



World Class Accreditation

The 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 4<sup>th</sup> day of May, 2011.



  
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Peter Abney

President & CEO  
For the Accreditation Council  
Certificate Number 0767.03  
Valid to December 31, 2012

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



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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MECHANICAL

Valid To: December 31, 2012

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  
Combined Environments - Vibration and Temperature  
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 5700 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

**Test Technology:**

**Test Method(s):**

Low Temperature	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
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
Temperature/Altitude	MIL-STD 810 C, Method 504.1; RTCA/DO-160E (4.0); RTCA/DO-160F
Temperature Variation	RTCA/DO-160E (5.9); RTCA/DO-160F (Section 5)
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
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; ATPD 2352R, Sections 3.3.2 and 4.3.2
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
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; ASTM B117; ASTM G85
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; RTCA/DO-160C (12.0); RTCA/DO-160E; RTCA/DO-160F
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

**Test Technology:**

**Test Method(s):**

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
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 (Section 24)
De-Icing	ATPD 2352R, 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
Fluid Susceptibility	RTCA/DO-160E (11.0); RTCA/DO-160F
Exposure to Chemicals	ATPD 2352R, Sections 3.3.7 and 4.3.7
Contamination by Fluids	MIL-STD 810F, Method 504; MIL-STD 810G, Method 504
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> ); ASTM F1157
Transportation Seal Shear	ISO 17712: 2010(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> ); ASTM F1157

**Test Technology:**

**Test Method(s):**

Transportation Impact Test	ISO 17712:2010(E), Section 5.5 ( <i>excluding Section 6</i> ); ASTM F1157
Evidence of Tampering	ISO 17712: 2010(E), Section 4.4.3
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, 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
Nital Etch	MIL-STD-867
Grain Size	ASTM E45
Hardness Scales (HRA, B, C, 15N, 15T, 73N and 30T Scales)	ASTM E18
Microhardness	ASTM E18
Inclusions	ASTM E45
Electrical Conductivity of Aluminum Alloys	AMS 2658
Optical Emissions Spectroscopy- Low Alloy Steel, High Alloy Steel, Aluminum Alloys, Titanium Alloys, Magnesium Alloys	ASTM A751; ASTM E1251