



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY MONTRÉAL

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MECHANICAL

Valid To: September 30, 2024

Certificate Number: 0214.49

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on Aerospace, Railway, Automotive, Photonic, Consumer, Medical and Material products:

**Test:**

**Test Method(s)<sup>1</sup>:**

**Vibration**

MIL-STD-883

Method 2005 TC: A, B  
Method 2007 TC: A  
Method 2026 TC: A to F

MIL-STD-810

Method 514

MIL-STD-202

Method 201  
Method 204 TC: A, B, C, D, F, G  
Method 214 TC: A to F

IEC 60068-2-6

IEC 60068-2-64

IEC 60255-21-1

IEC 61373 (1999, 2010)

RTCA/DO-160

JEDEC

JESD22-B103

GMW 3172

Section 9.3.1  
Section 9.3.2  
Section 10.2

**Test:**

**Test Method(s)<sup>1</sup>:**

**Vibration (cont.)**

GMW 15310	Section 4.3.8
GMW 16288	Section 3.2.1.2.3
Chrysler CS-11982	Section 4.2.3
Chrysler CS-00056	Section 5.4.3
Chrysler PF-12184	Section 3.1
Chrysler PF-90135	Section 9.6
Chrysler PF.90189	Section 5.2
ISO 16750-3	Section 4.1
SAE J1455	
ANSI C136.31	
Telcordia GR-1221	
CSA C22.2 No.137	Vibration only
CSA C22.2 60601-1-11	
CSA C22.2 60601-1-12	
UL 844	Vibration only
NEMA TS 2	Section 2.2.8
ASTM D4169	Limited capability: maximum displacement 2 inches
<b>Mechanical Shock</b>	
MIL-STD-883	Method 2002 TC: A, B
MIL-STD-810	Section 516
MIL-STD-202	Section 213 TC: A to K
IEC 60068-2-27	
IEC 60255-21-2	
IEC 61373 (1999, 2010)	
RTCA/DO-160	



**Test:**

**Test Method(s)<sup>1</sup>:**

**Mechanical Shock (cont.)**

JEDEC	JESD22-B104 A to H
GMW 3172	Section 9.3.3 Section 9.3.4 Section 9.3.5
Chrysler CS-11982	Section 4.2.4 Section 4.2.5
Chrysler CS-00056	Section 5.4.4 Section 5.4.5
ISO 16750-3	Section 4.2
SAE J1455	
Telcordia GR-1221	
CSA C22.2 60601-1-11	
CSA C22.2 60601-1-12	
NEMA TS 2	Section 2.2.9
ASTM D4169	

**HALT**

GMW3172	Section 8.3.1
GMW8287	

**Temperature Steady State**

MIL-STD-810	Method 501 Method 502
IEC 60068-2-1	
IEC 60068-2-2	
RTCA/DO-160	
JEDEC	JESD22-A101 JESD22-A103 JESD22-A119
GMW 3172	Section 9.4.1
GMW14325	Section 4.1.2
GMW 15310	Section 4.3.4



**Test:**

**Test Method(s)<sup>1</sup>:**

**Temperature Steady State (cont.)**

GMW 15725	Section 4.4 Section 4.5
GMW 16288	Section 3.2.1.1.3 Section 3.2.1.1.4
GMW16910	Section 3.5
Chrysler CS-11982	Section 4.1.1 Section 4.1.2
Chrysler CS-00056	Section 5.3.1 Section 5.3.2
Chrysler PF-12184	Section 3.4 Section 3.5
Chrysler PF.90189	Section 5.1 Section 5.4 Section 5.5 Section 5.6
ISO 16750-4	Section 5.1
SAE J1455	
Telcordia GR-1221	Section 6.2.4 Section 6.2.6
CSA C22.2 60601-1-11	
CSA C22.2 60601-1-12	
NEMA TS 2	Section 2.2.7 Test C, D, E, F, G
ASTM D4169	
<b>Temperature Variation</b>	
MIL-STD-883	Method 1010
MIL-STD-810	Method 503
MIL-STD-202	Method 107
IEC 60068-2-14	Tests Na, Nb
RTCA/DO-160	



**Test:**

**Test Method(s)<sup>1</sup>:**

**Temperature Variation (cont.)**

JEDEC	JESD22-A104 JESD22-A105
GMW 3172	Section 9.4.2 Section 9.4.3
GM 6139M <sup>2</sup>	Section 3.9
Chrysler PF-12032	Section 7.5
Chrysler PF-12184	Section 3.3
Chrysler PF-90135	Section 9.5
ISO 16750-4	Section 5.3
SAE J1455	
Telcordia GR-1221	Section 6.2.3 Section 6.2.7
CSA C22.2 60601-1-11	
CSA C22.2 60601-1-12	

**Humidity**

MIL-STD-810	Method 507
MIL-STD-202	Method 103
IEC 60068-2-3	
IEC 60068-2-30	
IEC 60068-2-38	
IEC 60068-2-56	
IEC 60068-2-78	
IEC 61496-1	
SAE J1455	
RTCA/DO-160	
Telcordia GR-1221	Section 6.2.5 Section 6.2.8



**Test:**

**Test Method(s)<sup>1</sup>:**

**Humidity (cont.)**

GMW 3172	Section 9.4.5 Section 9.4.6
GMW 15725	Section 4.3
GM 6139M <sup>2</sup>	Section 3.1
GMW14124	
GMW14729	
GMW16910	Section 3.6 Section 3.7
Chrysler CS-11982	Section 4.1.6 Section 4.1.7
Chrysler CS-00056	Section 5.3.6 Section 5.3.7
Chrysler PF-12184	Section 3.6
Chrysler PF.90189	Section 5.7
ISO 16750-4	Section 5.6 Section 5.7
ASTM D2247	
ASTM D4169	
CSA C22.2 60601-1-11	
CSA C22.2 60601-1-12	

**Salt Fog / Salt Spray / Immersion**

MIL-STD-883	Method 1009
MIL-STD-810	Method 509
MIL-STD-202	Method 101
IEC 60068-2-11	
IEC 60068-2-52	
RTCA/DO-160	
GMW 3172	Section 9.4.7



<b><u>Test:</u></b>	<b><u>Test Method(s)<sup>1</sup>:</u></b>	
<b>Salt Fog / Salt Spray / Immersion (cont.)</b>	GMW3286	
	GMW16910	Section 3.8
	ISO 16750-4	Section 5.5
	ISO 9227 (NSS)	Section 5.2
	SAE J1455	
	ASTM B117	
	Chrysler PF.90189	Section 5.13
<b>Degrees of Protection Provided by Enclosures</b>	IEC 60529	IPX1 to IPX8 IP1X to IP6X
	IEC 60958-1	IP5X & IP6X IPX6 & IPX7
	ISO 20653	IPX1 to IPX8 IP1X to IP6X IPx4K
	DIN 40 050	IPX1 to IPX8 IP1X to IP6X IPx4K
	Chrysler PF.90189	Section 5.8
<b>Drop / Free Fall</b>	IEC 60068-2-31	
	GMW 15310	Section 4.3.7
	GMW 16288	Section 3.2.1.1.7
	Chrysler CS-11982	Section 4.2.6
	Chrysler PF-11710	Section 4.2
	ISO 16750-3	Section 4.3
	ASTM D4169	
<b>Impact</b>	IEC 60068-2-75	Test Ehb (Spring Hammer) Test Ehc (Vertical)
	GMW14325	Section 4.1.4

<b><u>Test:</u></b>	<b><u>Test Method(s)<sup>1</sup>:</u></b>	
<b>Impact (cont.)</b>	GMW 15725	Section 4.6
	Chrysler PF-11710	Section 4.3
<b>Fluid Compatibility / Resistance</b>	RTCA/DO-160	Hydraulic Fluids / Lubricating Oils De-Icing Fluid / Fire Extinguishants, Fuels, Insecticides
	GMW 15725	Section 4.7
	GMW16910	Section 3.9
	GMW16955	
	GM 6139M <sup>2</sup>	Section 5.1
	Chrysler PF-11710	Section 3.2
	Chrysler PF.90230	Section 5.4
	Chrysler PF.90223	Section 5.3.1
	Chrysler PF.90189	Section 5.9
	Chrysler PF.11203	
	Chrysler LP-463PB-31-01	
<b>Vacuum / Altitude / Overpressure / Rapid Decompression</b>	RTCA/DO-160	
	GMW 16288	Section 3.2.1.1.8
	Chrysler PF-12032	Section 5.2
	SAE J1455	
	CSA C22.2 60601-1-11	
	CSA C22.2 60601-1-12	
	MIL-STD-810	Method 500
ASTM D4169		
<b>Air &amp; Fluid Pressure / Creep</b>	RTCA/DO-160	



<b><u>Test:</u></b>	<b><u>Test Method(s)<sup>1</sup>:</u></b>	
<b>Air &amp; Fluid Pressure / Creep (cont.)</b>	GMW 15310	Section 4.3.1 Section 4.3.5 Section 4.3.6 Section 4.3.9
	GMW 16288	Section 3.2.1.1.2 Section 3.2.1.1.6 Section 3.2.1.2.1 Section 3.2.1.2.2
	Chrysler PF-12032	Section 5.3 Section 5.4 Section 7.3 Section 7.4
	Chrysler PF-12184	Section 4.3.1 Section 4.3.2 Section 4.3.3
	Chrysler PF-90135	Section 7.1 Section 7.3 Section 9.3 Section 9.4 (limited capability: no measurement made)
<b>Joint Air Leakage</b>	Chrysler PF 90230	Section 7.6
<b>Wear Resistance</b>	GM 6139M <sup>2</sup>	Section 3.12
	GMW16910 (Taber)	Section 3.10
	GMW3208 (Taber)	
<b>Over Flow Tube Pull Off</b>	Chrysler PF-12032	Section 5.6
	Chrysler PF-90135	Section 7.5
<b>Cap Removal and Install Torque</b>	GMW 15310	Section 4.3.2
	Chrysler PF-90135	Section 6.1.2
<b>Washer System Strength, Flow &amp; Pressure</b>	Chrysler PF.90189	Section 6.3.1 Section 6.3.2 Section 6.3.3
	Chrysler PF.90189	Section 6.3.7 Section 6.3.8
	Chrysler PF.90189	Section 6.3.9



<b><u>Test:</u></b>	<b><u>Test Method(s)<sup>1</sup>:</u></b>	
<b>Siphoning Test</b>	Chrysler PF.90189	Section 7.5
<b>Contaminated Fluid</b>	Chrysler PF.90189	Section 7.7
<b>Fluid Level Sensor</b>	Chrysler PF.90189	Section 7.8
<b>Endurance</b>	Chrysler PF.90189	Section 9.3.1
<b>Installation Efforts (Duct)</b>	Chrysler PF-90230	Section 7.8
<b>Retention Efforts (Duct)</b>	Chrysler PF-90230	Section 7.9
<b>Condensate Handling (Duct)</b>	Chrysler PF-90230	Section 7.12
<b>Duct Loading/Crush</b>	Chrysler PF-90230	Section 7.13
<b>Dimensional Stability</b>	GMW14325	Section 4.1.9 (Caliper measurement)
	Chrysler PF.90189	Section 6.2.1 (Caliper measurement)
<b>Foam Adhesion</b>	GMW14444	Section 4.5.4
	GMW14892	
	ISO 8510-2	
<b>Pressure Wash</b>	GMW16922	
<b>Tape Adhesion</b>	GM 6139M <sup>2</sup>	Section 3.10
	GMW16910	Section 3.4
	GMW14829	
	ASTM D3359	
<b>Coating Evaluation</b>	ISO 4628-2	
	ISO 4628-8	
	ISO 4628-10	
<b>Performance verification</b>	GMW 3172	Section 6.1
		Section 6.2
		Section 6.3
		Section 6.4
<b>Insulation Test</b>	EN 50155	Section 12.2.9
	IEC 60571	Section 12.2.10



**Test:**

**Test Method(s)<sup>1</sup>:**

**Constant Acceleration**

MIL-STD-810  
RTCA/DO-160

Method 513

<sup>1</sup>Note: This Laboratory's Scope contains withdrawn, inactive or superseded methods. As a clarifier, this indicates the that applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.

<sup>2</sup>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

## ELEMENT MATERIALS TECHNOLOGY MONTRÉAL

*Chambly, Canada*

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 16<sup>th</sup> day of November 2022.

A blue ink signature of Trace McInturff, written in a cursive style.

Mr. Trace McInturff, Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 0214.49  
Valid to September 30, 2024  
Revised December 4, 2023

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