



National Accreditation Board for
Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

HI-TECH CALIBRATION

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

GALA NO.:60, ROYAL INDUSTRIAL HUB, VILL. VALVADA, UMBERGAON, VALSAD, GUJARAT, INDIA

in the field of

CALIBRATION

Certificate Number: CC-2478

Issue Date: 06/12/2019

Valid Until: 05/12/2021*

*The validity is extended for one year up to 05.12.2022

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 : HI-TECH CALIBRATION

Signed for and on behalf of NABL



N. Venkateswaran
Chief Executive Officer



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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)(±)
Site Facility					
1	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC High Voltage @ 50Hz	Using High Voltage Divider with kV meter by Direct method	1 kV to 20 kV	1.16%
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC High Voltage @ 50Hz	Using Highvoltage Divider with kV meter by Direct method	20 kV to 100 kV	3.30%
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Power / Energy (1 phase & 3 Phase) UPF to 0.5 PF	Using Accucheckwith CT along with Power Source By Direct method	230 V 50 Hz 5 A, 0.5 PF t	0.5 % to 1.4 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Power Factor Lag-UPF-Lead	Using Accucheckwith CT along with Power Source By Direct method		0.020PF



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5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current	Using 5 1/2 digit Multifunction Calibrator by Direct Method	20 μ A to 10 A	0.30 % to 0.4 %
6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 45 to 100 Hz	Using 5 1/2 digit Multifunction Calibrator by Direct Method	10 mV to 1000 V	0.50 % to 0.22 %
7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance	Using Decade Box with Direct method	1 nF Pf to 10 mF μ F	0.11 % to . 037 %
8	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC High Voltage	Using Hight Voltage Divider with kV meter By Direct method	1 kV to 20 kV	1.16%
9	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC High Voltage	Using Hight Voltage Divider with kV meter By Direct method	20 kV to 100 kV	3.30%



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10	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC current	Using 5 1/2 digit Multifunction By Direct method	1 mA to 10 A	0.2 % to 0.6 %
11	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance	Using Decade Box By Direct method	11 MOhm to 1000 MOhm	0.25 % to 0.75 %
12	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance	Using Decade Box By direct method	10hm to 11.1111 MOhm	0.25%
13	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using 5 1/2 digit Multifunction By Direct method	1 mV to 1000 V	1.65 % to 0.13 %
14	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	pt-100 Type (Indicator/Controller/Recorder)	" IS 2848 - 1996 ", using Masibus 3001 Universal Calibrator	-200 °C to 400 °C	0.84°C



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15	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple J Type (Indicator/Controller/Recorder)	" IS : 2057 - 1962", using Masibus 3001 Universal Calibrator	0 °C to 760 °C	1,065°C
16	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple K Type (Indicator/Controller/Recorder)	" IS 2054 - 1962", using Masibus 3001 Universal Calibrator	0 °C to 1350 °C	1,108°C
17	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple R & S Type (Indicator/Controller/Recorder)	" IS : 2055 - 1962", using Masibus 3001 Universal Calibrator	400 °C to 1750 °C	1.065°C
18	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Timer / Stop Watch	" IS : 5834 (Part 1) : 1994, (Part 2) : 1993", Using Digital Timer/Stop watch By Direct Method	1 hrs. to 24 hrs.	2sec
19	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Timer / Stop Watch	" IS : 5834 (Part 1) : 1994, (Part 2) : 1993", Using Digital Timer/Stop watch By Direct Method	1 min to 10 min	0.6sec



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20	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Timer / Stop Watch	" IS : 5834 (Part 1) : 1994, (Part 2) : 1993", Using Digital Timer/Stop watch By Direct Method	10 min to 60 min	1,0sec
21	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Timer / Stop Watch	" IS : 5834 (Part 1) : 1994, (Part 2) : 1993", Using Digital Timer/Stop watch By Direct Method	10 sec to 60 sec	0,58sec
22	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using 51/2 digit Multifunction By Direct method	40 Hz to 1000 Hz	0.7 % to 0.3 %
23	MECHANICAL-ACCELERATION AND SPEED	Tachometer (Non Contact Type)/ Speed Indicator/ RPM Meter/ Centrifuge	Using Digital Tachometer,y Comparison Method	20 RPM to 30000 RPM	4.7 RPM to 50 RPM
24	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Straight Edge width >25 mm	"IS:12937" Using Electronic level	up to 5000 mm	3.9 x SQRT(L+W)/125 , where L & W in m.



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25	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Surface Plate Granite / Cast Iron	"IS:12937 & IS:2285" Using Electronic level	up to 1000 mm to X 2000 mm	1.5 x SQRT(L+W)/125 , where L & W in m.
26	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Profile Projector, Optical Microscope, Tool Maker Microscope, Vision Measuring Machine Linear L.C.:0.0001mm Angular L.C.: 1min and coarser Magnification	Using Glass Scale, Angle Gauge, Angular Gratitude, Linier Glass Scale & Digital Vernier Caliper, Slip gauge set	linear 0 to 200 mm, anglul	linear 12 µm Angular 8.8 sec of arc, Magnification 2.6 %
27	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Scale and Tape Calibraton Machine L.C. 0.0001 mm	Using Slipgauge set and Length bar	up to 1000 mm	2.0µm
28	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Universal Length Measuring Machine L.C. 0.0001 mm	Using Slipgauge Set and Length bar	up to 100 mm	0.7 µm
29	MECHANICAL-HARDNESS TESTING MACHINES	Verification of Rockwell Hardness Tester	Using Standard Hardness Block as per IS 1586 Indirect Verification	scale to HRA	1.4 HRA



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30	MECHANICAL-HARDNESS TESTING MACHINES	Verification of Rockwell Hardness Tester	Using Standard Hardness Block as per IS 1586 Indirect Verification	Scale to HRB	1.4 HRBW
31	MECHANICAL-HARDNESS TESTING MACHINES	Verification of Rockwell Hardness Tester	Using Standard Hardness Block as per IS 1586 Indirect Verification	Scale to HRC	1.6 HRC
32	MECHANICAL-HARDNESS TESTING MACHINES	Verification of Rockwell Hardness Tester	Using Standard Hardness Block as per IS 1586 Indirect Verification	Scale to HRN	1.6 HR 15N
33	MECHANICAL-PRESSURE INDICATING DEVICES	Pressure Gauge (Digital / Dial)/	Using Digital Pressure Gauge & Hydraulic Pressure Pump By Comparison Method (DKD R6-01)	0 to 70 bar	0.20bar
34	MECHANICAL-PRESSURE INDICATING DEVICES	Pressure Gauge (Digital / Dial)/	Using Digital Pressure Gauge & Hydraulic Pump By Comparison Method (DKD R6-01)	0 to 700 bar	0.60bar



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35	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Verification Of Uniaxial Testing Machne (Universal, Tensille-Compression Testing Machine) Compression	Using S-Type / Using Load Cell with Indicator as per IS 1828-2	20 kN to 1000 kN	0.90 %
36	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Verification Of Uniaxial Testing Machne (Universal, Tensille-Compression Testing Machine) Tension	Using S-Type / Uniaxel Load Cell with Indicator as per IS 1828-2	>50 N to 50 kN	0.4 % to
37	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance d=0.1 mg & Coarser	Using E2 Class standard weights Based on OIML R-76-1	> 200 g to 500 g	0.2mg
38	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance d=10 mg & Coarser	Using E2 Class standard weights Based on OIML R-76-1	> 500 g to 10 kg	0.03g
39	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance d=100 mg & Coarser	Using E2 Class standard weights Based on OIML R-76-1	> 10 kg to 30 kg	100 mg



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40	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance d=100 mg & Coarser	Using F1 Class standard weights Based on OIML R-76-1	> 30 kg to 150 kg	0.013kg
41	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance with readability d=0.001 mg & Coarser	Using E1 Class standard weights Based on OIML R-76-1	1 mg to 22 g	0.01mg
42	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance with readability d=0.01 mg & Coarser	Using E1 Class standard weights Based on OIML R-76-1	> 22 g to 200 g	0.1mg
43	THERMAL-SPECIFIC HEAT & HUMIDITY	Humidity Chamber, Environment Chamber	Using Wireless Data loggers By Multi Position Calibration	30 %RH to 90 %RH @ 25°C	2.10% RH
44	THERMAL-TEMPERATURE	Indicator of Oven, Furnace (Single Point)	Using RTD/R-Type Thermocouple with Temperature Indicator by Single Position Calibration	200 °C to 1000 °C	3.46°C
45	THERMAL-TEMPERATURE	Indicator of Bath, Oven, Chamber, Freezer, Incubator (Single Point)	Using RTD type sensor Indicator by Single Position Calibration	(-)60 °C to 50 °C	0.8°C
46	THERMAL-TEMPERATURE	Indicator of Bath, Oven, Chamber, Freezer, Incubator (Single Point)	Using RTD sensor Indicator by Single Position Calibration	50 °C to 200 °C	1.65°C



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47	THERMAL-TEMPERATURE	Oven, Chamber, Freezer, Incubator Room Autoclave by Multi position calibration	Using Wireless Data logger By Multi Position Calibration	(-)20 °C to 50 °C	0.95°C
48	THERMAL-TEMPERATURE	Oven, Chamber, Freezer, Incubator Room Autoclave by Multiposition Method	Using RTD By Multi Position Calibration	50 °C to 400 °C	3.0°C
49	THERMAL-TEMPERATURE	Oven, Furnace (Multipoint mapping)	Using Thermocouple with multi channel By Multi position Calibration	400 °C to 1000 °C	5.6°C
50	THERMAL-TEMPERATURE	Temperature Indicator/Controller/ Recorder/ Recorder/ Datalogger with RTD or Thermocouples / Only RTD/ Only Thermocouples / Temperature Transmitter	Using RTD with Indicator, Dry Block bath By Comparison Method	30 °C to 400 °C	0.5°C



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51	THERMAL-TEMPERATURE	Temperature Indicator/Controller/ Recorder/ Recorder/ Datalogger with RTD or Thermocouples / Only RTD/ Only Thermocouples / Temperature Transmitter	Using R-Type Thermocouple with Indicator, Dry Block bath By Comparison Method	400 °C to 1000 °C	3.51°C

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