



NABL

National Accreditation Board for Testing and Calibration Laboratories

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

CERTIFICATE OF ACCREDITATION

SME CALIBRATION CENTRE-DIVISION OF S.M. ENGINEERS

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

1, Makarand Apartments, 13 Mayur Colony, Kothrud, Pune, Maharashtra
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-0240

Issue Date 01/07/2015



Valid Until 30/06/2017

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



NABL

SCOPE OF ACCREDITATION

Laboratory	SME Calibration Centre-Division of S. M. Engineers, Pune, Maharashtra Location 1: 1, Makarand Apartments, 13, Mayur Colony, Kothrud, Pune, Maharashtra Location 2 : Sr. No. 77/4, Near Vishnu Malati Industrial Estate, Post Shivane, Dist. Pune, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Mechanical Calibration	Issue Date	01.07.2015
Certificate Number	C-0240	Valid Until	30.06.2017
Last Amended on	10.12.2015	Page	1 of 7

Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
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Location 1

I. FORCE

Verification of Static Uniaxial Testing Machines*
(Universal, Compression, Load, Tensile Testing Machine, Spring Testing Machine, Force Measuring system)

1. Verification of Universal Testing Machine* Compression Mode	Upto 2000kN	0.15%	Using Class 1 Dynamometers & Load cells as per IS 1828 : 1 / BS EN ISO 7500-1
Tension Mode	Upto 500 kN	0.15%	
2. Verification of Tensile & Universal Testing Machine* Compression Mode	Upto 2000kN	0.26%	Using Class A Dynamometers & Load cells as per ASTM E4
3. Force Verification of Rockwell Hardness Tester*	29.42 N to 1471 N	0.12%	Using Class 0 & Class 1 Load Cells BS EN 6508 -2 ASTM -E-18
4. Force Verification of Brinell Hardness Tester*	153.2N to 29.42kN	0.15%	Using Class 0 & Class 1 Load Cells, As per IS 1500-2/ BS EN ISO 6506-2 ASTM -E 10

Neeraj Verma
Convenor

Avijit Das
Program Manager



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5.	Force Verification of Vickers Hardness Tester*	19.61 N to 980.7 N	0.34%	Using Class 0 & Class 1 Load Cells As per IS 1501/ BS EN ISO 6507-2 ASTM E 384
6.	Verification of Impact Testing Machines (Charpy & Izod) by Direct Verification for Metallic Materials*	0 to 750 Joules	0.33 %	Using Various instruments Gauges , Load cell As per BSEN ISO 148 - 2 : 2008 IS : 3766, BS 131 - IV & ASTM E 23
7.	Verification of Impact Testing Machine (Charpy & Izod) by Direct Verification for Plastic Materials*	0 to 50 Joules	0.25 %	Using Various instruments Gauges , Load cell As per ASTM D256 & ISO 13802
8.	EXTENSOMETER MEASUREMENT OF LINEAR MOVEMENT* Electronic Mechanical	Upto 50 mm Upto 50 mm	4.43 μ m 6.0 μ m	Using Digital Calibration Tester with Digital Prob & DRO As per IS 12872 ISO 9513, ASTM E 83 & D 6110

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II. HARDNESS				
1.	Indirect Verification of Rockwell & Rockwell Superficial Hardness Testing Machine*	HRA HRB HRC HR 15 N HR 30 N HR 45 N HR 15 T HR 30 T HR 45 T	0.96 HRA 1.0 HRB 0.5 HRC 1.01 HRN 1.18 HRN 0.87 HRN 1.0 HRT 1.5 HRT 1.3 HRT	Using Standard Test Blocks as per IS 1586-2/ BS EN 6508-2
2.	INDIRECT VERIFICATION ROCKWELL & ROCKWELL SUPERFICIAL HARDNESS TESTING MACHINES*	HRA HRB HRC HR 30 N	0.54 HRA 0.78 HRB 0.54 HRC 0.86 HRN	Using Standard Test Blocks as per ASTM -E 18
3.	INDIRECT VERIFICATION OF BRINELL HARDNESS TESTING MACHINES*	2.5 mm/187.5 kgf 5 mm / 250 kgf 5 mm / 750 kgf 10 mm/ 3000 kgf	1.8 % 2.12 % 1.3 % 1.3 %	Using Standard Test Blocks as per IS 1500-2/ BS EN ISO 6506-2
4.	INDIRECT VERIFICATION OF BRINELL HARDNESS TESTING MACHINES*	5 mm/750 kgf 10 mm/ 3000 kgf	1.6 % 1.3 %	Using Standard Test Blocks as per ASTM -E 10

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
5. INDIRECT VERIFICATION OF VICKERS HARDNESS TESTING MACHINE*	HV 0.5 HV 1 HV 5 HV 10 HV 20 HV 30	2.5 % 2.2 % 1.9 % 1.8 % 1.4 % 1.3 %	Using Standard Test Blocks As per IS 1501/ BS EN ISO 6507-2
6. INDIRECT VERIFICATION OF VICKERS HARDNESS TESTING MACHINE*	HV 0.5 HV 5 HV 30	2.5 % 1.7 % 1.3 %	Using Standard Test Blocks As per ASTM E384
7. ERICHSEN CUPPING TESTING MACHINE* Verification of the travel of punch of Erichsen Cupping Machine L.C. 0.001 mm	0 to 25 mm	4.7 μ m	Using Digital Dial Gauge Erichsen Cupping Punch Travel Calibration Fixture by Comparison Method based on ASTM E 2309/E2309M
8. LINEAR MEASUREMENT MEASUREMENT OF TRAVEL OF UTM CROSSHEAD (ENCODER) & CROSSHEAD TRAVEL OF SPRING TESTING MACHINE*	0 to 270 mm	8.34 μ m	Using Electronica Make Glass Scale by comparison Method As per ASTM E 2309/E2309M

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
9. BRINELL MESURING DEVICE* Verification of Linear Travel of all Types of Brinell Microscopes	0 to 7 mm	0.06 %	Using Stage Micrometer, Glass Scale of I.C. : 0.1 mm and 0.01 mm by Comparison Method
10. METALLURGICAL MICROSCOPES* Calibration of Reticle & Magnification of Microscopes	Magnification Upto 1000X	1 %	Using Micrometer eyepiece WF 10x with adjustable focusing, Glass Scale & Digital Caliper by Comparison Method based on ASTM-E 1951
III. DIMENSIONS			
1. PROFILE PROJECTOR*	(Lincr) 0 - 250 mm Magnification : Upto 100x Angle: 0-360°	15.0 μ m 0.09 % 8.5 min of arc	Using Slip Gauges, Digital Dial caliper, Glass Scale & Angle gauges by Comparison Method
IV. PRESSURE AND GAUGES			
1. PRESSURE# (Hydraulic) For Dial Pressure Gauges, Digital Pressure Gauges, Pressure Transmitters	0 to 700 bar	0.7 bar	Using Digital Pressure Gauges with Budenburg Hydraulic Comparator by Comparison Method based on DKD R6-1

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
Location 2			
I. DIMENSION			
1. EXTENSOMETER^s			
Measurement of Linear Movement			
Electrical	Upto 50 mm	4.43 μ m	Using Digital Calibration Tester with Digital Prob. & DRO having L.C.: 0.1 as per ASTM -IS 12872 ISO 9513 ASTM E 83 & D 6110
Mechanical	Upto 50 mm	6.0 μ m	
2. BRINELL MESURING DEVICE^s			
Verification of Linear Travel of all Types of Brinell Microscopes	0 to 7 mm	0.06 %	Using Stage Micrometer, Glass Scale of L.C. : 0.1 mm and 0.01 mm by Comparison Method
II. TORQUE			
1. TORQUE			
Verification of Torque Wrenches ^s (Type I-Class B & C & Type II Class A & B)	0 to 1000 Nm 1000 Nm to 2000 Nm	0.8 % rdg 3.6 % rdg	Using Torque Calibrator With Different Transducers & Indicator as per ISO 6789

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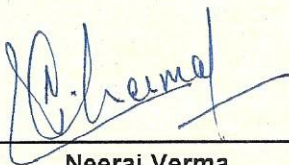
Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
III. PRESSURE AND VACUUM			
1. PRESSURE[#] (Hydraulic) For Dial Pressure Gauges, Digital Pressure Gauges, Pressure Transmitters	0 to 700 bar	0.7 bar	Using Digital Pressure Gauges with Budenburg Hydraulic Comparator by Comparison Method based on DKD R6-1

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

^SOnly 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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