



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

SOUTHWEST RESEARCH INSTITUTE
Office of Automotive Engineering
Fuels and Lubricants Research Division and the
Powertrain Engineering Division
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San Antonio, TX 78228-0510
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CALIBRATION

Valid To: May 31, 2022

Certificate Number: 0702.05

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations¹:

I. Particle Size & Number Measurement Systems Calibration

Parameter/Equipment	Range	CMC ² (±)	Comments
Particle Diameter	(60 to 100) nm	1.1 nm	ISO 15900 (SwRI TIP 06-080)
	Cardinal Points	1.2 nm	
Particle Detection Efficiency	30 % to 100 % of efficiency	7.5 % of efficiency	ISO 27891 (SwRI TIP 06-079)
Particle Reduction Factor	(1 to 10 000) (unitless)	11 (unitless)	UN-ECE R49 & R83 (SwRI TIP 06-082)
Particle Removal Efficiency	0 % to 100 % of removal efficiency	0.16 % of removal efficiency	UN-ECE R49 & R83 (SwRI TIP 06-082)
		0.11 % of removal efficiency	SAE AIR6241 (SwRI TIP 06-081)

Parameter/Equipment	Range	CMC ² (±)	Comments
Particle Penetration	0 % to 100 % penetration of particles	11 % penetration of particles	SAE AIR6241 (SwRI TIP 06-081)

¹ This laboratory offers commercial calibration service.

² 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. CMCs 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.



Accredited Laboratory

A2LA has accredited

SOUTHWEST RESEARCH INSTITUTE

San Antonio, TX

for technical competence in the field of

Calibration

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 laboratory also meets the requirements of R205 – Specific Requirements: Calibration Laboratory Accreditation Program. 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 23rd day of September 2020.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0702.05
Valid to May 31, 2022

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