SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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MECHANICAL

Valid to: August 31, 2027 Certificate Number: 1719.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory for the following environmental simulation and mechanical tests on the following products and materials: aircraft components, automotive components, gaskets, seals and packings, packaging and containers, pipes, hoses, valves and fittings, rubber and rubber products, tools, windows and doors, wiring harnesses, subassemblies, telecommunication cabinets and components in the Telecommunications, Aircraft, Aerospace, Automotive, Medical, Defense, Electronics and Agriculture industries.

Test Technology/Description:	**Test Method(s)/Standard(s)[2, 4]:**
Compression	GR-3125-CORE; GR-3121-CORE; GR-3120-CORE; GR-487-CORE; GR-771-CORE; GR-950-CORE; GR-3178-CORE
Explosion	MIL-STD-810, Method 511; RTCA/DO-160, Section 9; ISO 8846
Earthquake / Seismic[1] *Frequency: (1 to 500) Hz* *Velocity: 40 in/sec* *Displacement: 10.5 in*	GR-63-CORE; ICC-ES AC 156; GR-3121-CORE; GR-3123-CORE; GR-3125-CORE; GR-13-CORE; GR-487-CORE; GR-950-CORE; GR-3108-CORE; GR-3178-CORE

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Test Technology/Description:	Test Method(s)/Standard(s)[2, 4]:
Firearms Resistance[3]	GR-487-CORE; GR-3125-CORE; GR-13-CORE; GR-771-CORE; GR-937-CORE; GR-950-CORE; GR-3108-CORE; GR-3178-CORE
Fire Test (powerplant)	DOT/FAA AC 20-135A; ISO 2685; RTCA/DO-160, Section 26, Cat A & B; SAE AS4273; SAE AS1055 AS6826
Fire Test / Flammability	RTCA/DO-160, Section 26, Cat C; UL 94; GR-13-CORE; GR-63-CORE; GR-487-CORE; ANSI T1-319; GR-3120-CORE; GR-3125-CORE; GR-771-CORE; GR-937-CORE; GR-950-CORE; GR-3178-CORE; GR-326-CORE
Fungus	ASTM C1338; ASTM G21; GR-13-CORE; GR-487-CORE; MIL-STD-810, Method 508; RTCA/DO-160, Section 13; SAE J1455; GR-771-CORE; GR-950-CORE; MIL-PRF-28800 F;
Hosedown / Water Resistance / Waterproofness / Enclosure Protection	IEC 60529, IPX1; IEC 60529, IPX2; IEC 60529, IPX3, Section 14.2.3; IEC 60529, IPX4, Section 14.2.4; IEC 60529, IPX5, Section 14.2.5; IEC 60529, IPX6, Section 14.2.6; IEC 60529, IPX7, Section 14.2.7; IEC 60529, IPX8, Section 14.2.8; NEMA 250 (2014); RTCA/DO-160, Section 10; UL 50 (2007); UL 50E (2007);

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Test Technology/Description:	Test Method(s)/Standard(s)[2, 4]:
Hosedown / Water Resistance / Waterproofness / Enclosure Protection *(cont.)*	MIL-STD-810, Method 512 (Immersion); GR-3125-CORE; GR-13-CORE; GR-487-CORE; GR-771-CORE; GR-937-CORE; GR-950-CORE; GR-3108-CORE; GR-3178-CORE
Humidity[1] *Up to 98% RH* *Temperature: (40 to 200) °F*	GR-487-CORE; GR-63-CORE; MIL-STD-810, Method 507; RTCA/DO-160, Section 6; SAE J1455; IEC 60945, Section 8.3; IEC 60068-2-30; IEC 60068-2-38; IEC 60068-2-56; IEC 60068-2-61; IEC 60068-2-78; IEC 60068-3-4; ASTM D4332; GR-3120-CORE; GR-3121-CORE; GR-3123-CORE; GR-3125-CORE; GR-13-CORE; GR-771-CORE; GR-937-CORE; GR-950-CORE; GR-3108-CORE; GR-3178-CORE; GR-326-CORE
Impact Resistance	ASTM D2794; GR-487-CORE; GR-3120-CORE; GR-3121-CORE; GR-3123-CORE; GR-3125-CORE; GR-13-CORE; GR-771-CORE; GR-937-CORE; GR-950-CORE; GR-3178-CORE; GR-326-CORE
Package Testing and Drop	ASTM D4169; GR-3120-CORE; GR-3121-CORE; GR-3123-CORE; GR-3125-CORE; GR-13-CORE;

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Test Technology/Description:	**Test Method(s)/Standard(s)[2, 4]:**
Package Testing *(cont.)*	GR-487-CORE; GR-771-CORE; GR-950-CORE; GR-3108-CORE; GR-3178-CORE; GR-326-CORE
Salt Spray,Corrosion Resistance, and Cyclic Corrosion[1] *8'H x 8'W x 12'L Chamber* *Temperature: (30 to 55) °C*	ASTM B117; ASTM G85; GR-487-CORE; MIL-STD-810, Method 509; NEMA 250 (2014); RTCA/DO-160, Section 14; SAE J1455; UL 50 (2007); UL 50E (2007); IEC 60068-2-11; IEC 60945, Section 8.12; GR-3121-CORE; GR-3125-CORE; GR-13-CORE; GR-771-CORE; GR-937-CORE; GR-950-CORE; GR-3108-CORE; GR-3178-CORE; GR-326-CORE; IEC 60945, Section 8.12; IEC 60068-2-52
Rain / Blowing Rain / Wind Driven Rain[1] *Velocity: up to 90 mph* *Rainfall Rate: up to 6 in/hr*	GR-487-CORE; MIL-STD-810, Method 506; NEMA 250 (2014); UL 497, Para. 34; UL 50 (2007); UL 50E (2007); IEC 60945, Section 8.8; GR-3125-CORE; GR-771-CORE; GR-950-CORE; GR-3178-CORE; GR-326-CORE

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Test Technology/Description:	**Test Method(s)/Standard(s)[2, 4]:**
Temperature Exposure / High or Low / Thermal Shock[1] *Temperature: (-100 to 650) °F/* Temperature Shock[1] *(-150 to 350) °F*	GR-487-CORE; GR-63-CORE; MIL-STD-810, Methods 501 and 502; NEMA 250 (2014); RTCA/DO-160, Section 4; SAE J1455; IEC 60945, Sections 8.2 and 8.4; IEC 60068-2-1; IEC 60068-2-2; IEC 60068-2-14; IEC 60068-2-53; IEC 60068-2-61; GR-3120-CORE; GR-3121-CORE; GR-3123-CORE; GR-3125-CORE; GR-13-CORE; GR-771-CORE; GR-937-CORE; GR-950-CORE; GR-3108-CORE; GR-3178-CORE; GR-326-CORE SAE J1455; MIL-STD-810, Method 503; IEC 60945; ASTM D4332; GR-13-CORE; GR-63-CORE; GR-487-CORE; GR-950-CORE
Tensile	GR-326-CORE; GR-3120-CORE
Ultraviolet Resistance	ASTM D4459; ASTM G53-1996; ASTM G151; ASTM G154; ASTM G155; GR-487-CORE; IEC 60945, Section 8.10; IEC 60068-2-5; SAE J2527; UL 746C; UL 1581; MIL-STD-810, Method 505

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Test Technology/Description:	**Test Method(s)/Standard(s)[2, 4]:**
Altitude / Pressure / Decompression[1] *(-2,000 to 120,000) ft*	GR-63-CORE; MIL-STD-810, Method 500,; RTCA/DO-160; SAE J1455; IEC 60068-2-13; IEC 60068-2-40; IEC 60068-2-41; UL 50 (2007); UL 50E (2007); ASTM D6653; GR-3108-CORE
Combined Environment *(excluding vibration)*	MIL-STD-810, Method 520
Sand and Dust	GR-487-CORE; IEC 60529, IP5X, Sections 13.4 and 13.5; IEC 60529, IP6X, Sections 13.4 and 13.6; RTCA/DO-160, Section 12; MIL-STD-810, Method 510; MIL-STD-202, Method 110; IEC 60068-2-68; GR-326-CORE; GR-937-CORE; GR-950-CORE; GR-3120-CORE; GR-3123-CORE; GR-3125-CORE
Highly Accelerated Life Testing (HALT)[1]	HALT and HASS (Section 3), Gregg K. Hobbs, Ph.D., PE; Hobbs Engineering; 1992. *Accelerated Reliability Engineering: HALT and HASS* (pp. 31-75);
Highly Accelerated Stress Screening (HASS) [1] *Temperature: (-100 to 200) ℃* *Ramp Rate: 70℃/min* *50 Grms Repetitive Shock with Six Degrees of Freedom*	*HALT, HASS & HASA Explained: Accelerated Reliability Techniques* (pp. 2-25) Harry W. McLean, ASQ Quarterly Press, 2000
Shock / Drop	GR-487-CORE; GR-63-CORE; MIL-STD-810, Method 516; RTCA/DO-160, Section 7; SAE J1455; IEC 60945, Section 8.6; IEC 60068-2-27; IEC 60068-2-31; ASTM D5276; GR-3121-CORE; GR-3123-CORE

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Test Technology/Description:	**Test Method(s)/Standard(s)[2, 4]:**
Vibration, Standard / Transportation[1] *(1 to 3,000) Hz @* *18,000 lbf Sine or* *15,000 lbf Random*	GR-487-CORE; GR-63-CORE; MIL-STD-810, Method 514; RTCA/DO-160, Section 8; SAE J1455; IEC 60945, Section 8.7; IEC 60068-2-6; IEC 60068-2-50; IEC 60068-2-51; IEC 60068-2-53; IEC 60068-2-64; IEC 60079-29-1, Section 5.4.13; IEC 60079-29-4, Section 5.4.8; ASTM D4728; ASTM D999; MIL-STD-167;
Vibration, Standard / Transportation[1] *(1 to 3,000) Hz @* *18,000 lbf Sine or* *15,000 lbf Random* *(cont.)*	GR-326-CORE; GR-3120-CORE; GR-3121-CORE; GR-3123-CORE; GR-3125-CORE
Acceleration[1] *Range: (0 to 110) Gs*	MIL-STD-810, Method 513, Procedures I and II; RTCA/DO-160, Section 7; IEC 60068-2-7
Icing / Freezing Rain	MIL-STD-810, Method 521; NEMA 250 (2014); RTCA/DO-160, Section 24; UL 50 (2007); UL 50E (2007); GR-487-CORE; GR-771-CORE; GR-950-CORE; GR-3120-CORE; GR-3125-CORE
Fluid Susceptibility / Immersion and Splash / Contamination by Fluids	MIL-STD-810, Method 504; RTCA/DO-160, Section 11; SAE J1455; IEC 60945, Sections 8.8, 8.9, and 8.11; IEC 60068-2-18; GR-487-CORE; GR-13-CORE; GR-771-CORE; GR-902-CORE; GR-937-CORE; GR-950-CORE; GR-3120-CORE; GR-3121-CORE; GR-3123-CORE; GR-3125-CORE

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Test Technology/Description:	**Test Method(s)/Standard(s)[2, 4]:**
Acoustic Noise	GR-63-CORE; GR-487-CORE; GR-3108-CORE
Steam Cleaning / Pressure Washing	SAE J1455
Telecommunications Tests:	
AC Fault	GR-771-CORE; GR-902-CORE; GR-950-CORE; GR-3121-CORE; GR-3123-CORE; GR-3125-CORE
Backscatter, Attenuation	GR-13-CORE; GR-326-CORE; GR-771-CORE; GR-950-CORE; GR-3120-CORE; GR-3121-CORE; GR-3123-CORE; GR-3125-CORE
CATV Mechanical Bend and Torque	ANSI/SCTE 10; ANSI/SCTE 88; ANSI/SCTE 98; ANSI/SCTE 149; ANSI/SCTE 166
CATV Dimensional Measurements	ANSI/SCTE 31; ANSI/SCTE 33; ANSI/SCTE 39; ANSI/SCTE 51
CATV Tensile and Compression	ANSI/SCTE 59; ANSI/SCTE 61; ANSI/SCTE 73; ANSI/SCTE 99; ANSI/SCTE 191
CATV Environments	ANSI/SCTE 60; ANSI/SCTE 69; ANSI/SCTE 143

Industries served: Telecommunications, Aerospace, Defense, and Electronics

Note: This lab is capable of performing current and older versions of MIL-STD-810 (versions B through G) and RTCA/DO-160 (versions B through G) for the methods listed above.

The methods listed above on this Scope are accredited. The following test method is a guideline utilized to perform the above fungus test: ***MIL-HBK-454B, Guideline 4***.

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[1]Also using customer specific test methods utilizing any combination of test equipment parameters listed above.

[2]This scope meets A2LA's *P112 Flexible Scope Policy*.

[3]This laboratory performs field testing activities for these tests.

[4]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 measurement method, per part C., Section 1 of A2LA *R101 - General Requirements-Accreditation of ISO-IEC 17025 Laboratories.*

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Accredited Laboratory

A2LA has accredited

ELEMENT MATERIALS TECHNOLOGY MINNEAPOLIS LLC

Minneapolis, MN

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 27th day of October 2025.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1719.01
Valid to August 31, 2027
Revised April 9, 2026

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

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