



CEMENT TESTING INSTRUMENTS



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AIR PERMEABILITY APPARATUS - BLAIN'S TYPE

As Per IS 1727 - 1967; IS 5516 - 1996 and IS 4031 (Part II) - 1999.

To determine the fineness of cement in terms of specific surface expressed as total surface area in cm^2/gm of cement. This is a various flow type air permeameter.

AIC-APB-125. AIR PERMEABILITY APPARATUS BLAIN'S TYPE.

Comprises one each of Permeability Cell of 12.5mm internal dia, 'U' Tube Manometer with Stop Cock mounted on a Sunmica Wooden Stand, Perforated Metal Disc, Plunger, Rubber Stopper, Rubber Tube of 30cm long with Rubber Bulb, Packet of 12 filter paper discs and a bottle of Dibutylphthalate Liquid 100cc.



OPTIONAL ACCESSORIES

AIC-SWM-010D STOP WATCH - MECHANICAL. 1/10th SECONDS ACCURACY.

AIC-SWD-100R STOP WATCH - DIGITAL. 1/100th SECONDS ACCURACY.



VIBRATING MACHINE. MORTAR CUBE VIBRATOR

As Per IS 10080 -1982 & IS 4031(Part VI) - 1988.

Used to vibrate mortar cube mould.

Consists of a frame mounted on coil spring to carry the cube mould and a revolving shaft provided with an eccentric.

By means of a balance weight beneath the base plate attached rigidly to the frame, the center of gravity of the whole machine, including the cube and mould, is brought either to the eccentric shaft or within a distance of 25mm below it. Normal running speed of eccentric shaft is $12,000 \pm 400 \text{rpm}$.

Fitted with BELT GUARD. The motor driven by an endless belt running on a crowned pulley on the vibrating machine.

Suitable for operation on 230 Volts, Single Phase, AC supply.

AIC-CVM-MT05. VIBRATING MACHINE. WITH MECHANICAL TIMER.

Complete with built-in Mechanical Timer having range from 0 to 5 minutes.

AIC-CVM-DT60. VIBRATING MACHINE. WITH DIGITAL TIMER.

Complete with built-in Digital Timer having range up from 0 to 99.59 minutes.

OPTIONAL ACCESSORIES.

AIC-PKR-1225150. POKING ROD.

This poking rod is 150 -175mm long and have cross section 12x25mm with tamping face in the form of blunt torpedo.





VICAT NEEDLE APPARATUS

As Per IS 5513 - 1996; IS 4031 (Part IV) - 1988 & IS 1727 - 1967.

For determining the normal consistency and setting times of cement and 'A' class limes.

AIC-VNA-807040. VICAT NEEDLE APPARATUS.

Consist of a metallic frame bearing a movable rod with cap at one end and a AIC-VMLD-8070. VICAT MOULDS having 80±5mm Dia at the base 70±5mm Dia at top and 40±0.2mm high and with a glass base plate, consistency plunger, initial and final setting needles in a nice plastic case. Complete with dashpot to facilitate the gentle lowering of the needle.

AIC-VNA-S808940. VICAT NEEDLE APPARATUS WITH SPLIT MOULD.

Consist of a metallic frame bearing a movable rod with cap at one end and a AIC-VMLD-S808940. VICAT MOULD SPLIT TYPE having 80mm Dia x 40mm Height with split ring and with a glass base plate, consistency plunger, initial and final setting needles in a nice jeweler case. Complete with dashpot to facilitate the gentle lowering of the needle.

MORTAR MIXER

As Per IS 10890 - 1984; IS 1727 - 1967; IS 4031 (Part VII, VIII, XII & XIII) - 1988.

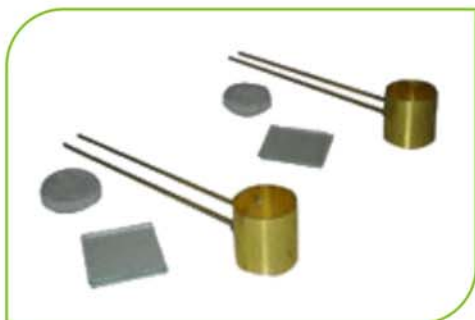
It is used for mixing cement pastes, mortars and pozzolanas.

AIC-PMX-06L. MORTAR MIXER.

The mixer consists of an epicycle type Stainless Steel Paddle imparting both planetary and revolving motion, by means of gears. Mixers have two speeds of 140±5rpm and 285±10rpm with planetary motions of approximately 62±5rpm and 125±10rpm respectively.

The stand of the mixer has an arrangement to raise or lower the bowl. Stainless Steel Bowl of about Six Ltr. capacity is fitted with handle. It shall be provided with a lid made of non-absorbing material and not attached by cement, masonry cement, cement pozzolana mixture or lime pozzolana mixture.

Fitted with ¼ HP, 1440rpm Motor, suitable for operation on 230 Volts, Single Phase, 50Hz, A.C. Supply.



LE-CHATELIER MOULDS

As Per IS 5514 - 1996; IS 4031 (Part III) - 1988.

Le-Chatelier method determines the soundness of cement and limes (Class-A & B) by using the expansion test with Le-Chatelier Moulds.

Consist of a small split cylinder of spring brass to other non-corrodible metal of 0.5mm thickness forming a mould of 30mm internal diameter and 30mm high. On either side of the split, two indicators are brazed suitably with pointed ends made of 2mm diameter brass wire in such a way that the distance of these ends to the centre of the cylinder is 165mm. The split cylinder will be kept between two glass plates.

Supplied complete with two glass plate and one lead weight. Set of six nos.

**AIC-LCM-50ISI.
AIC-LCM-50.**

**LE - CHATELIER MOULD. With ISI Marked.
LE - CHATELIER MOULD. Without ISI Mark.**



WATERBATH FOR SOUNDNESS TEST

As Per IS 4031 (Part III) - 1988.

- Construction : Made of double walled, Outer made of G.I. and inside made of Stainless Steel. Gap between the walls is filled by glass wool to avoid heat loss.
- Standard Supply : Complete with three - core wire with 15 Ampere Three-pin Top.
- Works on : 230 Volts, 50 Hz, Single Phase and AC Supply.

AIC-WB-ST06TH

WATERBATH FOR SOUNDNESS TEST. THERMOSTATIC. 6 Moulds.

Can accommodate 6 Moulds. Temperature is controlled by Thermostat with an accuracy of $\pm 5^{\circ}\text{C}$.

AIC-WB-ST06D

WATERBATH FOR SOUNDNESS TEST. DIGITAL. 6 Moulds.

Can accommodate 6 Moulds. Temperature is controlled by Microprocessor Based Dual Display Digital Controller with an accuracy of $\pm 1^{\circ}\text{C}$.

CEMENT AUTOCLAVE LABORATORY TYPE

As Per IS 14345 - 1996; IS 4031 (Part III) - 1988 & IS 1624 - 1960.

The autoclave is suitable for conducting accelerated soundness test on cements or the autoclave expansion test requiring constant steam pressure with the correspondent constant pressure.

It consists of a stainless steel cylinder with a welded heat insulated cover, mounted on a sturdy supporting frame, enclosed in a heat insulated metal housing attractively finished. The attached control unit encloses sensitive pressure regulator and pressure gauge, Power switches and pilot lights for controlling the electric heating units.

Inside Chamber Dimensions – 10.5cm Diameter x 40.5cm Height. Suitable for operation on 230Volts, 50Hz, Single Phase, AC supply. Supplied complete with test bar holder, special rack to hold specimen above water level in the autoclave and vertical position to expose them in the same manner.



AIC-CA-1141SS CEMENT AUTOCLAVE. STAINLESS STEEL

Inner Chamber made of Stainless Steel

AIC-CA-1141MS CEMENT AUTOCLAVE. MILD STEEL

Inner Chamber made of Mild Steel.

LENGTH COMPARATOR

As Per IS 9459 - 1980; IS 4031 (Part - X) - 1988; IS 1199 - 1959.

It is used to measure the drying shrinkage of concrete autoclave expansion of Portland cement and potential expansive reactivity of cement aggregate combinations in mortar bars during storage, on self-drying.

The instrument consists of a channel base over which two vertical pillars are fixed. An adjustable cross plate is at the top. A Dial Gauge, reading 0.002mm x 12mm or 5mm can be fixed at the top across the plate. The plunger end of the Dial Gauge can be located upon a 6.5mm Dia ball or other reference point cemented in the specimen. On the base there is a similar recessed seating in which can be placed a second ball or reference point in the specimen.

Complete with a stainless steel standardization bar with grip and with 6.5mm Dia balls mounted in the ends.



AIC-LCP-D12001Y. LENGTH COMPARATOR. DIGITAL. 12mm x 0.001mm.

Fitted with 'YUZUKI' make Digital Gauge having capacity of 12mm and Least Count of 0.001mm.

AIC-LCP-A12002B. LENGTH COMPARATOR. ANALOGUE. 12mm x 0.002mm.

Fitted with 'Baker' make Dial Gauge having capacity of 12mm and Least Count of 0.002mm.

AIC-LCP-A05002K. LENGTH COMPARATOR. ANALOGUE. 05mm x 0.002mm.

Fitted with 'KANN' make Dial Gauge having capacity of 05mm and Least Count of 0.002mm.

AIC-LCP-A1001K. LENGTH COMPARATOR. ANALOGUE. 10mm x 0.01mm.

Fitted with 'KANN' make Dial Gauge having capacity of 10mm and Least Count of 0.01mm.

FLOW TABLES FOR HYDRAULIC CEMENT

As Per IS 5512 - 1983.

This flow table is used in making flow tests for consistency of mortars in tests of hydraulic cements and pozzolanic materials.

The Flow Table Consists of a Brass Table Top 250 ± 2.5 mm Dia mounted on a rigid stand. The tabletop is re-enforced with equally disposed ribs and allowed to drop through 12mm by a ground and hardened cam. Complete with mould 100mm base Dia, 70mm top Dia and 50mm High.

AIC-FTHC-250HO FLOW TABLES FOR HYDRAULIC CEMENT. H.O.

Hand Operated. Camshaft is rotated with handle.

AIC-FTHC-250EL FLOW TABLES FOR HYDRAULIC CEMENT ELECTRICALLY OPERATED.

Camshaft is rotated at the rate of 100rpm by an electric Motor. Suitable for operation on 230Volts, 50Hz, Single Phase, A.C. Supply.



FLOW TABLES FOR BUILDING LIMES

As Per IS 6932 (Part VIII) - 1973.

It is used for the method of determination of workability of building limes.

AIC-FTBL-HO300. FLOW TABLES FOR BUILDING LIMES. H.O.

Consists of a steel table top having 300mm Dia ground and polished with three inscribed annular circles 70, 110 and 190mm Dia arranged by cam action having a free fall of 12.5mm. Complete with conical mould 65mm Dia of larger end, 40mm Dia of narrow, 90mm High.



FLEXURE TESTING MACHINE. 4kN.

As Per IS 1727-1969; IS 4031-1968 & ASTM C 109.

It is used for carrying out transverse test on 40 mm x 40 mm x 160 mm mortar specimens by using single point loading.

AIC-FTM-4KN

FLEXURE TESTING MACHINE - 4 KN.

It is a motorised, mechanical Unit. The speed is adjusted, so that the load increase on the specimen is between 4 to 6 Kg / sec. A flexure test attachment for keeping the specimen in position is also supplied. This consists of two rollers of 10 mm Diameter and spaced 100 mm apart and a third roller of the same diameter equidistant from the first two and for transmitting the applied load to the opposite face of the prism. The unit is for operation on 230 volts, single phase, 50 cycles A.C. supply. Loads are measured on a proving ring fitted with a sensitive dial gauge. Supplied without proving Ring.

OPTIONAL ACCESSORIES.

AIC-PRC-500KG.

PROVING RING - COMPRESSION TYPE. 500 Kg.

Having Capacity of 500 Kg / 0.50 Tone / 5.00 KN. Supplied complete with our own calibration certificate.



TENSILE STRENGTH TESTER.

As Per IS 269 - 1958 & BS 12.

Used for making tensile strength test on cement briquettes.

AIC-TST-HO-540K.

TENSILE STRENGTH TESTER. HAND OPERATED.

Suitable for tensile test up to 1200Lbs or 540kg. It is with automatic loading by lead shots. Two calibrated scales 100Lbs x 1Lbs and 50kg x 0.5kg are engraved. Supplied complete with one brass briquette mould with base plate, and set of weights to weigh 50kg, 100kg, 150kg and 200kg.

AIC-TST-EL-900K.

TENSILE STRENGTH TESTER. ELECTRICALLY OPERATED.

The instrument employs a friction-free, accurate, double lever system, the load being applied by means of sliding weight on the top lever. The capacity of the unit is 900kg. After fixing the briquette in the jaws, the machine is to be switched on. The sliding weight slides over the calibrated lever thus applying tension to the specimen. A micro-switch is fitted to stop the machine instantly on the failure of the briquette and on failure tensile load is accurately read to 0.5kg by means of a marker provided on the sliding weight. The machine can be operated for subsequent test only after the sliding weight to its zero position. Suitable to operate on 230Volts, 50Hz, Single Phase, A.C. supply. Complete with one brass briquette mould and one base plate.



ACCESSORIES.

AIC-TST-LS10K.

LEAD SHOTS. 10kg BAG.

AIC-BRM-254SG.

BRIQUETTE MOULDS. SINGLE GANG.

AIC-BRM-254TG.

BRIQUETTE MOULDS. THREE GANG.



LE-CHATELIER FLASK

As Per IS 1727 - 1967; IS 4031 (Part - XI) - 1968.

Used for finding Specific gravity of Hydraulic cement. Made from borosilicate glass.

AIC-LCF-250.

LE - CHATELIER FLASK.

The flask is 243mm in total height, having a bulb of 90mm Dia of 250ml approximate capacity. The long neck of a flask has at top a funnel of 50mm Dia in which fits a ground glass stopper. The neck has overall 11mm I.D. upper portions graduated from 18 to 24ml with 1ml graduation.

POZZOLANA CEMENT MORTAR PERMEABILITY APPARATUS.

As Per IS 1727 - 1967; IS 2645 - 2003.

For water proofing of concrete, admixture and special water proof cements are used. Water Proofing of these compounds, is established by measuring permeability of standard mortar. Permeability apparatus is used to determine permeability to water of cement mortar specimen with or without water proofing compound.

The Mortar Permeability Apparatus comprises brass / Gun Metal Cells mounted on a stand and a pressure chamber with a pressure regulator. The cell can accommodate 100mm Dia x 50mm High Specimen. Each Cell assembly consists of one base plate. The base plate has one outlet for water and recessed to hold the specimen in place with ring washer in between. The top plate has an inlet for water and a suitable connector for the application of pressurized water in the cell. The mould and collar are clamped between the base plate and the top plate with the help of four tension rods and nuts. The cells are mounted on a stand. The pressure chamber is fitted with a pressure regulator, which helps in regulating the pressure from 0-7kg/cm². The regulator has two pressure gauges, one for indicating the pressure in the chamber (0-10.5kg/cm².) and the other for indicating the testing pressure (0-7kg/cm².). The Pressure Chamber is connected to the cells with pressure hoses and with couplings. This pressure chamber is fitted with Schrader valve.



AIC-CMP-03.

**POZZLANA CEMENT MORTAR PERMEABILITY APPARATUS.
Three Cell Model.**

AIC-CMP-06.

**POZZLANA CEMENT MORTAR PERMEABILITY APPARATUS.
Six Cell Model.**

ACCESSORIES

AIC-CYM-1005.

CYLINDRICAL MOULDS. 100mm DIA & 50mm HEIGHT. MADE OF C.I.

AIC-MCR-500150.

MORTAR COMPACTION RAMMER. 500gm.

Complete with a plunger having weight of 500gm and base of 50mm with a controlled fall of 150mm.

AIC-COMP-10k.

COMPRESSOR.

Suitable for 10.5kg/cm² pressure.



JOLTING APPARATUS

As Per IS 10078 - 1982; IS 1727 - 1967; IS 4031 (Part - VIII) - 1968; and ASTM C 349 - 64.

For making standard rectangular specimens of 40 x 40 x 160mm. of Portland and pozzolana cement mortar for determining the transverse strength.

AIC-JLT-60R

JOLTING APPARATUS.

Consists of a rectangular table rigidly connected by two support arms to a spindle at a horizontal distance of 800mm from the center of the table. There is a projecting lug with a plane face on the over face of the table beneath which is a stop with a rounded upper surface. The table can be raised and allowed to fall freely on the stop by a cam which is connected to a motor and gear box through a V-belt and pulleys. The can rotates at a rate of 60rev/min. A stroke counter fitted with micro switch is provided which stops the machine after 60jolts. Locating pins are provided for mounting the mould compartments on the table. The mould surmounted by the hopper can be clamped rigidly to the table. Supplied complete with mould and hopper. Suitable for operation on 230Volts, 50Hz, Single Phase, A.C. supply.

ACCESSORIES

AIC-PRM-4416.

PRISM MOULDS. 40 x 40 x 160 mm. MILD STEEL.

Having three compartments of size 40 x 40 x 160mm. Made of Mild Steel.

HEAT OF HYDRATION TEST APPARATUS

As Per IS 4031 (Part IX) - 1988.

Used to determine the heat of hydration of cement as expressed in calories per gram.

AIC-HHT-DTH01.

HEAT OF HYDRATION TEST APPARATUS.

The apparatus consists of an open mouthed thermos flask of definite dimensions with a cork lid, an insulated container for the flask, a Digital Thermometer with 0.01° C, a constant speed stirrer (400rpm) and a funnel for introducing the sample.



CEMENT SAMPLER

As Per IS 3535 - 1986.

AIC-CS-300

CEMENT SAMPLER

This is a brass tube approximately 53cm long and 2.8cm I.D. with a wooden handle. Total length approximately 73cm. The tube has the angular edge, which conveniently pierce cement bags. An air hole of approximately 3mm Dia is drilled on the tube near handle. Total sample collected at one time is 300cm³ approximately.



CEMENT SPATULA.

As Per IS 4031; IS 269 & BS 12.

This is useful while casting a cement briquette.

AIC-CSP. CEMENT SPATULA.

Consists of a steel blade, of a special shape. A wooden handle is fixed to the stem of the blade.

GAUGING - TROWELS. AS PER IS.

As Per IS 10086 : 1982; IS 4031 ; BS - 12.

AIC-TG-IS-195. GAUGING TROWELS. 195mm Long.

The trowel blade is made of mild steel having thickness of at least 1.5mm and length of 195mm. Fitted with wooden Handle. Weight approximately 210gm.

AIC-TG-IS-100. GAUGING TROWELS. 100mm Long.

The trowel blade is made of mild steel having thickness of at least 1.5mm and length of 100-150mm. Fitted with wooden Handle. Weight approximately 210gm.



BRIQUETTE MOULDS

As Per IS 269 - 1958.

These moulds are used for casting of cement briquettes to test tensile strength.

It is a two part split mould, made of gun metal.



Two thumb screws facilitate easy and quick assembling and dismantling of the mould. The minimum cross section of the briquettes cast is 25.4 x 25.4mm. Supplied complete with a steel base plate.

AIC-BRM-254SG. BRIQUETE MOULDS. SINGLE GANG.

AIC-BRM-254TG. BRIQUETE MOULDS. THREE GANG.

CEMENT CUBE MOULDS

As Per IS 10086 - 1982.

Used for casting cement cubes for test of compressive strength.

AIC-CM-50. CEMENT CUBE MOULDS. 50mm.

Size : 50mm W x 50mm L x 50mm D. Made of Cast Iron.

AIC-CM-T50. CEMENT CUBE MOULDS. 50mm - THREE GANG.

Having Three Compartments of 50mm W x 50mm L x 50mm D. Made of Cast Iron.





MORTAR CUBE MOULDS

As Per IS 10080 - 1982; 4031 (Part - VI) - 1988.

AIC-CM-70.

**MORTAR CUBE MOULDS.
70.6 x 70.6 x 70.6 mm.**

Size : 70.6mm W x 70.6mm L x 70.6mm D. Made of Mild Steel.

AIC-CM-70ISI.

**MORTAR CUBE MOULDS.
70.6 x 70.6 x 70.6 mm. With ISI Mark.**

Size : 70.6mm W x 70.6mm L x 70.6mm D. Made of Mild Steel.

SHRINKAGE BAR MOULDS

As Per IS 10086 - 1982; IS 4031 (Part X) - 1988 & ASTM C 227.

The mould is used for casting specimens of cement-aggregate combinations for measuring the potential expansive alkali reactivity.

AIC-SBM-25S.

**SHRINKAGE BAR MOULDS. SINGLE MOULD
COMPARTMENT.**

Single compartment of Size : 25 x 25 x 250mm.

AIC-SBM-25D.

**SHRINKAGE BAR MOULDS. DOUBLE MOULD
COMPARTMENT.**

Two Compartments of Size : 25 x 25 x 250mm.

AIC-SBM-25T.

**SHRINKAGE BAR MOULDS. THREE MOULD
COMPARTMENT.**

Three Compartments of Size: 25 x 25 x 250mm.

AIC-SBM-25F.

**SHRINKAGE BAR MOULDS. FOUR MOULD
COMPARTMENT.**

Four Compartments of Size: 25 x 25 x 250mm.



PRISM MOULDS

As Per IS 10078 - 1982 & IS 4031 (Part VIII) - 1988.

Useful for casting prism moulds for determining transverse and Compressive strength of plastic mortar.

AIC-PRM-4416.

PRISM MOULDS. 40 x 40 x 160 mm. MILD STEEL.

Have Three Compartments of Size : 40 x 40 x 160mm. Made of Mild Steel.



AIC LAB EQUIPMENTS PVT. LTD.

HOUSE OF LABORATORY & SURVEYING INSTRUMENTS

210, Kamaldeep Industrial Estate, Sonawala Cross Road No. 2, Goregaon (East), Mumbai-400 063

Phone : + 91-22-66998074 - 66998075.

: + 91-22-42668074.

Fax : + 91-22-26852658.

E-mail : aic.sales@aiclabequipments.com

: service@aiclabequipments.com

Web : www.aiclabequipments.com

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