



# NABL

## SCOPE OF ACCREDITATION

Laboratory Ahmedabad Textile Industry's Research Association (ATIRA), Dr. Vikram Sarabhai Road, P.O. Ambawadi Vistar, Ahmedabad, Gujarat

Accreditation Standard ISO/IEC 17025:2005

Discipline Mechanical Calibration Issue Date 19.03.2015

Certificate Number C-0681 Valid Until 18.03.2017

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (+)	Remarks
1. DIMENSION			
1. VERNIER CALIPER <sup>S</sup> L.C.: 0.01 mm	0 to 300 mm	9 $\mu$ m	Using Slip Gauge Set & Accessories
2. EXTERNAL MICROMETER <sup>S</sup> L.C.: 0.001 mm	0 to 25 mm 25 mm to 50 mm	1.8 $\mu$ m 1.6 $\mu$ m	Using Slip Gauge Set & Accessories
3. PLUNGER DIAL GAUGE/ WOBBLE GAUGE <sup>S</sup> (Analogue/Dial/Digital) L.C.: 0.001 mm	0 to 25 mm	1.0 $\mu$ m	Using Slip Gauge Set & Accessories
4. THICKNESS GAUGE <sup>S</sup> (Dial/Digital) L.C.: 0.001 mm	0 to 25 mm	1.0 $\mu$ m	Using Slip Gauge Set & Accessories
5. DEPTH GAUGE <sup>S</sup> (Dial/Digital) L.C.: 0.1 mm	0 to 30 mm	58 $\mu$ m	Using Slip Gauge Set & Accessories
6. MEASURING SCALE <sup>S</sup> L.C.: 0.5 mm	0 to 600 mm	578 $\mu$ m	Using Travelling Height Gauge
7. PLUG GAUGE <sup>S</sup>	0 to 50 mm	1.9 $\mu$ m	Using Slip Gauge Set & Accessories
8. MANDREL <sup>S</sup> (Diameter only)	0 to 50 mm	1.9 $\mu$ m	Using Slip Gauge Set & Accessories

Vishal Shukla  
Convenor

Avijit Das  
Program Manager



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<b>II. PRESSURE AND VACUUM</b>			
1. PNEUMATIC PRESSURE GAUGE <sup>#</sup>	0 to 20 kg/cm <sup>2</sup>	0.2 kg/cm <sup>2</sup>	Using Digital Pressure Calibrator DPI 610 by Compression Method
2. VACCUM GAUGE <sup>#</sup>	0.1 kg/cm <sup>2</sup> to 0.84 kg/cm <sup>2</sup>	0.01 kg/cm <sup>2</sup>	Using Digital Pressure Calibrator DPI 610 by Compression Method
<b>III. ACCOUSTICS</b>			
1. SOUND LEVEL METER <sup>#</sup>	94 dB and 114 dB	0.6 dB	Using Sound Calibrator by Compression Method
<b>IV. MASS</b>			
<b>1. WEIGHING BALANCE / WEIGHING SCLAE<sup>#</sup></b>			
d=0.001 mg	0 to 200 g	0.03 mg	Using F1/F2 Class Weights Set (1 mg to 200 g) based On OIML R-76
d=0.01 mg	0 to 200 g	0.06 mg	
d ≤ 0.1 mg	0 to 200 g	0.17 mg	
d ≤ 0.1 mg	0 to 200 g	1.5 mg	Using F1/F2/F1 Class Weights Set (1 mg to 200 g) based On OIML R-76
d ≤ 1.0 mg	0 to 1kg	4.0 mg	
d ≤ 10 mg	0 to 1kg	20.0 mg	
d ≤ 50 mg	0 to 1kg	100 mg	Using F1/F2/F1 Class Weights Set based On OIML R-76
d ≤ 100 mg	0 to 1kg	150 mg	
d ≤ 200 mg	0 to 1kg	250 mg	
d ≤ 1.0 mg	0 to 5 kg	10 mg	Using F1/F2/F1 Class Weights Set based On OIML R-76
d ≤ 10 mg	0 to 5 kg	20 mg	
d ≤ 100 mg	0 to 5 kg	200 mg	

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability ( $\pm$ )	Remarks
d $\leq$ 1.0 mg	0 to 10 kg	2 mg	Using E1/E2/F1 Class Weights Sets and Standard Weights based On OIML R-76
d $\leq$ 10 mg	0 to 10 kg	30 mg	
d $\leq$ 100 mg	0 to 10 kg	200 mg	
d $\leq$ 200 mg	0 to 10 kg	300 mg	
d $\leq$ 500 mg	0 to 10 kg	1000 mg	
d $\leq$ 1.0 mg	0 to 50 kg	20 mg	Using E1/E2/F1 Class Weights Sets and Standard Weights based On OIML R-76
d $\leq$ 10 mg	0 to 50 kg	30 mg	
d $\leq$ 100 mg	0 to 50 kg	200 mg	
d $\leq$ 200 mg	0 to 50 kg	300 mg	
d $\leq$ 500 mg	0 to 50 kg	1000 mg	
d $\leq$ 100 mg	0 to 200 kg	500 g	Using E1/E2/F1 Class Weights Sets and Standard Weights based On OIML R-76
d $\leq$ 1 g	0 to 200 kg	2 g	
d $\leq$ 5 g	0 to 200 kg	10 g	
d $\leq$ 10 g	0 to 200 kg	20 g	
d $\leq$ 50 g	0 to 200 kg	100 g	
d $\leq$ 100 mg	0 to 200 kg	200 g	
d $\leq$ 500 mg	0 to 200 kg	1000 g	
2. MASS <sup>s</sup>	1 mg	0.003 mg	
	2 mg	0.003 mg	
	5 mg	0.003 mg	
	10mg	0.003 mg	
	20 mg	0.003 mg	
	50 mg	0.003 mg	
	100 mg	0.003 mg	
	200 mg	0.003 mg	
	500 mg	0.006 mg	
	1 g	0.006 mg	
	2 g	0.006 mg	
	5g	0.006 mg	
	10 g	0.014 mg	
	20 g	0.014 mg	
	50 g	0.024 mg	

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
	100 g	0.024 mg	
	200 g	0.100 mg	
	500 g	1.7 mg	
	1000 g	1.90 mg	
	2000 g	10.7 mg	
	5000 g	0.82 g	
	10000 g	0.84 g	
	20000 g	0.88 g	
	50000 g	1 g	
<b>V. VOLUME</b>			
1. CALIBRATION OF MICRO PIPETTE & VOLUMETRIC GLASSWARE <sup>3</sup>	1 µl to 10 µl	0.080 µl	Using Distilled Water Of Known Density & Reference Weights Of Accuracy Class F1, F2, & F1 based On ISO 4787 & ISO 8655-6
	>10 µl to 100 µl	0.080 µl	
	>100 µl to 500 µl	0.080 µl	
	>500 µl to 1000 µl	0.080 µl	
	>1 ml to 10 ml	6.44 µl	
	>10 ml to 200 ml	20.00 µl	
	>200 ml to 500 ml	55.6 µl	
>500 ml to 1000 ml	110.0 µl		
2. DENSITY <sup>3</sup> LACTOMETER HYDROMETER MUD BALANCE TWADDLE METER	1.02 sp.gr to 1.04 sp.gr	0.0014 sp.gr	Using Weighing Balance Digital Density Hydrometer, Procedure based on IS 3104
	0.700 g/cm <sup>3</sup> to 1.80 g/cm <sup>3</sup>	0.0104 g/cm <sup>3</sup>	
	0.700 g/cm <sup>3</sup> to 1.80 g/cm <sup>3</sup>	0.012 g/cm <sup>3</sup>	
	1.00 g/cm <sup>3</sup> to 1.80 g/cm <sup>3</sup>	0.0032 g/cm <sup>3</sup>	

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<b>VI. ACCELERATION &amp; SPEED</b>			
I. TACHOMETER/ STROBOSCOPE / RPM OF CENTRIFUGE <sup>S</sup>	100 rpm to 20000 rpm	0.07 %	Using Precision Digital Tachometer by Comparison Method.

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

<sup>S</sup> Only in Permanent Laboratory

<sup>\*</sup> Only for Site Calibration

<sup>#</sup> 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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