



Karnataka Material Testing & Research Centre

(Assisted By : Govt. of Karnataka & Govt. of India)

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Our Lab Accredited by 'NABL' & Recognised by 'BIS'

WE EXTEND FOLLOWING TESTING FACILITIES

1.0 CALIBRATION DIVISION

Calibrate all types of Mechanical Measuring Instruments like ;

- Plain Plug Gauges (IS:7859:1975 / ANSI/ASME B89.1.6)
- Vernier Calipers (IS:3651:1985 (Part II))
- Snap Gauges (IS:7876:1975)
- Internal Thread Gauges (IS:1502:1996, BS 2779:1986, BS 919(1):1960, ANSI/ASME B1.2:1983)
- Inside Micrometers (IS:2966:1964)
- Taper Thread Gauges (IS:9475, IS 2251)
- Dial Indicators (IS:2092:1983, IS:11498:1985)
- Outside Micrometers (IS:2967:1983)
- Plain Ring Gauges (IS:7876:1975, ANSI/ASME B89.1.6)
- Slip Gauges (IS:2984, ISO 3650)
- External Thread Gauges (ISO:1502:1996, BS 2779:1986, BS 919(1):1960, ANSI/ASME B1.2:1983)
- Taper Internal Thread Gauges (IS:9475, IS 2251)
- Bore Gauges (JIS:B7515:1982)
- Pressure Gauges (IS:3624:1987)

Portable Surface Roughness Test - Measures irregularities of work piece surface

Vision Co-Ordinate Measuring System :

- For taking dimensional measurement of different type of components with video and drawing in CAD
- Renishaw touch probe is used to check the non-contact measurement of component, 3D measurement, Depth, Surface Counting, Surface Scanning including compler counting of mould.
- Component size : 450x400x190mm
- Job Weight : 20 Kgs max.

2.0 MECHANICAL DIVISION

- Tensile Strength / Yield Stress / Elongation (ASTM A370:12, IS 1608-2005, ISO 6892:1998)
- Hardness Testing of Vickers, Brinell, Rockwell for Metals. (ASTM E92-82, ASTM E10-08, ASTM E18-08b)
- Bend Testing for all metals (IS: 1599 : 1985)
- Coating / Paint Thickness Measurement
- Dynamic Balancing of Rotating Parts (ISO:1940 : 1973E)
- Welding Quality Test (ASME SECTION IX : 2010)
- Compression Testing of Cement Concrete Cubes, Bricks, Blocks & Pavers. (IS:456:2009, IS:1077:1992, IS:516:1959, IS:3495 (PartI):1992)
- Impact Test by Charpy & Izod (IS:1757:1988, ASTM A370-12)
- Compression Testing for Springs, etc., (IS:7906 (Part 2) : 1975)
- Load Testing of Assemblies (IS:7906 (Part 2) : 1975, ASTM A-370-12)
- Ultrasonic Testing for Internal Crack Detection (NDT) (IS:3664 : 1981)
- Magnetic Particle Test of Metals & Machined Components. (IS:10724, IS:7743, IS:10543)
- Ultrasonically Thickness Testing for Boiler, Chimney, Pipes, Plates, etc.,
- Water Absorption Test for Bricks (IS:1077:1992)

3.0 CHEMICAL DIVISION

- Spectro Analysis :** Spark Emission Metal Testing by SPECTROMAXx. Base Metals : Iron, Nickel, Copper, Aluminium. (ASTM E415-08; ASTM E1086-08, ASTM E1251-07)
- Internal Granular Corrosion Test (IGC) as per ASTM A262 : 2008
- Water Testing** IS 3025 : 1986
- Salt Spray Testing :** Silver Fog 450 Corrosion Test Chamber : Natural Salt Spray Testing of various powder coated, painted, galvanized components. Confirm to National & International Standards (ASTM B117 & IS 101 (Part 6 / Sec I):1988)
- AAS Spectro Photometer :** Analysis of Chemical Composition of PPM Level for Ferrous & Non Ferrous Metals, Oil, Soil, Fertiliser and Water (IS 228 (Part 1 to Part 19))
- Bomb Calorimeter :** Calorific value for Oil, Coal, Coke, Petrol, Diesel, etc.,

Scope of our NABL Accreditation (National Accreditation Board of Laboratories, New Delhi)

Division	Scope
CHEMICAL TESTING	Iron Base & its Alloys, Copper Base & its Alloys, Nickel Base & its Alloys, Aluminium Base & its Alloys
MECHANICAL TESTING	Ferrous & Non -Ferrous metals, Springs, Steel Bars & Plates, Steel Tubes, Bricks & Cement Concrete Cubes
MECHANICAL CALIBRATION	Vernier Calipers, External Micrometer, Depth Micrometer, Internal Micrometer, Setting Rod, Plain Plug Gauge, Plain Ring Gauge, Thread Plug Gauge, Thread Ring Gauge, Snap Gauge, Dial Gauge (Plunger Type), Dial Gauge (Lever Type), Length Measuring Machine

Scope Recognised by Bureau of Indian Standards, New Delhi (BIS)

IS Number	Product
IS:1786 : 2008	Cold Twisted Steel Bars for Concrete Reinforcement
IS:2830 : 2012	Carbon Steel Billets (Standard Quality)
IS:2831 : 2012	Carbon Steel Billets (Ordinary Quality)

Our important latest technology equipments



SPECTROMAXx ↑

Model : German 12871/06, Made in Germany
Application : Analysis of Chemical Composition of Ferrous & Non-Ferrous metals in percentage.
Base Metal : Fe, Ni, Cu & Al



← Universal Testing Machine

Model : UTES 60, FIE, India.
Application : To check the Mechanical properties, Ultimate Tensile Strength, Yield Strength, % Elongation, % Reduction, Bend Test, Shear Test, Compression Strength, Proof Load test in area.
Capacity : 60 Tonnes



← Universal Length Measuring M/c

Model : ULM OPAL 600, **Make :** Mahr Germany
Capacity : Least Count 0.001mm
Application : To Calibrate Plain Plug Gauge, Slip Gauge, External Thread Gauge, Outside/ Inside Micrometers, Depth Micrometer, Taper Thread Gauges, Dial Indicators.



← Salt Spray Testing Equipment

Model : SILVERFOG 450
Make : CM Enviro Systems
Application : Corrosion Test Chamber – Natural Salt Spray Testing of various powder coated, painted, galvanized components. Confirm to National & International Standards



← Vision Co-Ordinate Measuring System

Model : SVI-OCMM -CNL-442-V(II). **Make :** Sipcon Instrument Industries, Ambala
Capacity : 450x450x200mm, Load=20 Kgs. Max.
Application : a) For taking dimensional measurement of different type of components with video and drawing in CAD
b) Renishaw touch probe is used to check the non - contact measurement of component, 3D measurement, Depth, Surface Counting, Surface scanning, counting of mould.

Please contact for further details: 0836-2330423/2330604
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Newly installed latest technology testing equipments under ASIDE Scheme.

Microstructure Analysis :



Automatic (Motorised) Microscope with Image Analysis.

Model : SuXma-MOTO

Application : Grain size, Phase, Inclusion, Cast Iron, Aluminium & Alloy, Banding, Decarburisation depth and 2D Analysis.

Abrasive Cutting Machine

Model : CCM-3

Capacity : Upto 30mm solid

Application : Sample cutting with sufficient amount of coolant flow enabled by 0.1HP Pump



Metallography Belt Grinder

Model : CBG-I

Application : metallography specimen grinder for microstructure analysis

Automatic Specimen Mounting Press

Model : CMP-P

Application : Quality production of specimen mounts with embedded single specimen-mould with good finish.



Metallography Polishing Machine

Model : CPM-II

Application : Grinding & lapping operations



Digital Torque Wrench Calibrator

Model : GTS Make

Capacity : Torque sensors of 0-10kgm & 10-100 kgm

Application : Periodic calibration of static type Torque wrenches

Computer Universal Testing Machine

Model : HT2402-S2

Capacity : 20KN

Application : Tensile, compression, flexural & bend test for Rubber and Plastic products.



Dynamic Hardness Tester

Model : BSHT-FDHT6

Measuring Range : HBW, HV, HRC, HRB & Shore-D

Application : Portable Hardness tester in stores, on large & heavy components, permanently installed parts or on coatings

Izod Impact Tester for Plastic & Rubber Products

Model : IT-1.5

Capacity : 1.5 Joules

Application : Impact Testing for Plastic & Rubber products



Bend & Re-Bend Testing Machine

Model : BSBR-10FA

Capacity : Load Capacity 100KN Max.

Application : Bend and Rebend test for Carbon Steel Bars upto 40mm Diameter for RCC.





Charpy Izod Notch Broching Machine

Model : BSBM-F Manual

Capacity : Notch broaching with 25HRC

Application : To cut the notch (V or U)

Microhardness Tester (Digital Type)

Model : CMV-D

Capacity : Test Load 10gf to 1000gf

Application : To determine the hardness of gradient of a specimen along a cross section



Stereo Zoom microscope (Imported Assembled)

Model : SuXma-SZ I

Zoom Ratio : 6.4 : 1

Magnification : 7X to 45X, Dual Illumination

Application : To study macroscopy, welding, surface defects & textures, fractography, online inspection, electronic industry, gems & jewels industry, etc.,