



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017¹

TOUCHSTONE SYSTEMS & SERVICES

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MECHANICAL

Valid To: May 31, 2025

Certificate Number: 0560.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on aircraft components; automotive components; coatings; paint finishes; furniture; textiles; gaskets; seals & packings; pipes, hoses, valves and fittings; wood & wood products; military replacement parts; fuel system components; manufacture component qualification programs; telecommunication; Bellcore; medical components and products:

Test

Test Method(s)

ENVIRONMENTAL SIMULATION

High / Low Temperature;
Temperature / Humidity;
Temperature / Humidity Cycling

RTCA/DO-160 C/D/E/F/G/H, Section 1-6; MIL-STD-202F, MIL-STD-810 C/D/E/F/G/H, Method 501, Method 502, Method 507; SAE J1211; IEC 68-2-2, IEC 60068-2-2, IEC 60068-2-38, IEC 61215, IEC 61646; BELLCORE: GR-49, GR-63, GR-282, GR-468, GR-487, GR-489, GR-1209, GR-1221; ANSI-UL 1703; GM9505P (superseded 2005 *except cycle J*)², GMW 14124 (*except cycle J*), GM9132P (superseded 2016)², GMW 3217, GM2210M (superseded 2017)²; DC-10611; PF9688; FORD 00.00EA-D11-1; FORD WSS-M15P34-D/E; NISSAN NES M 0007

IR Surface Temperature / Solar

MITSUBISHI ESX60210 4.3; NISSAN NES MO 131; BELLCORE GR-487; EN60068-2-5, EN60068-2-9; MIL-STD-810 C/D/E/F/G/H, Method 505 Pro 1, DIN 75220

Thermal Shock

MIL-STD-202F; MIL-STD-810 C/D/E/F/G/H, Method 503; BELLCORE: GR-63, GR-487, GR-1221; NISSAN NES M 000; GM9132P (superseded 2016)²; GMW 3172; FORD 00.00EA-D11-1; DC-10611; PF9688

Humidity, Fogging;
Condensing Humidity (Wet Bottom)

GM4465P (superseded 2011)²;
GM4350M (superseded 2013)²; ASTM D1735, D2247, D4585; HES D2016-99A, HES D6501-03, HES D2021; FORD WSS-M15P34-D; CMT 0033

Test

Test Method(s)

ENVIRONMENTAL SIMULATION

(cont'd)

Weathering	ASTM D4587, G154; FLTM BI 104; ISO 4892-3; SAE J2412
Salt Spray / Acetic Acid Salt / Combined Thermal	ASTM B117, B537, D610, D714, G85; GM4350M (superseded 2013 <i>except Chip Resistance</i>) ² , GM4298P (superseded 2010) ² , GM4476P (superseded 2010) ² , GM9540P (superseded 2010) ² ; RTCA/DO-160 C/D/E/F/G/H; MIL-STD-202F; MIL-STD-810 C/D/E/F/G/H, Method 509; SAE J1211; BELLCORE GR-282; PARKHAN P21- CPE-023 Rev.00; CHRYSLER LP-463-PB-10-01CHG.C; MS-PB-45-2 CHG.V; FORD FLTM BI 103-01; FRTLINER 49-00005 Rev.6; HES D2003-03B Rev.4, HES D2016-99A, HES D6501-03, HES D2021-99 C Rev.1, HES D6001-71; NISSAN 54400 NDS00, NISSAN NES M 0007 (2006-N); TSH6524G; PACCAR CMT0033; Toyota TSH1552G; CEMS GT-7D; DIN 50021; Volvo STD 1027.14
CASS and Combined Thermal	ASTM B368; GM4372M (superseded 2011) ² , GM4476M (superseded 2016) ² ; JIS H 8502-99; TSH6500G; HES D600-1-71, HES D2003-05B Rev.6, HES 2016-99A, HES D6501-03; TS430-1-4; GES 43226; WSB-MIP83-B1, B2, B3, B4; DVM-0008RG Ver3; FRTLINER 49-00039 Rev A; FORD WSS-M1P83-C1/C2
Altitude	RTCA/DO-160 C/D/E/F/G/H, Section 4.6.1; MIL-STD- 202F; MIL-STD-810 C/D/E/F/G/H, Method 500; SAE J1211;BELLCORE GR-63
Decompression / Overpressure	RTCA/DO-160 C/D/E/F/H, Sections 4.6.2 & 4.6.3
Explosion	RTCA/DO-160 C/D/E/F/G, Section 9; MIL-STD-202F; MIL-STD-810 C/D/E/F/G/H, Method 511
Sand and Dust	GM9110P (superseded 2007) ² ; MIL-STD-202F, MIL-STD-810 C/D/E/F/G/H, Method 510, Pro 1; RTCA/DO-160 C/D/E/F/G/H, Section 12; GMW 3431 Section 4.4.9; IEC 60529; BELLCORE GR-487; SAE J1211, J575

Test

Test Method(s)

ENVIRONMENTAL SIMULATION

(cont'd)

Specific Gravity	ISO 1183-1; ASTM D790
Fogging	GMW 3235; SAE J1756
Ashing	ISO 1172
Gravelometer	SAE J400
Immersion	ASTM D870, D2248; IEC 60529; BELLCORE: GR-49, GR-1209; FLTM BI 104-01; GM4431M (superseded 2016) ² ; HES D2016-99A, HES D6501-03; Toyota TSH1505G
Moisture / Rain / Icing	RTCA/DO-160 C/D/E/F/G/H, Section 10 & 24; MIL-STD-810 C/D/E/F/G/H, Method 506 & Method 521; MIL-STD-202F; IEC 60529, 20653 (Code 9K); SAE J994

MATERIAL TESTS

Tensile / Compression ³ Push – Pull to 5,000 lbs ³	ASTM D642, ASTM D3574; STRYKER ES-0668, ES-0703
Hardness; Pencil Hardness	GM9502P (superseded 2012) ² , GM9150P (superseded 2012) ² , GM 4350M (superseded 2013) ² ; ASTM D3363; HES D2016-99A, HES D6501-03 C Rev.2; NISSAN NES M 0007 (2006-N)
Dime Scrape	GM9506P (superseded 2013) ²
Tape Adhesion X-Scribe and Adhesion	GM9071P (superseded 2013) ² , GM4350M (superseded 2013) ² ; GMW 14289; ASTM D3359, D1654; NES M 0007 (2006-N); LP 63PB 15 01 CHG A; FLTM BI 104-01, 106-01; HES D2016-99, HES D 6501-03 C Rev. 2; PACCAR CMT0033; DAIMLER DBL 7399
Taber Abrasion / Scuffing / Marring ²	MIL-M-13231 (Markings); ASTM D4060; PACCAR CMT0033; GM4350M (superseded 2013) ² ; SAE J365, J948

Test

Test Method(s)

MATERIAL TESTS

(cont'd)

Chemical Resistance	RTCA/DO-160 C/D/E/F/G/H, Section 11; MIL-STD-810 C/D/E/F/G/H, Method 504; BELLCORE GR-49; HES D6501-03 C Rev.2, HES D2016; FREIGHTLINER 49-00023; ASTM D1939 (superseded 1999) ² , D1308, D5402; GM4350M (superseded 2013) ² , GM9500 (superseded 2010) ² , GM9501 (superseded 2010) ² , GM9517P (superseded 2012) ² , GM9900P (superseded 2010) ² , GMN 10033 (superseded 2011) ² , GMW 14334; NES M0007; PACCAR CMT0033; SAE J1351; FLTM BN 112, FLTM BI 113
Colorfastness	GM9033P (superseded 2013) ² ; HES D2016-99A; NISSAN NES M 0007 (2006-N); FLTM BN 107-1
Drop Tests / Impact	BELLCORE GR-49, GR-63, GR-1209; JIS K 5400; ASTM D2794, D5276, D880, D4003, D617
Creep	DAIMLER VOA621-402; PACCAR CMT0033; ASTM D1654; CEM GT-7D
Film Thickness; Coating Thickness	ASTM B487, D1005, D4138, D7091; HES D6501
Gloss	ASTM D523
Flexibility	ASTM D522, D1737
Cure	GM9509P (superseded 2012) ² ; GMW 15891
Odor	FLM BO 131; SAE J1351
Circuit Board Inspection	Acceptability of Electronic Assemblies IPC-A-610F; GMW3172-DRBTR

VIBRATION / SHOCK

Sine 15000 lbs ³ Random 9500 lbs ³ Frequency (1 to 3000) Hz ³ Mechanical Shock to Acceleration 100g ³ Displacement ± 1 in. ³ Temperature (-50 to +150) °C ³	RTCA/DO-160 C/D/E/F/G/H, Sections 7 & 8; MIL-STD-810 C/D/E/F/G/H, Method 514, Method 516; MIL-STD-202F; SAE J1211; GM9110P (superseded 2007) ² , GM9123P (superseded 2008) ² , GMW 3172; PF9688; FORD 00.00EA-D11-1; DC-10611; ASTM D5487; IEC 68-2-27 Part 2, IEC 68-2-29 Part 2; BELLCORE GR-49, GR-63, GR-468, GR-1221, GR-2882
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BALLISTIC SHOCK

MIL-STD-901, Method D

Test

Test Method(s)

PACKAGING TESTING

ISTA (International Safe Transit Association):
1A, 1B, 1C, 1D, 1E, 1G, 1H, 2A, 2B, 2C, 2D, 2E,
3A, 3C, 3D, 3E, 3F, 3H, 5B, 6A, 6B, 7A, 7B, 7C, 7D;
ASTM F88, D642, D828, D880, D999, F1140, F1929,
F2096, D3078, D4003, D4169, D4332, D4577, D4728,
D5265, D5276, D5639, D6055, D6344, D6179, D7386;
ISO 11607

FLAMMABILITY

Furniture Seating
Walls / Tops
Mattress
Foams
Films
PCB's
Fabrics
Composites

CALIFORNIA TB117; CPAI-83; 16 CFR 1632; ISO 2685,
3795; JIS D1201; FMVSS 302;
GM9070P (superseded 2011)²; SAE J369; FED TEST
METHOD 5903.1, FED TEST METHOD 5906; FED STD
191A (VERT), FED STD 191 (HORIZ); FAA 25.853
APPENDIX F, PART 1(b)(5); BELLCORE GR-1209, GR-
2882; POWER PLANT No. 3: AC 20-135; NFPA 260,
NFPA 261, NFPA 101 (Sec 10.3), NFPA 701 UFAC TEST
SERIES; ASTM E1537, E1353; RTCA/DO-160 F/G/H,
Section 26; RTCA/DO-204-204; EN 1021-2; BS 5852; UL
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DURABILITY SIMULATION

Pneumatic / Servo PLC
Driven Aircraft
Boot / Seal / Duct
Lifecycle, in Combination with
Extreme Temperature
Internal and External with Pressure
Cycling Screening (ESS),
Vibration Profiles with Or
Without Temperature and RH
Using Customer QTP's
Engineering Design Requirements

BAC 5331;
Boeing D6-81926 (*except section 5.6.9 (Odor and Fungus)*);
Airbus L00716172

¹ The Consumer Product Safety Improvement Act (CPSIA) requires that every children's product subject to a federal consumer product safety requirement be tested by a Consumer Product Safety Commission (CPSC) accepted laboratory for compliance with the applicable federal children's product safety requirements. Accreditation by A2LA does not infer acceptance by the CPSC. Please verify this organization's acceptance status by using the CPSC's searchable database, located at <http://www.cpsc.gov/cgi-bin/labsearch/>.

² 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.

³ Including Customer Specifications directly related to the test technologies and within the parameters listed.



Accredited Laboratory

A2LA has accredited

TOUCHSTONE SYSTEMS & SERVICES

Wyoming, MI

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 7th day of June 2023.

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

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0560.01
Valid to May 31, 2025

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