



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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MECHANICAL

Valid To: December 31, 2022

Certificate Number: 0767.03

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following mechanical tests on Military, Aerospace, Automotive and Commercial Products:

Altitude: -15,000 ft (170 kPa) to 400,000 ft or $5 \times 10E^{-6}$ TORR - Chamber Volumes up to 745 Cubic Feet
Durability

Explosive Environment: Chamber Volume 75 Cubic Feet, Altitudes up to 50,000 Feet

Fungus: Test Area Size 36 in x 36 in

Temperature and Humidity: Relative Humidity Range from Desert (5 %RH @ 120 °F) to Tropical Forest (100 %RH @ 65 °F to 165 °F)

- Chamber volumes up to 4,500 Cubic Feet

Salt Fog/Spray/Acidic Atmosphere Chamber Volume: up to 2,500 Cubic Feet

Sand & Dust Chamber Volumes: up to 200 Cubic Feet; Velocities up to 5,700 Feet/Minute

Seat Belt Assembly Testing

Thermal Shock

Sun/Solar Radiation

Temperature: Chambers from (64 to 4,500) Cubic Feet; Ambient temperatures from (-150 to 350) °F

Water Immersion

Wind and Rain

Freezing Rain/Icing/De-Icing

Fluid Susceptibility

Optical Testing

Abrasion

Material Properties

Using the following specifications directly related to the above listed testing parameters and technologies:

<u>Test Technology:</u>	<u>Test Method(s) ²:</u>
Altitude: Low Pressure	MIL-STD-810C, Method 500.1; MIL-STD-810D, Method 500.2; MIL-STD-810E, Method 500.3; MIL-STD-810F, Method 500.4; MIL-STD-810G, Method 500.5; MIL-STD-810G w/ Change 1, 500.6; MIL-STD-810H, 500.6
Altitude: Temperature	MIL-STD-810C, Method 504.1; RTCA/DO-160E (4.0)
Altitude Temperature / Humidity Altitude Immersion	RTCA/DO-160F; RTCA/DO-160G; MIL-STD-810C, Method 518.1; MIL-STD-1344A
Low Temperature / High Temperature	MIL-STD-810C, Method 501.1; MIL-STD-810D, Method 501.2; MIL-STD-810E, Method 501.3; MIL-STD-810F, Method 501.4; MIL-STD-810G, Method 501.5; MIL-STD-810G w/ Change 1, Method 501.6; MIL-STD-810H, Method 501.7; MIL-STD-810C, Method 502.1; MIL-STD-810D, Method 502.2; MIL-STD-810E, Method 502.3; MIL-STD-810F, Method 502.4; MIL-STD-810G, Method 502.5; MIL-STD-810G w/ Change 1, Method 502.6; MIL-STD-810H, Method 502.7; ATPD 2352R, Sections 3.3.1.1, 4.3.1.1, 3.3.1.2, and 4.3.1.2; ATPD 2352T, Sections 3.3.1.1, 4.3.1.1, 3.3.1.2, and 4.3.1.2; RTCA/DO-160E (Section 5); RTCA/DO-160F (Section 5); RTCA/DO-160G; MIL-STD-1344A
Temperature Shock	MIL-STD-810C, Method 503.1; MIL-STD-810D, Method 503.2; MIL-STD-810E, Method 503.3; MIL-STD-810F, Method 503.4; MIL-STD-810G, Method 503.5; MIL-STD-810G w/ Change 1, Method 503.6; MIL-STD-810H, Method 503.7; MIL-STD-202, Method 107G; ATPD 2352R, Sections 3.3.4 and 4.3.4; ATPD 2352T, Sections 3.3.4 and 4.3.4; RTCA/DO-160E (Section 5); RTCA/DO-160F (Section 5); RTCA/DO-160G
Solar Radiation (Sunshine)	MIL-STD-810C, Method 505.1; MIL-STD-810D, Method 505.2; MIL-STD-810E, Method 505.3; MIL-STD-810F, Method 505.4; MIL-STD-810G, Method 505.5; MIL-STD-810G w/ Change 1, Method 505.6; MIL-STD-810H, Method 505.7; ATPD 2352R, Sections 3.3.5 and 4.3.5; ATPD 2352T, Sections 3.3.5 and 4.3.5

Test Technology:**Test Method(s) ²:**

Rain	MIL-STD-810C, Method 506.1; MIL-STD-810D, Method 506.2; MIL-STD-810E, Method 506.3; MIL-STD-810F, Method 506.4; MIL-STD-810G, Method 506.5; MIL-STD-810G w/ Change 1, Method 506.6; MIL-STD-810H, Method 506.6
Humidity	MIL-STD-810C, Method 507.1; MIL-STD-810D, Method 507.2; MIL-STD-810E, Method 507.3; MIL-STD-810F, Method 507.4; MIL-STD-810G, Method 507.5; MIL-STD-810G w/ Change 1, Method 507.6; MIL-STD-810H, Method 507.6; MIL-STD-202, Method 103B; RTCA/DO-160E (6.0); RTCA/DO-160F; RTCA/DO-160G; ATPD 2352R, Sections 3.3.2 and 4.3.2; ATPD 2352T, Sections 3.3.2 and 4.3.2; MIL-STD-1344A
Fungus	MIL-STD-810C, Method 508.1; MIL-STD-810D, Method 508.2; MIL-STD-810E, Method 508.4; MIL-STD-810F, Method 508.5; MIL-STD-810G, Method 508.6; MIL-STD-810G w/ Change 1, Method 508.7; MIL-STD-810H, Method 508.8; RTCA/DO-160E (13.0); RTCA/DO-160F; RTCA/DO-160G
Salt Fog/Salt Spray/Acidic Atmosphere	MIL-STD-810C, Method 509.1; MIL-STD-810D, Method 509.2; MIL-STD-810E, Method 509.3; MIL-STD-810F, Method 509.4; MIL-STD-810G, Method 509.5; MIL-STD-810G w/ Change 1, Method 509.6; MIL-STD-810H, Method 509.7; MIL-STD-810F, Method 518; MIL-STD-810G, Method 518.1; MIL-STD-810G w/ Change 1, Method 518.2; MIL-STD-810H, Method 518.2; MIL-STD-202, Method 101D; RTCA/DO-160E; RTCA/DO-160F; RTCA/DO-160G; ASTM B117; ASTM G85; MIL-STD-1344A
Dust and Sand	MIL-STD-810C, Method 510.1; MIL-STD-810D, Method 510.2; MIL-STD-810E, Method 510.3; MIL-STD-810F, Method 510.4; MIL-STD-810G, Method 510.5; MIL-STD-810G w/ Change 1, Method 510.6; MIL-STD-810H, Method 510.7; MIL-STD-202, Method 110A; RTCA/DO-160C (12.0); RTCA/DO-160E; RTCA/DO-160F; RTCA/DO-160G
Explosive Atmosphere	MIL-STD-810C, Method 511.1; MIL-STD-810D, Method 511.2; MIL-STD-810E, Method 511.3; MIL-STD-810F, Method 511.4; MIL-STD-810G, Method 511.5; MIL-STD-810G w/ Change 1, Method 511.6; MIL-STD-810H, Method 511.7; MIL-STD-202, Method 109B; RTCA/DO-160E (Section 9.0); RTCA/DO-160F; RTCA/DO-160G

Test Technology:

Test Method(s) ²:

Leakage (Immersion)	MIL-STD-810C, Method 512.1; MIL-STD-810D, Method 512.2; MIL-STD-810E, Method 512.3; MIL-STD-810F, Method 512.4; MIL-STD-810G, Method 512.5; MIL-STD-810G w/ Change 1, Method 512.6; MIL-STD-810H, Method 512.6
Space Simulation (Unmanned Test)	MIL-STD-810C, Method 517.2, Procedures II, IV, and VI only
Altitude Immersion	MIL-STD-1344A ¹
Icing/Freezing Rain	MIL-STD-810D, Method 521.0; MIL-STD-810E, Method 521.1; MIL-STD-810F, Method 521.2; MIL-STD-810G, Method 521.3; MIL-STD-810G w/ Change 1, Method 521.4; MIL-STD-810H, Method 521.4; RTCA/DO-160E, RTCA/DO-160F, RTCA/DO-160G (Section 24)
De-Icing	ATPD 2352R, Sections 3.2.6 and 4.2.6; ATPD 2352T, Sections 3.2.6 and 4.2.6
Waterproofness	RTCA/DO-160E (10.0); RTCA/DO-160F; RTCA/DO-160G
Exposure to Fluids	RTCA/DO-160E (11.0); RTCA/DO-160F; RTCA/DO-160G; ATPD 2352R, Sections 3.3.7 and 4.3.7; ATPD 2352T, Sections 3.3.7 and 4.3.7; MIL-STD-810F, Method 504; MIL-STD-810G, Method 504.1; MIL-STD-810G w/ Change 1, Method 504.2; MIL-STD-810H, Method 504.3
Seat Belt Testing	FMVSS 209 - S4.1 Paragraphs (d) Hardware, (h) Webbing, (i) Strap, (j) Marking and (m) Workmanship; FMVSS 209 - S4.2 Requirements for Webbing (<i>excluding paragraph (f) Resistance to Micro-Organisms</i>); FMVSS 209 - S4.3 Requirements for Hardware; FMVSS 209 - S4.4 Requirements for Assembly Performance; FMVSS 302 Flammability
Transportation Seal Tensile Test	ISO 17712:2010(E), Section 5.2 (<i>excluding Section 6</i>); ISO 17712:2013(E), Section 5.2 (<i>excluding Section 6</i>); ASTM F1157
Transportation Seal Shear	ISO 17712:2010(E), Section 5.3 (<i>excluding Section 6</i>); ISO 17712:2013(E), Section 5.3 (<i>excluding Section 6</i>); ASTM F1157
Transportation Bend Test	ISO 17712:2010(E), Section 5.4 (<i>excluding Section 6</i>); ISO 17712:2013(E), Section 5.4 (<i>excluding Section 6</i>); ASTM F1157



<u>Test Technology:</u>	<u>Test Method(s) ²:</u>
Transportation Impact Test	ISO 17712:2010(E), Section 5.5 (<i>excluding Section 6</i>); ISO 17712:2013(E), Section 5.5 (<i>excluding Section 6</i>); ASTM F1157
Evidence of Tampering	ISO 17712:2010(E), Section 4.4.3
Bolt Seal Diameter Qualification	ISO 17712:2013(E), Section 4.1.3
Optical Testing	ASTM F801-16; ASTM F2156-17; ASTM D1003-13; ASTM D1044-19; ATPD 2352R, Sections 3.4.1, 3.4.1.1, 3.4.2, 3.4.3, 3.4.4, 4.4.1, 4.4.1.1, 4.4.2, 4.4.3, and 4.4.4; ATPD 2352T, Sections 3.4.1, 3.4.1.1, 3.4.2, 3.4.3, 3.4.4, 4.4.1, 4.4.1.1, 4.4.2, 4.4.3, and 4.4.4
Abrasion	ANSI/SAE Z26.1-1996, Sections 5.17 and 5.18; ATPD 2352R, Sections 3.3.6 and 4.3.6; ATPD 2352T, Sections 3.3.6 and 4.3.6
Nital Etch	MIL-STD-867
Grain Size	ASTM E112
Rockwell and Superficial Hardness Scales (HRB, HRC, HR15N, HR15T Scales)	ASTM E18
Microhardness	ASTM E384
Microstructure Evaluation	ASMH BK Vol. 9
Plating Thickness	ASTM B487
Inclusion Content	ASTM E45
Electrical Conductivity of Aluminum Alloys	AMS 2658
Optical Emission Spectroscopy – Low Alloy Steel, High Alloy Steel, Aluminum Alloys, Titanium Alloys, Copper Alloys, Nickel Alloys	ASTM A751; TP03-0021
Breaking Strength and Elongation of Pressure-Sensitive Tape	ASTM D3759; ASTM D3759M-05

Test Technology:

Peel Adhesion of
Pressure-Sensitive Tape

Test Method(s) ²:

ASTM D3330; ASTM D3330M-04

*Also using the above methods and customer supplied test methods directly related to the capabilities listed above.

¹ This 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.

² 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*.



Accredited Laboratory

A2LA has accredited

DAYTON T. BROWN, INC.

Bohemia, NY

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 18th day of May 2021.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0767.03
Valid to December 31, 2022

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