



NABL

National Accreditation Board for Testing and Calibration Laboratories

(An Autonomous Body under Department of Science & Technology, Govt. of India)

CERTIFICATE OF ACCREDITATION

METRIC MEASUREMENT TECHNOLOGIES

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

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

for its facilities at

No. 38, Spartan Avenue, Thiruvalluvar Nagar, Mugappair, Chennai, Tamil Nadu

in the discipline of

MECHANICAL CALIBRATION

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Certificate Number C-0570

Issue Date 26/08/2015



Valid Until 25/08/2017

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the additional requirements of NABL.

Signed for and on behalf of NABL

Avijit Das
Program Manager

Anil Relia
Director

Prof. Ashutosh Sharma
Chairman



रा.प्र.प्र.बो.

राष्ट्रीय परीक्षण और अंशशोधन प्रयोगशाला प्रत्यायन बोर्ड

(विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार के अधीन स्वायत्तशासी निकाय)

प्रत्यायन प्रमाण-पत्र

मेट्रिक मेजरमेंट टेक्नोलॉजिस्

का मूल्यांकन और प्रत्यायन निम्न मानक के अनुसार

आई.एस.ओ./आई.ई.सी. 17025:2005

“परीक्षण एवं अंशशोधन प्रयोगशालाओं की सक्षमता की सामान्य अपेक्षाएँ”

चेन्नई, तमिलनाडु

में स्थित इसकी सुविधाओं के लिए

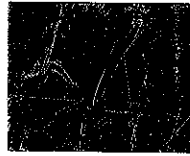
यांत्रिक अंशशोधन

के विषय क्षेत्र में किया गया।

(इस प्रयोगशाला के प्रत्यायन के विषय क्षेत्र की जानकारी एन ए बी एल वेबसाइट www.nabl-india.org से भी प्राप्त कर सकते हैं)

प्रमाण-पत्र संख्या अ-0570

जारी करने की तिथि 26/08/2015



वैधता की तिथि 25/08/2017

यह प्रमाण-पत्र उपर्युक्त मानक तथा राष्ट्रीय परीक्षण और अंशशोधन प्रयोगशाला प्रत्यायन बोर्ड की अतिरिक्त अपेक्षाओं का निरंतर संतोषप्रद अनुपालन किए जाने पर अनुबंध में निर्दिष्टानुसार प्रत्यायन के क्षेत्र के लिए वैध रहेगा।

रा.प्र.प्र.बो. की ओर से हस्ताक्षरित

अ. दास

अविजीत दास
कार्यक्रम प्रबन्धक

अनिल रेलिया

अनिल रेलिया
निदेशक

आशुतोष शर्मा

प्रो. आशुतोष शर्मा
अध्यक्ष



NABL

SCOPE OF ACCREDITATION

Laboratory	Metric Measurement Technologies, No. 38, Spartan Avenue, Thiruvalluvar Nagar, Mugappair, Chennai, Tamil Nadu		
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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
1. DIMENSION			
1. Plain / Setting Ring Gauges ^s	>3 mm to 100 mm > 100 mm to 200 mm	1.6 μ m 2.5 μ m	Using Length Measuring Machine by Comparison Method
2. Spline Ring Gauge ^s	> 6 mm to 120 mm	2.3 μ m	Using Gauge Blocks by Comparison Method
3. Spline Plug Gauge ^s	> 6 mm to 150 mm	2.4 μ m	Using Length Measuring Machine by Comparison Method
4. Caliper Checker ^s	Upto 300 mm Upto 600 mm	5.0 μ m 7.0 μ m	Using Gauge Blocks, Length bars & Dial by Comparison Method
5. Thread Plug Gauge / Wear Check Plug Gauge ^s	Upto 100 mm Upto 100 mm >100 mm to 200 mm	2.9 μ m 2.0 μ m 2.6 μ m	Using FCDM Using Length Measuring Machine by Comparison Method
6. Plain Taper Ring Gauge ^s	Upto 100 mm	2.0 μ m	Using Length Measuring Machine by Comparison Method
7. Thread Ring Gauge / Wear Check Ring Gauge ^s	Upto 100 mm >100 mm to 200 mm	1.7 μ m 3.4 μ m	Using Length Measuring Machine By Comparison Method
8. Taper Thread Ring Gauge ^s	Upto 100 mm	2.0 μ m	Using Length Measuring Machine by Comparison Method

Sangeeta Kunwar
Convenor

Avijit Das
Program Manager

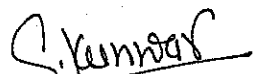


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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
9. Calipers ^s L.C.0.01 mm	Upto 1000 mm	14.4 μ m	Using Caliper Checker, Gauge Blocks & Length bars by Comparison Method
10. Height Gauge ^s L.C.0.01 mm L.C.0.02 mm	Upto 600 mm Upto 1000 mm	11.0 μ m 23.2 μ m	Using Caliper Checker, Gauge Blocks & Length bars by Comparison Method
11. Depth Micrometer / Depth Dial ^s L.C.0.001 mm L.C.0.01 mm	Upto 150 mm Upto 300 mm	2.2 μ m 6.8 μ m	Using gauge Blocks & Surface Plate by Comparison Method
12. Pitch Micrometer ^s L.C. 0.001mm For Linear For Angle	Upto 50mm	6.0 μ m 5.5 ' of Arc	Using Gauge Blocks & Profile Projector by Comparison Method
13. Engineers Square ^s Perpendicularity Parallelism	Upto 300 mm	6.6 μ m 5.3 μ m	Using Square Master & Lever Dial Gauge by Comparison Method
14. Length Measuring Machine ^s L.C. 0.0001mm	Upto 100 mm	1.2 μ m	Using Grade 'K' Gauge Blocks by Comparison Method
15. Thread Measuring Wire / Three Wire Set / Measuring Pin ^s	Upto 20 mm	1.2 μ m	Using Gauge Blocks & Electronic Probe by Comparison Method


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16. Cylindrical Setting Master ^s	Upto 100 mm >100 mm to 200 mm	1.9 μ m 2.2 μ m	Using Gauge Blocks & Electronic Probe by Comparison Method
17. Mandrel ^s	Dia. Upto 50 mm	1.4 μ m	Using Gauge Blocks, Lever Dial Gauge & Electronic Probe by Comparison Method
18. Length Bar / Micrometer Setting Standard ^s	Upto 100 mm >100 mm to 200 mm >200 mm to 400 mm >400 mm to 600 mm	1.6 μ m 2.3 μ m 4.6 μ m 9.0 μ m	Using Gauge Blocks, Electronic Probe & Lever dial by Comparison Method
19. Riser Block ^s	150 mm 300 mm	2.3 μ m 4.6 μ m	Using Gauge Blocks & Lever dial by Comparison Method
20. Thread Measuring Prism ^s	A/B/C/D	1.3 μ m	Using Gauge Blocks & Electronic Probe by Comparison Method
21. Feeler Gauge / Width Gauge ^s	Upto 20 mm	3.3 μ m	Using Digital Micrometer by Comparison Method
22. Radius Gauge ^s	Upto 25 mm	7.1 μ m	Using Profile Projector by direct method
23. Thread Pitch Gauge ^s	Upto 10 mm	7.1 μ m	Using Profile Projector by direct method

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
24. 'V' Block ^s	Upto 200 mm X 125 mm X 150 mm Flatness Parallelism Perpendicularity Symmetricity	4.0 μ m 5.3 μ m 6.6 μ m 3.6 μ m	Using Gauge Blocks, Lever Dial Gauge, Square master & Surface Plate by Comparison Method
25. Gauge Block Accessory Set ^s	--	1.2 μ m	Using Gauge Blocks, Electronic Probe & Optical flat by Comparison Method
26. Comparator Stand / Dial Stand ^s	Upto 250 mm X 250 mm Flatness Flatness	1.0 μ m 3.6 μ m	Using Optical Flat Using Lever Dial Gauge by Comparison Method
27. Master Foils ^s	Upto 2 mm	1.3 μ m	Using Electronic Probe by Comparison Method
28. Plain Plug Gauge ^s	Upto 100 mm >100 mm to 200 mm	1.4 μ m 3.1 μ m	Using Gauge Blocks & Electronic Probe by Comparison Method
29. Flush Pin Gauge ^s	Upto 200 mm	2.4 μ m	Using Gauge Blocks & Electronic Probe by Comparison Method
30. Length Gauge ^s	Upto 100 mm >100 mm to 200 mm	1.4 μ m 2.0 μ m	Using Gauge Blocks & Electronic Probe by Comparison Method
31. Snap Gauge ^s	>2.5 mm to 100 mm >100 mm to 200 mm >200 mm to 300 mm >300 mm to 400 mm	1.6 μ m 2.6 μ m 3.5 μ m 4.2 μ m	Using Gauge Blocks, Long Gauge Blocks by Comparison Method

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
32. Taper Thread Plug Gauge ^s	Upto 100 mm	2.8 μ m	Using FCDM by Comparison Method
33. Taper Plug Gauge ^s	For Diameter For Angle	5.5 μ m 5.3' of Arc	Using Profile Projector by Direct method
34. Depth Gauges ^s L. C. 0.01 mm	Upto 300 mm	10.3 μ m	Using Gauge Blocks & Surface Plate by Comparison Method
35. External Micrometer ^s L. C. 0.001 mm L. C. 0.01 mm	Upto 200 mm >200 mm to 600 mm	2.0 μ m 8.5 μ m	Using Gauge Blocks, Long Gauge Blocks & Cyl. Setting Master by Comparison Method
36. Internal Micrometer ^s L. C. 0.001 mm	Upto 300 mm	3.5 μ m	Using Gauge Blocks & Gauge Block Accessories by Comparison Method
37. Micrometer Head ^s L. C. 0.0002 mm	Upto 25 mm	1.3 μ m	Using Electronic Probe by Comparison Method
38. Height Setting Micrometer ^s L. C. 0.0005mm	Upto 300 mm	4.0 μ m	Using Gauge Blocks & Surface Plate by Comparison Method
39. Floating Carriage DIA. Measuring Machine ^s L. C. 0.0001mm	Upto 25 mm (Effective Meas. Range)	1.6 μ m	Using Cylindrical Setting Master, Lever Dial & Surface Plate by Comparison Method

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
40. Dial Calibration Tester ^s L. C. 0.0001 mm ^Φ	Upto 25 mm	1.4 μ m	Using Electronic Probe by Comparison Method
41. Plunger Dial Gauge ^s (Analog) L. C. 0.001mm	Upto 50 mm	3.0 μ m	Using Dial Calibration Tester by Comparison Method
42. Plunger Dial Gauge ^s (Digital) L. C. 0.001mm	Upto 50 mm	1.2 μ m	Using Gauge Blocks & Comparator Stand by Comparison Method
43. Electronic Probe / Comparator ^s L. C. 0.0001 mm	Upto 25 mm	0.8 μ m	Using Grade 'K' Gauge Blocks by Comparison Method
44. Lever Type Dial Gauge ^s L. C. 0.001mm	Upto 2 mm	3.0 μ m	Using Dial Calibration Tester by Comparison Method
45. Dial Bore Gauge / Bore Gauge ^s L. C. 0.001mm	Upto 1.2 mm (Only Transmission error)	3.3 μ m	Using Dial Calibration Tester by Comparison Method
46. Dial Snap / Thickness Gauge ^s L. C. 0.001 mm	Upto 200 mm	1.3 μ m	Using Gauge Blocks by Comparison Method

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
47. Comparator With Stand ^s L. C. 0.0001 mm	Upto 25 mm (Effective Meas. Range)	0.7 μ m	Using Grade 'K' Gauge Blocks by Comparison Method
48. Height Gauges ^s L. C. 0.0005 mm	Upto 600 mm	5.7 μ m	Using Step Gauge by Comparison Method
49. Dial Caliper Gauge ^s L.C. 0.01mm	Upto 100 mm	7.0 μ m	Using Gauge Blocks by Comparison Method
50. Bevel Protractor/ Combination Set ^s L.C. 1 Arc min.	0°-90°-0	5.5' of Arc	Using Profile Projector by Direct method
51. Three Point Micrometer ^s L.C. 0.001mm ^φ	Upto 100 mm	2.2 μ m	Using Plain Ring Gauge by Comparison Method
52. Profile Projector / Tool Makers Microscope / Video Measurements Systems ^s Linear : L.C. 0.001mm Angular L.C. 20" Magnification L.C. 5 x ^θ	Upto 400 mm X 300 mm	3.4 μ m 2.3 min. 0.6 %	Using Gauge Blocks, Linear & Angle Scales by Comparison Method
53. Surface Plate ^s	Upto 3000 mm X 2000 mm	$2.2 \sqrt{\frac{L+W}{200}} \mu$ m Where W & L are in mm	Using Precision Spirit Level by Comparison Method

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54. Electronic Height Gauge L.C. 0.0005 mm	Upto 600 mm	5.7 μ m	Using Step Gauge, Gauge Blocks & Length Bars by Comparison Method
55. Bench Center ^S (only co-axiality)	Upto 300 mm	3.8 μ m	Using Mandrel & Lever Dial Gauge by Comparison Method
II. PRESSURE AND VACUUM			
1. Pressure Gauge [#] (Pressure Gauge/ Pressure Switches / Pressure Transmitters)	0.1 bar to 25 bar >25 bar to 700 bar	0.4 % rdg. 0.31 % rdg.	Using Pressure Calibrator as per DKD R-6-1 by Comparison Method
2. Vacuum Gauge [#]	-0.1 bar to -0.99 bar	1% rdg.	Using Pressure Calibrator as per DKD R-6-1 by Comparison Method
III. MASS			
1. Weighing Balance [*] Readability			
1mg	1 mg to 720 g	3.6 mg	Using F2 Class Weights & M1 Class Weights by Comparison Method
1g	>720 g to 15 kg	1.3 g	
10g	>15 kg to 100 kg	12.0 g	
50g	>100 kg to 300 kg	33.0 g	

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

^S Only in Permanent Laboratory

[#] Only for Site Calibration

^o Laboratory can also calibrate instruments/devices of coarser resolution / least count within the accredited range using same reference standard/ master equipment under the scope of accreditation.

^h 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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