

Sanjivani College of Engineering, Kopargaon

(An Autonomous Institute) Affiliated to Savitribai Phule Pune University.

At Sahajanandnagar, Post Shingnapur-423603, Ta.: Kopargaon, Dist.: Ahmednagar (MS)

Approved by AICTE, ISO 9001-2015 Certified, Accredited by NBA, Accredited 'A' Grade by NAAC,

Website: www.sanjivanicoe.org.in, Email: principalcoe@sanjivani.org.in,

Ph.No.: (+91) 9130191301, Fax: (02423)-222682



Department of Structural Engineering

Testing of Material Laboratory Details



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Department of Structural Engineering

List of Major Equipment

- Universal Testing Machine (UTM)-Analogue
- Universal Testing Machine (UTM)-Computerized
- Compression Testing Machine (CTM)
- Tile Abrasion Testing Machine
- Tile Flexure Strength Testing Machine
- Impact Testing Machine (Charpy and Izod Test)
- Concrete Ultrasonic Testing Equipment
- Rebound Hammer

Cement Testing Apparatus

- Vicat Apparatus
- Le-chateliers Apparatus
- Compressive strength of cement using 70.7mm Mold.

Aggregate Testing Apparatus

- Aggregate Impact Testing Apparatus
- Fineness modulus and grading of aggregate using IS Sieves.
- Specific gravity of aggregate using Pycnometer and Density bucket
- Bulk density of coarse and fine aggregate using cylindrical containers (capacities of 3, 15 & 30 litres)

Concrete Workability Testing Apparatus

- Compaction Factor Apparatus
- Flow Table Test Apparatus
- Vee Bee Consistometer
- Slump cone Apparatus

Instrument used for Preparation of Concrete

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Department of Structural Engineering

- Vibration Machine
- Concrete Mixture
- Concrete Molds (Cube and Beam molds)
- Curing tank

Instrument used for Non Destructive test

- Ultrasonic Pulse Velocity
- Rebound Hammer

Other Instruments

- Tensometer
- Torsion Testing machine
- Universal Wood Testing Machine
- Ras Hardness Testing Machine
- Brinell 3000 J Hardness Testing Machine
- Laboratory oven
- Sieve Shaker
- Wheel barrow

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Major Equipment



Universal Testing Machine (Analogue)
Manufacturer-Fuel Instruments & Engineers Pvt. Ltd. (FIE) .**Capacity**- 400KN
Application-Tension Test, Compression Test, Bending Test, Shear Test.



Universal Testing Machine (UTM)- computerized
Manufacturer- Fine Spavy Associates & Engineers Pvt. Ltd. **Capacity**- 1000KN
Application- Tension Test, Compression Test, Bending Test, Shear Test, Bend Re-bend Test



Compression Testing Machine
Manufacturer-Associated Instrument Manufacturers (INDIA) Pvt. Ltd.
Capacity- 2000KN
Application- Compression Test



Tile Abrasion Testing Machine
Manufacturer- Hydraulic & Engineering Instruments (HEICO)
Application- To check Wear and Tear of cement concrete Flooring tiles.

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Major Equipment



Tile Flexure Strength Testing Machine

Manufacturer- Associated Instrument Manufactures Pvt.Ltd. **Capacity-**200kg **Application-** To check the flexure strength of cement concrete flooring tiles, clay roofing tiles (Mangalore pattern).



Impact Testing Machine(Charpy and Izod Test)

Manufacturer- Fuel Instruments &Engineers Pvt.Ltd. **Application-** To determine the behaviour of metals especially steel and steel castings under Impact stresses



Concrete Ultrasonic Testing Equipment

Manufacturer- Canopus Instruments **Application-** For estimating the strength and uniformity of beams, coloumn and slabs. Detecting honeycombing and porosity in slabs, deterioration of the concrete in old buildings.



Rebound Hammer

Manufacturer- ASI Sales Private Limited **Application-** To investigate concrete hardness, estimating the compressive strength.

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Cement Testing Apparatus



Vicat Apparatus

Manufacturer- ASI Sales Private Limited.

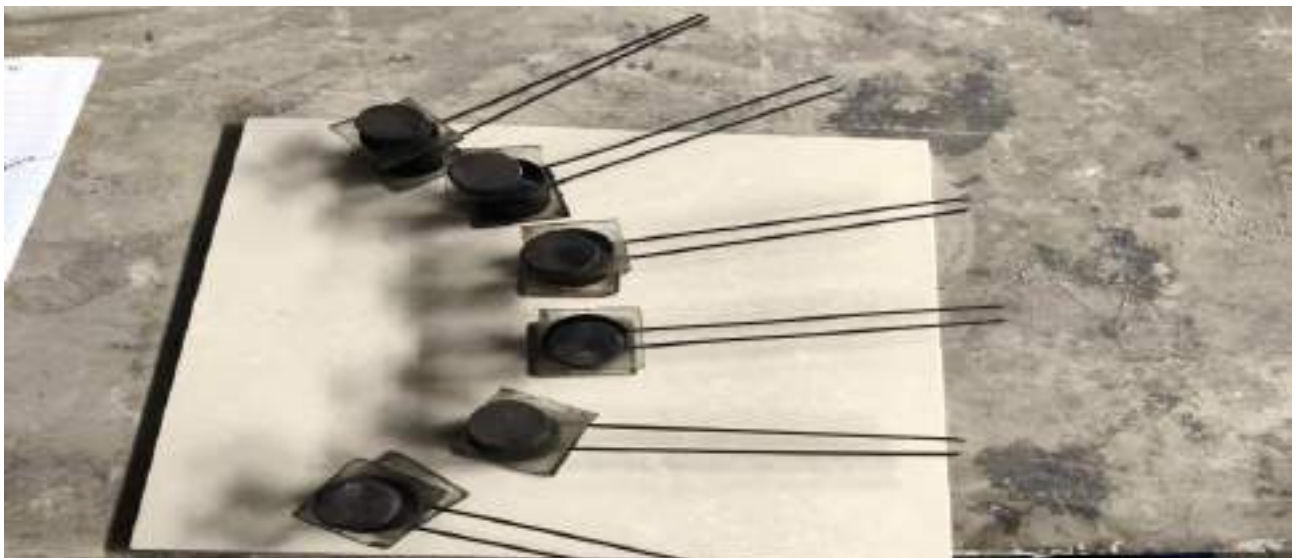
Application- To find standard consistency, Initial and final setting time of cement.



Cement Mold Size 70.6mmx70.6mmx70.6mm

Make –AIMIL

Application- To prepare the cement cube



Le- chatelier apparatus

Manufacturer- ASI Sales Private Limited **Application-** To find soundness of cement

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Aggregate Testing Apparatus



Aggregate Impact Testing Apparatus

Manufacturer- ASI Sales Private Limited

Application- To to know the toughness of aggregate



IS Sieves Brass and G.I

Manufacturer- AIMIL

Application- Fineness modulus and grading of aggregate.



Pycnometer and Density bucket

Manufacturer- AIMIL

Application- Specific gravity of aggregate



cylindrical containers (3, 15 & 30 litres)

Manufacturer- Oriental Scientific Instruments Corporation.

Application- Bulk density of aggregate.

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Concrete Workability Testing Apparatus



Compaction Factor Apparatus

Manufacturer- AIMIL

Application- To determine workability of concrete



Flow Table Test Apparatus

Manufacturer- AIMIL

Application- To determine workability of concrete.



Vee Bee Consistometer

Manufacturer- ASI Sales Private Limited

Application- To determine workability of concrete



Slump Cone Test Apparatus

Supplier- Lawrence & Mayo New Delhi

Application- To determine workability of concrete

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Instrument used for preparation of concrete



Vibration Machine

Manufacturer- AIMIL

Vibration of fresh concrete moulds



Concrete Mixture

Manufacturer- AIMIL

Application- To mix the concrete



Concrete Moulds (Cube and Beam molds)

Supplier- Lawrence & Mayo New Delhi

Application- To prepare concrete Cube, Beam and cylinder.



Curing tank

Application- To curing the cement and members.

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Other Instruments



Tensometer

Manufacturer- MIKROTECH

Application- Tensometer can be used to test a variety of materials such as metals, plastic, timber, ceramics, cement, fabrics, etc. in tension, shear, compression and bend.



Torsion Testing Machine

Manufacturer- FIE. Ichalkarangi

Application- conducting torsion and twist on various metal wires, tubes, sheet materials



Universal Wood Testing Machine

Manufacturer- ASI Sales Private Limited

Application- Static bending test, Shear test parallel to grain.



Ras Hardness Testing Machine

Manufacturer- FIE. Ichalkarangi

Application- for testing hardness of metals & alloys

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Other Instruments



Laboratory Oven

Manufacturer- LABSTAR.

Digital controller, Air circulation fan with motor.

Temperature Range 5⁰c Above Ambient-250⁰ c



Wheel barrow

Manufacturer- Bhai Bhai Engineering Works, Sai Baba Shopping Complex.



Sieve Shaker

Manufacturer- ASI Sales Private Limited

Analysis of fine aggregates.



Brinell 3000 J Hardness Testing Machine

Manufacturer- FIE. Ichalkarangi

Application- Measure the hardness of castings, forgings, other metals and alloys.