National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

INDEPENDENT CALIBRATION LABORATORIES, NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

34 KM STONE, DELHI-MATHURA ROAD (NH-2), BALLABGARH, FARIDABAD, HARYANA, INDIA

in the field of

CALIBRATION

Certificate Number: CC-2625

Issue Date: 02/11/2021 **Valid Until:** 01/11/2023

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : National Council for Cement and Building Materials

Signed for and on behalf of NABL

Chief Executive Officer

National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : INDEPENDENT CALIBRATION LABORATORIES, NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS, 34 KM STONE, DELHI-MATHURA ROAD (NH-2), BALLABGARH, FARIDABAD, HARYANA, INDIA

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S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
Permanent Facility					
1	MECHANICAL-ACCELERATION AND SPEED	RPM of Vibrating Machine with Indicator	Using Digital Tachometer by comparison method	11600 rpm to 12400 rpm	6.5rpm
2	MECHANICAL-ACCELERATION AND SPEED	Tachometer (Contact)	Using Tachometer Calibrator and Digital Tachometer by Comparison Method	>5000 rpm to 13000 rpm	3.3 rpm to 6.3 rpm
3	MECHANICAL-ACCELERATION AND SPEED	Tachometer (Contact)	Using Tachometer Calibrator and Digital Tachometer by Comparison Method	100 rpm to 5000 rpm	3.3 rpm to 3.3 rpm
4	MECHANICAL-ACCELERATION AND SPEED	Tachometer (Non-Contact)	Using Tachometer Calibrator and Digital Tachometer by Comparison Method	>5000 rpm to 25000 rpm	3.2 rpm to 6.3 rpm
5	MECHANICAL-ACCELERATION AND SPEED	Tachometer (Non-Contact)	Using Tachometer Calibrator and Digital Tachometer by Comparison Method	20 rpm to 4999 rpm	1.2 rpm to 3.3 rpm
6	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Gauge (Plunger), L.C.: 0.001 mm	Using Dial Gauge Calibrator by Comparison Method	0 to 5 mm	2µm

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7	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Gauge (Plunger), L.C.: 0.01 mm	Using Dial Gauge Calibrator by Comparison Method	0 to 25 mm	8µm
8	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Tape	By using Measuring Scale and Tape Calibrator, by comparison method	upto to 5 m	25vLµm (Where L is in meter)
9	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Steel Scale	By using Measuring Scale and Tape Calibrator, by comparison method	upto 600 mm	25vL µmµm (Where L is in meter)
10	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieves	Using Vernier Caliper by Comparison Method	> 10 mm to 125 mm	53µm
11	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieves	Using Profile Projector by Comparison Method	>1 mm to 10 mm	5 µm

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12	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieves	Using Profile Projector by comparison Method	45 µm to 1000µm	3.7 µm
13	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Caliper	Using Caliper Checker by Comparison Method	upto to 300 mm	15 µm
14	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Medium Pressure (Pressure Gauge, Pressure Transducer with Indicator)	Using Dead Weight Tester as per procedure based on DKD-R 6-1 by direct method	0.2 MPa to 7 MPa	0.04% rdg
15	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Medium Pressure (Pressure Gauge, Pressure Transducer with Indicator)	Using Dead Weight Tester as per procedure based on DKD-R 6-1 by direct method	7 MPa to 120 MPa	0.05% rdg
16	MECHANICAL-VOLUME	Burette	Using Semi- micro Balance (Readability-0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010	>10 ml to 50 ml	0.010ml

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17	MECHANICAL-VOLUME	Burette	Using Semi- micro Balance (Readability-0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010	>5 ml to 10 ml	0.004ml
18	MECHANICAL-VOLUME	Burette	Using Semi- micro Balance (Readability-0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010	>50 ml to 100 ml	0.022ml
19	MECHANICAL-VOLUME	Burette	Using Semi- micro Balance (Readability-0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010	1 ml to 5 ml	0.002ml

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20	MECHANICAL-VOLUME	Measuring Cylinder, Volumetric Flask	Using Semi- micro Balance (Readability- 0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010	>10 ml to 50 ml	0.010ml
21	MECHANICAL-VOLUME	Measuring Cylinder, Volumetric Flask	Using Analytical Balance (Readability- 0.1mg) and Distilled Water by Gravimetric Method based on ISO 4787 :2010	>100 ml to 250 ml	0.023ml
22	MECHANICAL-VOLUME	Measuring Cylinder, Volumetric Flask	Using Analytical Balance (Readability- 0.1mg) and Distilled Water by Gravimetric Method based on ISO 4787 :2010	>250 ml to 500 ml	0.025ml
23	MECHANICAL-VOLUME	Measuring Cylinder, Volumetric Flask	Using Semi- micro Balance (Readability- 0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010	>5 ml to 10 ml	0.005ml

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24	MECHANICAL-VOLUME	Measuring Cylinder, Volumetric Flask	Using Semi- micro Balance (Readability- 0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010	>50 ml to 100 ml	0.022ml
25	MECHANICAL-VOLUME	Measuring Cylinder, Volumetric Flask	Using Analytical Balance (Readability- 0.1mg) and Distilled Water by Gravimetric Method based on ISO 4787 :2010	>500 ml to 1000 ml	0.031ml
26	MECHANICAL-VOLUME	Measuring Cylinder, Volumetric Flask	Using Semi- micro Balance (Readability- 0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010	1 ml to 5 ml	0.003ml
27	MECHANICAL-VOLUME	Pipette	Using Semi- micro Balance (Readability- 0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010	>10 ml to 50 ml	0.010ml

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28	MECHANICAL-VOLUME	Pipette	Using Semi- micro Balance (Readability-0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010	>5 ml to 10 ml	0.004ml
29	MECHANICAL-VOLUME	Pipette	Using Semi- micro Balance (Readability-0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010	>50 ml to 100 ml	0.023ml
30	MECHANICAL-VOLUME	Pipette	Using Semi- micro Balance (Readability-0.01mg), Distilled Water by Gravimetric Method based on ISO 4787 :2010 & ISO 8655-6	1 ml to 5 ml	0.002ml
31	MECHANICAL-VOLUME	Volume (Blaine Cell)	Using Blaine Apparatus with Semi-micro Balance (Readability - 0.01mg) by Gravimetric method	1.6 cm3 to 2.0 cm3	0.0020cm3

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32	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	1 g	0.014mg
33	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Mass Comparator (Readability - 0.1mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	1 kg	0.001g
34	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	10 g	0.022mg

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35	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	100 g	0.070mg
36	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	100 mg	0.011mg
37	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	2 g	0.020mg

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38	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Mass Comparator (Readability - 0.1mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	2 kg	0.001g
39	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	20 g	0.055mg
40	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	200 g	0.150mg

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41	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	200 mg	0.017mg
42	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	5 g	0.03mg
43	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Mass Comparator (Readability - 0.1mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	5 kg	0.002g

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44	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	50 g	0.036mg
45	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Mass Comparator (Readability - 0.1mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	500 g	0.001g
46	MECHANICAL-WEIGHTS	Weight (F1 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	500 mg	0.013mg

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47	MECHANICAL-WEIGHTS	Weight (F2 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	1 mg	0.010mg
48	MECHANICAL-WEIGHTS	Weight (F2 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	10 mg	0.010mg
49	MECHANICAL-WEIGHTS	Weight (F2 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	2 mg	0.010mg

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50	MECHANICAL-WEIGHTS	Weight (F2 Class or Coarser)	Using F1 Class Weights and Precision Balance (Readability - 100mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	20 kg	0.10g
51	MECHANICAL-WEIGHTS	Weight (F2 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	20 mg	0.010mg
52	MECHANICAL-WEIGHTS	Weight (F2 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	5 mg	0.010mg

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53	MECHANICAL-WEIGHTS	Weight (F2 Class or Coarser)	Using F1 Class Weights and Precision Balance (Readability - 100mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	50 kg	0.14g
54	MECHANICAL-WEIGHTS	Weight (F2 Class or Coarser)	Using E2 Class Weights and Semi-micro Balance (Readability - 0.01mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	50 mg	0.010mg
55	MECHANICAL-WEIGHTS	Weight (M1 Class or Coarser)	Using F1 Class Weights and Precision Balance (Readability - 100mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	to 10 kg	0.10g

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56	MECHANICAL-WEIGHTS	Weight (M1 Class or Coarser)	Using F2 Class Weights and Precision Balance (Readability - 100mg) by Substitution Method Based on ABA Cycle as per OIML R 111 (2004)	100 kg	0.54g
57	THERMAL-SPECIFIC HEAT & HUMIDITY	Humidity Indicator with inbuilt or External Sensor, Thermohygrometer	Using RH and Temperature Indicator, RH Generator/ Chamber by Comparison Method	30 % RH to 95 % RH @ 25°C	0.8% RH
58	THERMAL-TEMPERATURE	Liquid in Glass Thermometer, RTD/Thermocouple with Temperature Indicators/Controller/ Data Logger	Using PRT Probe with Temperature Indicator & Liquid Bath by comparison Method	-10°C to 100°C	0.08°C
59	THERMAL-TEMPERATURE	Liquid in Glass Thermometer, RTD/Thermocouple with Temperature Indicators/Controller/ Data Logger	Using PRT Probe with Temperature Indicator & Liquid Bath by comparison Method	100°C to 300°C	0.08°C

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60	THERMAL-TEMPERATURE	RTD / Thermocouple with Temperature Indicator/Controller/ Data Logger	Using PRT Probe with Temperature Indicator & Dry Block Calibrator by Comparison Method	300°C to 400°C	0.2°C
61	THERMAL-TEMPERATURE	Thermocouple with Temperature Indicator/Controller/ Data Logger	Using R Type Thermocouple with Temperature Indicator, High Temperature Furnace by comparison Method	400 °C to 1200°C	1.5 °C

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Site Facility					
1	MECHANICAL-ACCELERATION AND SPEED	RPM of Flow Table with Indicator	Using Digital Tachometer by comparison method	96 rpm to 104 rpm	3.2rpm
2	MECHANICAL-ACCELERATION AND SPEED	RPM of Los Angeles Machine with Indicator	Using Digital Tachometer by comparison method	30 rpm to 33 rpm	3.2rpm
3	MECHANICAL-ACCELERATION AND SPEED	RPM of Planetary Mixer with Indicator, High Speed	Using Digital Tachometer by comparison method	115 rpm to 135 rpm	3.2rpm
4	MECHANICAL-ACCELERATION AND SPEED	RPM of Planetary Mixer with Indicator, Low Speed	Using Digital Tachometer by comparison method	57 rpm to 67 rpm	3.2rpm
5	MECHANICAL-ACCELERATION AND SPEED	RPM of Vibrating Machine with Indicator	Using Digital Tachometer by comparison method	11600 rpm to 12400 rpm	6.5rpm
6	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Force Measuring System of CTM / UTM (Compression Mode) Class 1 and Coarser	Using Proving Rings/Bow Dynamometer/Load Cell with Display as per procedure based on IS:1828:2015	3 kN to 3000 kN	0.31%
7	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance (Class I), Readability= 0.1 mg	Using E2 Class Weights based on OIML-R-76 by comparison method	up to 5.0 kg	2.5mg

SCOPE OF ACCREDITATION

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Accreditation Standard ISO/IEC 17025:2017

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S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
8	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance (Class I), Readability=0.1 mg	Using E2 Class Weights based on OIML-R-76 by comparison method	up to 200 g	0.15mg
9	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance (Class II), Readability= 100 mg	Using E2, F1 Class Weights based on OIML-R-76 by comparison method	>20 kg to 50 kg	190.2mg
10	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance (Class II), Readability= 100 mg	Using E2, F1 Class Weights based on OIML-R-76 by comparison method	>5 kg to 20 kg	152mg
11	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance (Class II), Readability= 100 mg	Using E2, F1 and F2 Class Weights based on OIML-R-76, by comparison method	>50 kg to 150 kg	608mg
12	THERMAL-SPECIFIC HEAT & HUMIDITY	Humidity Indicator with Sensor of Environmental Chamber	Using RH meter with Probe by comparison method (Single Position Calibration)	30 % RH to 95 % RH @ 25°C	1.2 % RH
13	THERMAL-SPECIFIC HEAT & HUMIDITY	Temperature Indicator with Sensor of Environmental Chamber	Using RTD with Temperature Indicator by comparison method	15°C to 50°C @ 50%RH	0.30°C

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S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
14	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Liquid Bath, Dry Block, Incubator (for Non Medical Applications), Oven	Using PRT Probe with Temperature Indicator by comparison method	-10°C to 200°C	1.2°C
15	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Muffle Furnace	Using R Type Thermocouple with Temperature Indicator by Comparison Method	232°C to 1200°C	1.9°C

*** CMCs represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k = 2.**