SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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MECHANICAL

Valid To: February 28, 2022 Certificate Number: 2390.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on automotive upholstery leather:

Test:	**Test Method(s):**
Anti-Soiling Test	TOYOTA - 3.34 TSL5101G/TSL5710G; FCA - LP-463KC-04-03 (Procedure B & C); HONDA - 8102Z-SZN -A320 Section 6.2.16
Bally Flex Flexing Endurance	FCA, GM, FORD - ASTM D6182; BMW - 3.5.3 TL 9 169 300.6
Behavior at permanent folding	VW - ISO 5402-1
BLC	NISSAN 42.0 NES M 0602/32.0 NES M 0155
Blocking Resistance	HONDA - 8102Z-SEP-A000, Section 7.2.4[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.2.4[1]; HONDA - 8102Z-SDA-A710, Section 4.2.4[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.2.4[1]; HONDA - 8102Z-SZN -A320 Section 6.2.4 SAE J912; FORD - FLTM BN 103-01
Breaking Force and Elongation	BMW - 3.4.1 TL 9 169 300.6; BMW, MERCEDES BENZ, VW - ISO 3376; GM - GMW3010
Burning Behavior	BVW - 3.6.1 TL 9 169 300.6; GS 97038; DIN 75200; MERCEDES BENZ - DBL 5307/FMVSS 302
Cleanability	MERCEDES BENZ DBL 5310, Section 7.8; NISSAN - NES M0602, Section 35; FCA - LP-463KC-04-01, Procedure 2; FORD - FLTM BN 107-01, Section 3.3.6.5; NISSAN - NES M0155, Section 28;

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Test:	**Test Method(s):**
Cleanability (continued)	GM - GMW3402 Procedure A and B; HONDA - 8102Z-SZN -A320 Section 6.2.13, 6.2.14, 6.2.15 & 6.2.17
Coefficient of Friction	NISSAN - NES M0602, Section 34; NES M0155, Section 27; NISSAN - NES M0155, Section 34; MERCEDES BENZ - DBL 5306, Section 19, Method A; TOYOTA - TSL 5101G, Section 3.28
Cold Resistance	NISSAN - 31.2.1 NES M 0602/18.0, NES M 0155; MERCEDES BENZ - DBL 5306, Section 7.1; HONDA - 8102Z-SZN -A320 Section 6.2.2
Color Fastness to Crocking	TOYOTA - TSL 5101G, Sections 3.19.2; HONDA - 8102Z-SEP-A000, Section 7.2.5[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.2.5[1]; HONDA - 8102Z-SDA-A710, Section 4.2.5[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.2.5[1]; HONDA - 8102Z-SZN-A320 Section 6.2.5; FCA - SAE J861; FORD - FLTM BN 112-09, Procedure 1; FLTM BN 107-01, Section 3.3.6.6; KIA, HYUNDAI - MS 300-31 4.12.3 - 4.12.4
Color Fastness to Light/Xenon	TOYOTA - TSL 5101G, Section 3.18.4; MERCEDES BENZ, VW, BMW, GM - DIN EN ISO 105-B06; FCA SAE J1885-2008 (Withdrawn)[2], FCA - J2412; ISO 105-A02
High-temperature light exposure	VW - TL 52064 Sec.6.7 (see section 6.7, test conditions: VDA 230-216, appendix 1); HONDA - HES 6601/8102Z-SZN-A320 Section 6.2.1; KIA, HYUNDAI - MS-300-31 4.12.2; 32.1 & 32.2; NISSAN - NES M 0602 / 22.1 & 22. 2 NES M 015
Color Fastness to Rubbing to Veslic	BMW, VW, MERCEDES BENZ - DIN EN ISO 11640, 105-E04; ISO 105-B06; MERCEDES BENZ - PAPP PWT 7328; MERCEDES BENZ - DBL 5310 point 6.14.4 b
Color Fastness to Perspiration Alkaline & Acid Sweat resistance of the grain	MERCEDES BENZ, BMW, VW - DIN EN ISO 105-E04
Color Fastness to Rubbing – Back – Dry & Wet	VW, MERCEDES BENZ - DIN EN ISO 105-X12
Color Migration	TOYOTA - TSL 5101G[1], Section 3.20; ISO 15701

Test:	**Test Method(s):**
Constant Force Set Rate and Elongation	TOYOTA - TSL 5710G/3.31 TSL5101G
Crease Flex Resistance	TOYOTA - 7M COMMUNICATION MEMO 03-7M5-6; TOYOTA - TSL 5101G, Section 3.29[1]; HONDA - 8102Z-SEP-A000, Section 7.2.3[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.2.3[1]; HONDA - 8102Z-SDA-A710, Section 4.2.3[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.2.3[1]; HONDA - 8102Z-SZN-A320 Section 6.2.3; NISSAN - 18 NES M 0602/17 NES M 0155
Creaking Test RPN Value Following Normal/Humid Storage, Stick-slip behavior	VW, BWV, MERCEDES BENZ - VDA 230-206
Determination of Leather Wrinkling	FCA - MS-JK-4000/LP-463KB-24-01
Elongation	HONDA - 8102Z-SEP-A000, Section 7.1.3[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.1.3[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.1.3[1]; HONDA - 8102Z-SDA-A710, Section 4.1.4[1]; NISSAN – 11 NES M0602 / 10 NES M 0155 FCA - ASTM D2208, D5034; MERCEDES BENZ - DIN EN ISO 13934-1, 2 N; GM - GMW3010; HONDA - 8102Z-SZN -A320 Section 6.1.3
Film Adhesion	TOYOTA - 7M COMMUNICATION MEMO 02-7M5-2; TOYOTA - TSL 5101G, Section 3.30[1]; HONDA - 8102Z-SEP-A000, Section 7.1.12[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.2.12[1]; HONDA - 8102Z-SDA-A710, Section 4.2.11[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.2.12[1]; HONDA - 8102Z-SZN-A320 Section 6.2.12; MERCEDES BENZ, BMW, VW, GM, FCA, FORD - ISO 11644
Flammability	TOYOTA - TSM 0500G; NISSAN - NES M7102/NES 7109/NES M 0094; HONDA - HES D6003, C206; FORD SAE J369; ISO 3795; BMW - 3.4.3 TL 9 169 300.6; GS 97038; DIN 75200; VW - TL1010; GM - GMW3232; KIA, HYUNDAI - MS 300-08
Flexibility	BMW - 3.6.10 TL 9 169 300.6/AA-0551; VDA 230-209
Bending force	VW, MERCEDES BENZ, BMW - VDA 230-209

Test:	**Test Method(s):**
Flexing Resistance/Newark Flex	TOYOTA - TSL 5101G, Section 3.14.2 Method B; TSL 5101G, Section 3.14.3; ASTM D2097; KIA, HYUNDAI - MS322-04 see 4.18 / MS 300-05
Flexural Rigidity/Cantilever	TOYOTA - TSL 5101G, Section 3.3; NISSAN - NES M0602, Section 8; NES M0155, Section 7; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.2.11[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.2.11[1]; HONDA - 8102Z-SZN-A320 Section 6.1.8; FCA - ASTM D1388; GM - GMW3390; KIA, HYUNDAI - MS 300-31 4.21
Fogging (Gravimetric and Photometric)	TOYOTA - TSM 0503G, Method B; FCA - LP-463DB-12-01; SAE J1756; MERCEDES BENZ - DIN EN 14288; DIN EN ISO 17071 VW - PV3015; GM - GMW3235; HONDA - HES D6508 / 8102Z-SZN-A320 Section 6.3.3; KIA, HYUNDAI - MS 300-54; NISSAN - 30 NES M 0602 / 25 NES M 0155; NES M 0161
Frictional Coloration Dry Sweat-soaked Cloth Moistening	 NISSAN - 21.0 NES M 0602/19.0 NES M 0155 NISSAN - 22.0 NES M 0602/20.0 NES M 0155 NISSAN - 23.0 NES M 0602/21.0 NES M 0155
Hairing	HONDA - 8102Z-SEP-A000, Section 7.3.5[1]; HONDA - 8102Z-SZN-A320 Section 6.3.6; SAE J948; HONDA - L-159B (8102Z-STXA-A010-M1), Section 6[1]
Heat Aging Resistance	HONDA - 8102Z-SEP-A000, Section 7.1.7[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.1.7[1]; HONDA - 8102Z-SDA-A710, Section 4.1.8[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.1.7[1]; HONDA - 8102Z-SZN -A320 Section 6.2.9; FCA - LP-463LB-13-01; FORD - WSS-M1F28-A1/A2 (Inactive)[2]; FORD - ISO 105-A02, Section 3.3.6.2[1]; TOYOTA - TSL 5101G, Section 3.23; MERCEDES BENZ - DBL 5306, Section 6.2, DBL 5310, Section 7.5; VW - TL 52064 Sec.6.6; NISSAN - 26 NES M 0602 / 23 NES M 0155

Test:	**Test Method(s):**
Humidity Resistance	TOYOTA - TSL 5101G, Section 3.24; MERCEDES BENZ - DBL 5310, Section 7.4; HONDA - 8102Z-SEP-A000, Section 7.2.8[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.2.8[1]; HONDA - 8102Z-SDA-A710, Section 4.2.8[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.2.8[1]; HONDA - 8102Z-SZN-A320 Section 6.2.8; FCA - ASTM D1735
JSPS Friction	HONDA - 8102Z-SEP-A000, Section 7.2.6.2.3[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.2.6.2.3[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.2.6.2.3[1]; HONDA - 8102Z-SDA-A710, Section 4.2.6.3[1]; HONDA - 8102Z-SZN -A320 Section 6.2.6.2.3; NISSAN - NES M0602, Section 20; NES M0155, Section 16
Low Temperature Cracking	HONDA - 8102Z-SEP-A000, Section 7.2.10[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.2.10[1]; HONDA - 8102Z-SDA-A710, Section 4.2.10[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.2.10[1]; HONDA - 8102Z-SZN-A320 Section 6.2.11; FORD - SAE J323, Method A; KIA, HYUNDAI - MS300-31 See 4.14
Impact Tests (Cracking)	TOYOTA - TSL 5101G, Section 3.15 (DuPont Impact Tester) [1]; HONDA - 8102Z-SEP-A000, Section 7.2.2[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.2.2[1]; HONDA - 8102Z-SDA-A710, Section 4.2.2[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.2.2[1]; FCA - LP-463KB-28-01, Methods A and B; ASTM D1912; GM - GMW14127; GMW14126
Mass	TOYOTA - TSL 5101G, Section 3.1; VW, BMW, MERCEDES BENZ - DIN EN ISO 2420; HONDA - 8102Z-SDA-A710, Section 4.1.1[1]; FCA - ASTM D3776
Modulus	TOYOTA - TSL 5101G, Sections 3.27
Moisture Content	HONDA - 8102Z-SEP-A000, Section 7.3.2[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.3.2[1]; HONDA - 8102Z-SDA-A710, Section 4.3.2.2.3[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.3.3[1]; HONDA - 8102Z-SZN-A320 Section 6.3.2
Odor Test	BMW, MERCEDES BENZ - VDA 270 C3; FCA - SAE J1351; VW - PV3900; GM - GMW3205; KIA, HYUNDAI - MS 300-34; NISSAN - 38 NES M 0602 & 9 NES M 0155 / NES M 0160

Test:	**Test Method(s):**
Resistance to Scuffing	KIA, HYUNDAI - SAE J365; MS322-04 see 4.20 / MS 300-11
Resistance to Pilling Wear	FORD - FLTM BN 108-14
Scratch Strength	TOYOTA - TSL 5101G, Sections 3.13.1 and 4.13.1[1]; NISSAN - 17 NES M 0602 / 14 NES M 0155
Seam Fatigue	TOYOTA - TSL 5101G, Section 3.7; FORD - FLTM BN 106-02; GM - GMW3405
Seam Strength	TOYOTA - TSL 5101G, Section 3.6; NISSAN - 12.0 NES M7102/13.0 NES 7109; NISSAN - 13 NES M 0602 & 12 NES M 0155; HONDA - 8102Z-SEP-A000, Section 7.1.5[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.1.5[1]; HONDA - 8102Z-SDA-A710, Section 4.1.6[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.1.5[1]; HONDA - 8102Z-SZN-A320 Section 6.1.5; KIA, HYUNDAI - MS 300-31 4.27
Sliding Friction	NISSAN - NES 7109; NES M0602 Section 34 / NES M7102; NES M0155 27
Softness	FCA - MS-JK-4000, ISO 17235; GM - GMW14134FORD - FLTM BN 157-01
Soiling	FCA - LP-463KC-04-02, Procedure 1; MERCEDES BENZ - DBL 5310 Section 7.7; FORD - FLTM BN 112-08, BN 112-01
Soiling and cleaning behavior	VW - PV3968
Soils Denim	GM - GMW15377; KIA, HYUNDAI - MS322-04 see 4.12 / MS300-31 see 4.34; NISSAN - 24 NES M 0602 / 30 NES M 0155; NISSAN - 41 NES M 0602 / 31 NES M 0155
Spue	FCA - LP-463LB-05-01
Stiffness	TOYOTA - TSL 5101G, Section 3.3.3[1]
Stretch and Set	HONDA - 8102Z-SEP-A000, Section 7.1.6[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.1.6[1]; HONDA - 8102Z-SDA-A710, Section 4.1.7[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.1.6[1]; FCA - SAE J855

Test:	**Test Method(s):**
Elongation behavior and return behavior	VW - PV 3909 TL 52064 Section 6.4; GM - GMW3211; HONDA - 8102Z-SZN-A320 Section 6.1.6
Surface Abrasion/Wyzenbeek/ Abrasion Resistance	TOYOTA - TSL 5101G, Section 3.9.2, TSL 5101G, Section 3.10.2; NISSAN - 19.1 NES M 0602 / 15.1 NES M 0155 (Method I) NISSAN - 19.3 NES M 0602/15.3 NES M 0155 (Method III); NISSAN - 19.4 NES M 0602/15.4 NES M 0155 (Method IV); FCA - LP-463KB-6-01; SAE J948;
Taber Abrasion/Abrasion Resistance	TOYOTA - TSL 5101G, Section 3.8, TSL 5710G; HONDA - 8102Z-SEP-A000, Section 7.2.6.2.2[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.2.6.2.2[1]; HONDA - 8102Z-SDA-A710, Section 4.2.6.2.2[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.2.6.2.2[1]; SAE J948; HONDA - 8102Z-SZN-A320 Section 6.2.6; NISSAN - 19.2 NES M 0602 / 15.2 NES M 0155 (Method II); VW - TL 52064 Sec. 6.8; DIN EN ISO 17076-1; GM - GMW3208; KIA, HYUNDAI - MS 300-31 4.19
Tack Free	TOYOTA - TSL 5101G, Section 3.16; KIA, HYUNDAI - MS-300-31 4.13; NISSAN - 25.0 NES M 0602 / 13.0 NES M 0155
Tear Strength	TOYOTA - TSL 5101G, Section 3.5.1, 3.5.2; HONDA - 8102Z-SEP-A000, Section 7.1.4[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.1.4[1]; HONDA - 8102Z-SDA-A710, Section 4.1.5[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.1.4[1]; HONDA - 8102Z-SZN -A320 Section 6.1.4; ASTM D1117-01 (Withdrawn 2009)[2], D5587; FORD - ASTM D5733-99 (Withdrawn 2008)[2]; NISSAN - 12.0 NES M 0602 / 11.0 NES M 0155; FCA, VW, BMW, MERCEDES BENZ - DIN EN ISO 3377-1; GM - ISO 13937-2; KIA, HYUNDAI - MS 300-31 4.9
Tensile Strength and Elongation	NISSAN - 11.0 NES M 0602 / 10.0 NES M 0155; BMW - 3.4.1 TL 9 169 300.6; ISO 3376; VW - TL 52064 Section 6.2; HONDA - 8102Z-SZN-A320 Section 6.1.2 / 6-2-1-2-2; KIA, HYUNDAI - MS 300-31 4.6
Tension Strength	TOYOTA - TSL 5101G, Section 3.4.2; FORD, FCA - ASTM D2208, D2209, D5034; HONDA - 8102Z-SEP-A000, Section 7.1.2[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.1.2[1]; HONDA - 8102Z-SDA-A710, Section 4.1.3[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.1.2[1]

Test:	**Test Method(s):**
Thickness	TOYOTA - ASTM D1813; NISSAN - 6.0 NES M 0602 / 5.0 NES M 0155; BMW - 3.1.1 TL 9 169 300.6 / ISO 2589; HONDA - 8102Z-SEP-A000, Section 7.1.1[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.1.1[1]; HONDA - 8102Z-SDA-A710, Section 4.1.2[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.1.1[1]; HONDA - 8102Z-SZN -A320 Section 6.1.1; KIA, HYUNDAI - MS322-04 see 4.5 / MS300-31 see 4.3
Thickness of finish	BMW, MERCEDES BENZ - ISO 17186
Layer thickness of finish	VW - TL 52064 Section 6.2; GM - GMW3262 See 3.2.25
Wear Resistance according to Martindale with Ball Plate	BMW - 3.5.1 TL 9 169 300.6/AA-0412; VW - DIN EN ISO 17076-2
Weight	NISSAN - 7.0 NES M 0602 / 6.0 NES M 0155; GM - GMW3182; KIA, HYUNDAI - MS 300-31 4.1
Wet Heat Aging Resistance	TOYOTA - TSL 5101G, Sections 3.17; HONDA - 8102Z-SEP-A000, Section 7.2.7[1]; HONDA - L-159B (8102Z-STXA-A010-M1), Section 7.2.7[1]; HONDA - 8102Z-SDA-A710, Section 4.2.7[1]; HONDA - 8102Z-TA6A-A710-M1, Section 8.2.7[1]; HONDA - 8102Z-SZN -A320 Section 6.2.7; FCA - LP-463LB-12-01, Method A; FORD - FLTM BN 105-03; AATCC Evaluation Procedure 1; FORD - WSS-M1F28-A1/A2 (Inactive) [2], Section 3.3.6.3[1]; GM - GMW14124, Cycle M, R, S, Q
Gross density	VW - DIN EN ISO 2420
Stitch tear resistance	VW - DIN EN ISO 23910
Water resistance	VW - TL 52064 Section 6.5
Shrinkage behavior After 168 h heat aging	VW - TL 52064 Section 17.3
Oil repellency Testing	VW - AATCC 118
Water/alcohol drop test	VW - VDA 230-216
Oil repellency after wear	VW - TL 52064 Section 16.1.1, 18.3 / AATCC 118

Test:	**Test Method(s):**
Loose-grain effect	VW - VDA 230-205-A
Dimensional Stability	GM - GMW14124
Mildew Resistance	GM - GMW3259
Finish Adhesion	GM - GMW15717
Water Vapor Permeability	GM - GMW14140
Resistance to Water	GM - GMW14102
Fiber Show Through	GM - GMW3262 See 3.2.24
Russet Color	GM - GMW3262 See 3.3.4
Bond Strength	GM - GMW3220
Heat Shrinkage	HONDA - 8102Z-SZN-A320 Section 6.1.7
Gloss	KIA, HYUNDAI - ISO 2813
Soiling by UWT	KIA, HYUNDAI - MS322-04 see 4.11 / MS 200-11
Surface Friction Test	KIA, HYUNDAI - MS300-31 See 4.29
Squeak Index	KIA, HYUNDAI - MS300-31 see 4.31
Bleeding resistance	NISSAN - 33 NES M 0602 / 26 NES M 0155
Fine wrinkles	NISSAN - 43 NES M 0602
Wet-heat cycle/ Shrinkage rate	NISSAN - 28.4.1 NES M 0602 / 24 NES M 0155

[1] The laboratory is accredited for the test methods listed above. The accredited test methods are used in determining compliance with any material specifications included on this Scope; however, the inclusion of these material specifications on this Scope does not confer laboratory accreditation to the material specifications. 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.

[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.

Accredited Laboratory

A2LA has accredited

GST AUTOLEATHER

Nuevo Laredo, Mexico

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 21st day of February 2020.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2390.01
Valid to February 28, 2022

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