

Laboratory Thermo Electronic Engineering, Phase - 1-31/1, BIADA, Bokaro Steel City, Jharkhand

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2942 **Page** 1 of 4

Validity 21.01.2019 to 20.01.2021 **Last Amended on** 14.03.2019

"In view of the transition for ISO/IEC 17025:2017, the validity of this accreditation certificate will cease on 30.11.2020"

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>MECHANICAL CALIBRATION</u>				
I. DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)				
1.	Ext . Micrometer [®] L.C.: 0.001 mm L.C.: 0.01 mm	Upto 1000 mm Upto 400 mm	2.6 μ m 13.60 μ m	Using Micrometer Check Set, Slip Gauge Set & Length Bar as per IS 2967 By Comparison Method
2.	Plunger Type Dial Gauge [§] L.C.: 0.001 mm	0 to 25 mm	5.0 μ m	Using Dial Calibration Tester as per IS 2092 By Comparison Method
3.	Vernier Depth Gauge [§]	0 to 300 mm	16.90 μ m	Using Slip Gauge & Length Bar as per IS 4213 By Comparison Method
4.	Vernier Caliper [§] L.C.: 0.01 mm L.C.: 0.01 mm	0 to 300 mm 0 to 1000 mm	12.50 μ m 22.0 μ m	Using Slip Gauge & Length Bar as per IS 3651 By Comparison Method
5.	Bore Gauge [§] L.C.: 0.001 mm	1 mm (Plunger Movement)	4.00 μ m	Using Dial Calibration Tester By Comparison Method
6.	Feeler Gauge [§]	Upto 1 mm	2.90 μ m	Using Dig. Micrometer as per IS 3179 By Comparison Method
7.	Micrometer Setting Rod [§]	25 mm to 275 mm	10.0 μ m	Using Slip Gauge and Comparator Stand as per IS 3455

Mohit Kaushik
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Program Manager

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Page 2 of 4

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
8.	Fixed Adjustable Snap Gauge ^s	5 mm to 100 mm	5.0 μ m	Using Slip Gauge as per IS 919, IS 3455 By Comparison Method
9.	Plain Plug Gauge ^s	1 mm to 100 mm	5.0 μ m	Using Slip Gauge & Comparator Stand as per IS 3455 By Comparison Method
10.	Dial Comparator Stand ^s	100 mm x 150 mm	4.40 μ m	Using Digital Dial Gauge as per IS 7599
11.	Angle Protractor ^s L.C.: 1°	0 to 180°	35 min of Arc	Using Profile Projector as per IS 4239
12.	Combination set ^s L.C.: 1°	0 to 180°	35 min of Arc	Using Profile Projector as per IS 4239
13.	Radius Gauge ^s	1 mm to 25 mm	47.7 μ m	Using Profile Projector as per IS 5273
14.	Thread Pitch Gauge	1 mm to 7 mm	10.0 μ m	Using Profile Projector as per IS 4211
15.	Test Sieve ^s	0.05 mm to 1 mm	14.7 μ m	Using Profile Projector as per IS 460 (Part 3)
16.	Thread Plug Gauge Diameter ^s Major Minor Diameter	0 to 100 mm	4.6 μ m 5.8 μ m	Using Floating Carriage Micrometer & Profile Projector as per IS 6311, IS 2344, IS 4218

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Page 3 of 4

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
II.	UTM, TENSION CREEP AND TORSION TESTING MACHINE			
1.	Compression Testing Machine* L.C.: 2 kN	150 kN to 500 kN 40 kN to 2000 kN	1.37 % 0.98 %	Using Force Proving Instruments of 500 kN & 2000 kN By Comparison Method as per IS 1828
III.	PRESSURE INDICATING DEVICES			
1.	Digital/Dial Pressure Gauge (Hydraulic) [#]	0 to 25 bar	0.62 bar	Using Digital Pressure Gauge with Comparator Pump by Comparison Method as per DKD R6-1
2.	Digital/Dial Pressure Gauge (Hydraulic) [#]	0 to 500 bar	2.75 bar 5.53 bar	Using Digital Pressure Gauge with Comparator Pump by Comparison Method as per DKD R6-1

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<u>THERMAL CALIBRATION</u>				
I.	TEMPERATURE			
1.	RTD /Thermocouple , Temperature Sensor with Indicator Digital , Dial Thermometer / Data Logger / Recorder [#]	0.5 °C to 50 °C	1.2 °C	Using 4-Wire RTD PT100 with Thermocouple Indicator and Dry Block Calibrator by Comparison Method (Calsys – 15/100)
2.	Liquid in Glass Thermometer, RTD, Thermocouple, Temperature Sensor with Indicator, Digital, Dial Thermometer, Data Logger / Recorder [#]	50 °C to 250 °C	2.3 °C	Using 4-Wire RTD PT100 with Temperature Indicator and Silicon Oil Bath by Comparison Method (Calsys – 250)
3.	RTD/Thermocouple / Temperature Sensor with Indicator / Data Logger / Recorder [#]	250°C to 1000 °C	2.7 °C	Using S-Type Thermocouple with Temperature Indicator and Dry block Calibrator by Comparison method (Calsys – 1200)

* Measurement Capability is expressed as an uncertainty (\pm) at a confidence probability of 95%

[§]Only in Permanent Laboratory

^{*}Only for Site Calibration

[#] The laboratory is also capable for site calibration however, the uncertainty at site depends on the prevailing actual environmental conditions and master equipment used.

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