



CERTIFICATE OF ACCREDITATION

2023 This is to attest that

YSF CORPORATION LTD

5A, BLOCK 1, KIN HO INDUSTRIAL BUILDING
20-24 AU PUI WAN STREET, FO TAN
SHATIN, HONG KONG

Calibration Laboratory CL-209

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 March 23, 2021

Expiration Date January 1, 2024



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

President

Visit 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

YSF CORPORATION LTD

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Contact Phone + 852-8109-8368

Accredited to ISO/IEC 17025:2017

Effective Date March 23, 2021

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION PROCEDURE AND/OR STANDARD EQUIPMENT USED
<i>Dimensional</i>			
Angle meter (protractor, tiltmeter, inclinometer)	0.11° to 90°	0.1°	CAL011/ Master angle meter
	0.04° to 45°	0.01°	CAL010/ Sine bar or sine plate and master gage blocks
Caliper	1 mm to 300 mm	0.02 mm	CAL004/ Master gage blocks
Coating thickness gage	0.05 mm to 2 mm	3 µm	CAL018/ Master plastic foil
Concrete cube mould (100 mm and 150 mm)	Dimension	0.02 mm	CAL060/ CS1: 2010 Vol 1 App. A25
	Flatness	0.01 mm	
	Squareness	0.02 mm	
	Parallelism	0.05 mm	
Concrete cylindrical mould (150 mm diameter)	Dimension	0.02 mm	CAL081/ CS1: 2010 Vol 1 App. A27
	Flatness	0.01 mm	
	Straightness	0.01 mm	
	Squareness	0.02 mm	
	Parallelism	0.05 mm	
Cover meter	Up to 200 mm	1 mm	CAL015/ BS1881 Pt204: 1988 Cl.6.4 (Method C)
Depth gage	1 mm to 300 mm	0.02 mm	CAL055/ Master gage blocks
Dial gage	1 mm to 50 mm	4 µm	CAL009/ BS907:2008 Cl.9 and Annex B/ Micrometer head
	50 mm to 100 mm	6 µm	
Digimatic indicator / LVDT	1 mm to 10 mm	0.4 µm	CAL003/ Master gage blocks
	10 mm to 100 mm	3 µm	
External micrometer	0.01 mm to 25 mm	1.6 µm	CAL006/ Master gage blocks
	25 mm to 100 mm	3 µm	
Extensometer	25 mm to 200 mm gage length	0.9 µm	CAL042/ BS3846: 1970 Grade D and BS EN ISO 9513:2012 Class 1
Feeler gage	0.01 mm to 2 mm	2 µm	CAL007/ External micrometer

* 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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Height gage	1 mm to 500 mm	0.03 mm	CAL054/ Master gage blocks
Measuring ruler	1 mm to 1 m	0.6 mm	CL002/ Master steel ruler
Measuring tape Without sensor head With sensor head	1 mm to 200 m 1 mm to 200 m	0.8 mm per 5 m 1 mm per 5 m	CAL005/ Master measuring tape CAL057/ Master measuring tape
Micrometer head	0.1 mm to 5 mm 5 mm to 50mm	1 µm 2 µm	CAL008/ Master gage blocks
Plastic foil	50 µm to 2 mm	2 µm	CAL050/ External micrometer
Spirit level	Up to 3 m long	0.015 mm/m	CAL034/ Electronic level
Square	50 mm to 300 mm	10 µm	CAL070/ Square & feeler gage
Straight edge	50 mm to 1 m	10 µm	CAL069/ Surface plate & feeler gage
Survey equipment: Theodolite	Horizontal angle: 0° to 360° Vertical angle: -75° to 75°	10" 10"	CAL088/ Master total station
Total station	Horizontal angle: 0° to 360° Vertical angle: -75° to 75° Distance: 1 m to 300 m	10" 10" 5 mm	CAL089/ Master total station
Autolevel	Level precision: 40 m apart	2 mm	CAL048/ Master autolevel
GNSS	Distance: up to 1 km apart	15 mm	CAL087/ Master GNSS
Thickness gage	1 mm to 50 mm	2 µm	CAL049/ Master gage blocks
Welding gage	Length measurement: up to 100 mm Angle measurement: up to 180°	0.1mm 1°	CAL095/ Master caliper, master gage blocks, master angle meter
Mechanical			
Anemometer	0.5 m/s to 1 m/s 1 m/s to 20 m/s	8 % 4 %	CAL072/ Master anemometer & various wind tunnels at different wind speed
Balance	0.05 g to 5 g 5 g to 250 g 250 g to 10 kg 10 kg to 200 kg	0.005 mg 0.04 mg 8 mg 0.01 kg	CAL020/ OIML E1 to M Class standard mass
Charpy V-notch impact tester	Up to 40 J Above 40 J to 230 J	1.6 J 10 J	CAL094/ BS EN ISO 148- 2:2016 BS EN 10045-2: 1993

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Compression machine (Force)	0.05 kN to 3000 kN (class 1)	1 %	CAL039/ BS 1610: Part 1: 85 & 92/ BS EN 12390-4: 2000/ CS1: 1990 & 2010
Compression machine (Stability)	At 200 kN & 2000 kN	0.05 strain ratio	CAL040/ BS 1881: Part 115: 86 & BS EN 12390-4: 2000/ CS1: 1990 & 2010
Universal Testing Machine in compression mode (Force)	0.05 kN to 3000 kN (class 1)	1 %	CAL043/ BS EN ISO 7500-1: 2018
Hardness testing machine	100-800 HV5 100-800 HV10 100-800 HV30	2 % 2 % 2 %	CAL093/ BS EN ISO 6507-2: 2018
Hydraulic cylinder	0.05 kN to 3000 kN	1 %	CAL045/ Master load cells
Load cell	0.05 kN to 3000 kN	1 %	CAL041/ Master load cells
Flowmeter (air)	1 L/min to 200 L/min	1 %	CAL075/ Master air flowmeters
Flowmeter (water)	0.5 m ³ /h to 6 m ³ /h	1 %	CAL090/ Master water flowmeter
Pressure measuring device	5 Pa to 250 Pa 250 Pa to 2500 Pa 0.3 psi to 30 psi 14 psi to 3000 psi 140 psi to 10000 psi	5 Pa 15 Pa 0.5 % 0.5 % 0.5 %	CAL012/ Master pressure gauges
Rebound hammer	At 80 rebound count	1 rebound count	CAL017/ BS EN 12504-2: 2012 Cl. 4.2
Rebound hammer's anvil	Mass: 16 kg Hardness: 52 HRC	2 g 5 %	CAL096/ BS EN 12504-2: 2012 Cl. 4.2
Timer	Up to 10 min Up to 2 h	0.1 s 0.2 s	CAL046/ Master timer
Torque wrench	0.1 N·m to 1000 N·m	2 %	CAL030/ Master torque meters
Vacuum gauge	0.1 bar to -1 bar	0.5 %	CAL059/ Master vacuum gage
Vibration meter	0.2 ms ⁻² to 20 ms ⁻²	3 %	CAL084/ Master accelerometer & shaker
Water meter	100 L to 500 L	2 %	CAL090/ Master water flowmeter
Thermal			
Curing tank (Temperature distribution & water circulation)	27 °C ± 3 °C	0.4 °C	CAL067/ CS 1: 2010 Vol 1 App. A28

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Humidity meter	11 %RH to 95 %RH (at 25 °C)	3 %RH	CAL036/ Master humidity meter in environmental chamber
Infrared thermometer	-10 °C to 100 °C 100 °C to 250 °C	2 °C 4 °C	CAL028/ Blackbody temperature source & Master infrared thermometer
Temperature – Measure ³	-190 °C to 420 °C	0.01 °C	CAL025/ SPRT
Thermometer	-80 °C to 80 °C 80 °C to 250 °C 250 °C to 600 °C 600 °C to 1100 °C	0.1 °C 0.2 °C 1.5 °C 3 °C	CAL025, CAL026, CAL027/ Liquid baths, dry block calibrators, SPRT & platinum thermocouple

¹The 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.

²When 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.

³Capability is suitable for the calibration of devices intended to generate the indicated quantity in the stated ranges.