



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

ICL CALIBRATION LABORATORIES, INC.
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CALIBRATION

Valid To: January 31, 2019

Certificate Number: 0526.01

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

I. Fluid Quantities

Parameter/Equipment	Range	CMC ² (±)	Comments
Hydrometry –			
Specific Gravity (Relative Density) Hydrometers and Equivalent Values in Other Hydrometer Scales: Density (kg/M ³ , kg/L), Baume, Brix, Proof	(>0.631 to 1.300) SG (>1.300 to 1.450) SG (>1.450 to 2.000) SG	0.00018 SG 0.00030 SG 0.00055 SG	ASTM E126
API Hydrometers and Thermohydrometers (API Scale for Petroleum Products)	(-5 to <0) °API (0 to <5) °API (5 to <10) °API (10 to <15) °API (15 to <20) °API (20 to <25) °API (25 to <30) °API (30 to <35) °API (35 to <40) °API (40 to <45) °API (45 to <50) °API (50 to <55) °API (55 to <60) °API (60 to <65) °API (65 to <70) °API (70 to <75) °API (75 to <80) °API (80 to <85) °API (85 to <90) °API (90 to 92.5) °API	0.018 °API 0.019 °API 0.021 °API 0.023 °API 0.023 °API 0.025 °API 0.026 °API 0.027 °API 0.029 °API 0.030 °API 0.032 °API 0.034 °API 0.034 °API 0.036 °API 0.038 °API 0.040 °API 0.042 °API 0.044 °API 0.046 °API 0.047 °API	ASTM E126, All ASTM hydrometers, ASTM E100, ASTM E2995

II. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments
Mass	(1 to 3) mg (5 to 30) mg 50 mg (100 to 300) mg 500 mg 1 g 2 g 3 g 5 g 10 g 20 g 30 g 50 g 100 g 200 g 300 g 500 g 1 kg 2 kg 3 kg 5 kg	1.1 µg 1.6 µg 1.7 µg 2.1 µg 2.5 µg 3.0 µg 4.0 µg 4.0 µg 5.1 µg 13 µg 18 µg 18 µg 30 µg 50 µg 90 µg 90 µg 0.11 mg 0.4 mg 1.2 mg 2.0 mg 3.0 mg	NISTIR 6969 Methods, NIST SOP 5 weighing design ASTM E617-13 Note: laboratory is equipped for metric weights only Including laboratory weights and masses: ASTM Classes 1, 2, 3, 4, 5, 6 & 7; NIST (NBS) Class S, S1, & F; OIML Classes E2, F1, F2, M1, M2 and M3
Volume – Volumetric Glassware	(0.1 to 10) mL (>10 to 25) mL (>25 to 50) mL (>50 to 100) mL (>100 to 250) mL (>250 to 500) mL (>500 to 1000) mL (>1000 to 2500) mL	0.0062 mL 0.0067 mL 0.0084 mL 0.013 mL 0.035 mL 0.062 mL 0.18 mL 0.32 mL	ICL procedure 03 (based upon ASTM E542 and NIST weights & measures SOP-14)



III. Thermodynamics

Parameter/Equipment	Range	CMC ² (±)	Comments
Temperature – Digital Thermometers, PRTs, RTDs, Thermistors, Thermocouples, Liquid-in-Glass Thermometers, Temperature Recorders and Loggers			
Fluke 1595A Super Thermometers, Rosemount 162CE SPRTs, Fluke 5628-15 Secondary Reference PRTs	Approx. -196 °C	0.0072 °C (7.2 mK)	Comparison in stabilization block in liquid nitrogen bath with SPRT or secondary reference PRT
Fluke Liquid Baths, Metrology Wells and Furnaces			
	(-80 to < -40) °C	0.0082 °C (8.2 mK)	Comparison in liquid baths with SPRT or secondary reference PRT
	(-40 to < 0) °C	0.0078 °C (7.8 mK)	
	0 °C	0.0037 °C (3.7 mK)	Ice point
	0.01 °C	0.0021 °C (2.1 mK)	Triple point of water cells
	(>0 to 100) °C	0.010 °C (10 mK)	Comparison in liquid baths with SPRT or secondary reference PRT
	(>100 to 200) °C	0.011 °C (11 mK)	
	(>200 to 300) °C	0.014 °C (14 mK)	
	(>300 to 420) °C	0.018 °C (18 mK)	
	(>420 to 600) °C	0.068 °C (68 mK)	Comparison in Fluke 9173 metrology well with secondary reference PRT
Fluke Black Stack and 5650 Type S Thermocouple	(>600 to 1000) °C	1.3 °C (1.3 K)	Comparison with Type S thermocouple in Fluke 9150 furnace

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.

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Accredited Laboratory

A2LA has accredited

ICL CALIBRATION LABORATORIES, INC.

Stuart, FL

for technical competence in the field of

Calibration

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/NCSLI 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 8th day of December 2016.

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President and CEO
For the Accreditation Council
Certificate Number 526.01
Valid to January 31, 2019
Revised November 26, 2018

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