



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005
& ANSI/NCSL Z540-1-1994

SOUTHERN CALIBRATION & SERVICE, INC.
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Roswell, GA 30075
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CALIBRATION

Valid To: September 30, 2019

Certificate Number: 2285.01

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

I. Dimensional

Parameter/Equipment	Range	CMC ² (±)	Comments
Optical Comparators ³ – Magnification X Axis Y Axis	5x to 100x Up to 4 in Up to 12 in	0.00041 in 0.00041 in 0.00041 in	Class scale
Extensometers ³	Up to 1 in (1 to 2) in at 1 inch increments	0.00039 in 0.00039 in	ASTM E83

II. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments
Indirect Verification of Rockwell Hardness Testers ³	(20 to 84) HRA 51 HRA 70 HRA 82 HRA (40 to 100) HRBW 46 HRBW 61 HRBW 87 HRBW	0.24 HRA 0.25 HRA 0.27 HRA 0.55 HRBW 0.71 HRBW 0.51 HRBW	ASTM E18 and NIST traceable blocks

Parameter/Equipment	Range	CMC ² (±)	Comments
Indirect Verification of Rockwell Hardness Testers ³ (cont)	(20 to 65) HRC		ASTM E18 and NIST traceable test blocks
	27 HRC	0.71 HRC	
	42 HRC	0.42 HRC	
	65 HRC	0.44 HRC	
	(70 to 100) HREW		
	75 HREW	0.74 HREW	
	82 HREW	0.81 HREW	
	95 HREW	0.92 HREW	
	(60 to 100) HRFW		
	72 HRFW	0.59 HRFW	
	83 HRFW	0.62 HRFW	
	100 HRFW	0.64 HRFW	
	(80 to 100) HRHW		
	88 HRHW	0.63 HRHW	
	95 HRHW	0.77 HRHW	
	100 HRHW	0.58 HRHW	
	(105 to 125) HRLW		
	105 HRLW	0.71 HRLW	
	116 HRLW	0.55 HRLW	
	125 HRLW	0.54 HRLW	
	(74 to 92) HR15TW		
	75 HR15TW	0.97 HR15TW	
	83 HR15TW	0.50 HR15TW	
	92 HR15TW	0.54 HR15TW	
	(43 to 83) HR30TW		
	46 HR30TW	0.54 HR30TW	
	62 HR30TW	0.38 HR30TW	
	83 HR30TW	0.49 HR30TW	
	(70 to 92) HR15N		
	72 HR15N	0.44 HR15N	
	84 HR15N	0.27 HR15N	
	91 HR15N	0.28 HR15N	
	(42 to 82) HR30N		
	47 HR30N	0.43 HR30N	
	63 HR30N	0.38 HR30N	
	81 HR30N	0.38 HR30N	
	(20 to 72) HR45N		
	26 HR45N	0.43 HR45N	
	51 HR45N	0.37 HR45N	
	70 HR45N	0.38 HR45N	

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Parameter/Equipment	Range	CMC ² (±)	Comments
Indirect Verification of Brinell Hardness Testers ^{3,4} –			
HBW 2.5/187.5/30	(132 to 480) HBW 132 HBW 169 HBW 479 HBW	3.5 HBW 9.1 HBW 21 HBW	ASTM E10-14
HBW 10/3000/15	(226 to 739) HBW 213 HBW 317 HBW 548 HBW	6.6 HBW 6.6 HBW 6.6 HBW	ASTM E10
HBW 10/1500/15	(100 to 473) HBW 332 HBW 435 HBW	5.3 HBW 5.3 HBW	
HBW 10/500/15	(53 to 201) HBW 63 HBW 103 HBW 161 HBW	3.1 HBW 3.1 HBW 3.1 HBW	
Stage Micrometer	(0 to 7) mm	0.0054 mm	
Indirect Verification of Micro Hardness ³ –			
Vickers 500 gf (0.5 kgf)	(100 to 800) HV	19 HV	ASTM E384
Vickers 1000 gf	(220 to 740) HV 235 HV 729 HV	11 HV 15 HV	
Vickers 10 kgf	(170 to 740) HV 189 HV 720 HV	3 HV 13 HV	
Knoop 500 gf (0.5 kgf)	(100 to 800) HK	20 HK	
Force ³ – Testing Machines			
Compression	(1 to 600 000) lbf	0.07 % of applied force	ASTM E4, proving rings, load cells, dead weights
Tensile	(0.5 to 400 000) lbf	0.05 % of applied force	

¹ This laboratory offers commercial field 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.

³ Field calibration service is available for this calibration and this laboratory meets A2LA R104 – *General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. 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.

⁴ The notation 10/3000/15 gives the conditions of the verification. "10" is the diameter of the indenter in millimeters, "3000" is the test force in kilogram-force, and "15" is the duration of force application in seconds.

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Accredited Laboratory

A2LA has accredited

SOUTHERN CALIBRATION AND SERVICE, INC.

Roswell, GA

for technical competence in the field of

Calibration
WITHDRAWN

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 laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and 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 8 January 2009*).



Presented this 24th day of January 2018.

A handwritten signature in black ink, appearing to be 'L. L. L.', written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 2285.01
Valid to September 30, 2019

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