

**RECOMMENDED LIST OF EQUIPMENTS
FOR HIGH STRENGTH DEFORMED STEEL BARS AND WIRES FOR CONCRETE
REINFORCEMENT AS PER IS 1786:2008**

Serial No	Test Equipment/Chemicals	Least Count & Range (where applicable)	Calibration (Yes/No)	Test used with clause reference
1	Wire Brush			Freedom from defects Clause 4.3 of IS 1786
	Vernier calliper	0.02mm (0-150mm)		
	Micrometer	0.01mm (0-25mm)		
2	Tensile testing Machine	1KN(0-1000KN)		Pull Out test Clause 5.1 of IS 1786 & IS 2770(Part 1)
	Linear Scale for measuring slip	0.0025mm(0-3mm)		
	Cube Moulds	100mm ²		
		150mm ²		
		225mm ²		
	Dial Micrometer	0.0025mm(0-5mm)		
	Slip ring cross bar			
	Tamping Rod			
3	Vernier calliper/Depth gauge	0.02mm(0-150mm)		Deformation and surface characteristics Clause 5.2 of IS 1786
	Micrometer	0.01mm(0-25mm)		
	Angle protractor	1° (0-180°)		
	Steel scale	1mm(0-600mm)		
4	Weighing Balance (2 pan balance/ Electronic)	Individual=1gm(0-30Kg)		Nominal size, Mass and Tolerances Clause 6 & 7 of IS 1786
		Batch=L.C as appropriate(0-50Kg)		
	Vernier calliper	0.02mm(0-300mm)		
		0.02mm(0-150mm)		
	Micrometer	0.01mm(0-25mm)		
	Steel Scale	0.5mm(0-1000mm)		
	Measuring Tape	(0-15m)		
5	Tensile testing Machine	1KN(0-1000KN)		Mechanical properties as per clause 8.1 of IS 1786 & IS 1608 a) Tensile strength b) Yield stress or 0.2% Proof Stress c) Percentage
	Punch			
	Measuring steel tapes	L.C=1mm		
	Divider			

	Outside & Inside calliper			c)Percentage elongation
	Magnetic V Block	4"		
	Hammer			
	Vernier calliper	0.02mm (0-300mm)		
	Thermometer	1 ⁰ C(0-110 ⁰ C)		
	Stop watch	L.C=1 sec		
	Oven	1 ⁰ C(Up to 150 ⁰ C)		Artificial ageing Clause 9.1.3 of IS 1786(Optional)
	Extensometer	L.C=0.01mm		Optional requirement as per clause 9.2.1 of IS 1786
6	Tensile testing Machine with Bending device	1KN(0-1000KN)		Bend Test Clause 9.3 of IS 1786 & IS 1599
	Mandrels for Bend/Re bend test	1 mandrel each for each sizes/grades		
	Vernier calliper	0.02mm(0-150mm)		
	Micrometer	0.01mm (0-25mm)		
7	Tensile testing Machine with Bending device	1KN (0-1000KN)		Rebend Test Clause 9.4 & Clause 9.4.1 of IS 1786
	Mandrels for Bend/Re bend test	1 mandrel each for each sizes/grades		
	Hot water bath with thermometer	1 ⁰ C(0-100 ⁰ C)		
	Vernier calliper	0.02mm (0-300mm)		
	Micrometer	0.01mm (0-25mm)		
	Angle protractor	0.5 ⁰ (0-180 ⁰)		
	Stop watch	L.C=1 sec		
	Magnifying glass			