



# CERTIFICATE OF ACCREDITATION

*This is to attest that*

## **ACES KUWAIT FOR GEOTECHNICAL INVESTIGATION AND ENGINEERING MATERIALS TESTING**

STR. 15

MUBARAK AL KABEER, WEST OF ABU FATIRA AL HERAFIA, BLOCK- 001, BUILDING #298, 47061  
STATE OF KUWAIT

### **Calibration Laboratory CL-272**

has met the requirements of AC204, *IAS Accreditation Criteria for Calibration Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date November 22, 2023

Expiration Date November 1, 2024



A handwritten signature in black ink, reading "Raj Nathan".

**President**

Visit [www.iasonline.org](http://www.iasonline.org) for current accreditation information.

# SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

3060 Saturn Street, Suite 100, Brea, California 92821, U.S.A. | [www.iasonline.org](http://www.iasonline.org)

## ACES KUWAIT FOR GEOTECHNICAL INVESTIGATION AND ENGINEERING MATERIALS TESTING

[www.aces-int.com](http://www.aces-int.com)

**Contact Name** Abdulrahim Sukik

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*Accredited to ISO/IEC 17025:2017*

*Effective Date November 22, 2023*

### CALIBRATION AND MEASUREMENT CAPABILITY (CMC)

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY <sup>1,2</sup> (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
<b>Dimensional</b>			
Caliper	0 mm to 300 mm	0.006 mm	Calibration of Caliper SOP-CAL010 Grade 0 Gauge Block, Ring Gauge
Micrometer	0 mm to 25 mm	0.0006 mm	Calibration of Micrometer SOP-CAL011 Grade 0 Gauge Block
Feeler Gauge	0.01 mm to 1 mm	0.001 mm	Calibration of Feeler Gauge SOP-CAL012 Micrometer
Linear Measuring Scales	0 mm to 5000 mm	0.06 mm	Calibration of Linear Scales SOP-CAL013 Video Measuring Machine, Standard Ruler
Sieves			Calibration of Sieves SOP-CAL020 Video Measuring Machine, Caliper
Fine Sieves	up to 2 mm	0.001 mm	
Coarse Sieves	up to 25 mm above 25 mm	0.073 mm 0.047 mm	
<b>Mechanical</b>			
Compression	0 kN to 100 kN 100 kN to 1000 kN 1000 kN to 3000 kN	0.02 kN 0.54 kN 1.9 kN	Calibration of testing machines SOP-CAL001, Load Cell
Load Ring	0 kN to 100 kN	0.03 kN	Calibration of Load Rings SOP-CAL015, Load Cell

\* If information in this CMC is presented in non-SI units, the conversion factors stated in NIST Special Publication 811 "Guide for the Use of the International System of Units (SI)" apply.

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MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY <sup>1,2</sup> (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Weights	0 g to 200 g 220 g to 5000 g 5 kg to 20 kg	0.00016 g 0.015 g 0.1 g	Calibration of Weights SOP-CAL003 E2 and F1 Standard Weights, Precision Balance
Weighing Balance	0 g to 220 g 220 g to 6000 g 6 kg to 31 kg	0.0003 g 0.036 g 0.31 g	Calibration of Precision and General-Purpose Weighing Devices SOP-CAL002 E2 Class Weights & F1 Class Weights
Industrial Weighing System (Batching Plant Weighers, Hoppers, Silo)	0 kg to 150 kg 150 kg to 1000 kg 1000 kg to 2000 kg 2000 kg to 3000 kg	0.006 kg 0.68 kg 0.89 kg 1.0 kg	Calibration of Industrial Weighing Systems SOP-CAL018, M1 Standard Weights
Volumetric Apparatus	0 mL to 50 mL 50 mL to 500 mL 500 mL to 1000 mL	0.0017 mL 0.051 mL 0.14 mL	Calibration of Volumetric Apparatus SOP-CAL019, Precision Balances, Secondary PRT, Stopwatch
<b>Thermal</b>			
Temperature Measuring Device – Contact Type  (Resistance Thermometer, Thermocouple, Glass Thermometer, Dial Thermometer)	-25 °C to 0 °C 0 °C to 600 °C	0.01 °C 0.02 °C	Calibration of Contact Temperature Measuring Devices SOP-CAL005, Standard Platinum Resistance Thermometer, Secondary PRT
Temperature Measuring Device – Non-Contact Type  (IR Thermometer, Pyrometer)	50 °C to 200 °C	1.7 °C	Calibration of Non-Contact Temperature Measuring Devices SOP-CAL006, Reference IR Thermometer, Blackbody Source
Temperature and Humidity Controlled Enclosures	22.7 °C 35.0 %RH to 75.0 %RH	0.11 °C 0.93 %RH	Calibration of Temperature and Humidity Controlled Enclosures SOP-CAL007, Temperature Humidity Meter
Temperature Controlled Enclosures  (Oven, Freezer, Incubator, Furnace, Refrigerator, Autoclave temperature, Cold Room)	-25 °C to 200 °C 200 °C to 1200 °C	0.66 °C 1.6 °C	Calibration of Temperature and Humidity Controlled Enclosures SOP-CAL007, Thermometer Bridge with K type Thermocouples, Thermocouple S Type

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Liquid Bath	25 °C to 145 °C	0.03 °C	Calibration of Liquid Bath SOP-CAL008, Standard Platinum Resistance Thermometer
<b><i>Time and Frequency</i></b>			
Timing Devices	5 s to 15 min	0.3 s	Calibration of Timing Devices SOP-CAL016, Reference Stopwatch
Rotating and Counting Devices	0 rpm to 33 rpm 33 rpm to 3600 rpm 3600 rpm to 11000 rpm	1.0 rpm 1.6 rpm 11 rpm	Calibration of Rotary Devices and Frequency Counters SOP-CAL017, Digital Tachometer with Counter

<sup>1</sup>The uncertainty covered by the Calibration and Measurement Capability (CMC) is expressed as the expanded uncertainty having a coverage probability of approximately 95 %. It is the smallest measurement uncertainty that a laboratory can achieve within its scope of accreditation when performing calibrations of a best existing device. The measurement uncertainty reported on a calibration certificate may be greater than that provided in the CMC due to the behavior of the calibration item and other factors that may contribute to the uncertainty of a specific calibration.

<sup>2</sup>When uncertainty is stated in relative terms (such as percent, a multiplier expressed as a decimal fraction or in scientific notation), it is in relation to instrument reading or instrument output, as appropriate, unless otherwise indicated.