



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

CROSS TECHNOLOGIES, INC dba CROSS (FORMERLY J.A. KING)

1200 Woodruff Road, Suite A-16

Greenville, SC 29607

Connie Foster Phone: 864 284 6262

MECHANICAL

Valid To: October 31, 2024

Certificate Number: 1741.16

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above as well as the one satellite location listed below to perform the following environmental, mechanical, and non-destructive tests and calibrations<sup>4</sup>:

**Test**

Airbag Deployment Testing (Environmental)<sup>1</sup>  
(-40 to 95) °C

Temperature & Humidity Cycling (Environmental)<sup>1</sup>  
(-73 to 190) °C  
(10 to 95) % RH

Sun Simulation<sup>1</sup>  
(-70 to 174) °C  
(10 to 95) % RH

Xenon Arc (UV Fluorescent)<sup>1</sup>  
(Irradiance: 0.25 W/m<sup>2</sup> to 0.68 W/m<sup>2</sup>)  
(Up to 90 °C Black Standard)  
(UVA -340)

**Test Method(s)**

BMW PR 7 007 983, QS 72013;  
Daimler A002 005 04 99;  
VW PV 3546, 3545;  
Tesla TM 2550

BMW PR 292, 303.5, 308.2;  
Ford FLTM BQ 104-7: Method 2;  
GMW 14124 Cycles: H, M, N, P,  
& S;  
DIN 53497;  
VW TL 527;  
PV 1200; 2005A;  
Daimler DBL 5471;  
Tesla TP 0000706;  
SAE USCAR 21-4 Sec 4.5.2,  
SAE USCAR 38 Sec 4.5

BMW PR 306.5;  
DIN 75220;  
MIL-STD-810G

ASTM D2565 Cycle 1, 5071  
Cycle 1 & 2;  
ASTM G151, 155 Cycle 1;  
DIN EN ISO 4892-1, 4892-2  
Table B.2

**Test**

Ash Content by Muffle Furnace/High Temp Exposure<sup>1</sup>  
(175 to 1100) °C

Salt Fog<sup>1</sup>  
(25 to 60) °C

CASS<sup>1</sup>  
(25 to 70) °C

Condensing Humidity<sup>1</sup>  
(100 % Relative Humidity)

Vibration<sup>1</sup>:  
(5 to 4000) Hz  
112 g  
Stroke 3 in  
8 000 lbf  
(-73 to 163) °C  
(10 to 95) % RH

Tensile, Compression, & Elongation at Break with Extensometer<sup>1</sup>  
0.45 N to 100 kN

Flexural Strength<sup>1</sup>  
0.45 N to 100 kN

Flammability Horizontal

Impact Resistance

**Test Method(s)**

ASTM D2584; D5630 Method B;  
DIN EN ISO 3451-1 Method A

ASTM B117;  
DIN EN ISO 9227;  
MIL-STD-810G Method 509.5

ASTM B368;  
DIN EN ISO 9227

DIN EN ISO 6270-2;  
ASTM D2247

BMW PR 309

ASTM E8/E8M, A370, B557,  
D638;  
DIN 53357;  
DIN EN 895, 10002-5, 1464,  
28510-1;  
DIN EN ISO 527-1, 527-3, 844

DIN EN ISO 178;  
ASTM D790

FMVSS 302;  
49 CFR 571.302;  
GMW 3232;  
BMW GS97038;  
DIN 75200;  
VW TL1010;  
VW PV 3357;  
Daimler DBL 5307;  
GB 8410;  
VOLVO VCS 5013,19;  
VOLVO STD 104-0001;  
TOYOTA BS DM 0500

DIN EN ISO 6272-1

**Test****Test Method(s)**

Color

C.I.E. L\*A\*B\*;  
SAE J1545;  
ASTM D2244, E1349, E1331;  
DIN 5033-4, 53236;  
DIN EN ISO 11664-4Gloss<sup>1</sup>  
(20/60/85)°ASTM D523;  
DIN EN ISO 2813Surface Energy<sup>1</sup>  
(36 to 53) mN/mDIN 53364;  
DIN ISO 8296;  
ASTM D2578Cross Hatch/Adhesion<sup>1</sup>  
(1 to 100) %ASTM D3359;  
BMW GS 97051;  
DIN EN ISO 2409

Density

DIN EN ISO 845, 1183-1;  
ASTM D792

Stability and Shrinkage

BMW PR 292

Odor

VDA 270;  
BMW PR 292

Cleaning Test/Resistance to Media/Chemical Resistance

BMW PR 292

Photogrammetry

Measurement per customer spec.

Colorfastness of Textiles  
(D65, CWF/F2, Hor)DIN EN ISO 105-E01, 105-E03,  
105-E04;  
AATCC-15 against perspiration  
DIN EN 20105-A02Coating Thickness/Dry Film Thickness<sup>1</sup>  
(Up to 60) mils

DIN EN ISO 2808, 2360, 2178

Material Thickness<sup>1</sup>  
(Up to 25) mm

ASTM D1777; ASTM D751

**Test****Test Method(s)****Weapon Testing**

Cold Test	NATO spec AC/255 (LG/3 SC/1), D14 Sec. 2.9.1
High Temperature Test	NATO spec AC/255 (LG/3 SC/1), D14 Sec. 2.9.2
Accelerated Water Spray	NATO spec AC/255 (LG/3 SC/1), D14 Sec. 2.13.2
Salt Fog Test	NATO spec AC/255 (LG/3 SC/1), D14 Sec. 2.13.3
Saltwater Immersion	NATO spec AC/255 (LG/3 SC/1), D14 Sec. 2.13.4
Sand and Dust	NATO spec AC/255 (LG/3 SC/1), D14 Sec. 2.13.5
Mud Test	NATO spec AC/255 (LG/3 SC/1), D14 Sec. 2.13.7

**Electrical Testing**

Dry Circuit Resistance	SAE USCAR 21-4 Sec. 4.5.3, SAE USCAR 38 Sec. 4.7.1
Voltage Drop <sup>1</sup> (5 – 100) Amps Source	SAE USCAR 21-4 Sec. 4.5.6, SAE USCAR 38 Sec. 4.7.2
Dielectric Test/Withstanding Voltage <sup>1</sup> (0.6 to 6) kVDC Source (0.5 to 5) kVAC Source (0.6 to 6) mADC Measure (2 to 20) mAAC Measure	Fiat Chrysler PF90051 Sec. 6.4.4

<sup>1</sup> This laboratory also uses customer supplied specifications and/or methods directly related to the types of tests and within the parameters listed above.

## Calibration

### I. Thermodynamics

Parameter/Equipment	Range	CMC ( $\pm$ ) <sup>2</sup>	Comments
Temperature – Measure <sup>3</sup>	(-196 to 420) °C (350 to 800) °C (800 to 1450) °C  (-70 to 180) °C	0.08 °C 1.6 °C 2.4 °C  0.73 °C	9142P w/PRT, Fluke 724 w/5650-20 type S probe  Vaisala HMP77B
Temperature – Measure Equipment	(-40 to 130) °C	0.84 °C	Fluke 1524 w/probe & chamber
Relative Humidity – Measure <sup>3</sup>	(10 to 90) % RH (90 to 95) % RH	1.5 % 2.2 %	Vaisala HMP77B

<sup>2</sup> Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMC's represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of  $k = 2$ . The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

<sup>3</sup> Field calibration service is available for this calibration. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

Satellite Lab  
CROSS TECHNOLOGIES, INC dba CROSS (FORMERLY J.A. KING)  
4421 SC-81  
Anderson, SC 29621  
Connie Foster Phone: 864 284 6262

MECHANICAL

**Test**

X-Ray Scanning

**Test Method(s)**

Internal Procedure – AT465280  
{Visual Only}

<sup>4</sup> This accreditation covers testing/calibrations performed at all laboratory locations listed in this scope of accreditation.





## Accredited Laboratory

A2LA has accredited

**CROSS TECHNOLOGIES, INC. dba CROSS (FORMERLY J.A. KING)**

*Greenville, SC*

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 7<sup>th</sup> day of September 2022.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 1741.16  
Valid to October 31, 2024

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