



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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MECHANICAL

Valid To: December 31, 2014

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 Feet or $5 \times 10E^{-6}$ TORR

- Chamber Volumes up to 745 Cubic Feet

Durability

Dye Penetrant

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 to 165 °F)

- Chamber volumes up to 4,500 Cubic Feet

Magnetic Particle Inspection

Salt Fog/Spray 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:

Test Technology:

Test Method(s):

Low Pressure (Altitude)

MIL-STD 810 C, Method 500.1; MIL-STD 810 D, Method 500.2;
MIL-STD 810 E, Method 500.3; MIL-STD 810 F, Method 500.4;
MIL-STD 810 G Method 500.5

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Test Technology:**Test Method(s):**

Low Temperature/High Temperature

MIL-STD 810 C, Method 501.1; MIL-STD 810 D, Method 501.2; MIL-STD 810 E, Method 501.3; MIL-STD 810 F, Method 501.4; MIL-STD 810 G, Method 501.5; MIL-STD 810 C, Method 502.1; MIL-STD 810 D, Method 502.2; MIL-STD 810 E, Method 502.3; MIL-STD 810 F, Method 502.4; MIL-STD 810 G, Method 502.5; ATPD 2352R, Sections 3.3.1.1 and 4.3.1.1; ATPD 2352P, Sections 3.3.1.1 and 4.3.1.1

Temperature Shock

MIL-STD 810 C, Method 503.1; MIL-STD 810 D, Method 503.2; MIL-STD 810 E, Method 503.3; MIL-STD 810 F, Method 503.4; MIL-STD 810 G, Method 503.5; MIL-STD 202, Method 107G; ATPD 2352R, Sections 3.3.4 and 4.3.4; ATPD 2352P, Sections 3.3.4 and 4.3.4

Temperature Life

MIL-STD-1344A

Temperature/Altitude

MIL-STD 810 C, Method 504.1; RTCA/DO-160E (4.0); RTCA/DO-160F; RTCA/DO-160G; MIL-STD-1344A

Temperature Variation

RTCA/DO-160E (5.9); RTCA/DO-160F (Section 5); RTCA/DO-160G; MIL-STD-1344A

Solar Radiation (Sunshine)

MIL-STD 810 C, Method 505.1; MIL-STD 810 D, Method 505.2; MIL-STD 810 E, Method 505.3; MIL-STD 810 F, Method 505.4; MIL-STD 810 G, Method 505.5; ATPD 2352R, Sections 3.3.5 and 4.3.5; ATPD 2352P, Sections 3.3.5 and 4.3.5

Rain

MIL-STD 810 C, Method 506.1; MIL-STD 810 D, Method 506.2; MIL-STD 810 E, Method 506.3; MIL-STD 810 F, Method 506.4; MIL-STD 810 G, Method 506.5

Humidity

MIL-STD 810 C, Method 507.1; MIL-STD 810 D, Method 507.2; MIL-STD 810 E, Method 507.3; MIL-STD 810 F, Method 507.4; MIL-STD 810 G, Method 507.5; 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 2352P, Sections 3.3.2 and 4.3.2; MIL-STD-1344A

Fungus

MIL-STD 810 C, Method 508.1; MIL-STD 810 D, Method 508.2; MIL-STD 810 E, Method 508.4; MIL-STD 810 F, Method 508.5; MIL-STD 810 G, Method 508.6; RTCA/DO-160E (13.0); RTCA/DO-160F; RTCA/DO-160G

Salt Fog/Salt Spray

MIL-STD 810 C, Method 509.1; MIL-STD 810 D, Method 509.2; MIL-STD 810 E, Method 509.3; MIL-STD 810 F, Method 509.4; MIL-STD 810 G, Method 509.5; MIL-STD 202, Method 101D; RTCA/DO-160E; RTCA/DO-160F; RTCA/DO-160G; ASTM B117; ASTM G85; MIL-STD-1344A

<u>Test Technology:</u>	<u>Test Method(s):</u>
Dust (Fine Sand)	MIL-STD 810 C, Method 510.1; MIL-STD 810 D, Method 510.2; MIL-STD 810 E, Method 510.3; MIL-STD 810 F, Method 510.4; MIL-STD 810 G, Method 510.5; MIL-STD 202, Method 110A
Dust (Fine Sand) (con't)	RTCA/DO-160C (12.0); RTCA/DO-160E; RTCA/DO-160F; RTCA/DO-160G
Explosive Atmosphere	MIL-STD 810 C, Method 511.1; MIL-STD 810 D, Method 511.2; MIL-STD 810 E, Method 511.3; MIL-STD 810 F, Method 511.4; MIL-STD 810 G, Method 511.5; MIL-STD 202, Method 109B; RTCA/DO-160E (9.0); RTCA/DO-160F; RTCA/DO-160G
Leakage (Immersion)	MIL-STD 810 C, Method 512.1; MIL-STD 810 D, Method 512.2; MIL-STD 810 E, Method 512.3; MIL-STD 810 F, Method 512.4; MIL-STD 810 G, Method 512.5
Space Simulation (Unmanned Test)	MIL-STD 810 C, Method 517.2
Temperature/Humidity /Altitude	MIL-STD 810 C, Method 518.1
Temperature/Humidity /Vibration	MIL-STD 810 D, Method 520.0; MIL-STD 810 E, Method 520.1; MIL-STD 810 F, Method 520.2; MIL-STD 810 G, Method 520.5
Altitude Immersion	MIL-STD-1344A
Icing/Freezing Rain	MIL-STD 810 D, Method 521.0; MIL-STD 810 E, Method 521.1; MIL-STD 810 F, Method 521.2; MIL-STD 810 G, Method 521.5; RTCA/DO-160 E, F, G (Section 24)
De-Icing	ATPD 2352R, Sections 3.2.6 and 4.2.6; ATPD 2352P, Sections 3.2.6 and 4.2.6
Magnetic Particle	ASTM E1444
Dye Penetrant	ASTM E1417
Waterproofness	RTCA/DO-160E (10.0); RTCA/DO-160F; RTCA/DO-160G
Fluid Susceptibility	RTCA/DO-160E (11.0); RTCA/DO-160F; RTCA/DO-160G
Exposure to Chemicals	ATPD 2352R, Sections 3.3.7 and 4.3.7; ATPD 2352P, Sections 3.3.7 and 4.3.7;
Contamination by Fluids	MIL-STD 810F, Method 504; MIL-STD 810G, Method 504

Test Technology:

Test Method(s):

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
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 F801-96; ASTM F2156-06; ASTM D1003-00; ASTM D1044-08; ATPD 2352R, Sections 4.4.1, 4.4.1.1, 4.4.2, 4.4.3 and 4.4.4; ATPD 2352P, Sections 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 2352P, Sections 3.3.6 and 4.3.6
Nital Etch	MIL-STD-867C
Grain Size	ASTM E112
Hardness Scales (HRA, B, C, 15N, 15T, 73N and 30T Scales)	ASTM E18
Microhardness	ASTM E18
Inclusions	ASTM E45

Test Technology:

Test Method(s):

Electrical Conductivity of
Aluminum Alloys

AMS 2658

Optical Emissions Spectroscopy-
Low Alloy Steel, High Alloy
Steel, Aluminum Alloys,
Titanium Alloys, Magnesium
Alloys

ASTM A751; TP03-0021

Breaking Strength and
Elongation of Pressure-Sensitive
Tape

ASTM D3759; ASTM D3759M-05

Peel Adhesion of Pressure-
Sensitive Tape

ASTM D3330; ASTM D3330M-04

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



American Association for Laboratory Accreditation

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 17025:2005 *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 8 January 2009*).

Presented this 1st day of May 2013.





President & CEO

For the Accreditation Council
Certificate Number 0767.03
Valid to December 31, 2014

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