-2-2; ATIS 0600307; ATIS 0600319; UL 1694

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Test Technology:	Test Methods[1]:
Fire Testing[2] (Needle Flame, Flammability, NEBS (Bellcore) Fire Spread) (cont.)	GR-63-CORE; ASTM D635; RTCA DO-160 B, C, D(all changes), E, F, G, G(1) (Section 26 for Fire Resistance or Fire Proof); GR-3108-CORE; GR-3160-CORE; ATIS 0600319

On the following types of products:
Aircraft components; automotive components; pipes, hoses, valves and fittings; pressure vessels, consumer electronics, medical devices, industrial controls, test and measurement equipment, IT equipment, HVAC controls and systems, telephone equipment, circuit breakers; and seismic vibration on electrical components, frames, motors and HVAC.

[1] When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories may use the version that immediately precedes the current version for a period of one year from the date of publication of the standard test method, per Annex A, Part C of A2LA's *R101 - General Requirements: Accreditation of Conformity Assessment Bodies.*

[2] This laboratory also uses customer supplied specifications directly related to the testing technologies and parameters listed above.

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Accredited Laboratory

A2LA has accredited

ELEMENT MATERIALS TECHNOLOGY BOXBOROUGH

Boxborough, MA

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 11th day of November 2025.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0214.15
Valid to September 30, 2027

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

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