



GOVERNMENT ENGINEERING COLLEGE, DAMAN
DEPARTMENT of CIVIL ENGINEERING
BUILDING MATERIAL & CONCRETE LABORATORY

UNIVERSAL TEST APPARATUS



Basic Details: -

1. Max. Capacity 1000 KN
2. Max. Clearance for Tensile Test (mm) 50-900
3. Max. Clearance for Compression Test (mm) 0-900
4. Clearance between Columns (mm) 850
5. Tension Test: Clamping Jaws for round specimen mm 20-40 40-60 60-80
6. Clamping Jaws for Flat specimen Mm 0-20 20-45 45-70 Width mm 100
7. For Compression Test: Pair of compression plate of diameter Mm 220



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COMPRESSION TESTING MACHINE APPARATUS



Basic Details: -

1. Capacity: 2000 kN
2. Digital Compression Testing Machine with Single Gauge.
3. The Digital Indicator: 4-Digits display calibrated in Kilo Newton (KN) and pre-set to maximum load capacity fitted with micro switches to switch-off the motor when the load approaches the maximum capacity of the gauge, avoiding any over loading.
4. Safety Relays avoiding motor restart on its own after a power breakdown.
5. Electrically operated pumping units with a control knob to adjust the pace rate which can be effectively controlled during the course of testing, by observing the progress of the Digital Indicator readings.



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FLEXURE TESTING MACHINE APPARATUS



Basic Details: -

1. Capacity: 100 kN
2. Load indicated on a calibrated Bourdon tube type Pressure Gauge
3. Pressure Gauge of range: 0-100kN x 0.5kN (0-10,000 kgf x 50 Kgf).
4. The load gauge is calibrated by National Laboratories.
5. Length of beam 2000 mm



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COMPACTION FACTOR APPARATUS



Basic Details: -

1. Consisting of two rigid conical hoppers and a cylinder mounted on a rigid metal frame. Lower openings of the hoppers fitted with hinged trapdoors having quick release catches.
2. A circular metal plate is provided to cover the top of the cylinder.
3. Supplied with one plasterer's trowel and one tamping rod, 16mm dia x 600 mm long, one end rounded.



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TILE FLEXURE TESTING APPARATUS



Basic Details: -

1. Double lever loading machine where load is placed by a flow of lead metal that automatically stops as the sample breaks.
2. Sample mounting rollers 40mm or 12mm in dia. Bearing rollers can be placed at center distances of 150, 200 or 270 mm.
3. The unit equipped with a 20 Kg lead metal.



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RELATIVE DENSITY TEST APPARATUS



Basic

Details: -

1. Vibratory table, with a cushioned steel vibrating decks about 75cm x 75cm. frequency of approximately 3600 vibratory table per minute under a 11.5 kg load.
2. Variable Amplitude in between 0.65mm in step of 0.05 to 0.25mm, 0.25 to 0.45 mm and 0.45 to 0.65mm.
3. Suitable for operations on 415V, Three Phase supply.
4. Cylindrical metal unit weight mould, 3000ml. Capacity.
5. Surcharge base plate for mould. Handle for surcharge base plate. Surcharge weight. The total weight together with surcharge base plate and handle is equipment to 140 kg. /sq. cm.
6. Cylindrical metal unit weight mould 15000 ml. capacity. (Total weight together with the above mould & surcharge weight should be equivalent to 140 kg./sq. cm)



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TILE ABRASION MACHINE APPARATUS



Basic Details: -

1. Tiles specimen of size 7.06cm x 7.06cm
2. Load applied is 30 kgf.
3. A funnel to evenly spread abrasive powder on the grinding path.
4. pre-set counter re-adjustable to automatically stops the machine after specified revolutions



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VIBRATING MACHINE APPARATUS



Basic Details: -

1. Vibrating machine motor driven of power of 1 kw
2. Cement cube mould of size 7.05x7.05x7.05 cm is used



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VIBRATING PLATFORM APPARATUS



Basic Details: -

1. Vibrating machine motor driven of power of 1 kw
2. Table top 75cm x 75cm for 6 moulds of 150mm cube
3. Vibration of 2600-3600 vibration per minute
4. Carrying load 140 kg



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VEE BEE CONSISTOMETER APPARATUS



Basic Details: -

1. Slump Cone and a graduated rod supplied with the instrument
2. Acrylic disc to find out work ability of concrete expressed in Vee Bee degrees
3. Vibrating table size 380mm long and 260mm wide, resting on elastic support at a height of about 305mm above the floor
4. A holder fixed to the base in to which a swivel arm is telescoped with funnel and guide swivel arm is also detachable from the vibrating table.



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CEMENT AUTOCLAVE APPARATUS



Basic Details: -

1. Stainless-steel cylinder with a welded heat insulated metal housing attractively finished. Attached control unit enclosing a sensitive pressure regulator and pressure gauge.
2. Power switches and pilot lights for controlling the electric heating units.
3. Inside chamber dimensions 10.5 cm diameter x 40.5 cm height suitable for operation on 230 V, 50 Hz Single Phase A. C. supply.
4. Supply with test bar holder, special rack to hold specimens above water level in the autoclave and in a vertical position to expose them in the same manner.
5. A Digital PID Controller for controlling the desired temperature.



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DIGITAL LOS ANGELES ABRASION MACHINE



Basic Details: -

1. The machine consists of a heavy steel cylinder of 711 mm inside diameter x 508 mm inside length, mounted on a base frame.
2. The drum is rotated at a speed of 30-33 rpm by an electric motor through a heavy-duty reduction gear.
3. The machine is fitted with an automatic digital counter which can be preset to the required number of revolutions of the drum.
4. Power supply: 230 V 50 Hz 1ph 750W
5. Dimensions: 1000x800x1000 mm Weight: 370 Kg approx.



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AGGREGATE IMPACT APPARATUS



Basic Details: -

1. Blow Counter to count the number of strokes (detachable)
2. Tamping Rod 230mm long x 10mm diameter.
3. Metal measure 75mm dia x 50mm high. (for specimen preparation)



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SIEVE SHAKER APPARATUS



Basic Details: -

1. 0.25 kW motor
2. Starter and overload protection
3. 0-60-minute mechanical timer
4. Adjustable top clamping bar