



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

SCI-LAB MATERIALS TESTING INC.  
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MECHANICAL

Valid To: March 31, 2019

Certificate Number: 2743.01

In recognition of the successful completion of the A2LA evaluation process; accreditation is granted to this laboratory to perform the following types of tests on Adhesives (Organic Resins), Glues, Paints, Varnishes, Inks, Coatings, Allied Products, Plastics, Resins, Rubbers, and Articles of Metal:

**TEST/ TEST PARAMETERS \*:**

**TEST METHOD(s) <sup>2</sup>:**

**Environmental/Aging**

Altitude: (0 to 76 000) ft  
Temperature Range: (-50 to 190) °C

MIL-STD-810D, Method 500.2; MIL-STD-810E, Method 500.3;  
MIL-STD-810F, Method 500.4; MIL-STD-810G, Method 500.5;  
RTCA DO-160G, Section 4.0

Temperature and Humidity  
*Temperature Range: (-100 to 180) °C*  
*Humidity Range: 0 to 100 %RH*  
*(0-90 %RH: ± 1.0 %RH †, 90-100 %RH:  
± 1.7 %RH † from 15 to 25°C)*

32067-SDS; 32163-SDS;  
7710Z-S3VA-A010-M1 <sup>1</sup>;  
ASTM D1693; ASTM D3012; ASTM D3045; ASTM D573;  
DVM-19195; DVM-19298; DVM-19297; DVM-32163;  
FLTMBQ 104-07;  
GM9125P <sup>1</sup>; GM9128P <sup>1</sup>; GM9505P <sup>1</sup>; GM9059P <sup>1</sup>; GM9202P <sup>1</sup>;  
GM9302P; GM9504P <sup>1</sup>;  
GMW14124; GMW14729; GMW3232; GMW3259;  
IEC 60068-2-1; IEC 60068-2-2; IEC 60068-2-3; IEC 60068-2-13;  
IEC 60068-2-14; IEC 60068-2-28; IEC 60068-2-30;  
IEC 60068-2-38; IEC 60068-2-56;  
IP-0023;  
ISO 188; ISO 2440;  
JIS K 6261;  
LP-463H-15 <sup>1</sup>; LP-463CB-10-01; LP-463LB-12-01;  
LP-463LB-13-01; LP-463PB-09-01;  
LP-463PB-22-01; LP-463AB-53-01;  
MIL-STD-202F, Method 103B; MIL-STD-202G, Method 103B;  
MIL-STD-810D, Methods 501.2 and 502.2;  
MIL-STD-810E, Methods 501.3 and 502.3;  
MIL-STD-810F, Methods 501.4 and 502.4;  
MIL-STD-810G, Methods 501.5 and 502.5;  
MIL-STD-883G, Methods 1008.2 and 1010.8;  
MIL-STD-883H, Methods 1008.2 and 1010.8;  
MIL-STD-883J, Methods 1008.2 and 1010.8;

**TEST/ TEST PARAMETERS \*:**

**TEST METHOD(s) <sup>2</sup>:**

Temperature and Humidity  
(cont.)

MS-210-05;  
NES M0131; NES M0132;  
RTCA DO-160, Sections 5.0 and 6.0;  
SAE J1717; SAE J2100

Thermal Shock  
*Temperature Range: (-65 to 200) °C*

DVM-0004-RG; DVM-0019-OR;  
FLTM BI 107-05;  
GM9525P;  
GMW15919;  
MIL-STD-202F, Method 107G; MIL-STD-202G, Method 107G;  
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-883G, Method 1011.9; MIL-STD-883H, Method 1011.9;  
MIL-STD-883J, Method 1011.9

Leak Testing  
*Trace Gas Fine Leak*  
*Perfluorocarbon Gross Leak*

MIL-STD-993K, Method 1014.15, Test Condition A and C

**Explosive Atmosphere**

MIL-STD-810G, Method 511.5

**Accelerated Corrosion**

Salt Spray/Salt Fog  
*Temperature Range: (23 to 70) °C*

ASTM B117;  
DVM-0002-BM; DVM-0014-EX;  
FLTM BI 103-01;  
GMW3286; GM4298P <sup>1</sup>;  
HES D 2021-07;  
IEC 60068-2-11; IEC 60068-2-52;  
ISO 9227;  
JIS Z 2371; JASO M 609-91;  
MIL-STD-202F, Method 101D; MIL-STD-202G, Method 101E;  
MIL-STD-810D, Method 509.2; MIL-STD-810E, Method 509.3;  
MIL-STD-810F, Method 509.4; MIL-STD-810G, Method 509.5;  
NES M0140;  
RTCA DO-160, Section 14.0;  
TSH1552G

Cyclic Corrosion

DVM-0066-CF; DVM 0066-BR; DVM-0008 <sup>1</sup>;  
FLTM BI 104-02; FLTM BI 123-01; FLTM BI 123-03;  
FLTM BQ 105-01;  
GM9102P <sup>1</sup>; GM9511P <sup>1</sup>; GM9540P <sup>1</sup>;  
GMW14872; GMW15282; GMW15288;  
ISC-E00-005.5.1;  
SAE J2334

CASS Exposure  
*Temperature Range: (23 to 70) °C*

ASTM B368;  
FLTM BQ 007-02;  
GM4476P <sup>1</sup>;  
GMW14458;  
NES M0138-91



**TEST/ TEST PARAMETERS \*:**

Acidic Atmosphere  
*Temperature Range: (23 to 70) °C*

Fog-Type Humidity  
*Temperature: (23 to 70) °C*  
*Humidity: 100 %RH*

**Vibration, Shock & Acceleration**

**Capabilities**

Vibration with Combined Environments  
*Temperature Range: (-73 to 177) °C*  
*Frequency Range: (5 to 3 000) Hz*  
*Random: 2 700 force lbs*  
*Sine: 3 000 force lbs*  
*Max. Acceleration: 101 g Sine*

HALT Chamber  
*Acceleration: 75Grms*  
*Temperature Range: (-100 to 200) °C*  
*Ramp Rate: 70 °C/min.*

Pneumatic Shock Table  
*Duration: (0.25 to 30) msec*  
*Acceleration: (5 to 2 000) g*

Electrodynamic Shock Tester  
*Duration: (0 to 30) msec*  
*Acceleration: (1 to 100) g*

**TEST METHOD(s) <sup>2</sup>:**

MIL-STD-810G, Method 518.1

ASTM D1735; ASTM D2247;  
FLTM BQ 007-02;  
GM4465P <sup>1</sup>;  
JIS D 0203;  
IEC 60068-2-18;  
MIL-STD-810D, Method 507.2; MIL-STD-810E, Method 507.3;  
MIL-STD-810F, Method 507.4; MIL-STD-810G, Method 507.5

65840NDS00;  
7412Z-S9V-A010-M1;  
ANSI C136.31-2001;  
ASTM D4728;  
Bellcore GR-63-CORE;  
ES-6L2T-14540-AB, 5.55;  
ICS 000005173;  
IEC 61373; IEC 60068-2-34; IEC 60068-2-6; IEC 60068-2-64;  
JIS D 1601;  
MIL-STD-202F, Method 201A; MIL-STD-202G, Method 201A;  
MIL-STD-810D, Method 514.3; MIL-STD-810E, Method 514.4;  
MIL-STD-810F, Method 514.5; MIL-STD-810G, Method 514.6;  
MIL-STD-883G, Methods 2001.2 and 2007.3;  
MIL-STD-883H, Methods 2001.2 and 2007.3;  
MIL-STD-883J, Methods 2001.2 and 2007.3;  
PF-10563;  
RTCA DO-160, Section 8;  
TSE2512G; TSM6709G;  
Z10270-G00; Z10296-E00; Z10365-C00

Qualmark Guideline 9.0

ES-6L2T-14540-AB, 5.31;  
IEC 61373; IEC 60068-2-27; IEC 60068-2-29 <sup>1</sup>;  
MIL-STD-810D, Method 516.3; MIL-STD-810E, Method 516.4;  
MIL-STD-810F, Method 516.5; MIL-STD-810G, Method 516.6;  
MIL-STD-883E, Method 2002.3;  
MIL-STD-883G, Method 2002.4;  
MIL-STD-883H, Method 2002.5;  
MIL-STD-883J, Method 2002.5;  
RTCA DO-160, Section 7



**TEST/ TEST PARAMETERS \*:**

Linear and Constant Acceleration  
*Acceleration (5 to 5 000) g*

PIND (Particle Impact Noise Detection)

**Durability**

**Capabilities**

Environmental Chamber

*Temperature Range: (-70 to 180) °C*

*Humidity Range: 0 to 100 %RH*

*(0-90 %RH: ± 1.0 %RH †, 90-100 %RH:  
± 1.7 %RH † from 15 to 25°C)*

Pneumatic Cycling

Robotic Cycling

*Load Application Range: (0 to 120) kgf*

*Speed Range: (0 to 2 000) mm/sec*

*Temperature Range: (-50 to 180) °C*

**TEST METHOD(s) <sup>2</sup>:**

MIL-STD-810G, Method 513;

MIL-STD-883K, Method 2001.4, Test Condition A

MIL-STD-883K, Method 1014.15

TSF7304G; TSF7350G; TSF7356G; TSF7357G;  
TSF7358G; TSF7359G; TSF7363G

ASTM D3574, Test I3

DVM-0001-IP; DVM-0019-IP; DVM-0041-IP; DVM-0004-IP;  
DVM-0005-ST; DVM-0051-STv6;  
ES-84510;  
GM7452M <sup>1</sup>; GM9758P; GMN10083; GMW3172;  
HES D3127;  
IP-0022; IP-0115;  
MCS E.S.000003970-02;  
MES PA 55000B; MES PA 60350C; MES PA 64030B;  
MES PA 64390A; MES PA 64410C; MES PA 64610C;  
MES PW PT001C;  
PF-10799; PF-10817; PF-10915; PF-11014; PF-8684-A;  
TSF7206G; TSF7303G

**Dust & Water Resistance**

**Capabilities**

Environmental Chambers

*Temperature Range: (-70 to 175) °C*

*Temperature Ramp Rate: Up to 10 °C/min*

*Humidity Range: 0 to 100 %RH*

*(0-90 %RH: ± 1.0 %RH †, 90-100 %RH:  
± 1.7 %RH † from 15 to 25°C)*

Waterproofness/Rain Exposure

ASTM C272; ASTM D2842; ASTM D4585;  
ASTM D570; ASTM D870;  
BS EN 60529, Sections 14.2.1 (IPX1) and 14.2.2 (IPX2);  
DVM-0026-PA; GM9531P;  
ISO 2896; ISO 20653 Section 6, Table 4 (Codes 0 through 5);  
MIL-STD-202F, Method 106F; MIL-STD-202G, Method 106G;  
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-883G, Method 1004.7; MIL-STD-883H, Method 1004.7;  
MIL-STD-883J, Method 1004.7;  
RTCA/DO-160, Cat. R/S/W/Y; SAE J1913; TSH1505G



**TEST/ TEST PARAMETERS \*:**

**TEST METHOD(s) <sup>2</sup>:**

Icing/Freezing Rain

MIL-STD-810G, Methods 521.3 and 524

Submergence

MIL-STD-810D, Method 512.2; MIL-STD-810E, Method 512.3;  
MIL-STD-810F, Method 512.4; MIL-STD-810G, Method 512.5;  
IEC 68-2-18

Sand & Dust

IEC 60529; IEC 60068-2-68;  
ISO 20653 Section 5, Table 2 (Codes 5K & 6K);  
JIS D 0207;  
MIL-STD-810D, Method 510.2; MIL-STD-810E, Method 510.3;  
MIL-STD-810F, Method 510.4; MIL-STD-810G, Method 510.5;  
SAE J726

**Weatherability & Solar Climatic**

**Capabilities**

Environmental Chamber

*Temperature Range: (-70 to 180) °C*

*Temperature Ramp Rate: Up to 10 °C/min*

*Humidity Range: 0 to 100 %RH*

*(0-90 %RH: ± 1.0 %RH †, 90-100 %RH:  
± 1.7 %RH † from 15 to 25°C)*

Sunload/IR Exposure

*IR Surface Temperature Range:*

*(50 to 150) °C*

Solar Climatic

Xenon Arc Weather-o-meter

*Black Panel Temperature:*

*Ambient to 100 °C;*

*Dry Bulb Temperatures to ± 2°C;*

*Humidity: (10 to 80) %RH*

QUV

*Sunshine Weather-o-meter*

*Carbon Arc Weather-o-meter*

31826-SDS;  
ASTM D2565;  
DVM-31826;  
ES-X33035; ES-X60210; ES-X83239;  
FLTM BN 101-01; FLTM BO 101-03; FLTM EU BN 001-01;  
FLTM EU BO 050-01;  
GM9310P;  
GMW14162;  
HES D6601;  
JIS B 7754; JIS D 0205;  
LP-463KB-12-01; LP-463KB-7-01; LP-463PB-16-01;  
LP-463PB-17-01;  
MIL-STD-810G, Method 505.5;  
NES M0135;  
SAE J1885<sup>1</sup>; SAE J1960<sup>1</sup>; SAE J2412; SAE J2527;  
TSH1528G; TSH1582G; TSH1520G; TSH1582G; TSH1585G

**VOC/SVOC (Volatile & Semi Volatile Organic Compounds) Emissions & Organic Analysis**

**Capabilities**

HPLC

Gas Chromatography/Mass Spectrometry  
(GC/MS)

Gerstel Thermal Desorption (TDS2)

Headspace

Environmental Chambers

*Temperature Range: (-70 to 175) °C*

*Humidity Range: 0 to 100 %RH*

*(0-90 %RH: ± 1.0 %RH †, 90-100 %RH:  
± 1.7 %RH † from 15 to 25°C)*

0094Z-SNA-0000;  
ASTM D2369;  
GMW15634; GMW8081;  
ISO 4406;  
NES M0301;  
TSM0508G; TSM0509G; TSM0503G;  
WSB-M2D402-A3



**TEST/ TEST PARAMETERS \*:**

**TEST METHOD(s) <sup>2</sup>:**

**Failure Analysis**

Fourier Transform Infra-Red (FT-IR)  
Spectroscopy

ASTM D5477

Failure Analysis

Using the other methods listed on the scope in accordance with the  
ASM Handbook Volume 11 (SOP 910-05 series)

Thermogravimetric Analysis (TGA)

ASTM D3850

Differential Scanning Calorimetry (DSC)

ASTM D3895

Scanning Electron Microscopy (SEM)

ASM Handbook Volume 12, ASTM E1508

Energy Dispersive Spectroscopy (EDS)

ASTM E1508

**Plastics & Rubber**

**Capabilities**

Universal (Tension/Compression) Test  
Machine (Instron)

Melt Flow Indexer Procedure A

Durometer/Asker Hardness

Fourier Transform Infra-Red (FT-IR)  
Spectroscopy

Surface Roughness

0094Z-S3V-A200;  
62890NDS00;  
7710ZSTX-A211M1-C4625320-E; 7710Z-STXA-A210-M1;  
7729Z-S5A-0000; 8410Z-SE3-0001; 8412Z-S5A-A010-M1;  
ASTM D1050; ASTM D1238, Procedure A; ASTM D1599; ASTM  
D3418; ASTM D3677; ASTM D380; ASTM E1131; ASTM E168;  
DVM-0013-OR;  
GM2212; GM7400M; GMW14650; GMW15202;  
HES C252; HES D2500; HES D2502;  
ISO 1133; ISO 11358-1 & -2; ISO 7214;  
JIS K 6767; JIS K 6301; JIS K 6723;  
JIS Z 1702; JIS Z 1709;  
LP-463TB-9-01;  
MES MN 401D; MES PA 55219A;  
MS-DC-634; MS-DC-648; MS-DC-649;  
MTL 4333;  
NES M7108; NES M8020;  
SAE J1717; SAE J860;  
TI 134; TS 371-0-4;  
TSF1354G; TSF2251G; TSF2254G;  
TSF2256G; TSF3253G;  
TSF3256G; TSF3550G; TSF7204G;  
TSF7351G; TSF7354G;  
TSF7754G; TSF7755G;  
TSL5705G; TSL3505G; TSL5100G;  
TSM0502G; TSM0501G;  
TSM0502G; TSM0506G;  
TSM5512G; TSM5514G; TSM5515G



**TEST/ TEST PARAMETERS \*:**

**TEST METHOD(s) <sup>2</sup>:**

**Metallic Ores and Products (All Forms, Articles of Metal)**

Capabilities

Universal (Tension/Compression) Test Machine (Instron):

Microscopic (Optical and Keyence Digital)

Magnifications: 25x; 100x; 200x; 500x; 1000x

Hardness Rockwell; Knoop; Vickers

Analytical Balance (Coating Weight)

Surface Roughness

Strain Gages

ASTM A247; ASTM A370; ASTM A892; ASTM E112;

ASTM E1077 (Procedures 7.1, 7.2, 7.3, and 7.4);

ASTM E45; ASTM E930;

GM8101G;

GMW3335;

JIS G 0303; JIS G 4404; JIS Z 8901;

MES MM 100A;

SAE J1268

**Coatings & Plating Systems**

Capabilities

*Microscopic: (25, 100, 200, 500, 1 000)x*

*Stereomicroscopic:*

*Magnification, Up to 120x*

(Optical and Keyence Digital)

Colorimeter

Five-finger Scratch

Coulometric Thickness

Kocour

Water Jet

Gravel-o-meter

Multi-grit Tester

Coating Weight

High Pressure Cleaning

*Temperature Range: (0 to 95) °C*

*Pressure: (0 to 1 000) psi*

Environmental Chambers

*Temperature Range: (-70 to 180) °C*

*Temperature Ramp Rate: Up to 10°C/min*

*Humidity Range: 0 to 100 %RH*

*(0-90 %RH: ± 1.0 %RH<sup>†</sup>, 90-100 %RH:*

*± 1.7 %RH<sup>†</sup> from 15 to 25°C)*

AA-0136; ASTM A90; ASTM B137; ASTM B456;

ASTM B487; ASTM B499; ASTM B504; ASTM B571;

ASTM B659; ASTM B680; ASTM B764; ASTM D1186<sup>1</sup>;

ASTM D1400<sup>1</sup>; ASTM D3170; ASTM D4414; ASTM D714;

DVM-0026-PA; DVM-0039-PA; DVM-0040-PA;

AA-0079; DIN EN ISO 20567-1; DVM-0058-PA; DVM-5861;

DWG 0096Z-SM4-0000; DWG 0096Z-S5N-C000;

FLTM BI 007-01; FLTM BI 104-01; FLTM BI 117-01;

FLTM BI 157-05; FLTM BI 157-06; FLTM BO 155-01;

FLTM EU BI 057-02;

GM4260P<sup>1</sup>; GM4372M; GM4373M; GM9033P<sup>1</sup>;

GM9508P<sup>1</sup>;

GMW14668; GMW14700; GMW14797; GMW 16745;

HES D2021; HES D6501; HES D2003; HES D2018;

HES D6001; HES D6500;

ISC-E00-006;

ISO 1463; ISO 2808; ISO 3613;

JIS K 5400<sup>1</sup>;

LP-463PB-39-01;

MES MN 600H; MES MN 601G;

MS-PD-48-1;

NES M0007;

NES M0141, (except Section 6.2.10);

NES M5081;

PA-0145; SAE J400;

TSH1551G; TSH3111G; TSH6500G;

TSH1501G; TSH1503G; TSH7702G;

WSS-M2P181-C; WSS-M98P13-C

**TEST/ TEST PARAMETERS \*:**

**TEST METHOD(s) <sup>2</sup>:**

**Tension, Compression, & Tear Properties**

Capabilities

Universal (Tension/Compression) Test  
Machine (Instron):  
Extensometer

ASTM D1004; ASTM D1117 <sup>1</sup>; ASTM D1229; ASTM D1708;  
ASTM D1822; ASTM D2261; ASTM D2990;  
ASTM D395 (Method B); ASTM D412; ASTM D5034;  
ASTM D5733; ASTM D575; ASTM D624; ASTM D638;  
ASTM D882; ASTM E8; ASTM F152;  
DVM-18401;  
FLTM BN 022-01; FLTM BN 015-01; FLTM BN 015-02;  
GM6086M <sup>1</sup>, Section 3.2;  
IP-0021;  
ISO 1798; ISO 1856; ISO 1926; ISO 37;  
ISO 527-1/2; ISO 8067; ISO 844;  
JIS K 6301 <sup>1</sup>; JIS K 7128-1; JIS K 6251; JIS K 6252; JIS Z 2241;  
LP-463TB-4-01; LP-463DB-5-03; LP-463KB-5-01;  
MES MM 106A;  
MIL-STD-883G, Method 2019.7; MIL-STD-883H, Method 2019.8;  
MIL-STD-883J, Method 2019.9;  
SAE J1352;  
SPP-GTP-2005;  
TP-10110

**Bend, Flexibility, & Deflection**

Capabilities

Universal (Tension/Compression) Test  
Machine (Instron)

Environmental Chamber:

*Temperature Range: (-70 to 180) °C*

*Humidity Range: 0 to 100 %RH*

*(0-90 %RH: ± 1.0 %RH <sup>†</sup>, 90-100 %RH:  
± 1.7 %RH <sup>†</sup> from 15 to 25°C)*

Robotic:

*Speed: 0.1 to 2 000 mm/min*

*Force Measurement: (0 to 120) kgf*

*Test Temperature: (-60 to 175) °C*

ASTM D1056; ASTM D1790; ASTM D3574; ASTM D3575;  
ASTM D746; ASTM D790; ASTM D926; ASTM D623;  
CPNM-MOS-ST-10-04-07-E;  
FLTM BI 009-05; FLTM BN 102-01;  
FLTM EU BO 051-09;  
GM9503P;  
ISO 1209; ISO 178; ISO 812; ISO 974;  
JIS K 7203 <sup>1</sup>;  
LP-463AB-5-08; LP-463AB-25-01; LP-463AB-5-04;  
MS-DC634;  
TSH1504G



**TEST/ TEST PARAMETERS \*:**

**TEST METHOD(s) <sup>2</sup>:**

**Impact Resistance**

Capabilities

Environmental Chamber:

*Temperature Range: (-70 to 180) °C*

*Humidity Range: 0 to 100 %RH*

*(0-90 %RH: ± 1.0 %RH †, 90-100 %RH: ± 1.7 %RH † from 15 to 25°C)*

Multi-Axial Impact

Gardner/DuPont Impact

3575Z-SNA-0000, Sec 3.18; 77211-SJC-A000-20;  
8352Z-STXA-A000; 8352Z-SZA-A000; 8352Z-TA0A-V000;  
8373Z-TA0A-V000; 8412Z-SEP-A020-M2;  
ASTM D1709; ASTM D2794; ASTM D3763; ASTM D5420;  
DVM-14144v4;  
FLTM BO 151-01; FLTM BO 151-02;  
FMVSS 201;  
GM9011P; GM9032P; GM9140P; GM9300P; GM9528P <sup>1</sup>;  
GM9773P; GM9904P; GMW14093;  
IEC 60068-2-62;  
ISO 6603-1; ISO 6603-2;  
LP-463DB-14-01; LP-463PB-19-01; LP-463LB-11-01;  
LP-463LB-11-01B;  
NES M0134;  
PF-11014, Sec 3.3; PF-4992;  
SAE J323;  
ST-0005

**Friction, Wear, & Roughness**

Capabilities

Crockmeter

SLIDO

Robotic

*Temperature Range: (-60 to 170) °C*

Surface Roughness

AATCC, Test Method 8;  
DVM-0011-BPv3; DVM-0056-PA;  
FLTM BA 003-01; FLTM BN 107-01; FLTM BN 108-10;  
GM9600P;  
JIS L 0823 <sup>1</sup>; JIS L 0849;  
LP-463AB-52-01; LP-463KB-21-01; LP-463PB-54-01;  
SAE J861;  
TSL2100G

**Odor & Fogging**

Fogging

DIN 75 201;  
FLTM EU BO 016-02;  
GM9305P <sup>1</sup>;  
GMW3235;  
HES D6508;  
LP-463DB-12-01;  
NES M0161;  
SAE J1756;  
TSM0503G

Odor

FLTM BO 131-01; FLTM BO 131-03;  
GMW3205;  
LP-463KC-09-01;  
MS-300-34;  
NES M0160;  
SAE J1351;  
TSM0505G



**TEST/ TEST PARAMETERS \*:**

**TEST METHOD(s) <sup>2</sup>:**

**Flammability**

Capabilities

Horizontal & Vertical

Per FMVSS 302 (*incl. parameter variations for other specifications listed in Scope below*):

ASTM D635;  
ES-X60410;  
FLTM BN 024-02; FLTM EU BN 024-02;  
FMVSS 302/CMVSS 302;  
GM9070P<sup>1</sup>;  
GMW3232;  
HES C206; HES D6003;  
ISO 3795;  
LP-463KC-13-01;  
MES CF 050; MES CF050D;  
MS-300-8;  
NES M0094;  
RTCA/DO-160, Sect. 26, Categories A & B;  
RTCA/DO-160, Sect. 9;  
SAE J369;  
TSM0500G; TSM0504G;  
UL 94

**Fabrics & Fibers**

Capabilities

Universal (Tension/Compression) Test Machine (Instron):

Microscopic  
Fourier Transform Infra-Red (FT-IR)  
Spectroscopy

8102Z-SEP-A000; 8330Z-SV4-J010-M1;  
ASTM D5736; ASTM E168;  
ESB-M17H158-A;  
FLTM AN 101-03;  
GM9635P; GM9771P;  
HES D6506;

Universal (Tension/Compression) Test Machine (Instron):

Xenon Arc Weather-o-meter  
Sunshine Weather-o-meter  
Carbon Arc Weather-o-meter

MES MN 405;  
NES M7101;  
SAE J1530;  
TSF7360G; TSM6700G;  
TSL3505G; TSL2100G; TSL2613G; TSL3101G; TSL3503G;  
TSL3607G; TSL3608G (*except Section 4.11*)

**Hardness**

Capabilities

Pencil Hardness (softer to harder):  
6B to 6H

ASTM D3363;  
LP-463PB-2-01

Rockwell Hardness:  
HRA, HRBW, HRC

ASTM D785;  
ASTM E18

Thumbnail Hardness

GM9507P <sup>1</sup>



**TEST/ TEST PARAMETERS \*:**

Durometer/Asker Hardness Types: A, D,  
Asker C

Vickers/Knoop Hardness  
*Test Force:*  
*(10, 25, 50, 100, 200, 300, 500, 1 000) g*  
*Load Duration:*  
*(5 to 99) sec, using 1-second increments*  
*Microscope Magnification:*  
*100x; 200x; 500x*

**Color, Gloss, Haze, & Appearance**

Capabilities

AATCC (Grey & Color Scales)  
Color

Haze (Lightbooth)

Specular Gloss

Appearance

**TEST METHOD(s) <sup>2</sup>:**

ASTM D2240; ASTM D1415; ASTM D1474;  
GM9053P <sup>1</sup>; GM9054P <sup>1</sup>;  
ISO 2439; ISO 868;  
JIS K 6253;  
SAE J1237; SAE J417;  
TSH1500G; TSH1539G

ASTM E140;  
ASTM E92 <sup>1</sup>;  
ASTM E384

ASTM D1729; ASTM D2244; FLTM BI 109-01;  
JIS L 0801; JIS L 0804;  
LP-463KC-1-01;  
SAE J1545

ASTM D1003; ASTM D4039;  
TSM1564G; TSH1520G; TSL0601G

ASTM D2457; ASTM D523;  
FLTM BI 110-01;  
TSH1519G

DVM-0006-PA; DY-0001;  
MIL-STD-883G, Method 2009.9;  
MIL-STD-883H, Method 2009.10;  
MIL-STD-883J, Method 2009.11

**Scratch & Mar**

Capabilities

Taber  
*Five-Finger & Robotic Scratch: Std. Load*  
*Application Range: (0.6 to 20) N*  
*Speed: Approx. 100 mm/sec.*

8350Z-SDA-9000;  
DVM-0034-PA; DVM-0035-PA;  
FLTM BI 161-01; FLTM BN 108-03; FLTM BN 108-04;  
FLTM BN 108-13;  
GM9150P <sup>1</sup>; GMN3943; GMW14130; GMW14688;  
JIS K 5600-5-5;  
LP-463DD-18-01; LP-463PB-43-01;  
NES M0159;  
SAE J365;  
TSH1544G



**TEST/ TEST PARAMETERS \*:**

**TEST METHOD(s) <sup>2</sup>:**

**Abrasion**

**Capabilities**

Taber, Gakushin, and Robotic  
Loads: 250 g to 120 kg-force  
Cycle Rates: (0.01 to 120) cpm  
Speed: (0 to 2 000) mm/min  
Temperature Range: (-60 to 170) °C

ASTM D1044; ASTM D1630; ASTM D4060; ASTM D3884;  
ASTM D4482;  
FLTM BN 108-02;  
GM9515P;  
NES M0136, Method 1;  
SAE J948; SAE J965

**Adhesion/Cohesion & Peel Strength**

**Capabilities**

Universal (Tension/Compression) Test  
Machine (Instron)  
Speed: (0 to 500) mm/min (1 000 mm/min  
up to 500 kgf)  
Force Measurement: (0 to 5 000) kgf  
Temperature Range: (-50 to 175) °C  
Force Gauge: (0 to 54) kgf / (0 to 120) lbf

0095Z-S04-0000; 0095Z-SDA-A000;  
ASTM D3359; ASTM D413; ASTM D429; ASTM D903;  
ASTM D952;  
DVM-0023-PA;  
FLTM BI 106-01; FLTM BU 112-02; FLTM BU 109-02;  
GM3602M <sup>1</sup>; GM3604M <sup>1</sup>; GM3608M <sup>1</sup>; GM3622M <sup>1</sup>; GM6271M;  
GM9071P; GM9502P <sup>1</sup>; GM9506P <sup>1</sup>; GM9774P; GM9797P <sup>1</sup>;  
GM9837P <sup>1</sup>; GM9838P; GM9896P;  
GMW14829;  
JIS K 6829 (withdrawn <sup>1</sup>);  
LP-463LB-10-01; LP-463TB-11-01; LP-463TB-3-01;  
LP-463TB-8-01;  
MIL-STD-883G, Method 2011.7;  
MIL-STD-883H, Method 2011.8;  
MIL-STD-883J, Method 2011.9;  
MS-CB-124;  
NES M0152;  
SAE J1553; SAE J1679; SAE J2215;  
TS 371-0-4 (10);  
TSK5702G

**Filler/Ash and Volatile Content**

**Capabilities**

Muffle Furnace:  
Temperature Range: (100 to 850) °C

Analytical Balance

ASTM D1203; ASTM D2288 <sup>1</sup>; ASTM D2584; ASTM D5630;  
FLTM BO 006-01; FLTM BO 006-02; FLTM BO 006-03;  
FLTM BO 012-01; FLTM BO 106-01; FLTM BO 106-04;  
FLTM EU BO 006-02;  
GM9077P <sup>1</sup>; GM9306P <sup>1</sup>;  
ISO 1172; ISO 3451-1; ISO 3451-4;  
LP-463DB-13-01; LP-463DD-4-01



**TEST/ TEST PARAMETERS \*:**

**TEST METHOD(s) <sup>2</sup>:**

**Density/Specific Gravity**

Capabilities

Analytical Balance  
Vernier Calipers

ASTM B328 <sup>1</sup>; ASTM D3776 (Option C);  
ASTM D792;  
GMW3182;  
ISO 1183; ISO 845;  
JIS K 7112;  
LP-463FB-02-01

**Chemical/Staining Resistance & Cleanability**

Capabilities

Environmental Chamber:  
*Temperature Range: (-70 to 180) °C*  
*Humidity Range: 0 to 100 %RH*  
*(0-90 %RH: ± 1.0 %RH †, 90-100 %RH:  
± 1.7 %RH † from 15 to 25°C)*

Colorimeter  
Gloss Meter  
Weather-o-meter  
AATCC (Grey & Colour Scales)  
Ovens  
Lightbooth

ASTM D1308; ASTM D471; ASTM D543;  
ASTM D925 (Methods A & B); ASTM F146;  
DVM-0037-PA; DVM-0012-OR; DVM-0017-MA;  
DVM-0027-MA; DVM-0037-PA; DVM-0041-PA;  
FLTM AN 101-01; FLTM BI 113-01; FLTM BI 113-02;  
FLTM BI 113-03; FLTM BN 012-06; FLTM BN 112-08;  
FLTM BO 101-05; FLTM BO 160-04; FLTM BP 153-01;  
GM7452M <sup>1</sup>; GM9069P <sup>1</sup>; GM9126P <sup>1</sup>; GM9133P <sup>1</sup>; GM9141P;  
GM9147P; GM9156P; GM9172P <sup>1</sup>; GM9500P <sup>1</sup>; GM9501P <sup>1</sup>;  
GM9509P <sup>1</sup>; GM9689P; GM9736P; GM9900P <sup>1</sup>; GM10033;  
GMW14069; GMW14333; GMW14334; GMW14445;  
GMW14864; GMW3402;  
ISO 3865 (except C);  
JIS K 2202; JIS K 2203;  
LP-463CB-14-01; LP-463KC-04-01; LP-463PB-06-01;  
LP-463PB-31-01; LP-463PB-7-01; LP-463KC-03-01-B;  
LP-463KC-04-01-H; LP-463KC-1-01;  
MDT-060;  
NES M0133; NES M7083;  
TM-GEN-022B;  
TSH1508G; TSH1509G; TSH1562G;  
WSS-M15P20-B1/B2

Fluid Susceptibility

RTCA/DO-160, Sec. 11, Cat F

Contamination by Fluids

MIL-STD-810, Method 504

**Dimensional Stability**

Capabilities

FARO Arm

up to 2 400 mm (± 0.043 mm)

Vernier Calipers

up to 1 500 mm (0.01 mm resolution)

Feeler Gauge

up to 1.00 mm (0.05 mm increments)



**TEST/ TEST PARAMETERS \*:**

Environmental Chamber:  
*Temperature Range: (-70 to 180) °C*  
*Temperature Ramp Rate:*  
*Up to 10 °C/min*  
*Humidity Range: 0 to 100 %RH*  
*(0-90 %RH: ± 1.0 %RH<sup>†</sup>, 90-100 %RH:*  
*± 1.7 %RH<sup>†</sup> from 15 to 25°C)*  
*Std. Chamber Capacity:*  
*Up to 32 cu. ft. + extension*  
*Walk-In Capacity: Up to 760 cu. ft.*

**TEST METHOD(s) <sup>2</sup>:**

DVM-6394;  
GMW4217;  
ISO 2796;  
JIS K 6262;  
SAE J883

**\* Also using customer specific test methods utilizing any combination of test equipment parameters listed above.**

The laboratory is accredited for the test methods listed above. The accredited test methods listed above are used in determining compliance with the material specifications listed below; however, the inclusion of these material specifications on this Scope does not confer laboratory accreditation to the material specification. Inclusion of these material specifications on this Scope also does not confer accreditation for every method embedded within the specification. Only the methods listed above on this Scope are accredited.

**Chrysler:** ICS Z10432 HB; ICS Z10463 ND; ICS Z10463; ICS Z10296-E00 U222/228 and 354; ICS Z10450; ICS 000007601 07; ICS Z10419; ICS Z10450

**Ford:** VE-3W1H-19893-AA; WSS-M2P180-A; WSS-M2P181-A; WSS-M2P188-A1

**GM:** GM3803M; GM4497M; GM6090M; GM6010M; GMX001; GMT920/930

**Honda:** 0094Z-SFA-9000; 0094Z-SJC-A210-MI; 0096Z-SEC-A000; 0096Z-SIE-E000;  
7214Z-ST7-0000-R4P21051-E; 7244Z-STKA-A000; 7315ZS5A-0000-R4Y21094-E; 7710Z-SCC-9000;  
7710Z-SCC-9001; 7410Z-SDA-A000; 7481Z-SZAAA000-SZAAF2387-E; 7710Z-SCC-9001;  
7710Z-SEP-A010-M1; 7710Z-SEP-A210-M1; 7710Z-SEP-A810-M1; 7710Z-SZAA-V000 DOC070529;  
7710Z-TK4-A110-M1; 7710Z-TK4-A210-M1; 7710Z-TK4-A910-M1; 7710Z-WZXA-R800;  
7711Z-SOK-A011-M1; 7785Z-STXA-A810-M1; 7785Z-STX-A810-M1-C4624034-E;  
7850ZSNA-N901-R4523058-E; 8102Z-SDAX-A500; 8330Z-STX-A010-M1; 8341Z-S84-A000;  
8350Z-SDA-9000; 8350Z-SNA-0000; 8350Z-SNA-N000; 8410Z-SJD-9000; 8420Z-SLJ-0000;  
8460Z-SEA-0000; 8461Z-SZAA-V000

**Nissan:** 27800NDS00; 27860NDS00; 76840NDS00; 76850NDS00; 80900NDS00

**Toyota:** TSZ0001G; TSM5518G; TSM5523G; TSM5601G; TSM5608G; TSM5725G; TSM7500G; TSH3130G; TSH3131G

<sup>†</sup> Note: Humidity values cannot exceed the absolute values of 0% & 100%

<sup>1</sup> NOTE: This laboratory's scope contains withdrawn or inactive 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.

<sup>2</sup> When the date, revision or edition of a test method standard is not identified on the scope of accreditation, the laboratory is required to be using the current version within one year of the date of publication, per part C., Section 1 of A2LA R101 - *General Requirements- Accreditation of ISO-IEC 17025 Laboratories.*





## *Accredited Laboratory*

A2LA has accredited

### **SCI-LAB MATERIALS TESTING, INC.**

*Kitchener, Ontario, Canada*

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 20<sup>th</sup> day of March 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 2743.01  
Valid to March 31, 2019

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