

**Laboratory** Force Techno Engineers, No. 4, Nallathambi Street, Cholavaram Nagar, Chromepet, Chennai, Tamil Nadu

**Accreditation Standard** ISO/IEC 17025: 2005

**Certificate Number** CC-2489 (In lieu of C-0782)

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**Validity** 05.12.2017 to 04.12.2019

**Last Amended on** 06.12.2017

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ( $\pm$ )	Remarks
<b><u>MECHANICAL CALIBRATION</u></b>				
<b>I.</b>	<b>UTM, TENSION CREEP AND TORSION TESTING MACHINE</b>			
<b>1.</b>	Verification of Universal Testing Machine*			
	Compression	30 N to 2000 kN	0.45 %	Using Class 0 , 0.5 & 1 Load cells & Proving Rings, as per IS1828 (Part 1) ISO 7500(Part 1)
	Tension	30 N to 100 kN	0.44 %	
	Compression	20 kN to 600 kN	0.45 %	Using Class ' A' Load cells & Proving Ring as per ASTM E4
<b>II.</b>	<b>HARDNESS TESTING MACHINES</b>			
<b>1.</b>	Verification of Rockwell Hardness Testing Machine*	HRA HRBW HRC	0.80 HRA 0.71 HRBW 0.75 HRC	Using Standard Hardness Blocks as per IS 1586(Part II) / ISO 6508-2 By Indirect Method
<b>2.</b>	Verification of Rockwell Superficial Hardness Testing Machine*	HR 15N HR 30N HR 45N	0.63 HR 15N 0.66 HR 30N 0.60 HR 45N	Using Standard Hardness Blocks as per IS 1586(Part II)/ ISO 6508-2 , By Indirect Method

**Dheeraj Chawla**  
Convenor

**Avijit Das**  
Program Director

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3.	Verification of Brinell Hardness Testing Machine*	HBW 2.5/187.5 HBW 5/750 HBW 10/3000 HBW 10/1000 HBW 10/500	2.7 % 2.0 % 1.9 % 1.8 % 1.31 %	Using Standard Hardness Blocks as per IS 1500(Part II) / ISO 6506-2 ,By Indirect Method
4.	Verification of Vickers Hardness Testing Machine*	HV 5 HV 10 HV 30	2.1 % 2.31 % 1.7 %	Using Standard Hardness Blocks as per IS 1501(Part II) / ISO 6507-2 By Indirect Method
5.	Verification of Micro Vickers Hardness Testing Machine*	HV 1 HV 0.5 HV 0.3	2.4 % 3.9 % 4.2 %	Using Standard Hardness Blocks as per IS 1501(Part II) / ISO 6507-2 By Indirect Method
6.	Verification of Micro Vickers Hardness Testing Machine*	HV 0.3 HV 0.5	2.2 % 2.8 %	Using Standard Hardness Blocks as per ASTM E384 By Indirect Method

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III.	<b>IMPACT TESTING MACHINES</b>			
1.	Verification of Impact Testing Machine* Charpy Izod	0 to 300 J 0 to 168 J	0.88 % 0.55 %	Using Standard Gauges, Clinometer, Load cell, Steel Tape and other equipments As per ISO 148-2 / ASTM E23-16 / IS 3766 / BS 131 (Part 4) By Direct Verification
2.	Verification of Impact Testing Machine* Charpy	$\leq$ 40 J > 40 to 300 J	0.84 J 7.8 %	Using Standard Gauges, Clinometer, Load cell, Steel Tape and Standard reference test pieces. As per ISO 148-2 / ASTM E23-16 / IS 3766 / BS 131 (Part 4) : By Indirect Verification
IV.	<b>DIMENSION (PRECISION INSTRUMENTS)</b>			
1.	Verification of Extensometer*	0 to 50 mm	9.0 $\mu$ m	Using Calibration Jig and Probe with DRO , As per IS 12872 / ASTM E 83-16 / ISO 9513

\* 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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