

Ring & Ball Apparatus SL-BT-001

IS 1205 1985, IP 58/63 & ASTM D 36.

This apparatus is used to determine Softening point of Bitumen. It is that temperature at which a sample of bituminous material loaded by a 9.5mm dia steel ball, drops a specified distance when heated under specified conditions.

Specification : The apparatus consists of steel bracket with a sliding plate support. That support has two holes of 10mm dia on which a ring and ball guide can be kept. A central hole on this plate is for inserting thermometer. Supplied with a glass beaker approximate 600ml, high and a hand stirrer and 2 Nos. 9.5mm dia steel balls.

Ring & Ball Apparatus (Electrical) SL-BT-002

ASTM D36, AASHTO T 53, BS 2000

Electrical heating, with a Heater and Energy Regulator, Suitable for operation on 230 V, 50Hz, Single Phase, A.C. supply. Each unit is supplied with bath of heat resistant glass and the following.

Tapered Rings, Ball Centering Guide, Steel Ball, of 9.5mm dia, Ring Holder, Electric Heater (Hot Plate)

Dean Stark SL-BT-003

ASTM D 95, D244

Used to determine the water in petroleum products or bituminous materials by distilling them with volatile solvent. The equipment comprises electric heater with thermoregulator, glass still, support stand, condenser, receiving trap, clamp.

Standard Penetrometer SL-BT-004

ASTM D5, BS 2000

Used to determine grade of bitumen. The penetration tests determine consistency of bitumen for the purpose of grading. Depth in units 1/10 of millimeter to which a standard needle having a standard weight will penetrate vertically in a duration of five seconds at a temperature of 25°C determines penetration for gradation.

Specification : It consists of a vertical pillar mounted on a base provided with leveling screws. The head, together with dial plunger rod a cone (or needle) slides on a pillar and can be clamped at any desired height. A rack and pinion and pointer assembly provides fine adjustment of needle or cone tip to sample. It incorporates a clutch mechanism. Which makes reading of penetration and subsequent resetting a simple and accurate operation. The dial is graduated in 400 1/10 and the millimeter subdivisions and the needle pointer against figures makes easy reading. Supplied with a bitumen penetration needle, ring weight one each 50 gms. and 100 gms. two sample containers.

Accessories: Penetration cone for empirical estimation of penetration of lubricating grease, petroleum jelly etc. Balance fitted with an under bench weighing facility can be fitted. The balance supplied can also be used as a standard weighing device, thus



SL-BT-002



SL-BT-004

providing a versatile and comprehensive weighing system in the laboratory. (i) Cap. 5 Kg (5000gm) Accuracy 0.5 gm (500mg) (ii) Cap. 15kg (15000gms) Accuracy 1 gm (1000 mg)

Semi-Automatic Penetrometer SL-BT-005

IS 310, 1203, 1448, IP 60, 49, 50 ASTM D5, 217, D637, BS 2000-49

Same as above but the unit is compact with timer to control duration of penetration. The instrument is provided with lead screw gear arrangement, Leveling screws, Spirit level.

Hardness Tester for Mastic Asphalt SL-BT-006

IS 1195

For determining the hardness number of Mastic Asphalt for flooring. It consist of an internally insulated cabinet to the base of which is fitted a water bath having two taps. The bath is heated by an immersion heater and the temperature is controlled with the thermostat at 35° +/- 0.5° C. A 6.5mm dia pin is loaded on the specimen by means of a lever to give a 31.7 Kg weight. A dial gauge 0.01 x 25 mm is provided to record the penetration of pin into the specimen.

Stripping Value Apparatus SL-BT-007

For determining stripping value of bituminous mixes having aggregate size: 1.0mm to 75 micron.

Specification : A circular tray rotates in a vertical plane at a rate of approximately 100 R.P.M. by an electrical geared motor. 4 bottles of approximately 400 cc are mounted on this circular tray at an angle of 90°. To each other with their mouth towards center of the tray. A time switch is provided. Suitable for operation on 230 V A.C. Single Phase.

SAY Bolt Viscometer SL-BT-008

ASTM D88, D244, AASHTO T72

Say bolt Viscometer, Electrically Heated, ASTM D88, D244, AASHTO T72 for the empirical measurement of Say bolt Viscosity of petroleum products at specified temperatures between 70o F and 210o F. This is also used for determining the Saybolt Furol Viscosity of bituminous materials at temperatures of 250, 275, 300, 350, 400 and 450 F. It comprises one each of cylindrical Oil cup, Universal Tip, Furol Tip, Bath Fitted with immersion Heater mounted on a stand. Dimmer stat for temperature control, Stirrer with shield. Complete with insulated handle and thermometer support receiving flask, withdrawal tube, filter funnel, thermometer support for cup and circular spirit level. Suitable for operation on 230 V 50 Hz, Single Phase, A.C.

Standard TAR Viscometer SL-BT-009

Electrical Heating with Immersion Heating Elements and Dimmer stat for controlling the temperature. Suitable for operation on 230 V, 50Hz, Single Phase, A.C. supply Complete with 10mm cup and valve. Cup, 10mm Ball Valve, 10mm



SL-BT-005



SL-BT-006



SL-BT-007



SL-BT-008



SL-BT-009

ASPHALT / BITUMEN

Reflux Extractor 4000 GMS SL-BT-010

ASTM D 2172- AASHTO T 164

The simple apparatus working on the same operation principle of consisting of cylindrical glass jar supporting two metal cones of stainless steel cloth and a metal condenser on top of the jar. Supplied complete with 100 filter papers & wire gauge, Hot Plate.

NOTE: Spare Cylindrical glass jar can be supplied at an extra cost.

Centrifuge Extractor (Manually) SL-BT-011

ASTM D 2172, AASHTO T-58, T-164

The Instrument is used for determination and checking of Bitumen percentage in Bituminous mix, the mix is added with a solvent and dissolved bitumen is removed by centrifugal action. Consists of a removable Aluminum rotor bowl, Capacity 1500 gms. With a cap and tightening nut. The bowl assembly is mounted on a vertical shaft, which protrudes from a cast housing. This shaft and thus the bowl is rotated fast manually by enclosed gears in the cast body and handle. Solvent is introduced during the test through the holes in the cap of the housing. A drain is provided to collect dissolved Bitumen coming out of the rotating bowl and getting collected in the housing.

Centrifuge Extractor (Motorized) SL-BT-012

ASTM D 2172 AASHTO T-58, T-164

Centrifuge Extractor, Electrical Operation, Capacity 1500g, with a Dimmer stat for speed control from 2,400 to 3,600 rpm. Suitable for operation on 230 V, 50 Hz, Single Phase, A.C. supply.

Used for the determination of bitumen percentage in bituminous mixtures. It consists of a removable, precision machined aluminum rotor bowl (accessory 1500 or 3000 g capacity), housed in a cylindrical aluminum box. The separate control panel incorporates an electronic card fitted with AC drive that automatically drives the bowl speed rotation ramp from 0 to 3600 R.P.M. as requested by Standards, with automatic fast stop bowl rotation at the end of the test. Supplied complete with speed regulator and digital display monitoring the frequency. Power supply: 230 V A.C. Single Phase.

Benkelman Beam SL-BT-013

AASHTO T 256

Lightweight Aluminum construction, Ease of Transportation, Unique Telescopic Design Simplifying Field set up, Compact, Thereby reducing the amount of storage space needed. Benkelman Beam utilizes the technique of using balanced beam in conjunction with a suitable vehicle to measure road flexure. The improved Benkelman Beam is a convenient, accurate device for measuring the deflection of flexible pavements under moving wheel loads. Operating on a simple lever arm principle, the unit consists. Supplied with carrying case.

NOTE : Benkelman Beam with Digital Dial Gauge also available at an extra cost



SL-BT-010



SL-BT-011



SL-BT-012



SL-BT-013

Straight Edge (3 Meters) SL-BT-014

A straight edge approximately 3 metres in length may be used to determine lateral surface regularity of a road surface. This lightweight apparatus is made up of mild steel or aluminum as per customers requirement and is equally supported at both ends producing a set height between the road surface & the beam. Any vertical irregularity is measured using incremented wedges.



SL-BT-014

Ductility Testing Apparatus SL-BT-015

IS 1208-1058, ASTM D 113, IP32, 55, AASHTO T 51

Designed to test three specimens simultaneously. The machine consists of a carriage moving over a lead screw. An electric motor driven reduction gear unit ensures smooth constant speed and continuous operation. The entire assembly is mounted with a stainless steel lined water bath completely encased in metal bound hardwood. It is equipped with an electric pump circulator and heater. The temperature is controlled thermostatically. Two rates of travel i.e. 5 cm/min and 1 cm/min are provided. Suitable for operation on 230 V, 50 Hz, Single Phase, A.C. supply.

COMPLETE WITH: Ductility Mould, with Base Plate 3 Nos.

Thermometer IP 38 C, Range: 23o C to 27o C



SL-BT-015

Compaction Mould SL-BT-016

BS 598

Comprising Mould body, base plate and combined filling / extraction collar. Satisfies

Compaction Pedestal SL-BT-017

BS 598

Comprising a 300mm sq x 25mm thick steel plate complete with 4 tie rods and securing nuts. A mould clamp and hammer guide are fitted to the plate. The unit is supplied complete with a laminated hardwood block.

Compaction Pedestal SL-BT-018

Comprising a 12" square x 1 inch thick steel plate secured to an 8" square x 18" high wooden block. 4 angle brackets are supplied for securing the block. A specimen mould holder is fitted to the steel plate.

Compaction Hammer SL-BT-019

Satisfies BS 598. The hammer has a 4535 g sliding weight with a free fall of 457mm.

Steel Block SL-BT-020

100mm diameter x 50mm height. For heating the compaction hammer foot according to BS 598-107.

Accessories: Proctor/core Cutter Extruder Spares, Base Plate for compaction mould, Base plate for compaction mould, Filling / Extraction Collar For Compaction Mould



SL-BT-016



SL-BT-018/19

Marshall Stability Test Apparatus SL-BT-021

Motorized ASTM: D 1559- T -62.

Generally the test is applicable to hot mix designs using bitumen and aggregates upto a maximum size of 25mm. In this method, the resistance to plastic deformation of cylindrical specimen of bituminous mixture is measured when the same is loaded at periphery at 5 cm per min. This test procedure is used in designing and evaluating bituminous paving mixes. The test procedure is extensively used in routine test programmers for paving jobs. There are two major features of the Marshall method of designing mixes namely, a) density - voids analysis b) Stability - flow tests. The marshall stability of mix is defined as a maximum load carried by a compacted specimen at a standard test temperature of 60°C. The flow value is deformation the marshall test specimen under goes during the loading upto the maximum load, 0.25 mm units. In this test and attempt is made to determine optimum binder content for the type of aggregate mix and traffic intensity.

The apparatus consists of: 1) A loading unit motorized, capacity 5000kgf with two telescopic pillars and an adjustable cross head. Limit switches are fitted inside to control upward or downward movement of the pillars. On-off reversing switch and indicator lamps are on the front side while a hand wheel to manually move the pillars is on the right. The load frame

Standard Accessories: Marshall Mould:3 Nos, Marshal Rammer:2 Nos, Pedestal :1 Nos, Braking Head:1 Nos

Mixer with Heating Jacket SL-BT-022

BS 598:107

A 6-litre Mixer Used in conjunction with an Iso Mantle, is suitable for mixing samples of asphalt. Bench mounting Mixer, 6 liter nominal capacity. Supplied with bowl, beater and whisk. Motorised with two speed operated on 230 V A.C., Single Phase. ISO Mantle Electric Heater: For use of Bench Mounting mixer. For 230 VAC.,50Hz, Single Phase

Automatic Compactor SL-BT-023

BS 598-107

Automatic Compactor for Bituminous Mixes Rugged construction to withstand hard work Fully automatic and easy to operate Uniform compaction Automatic Preset Blow Counter

Specification : The Automatic Compactor eliminates the laborious process of manual compaction and an even degree of compaction is achieved. The driven mechanism lifts the weight of 4.5kg and drops it through a correct height of 457 mm. The rammer foot is removable, which facilitates preheating. A compaction pedestal with specimen holder is fixed to the base. An Automatic Blow counter enables the number of blows to be present before each test and automatically stops the machine on completion. Suitable for operation on 230 V, 50 Hz, Single Phase, A.C. supply.



SL-BT-021



SL-BT-022



SL-BT-023

Core Cutting/ Drilling Machine SL-BT-024 (Diesel Engine Driven)

Suitable to cut/drill cores of concrete, rocks, stones, tiles or the similar materials. The machine is suitable for core samples of size upto 150 mm diameter with the help of thin walled diamond bits which are at extra cost. The machine has sturdy base with pillar support in which rack and pinion is provided for adjustment in height and penetration assembly. The leveling screws are provided at the base. For gripping the sample in position suitable grips are provided. A suitable diesel engine is fitted in the machine with cooling arrangement with water. The base frame is also fitted with wheels for ease of transportation.

Dimension approx, are as under: Height : 1300 mm, Base : 600 x 1200 mm, Head travel on rack : 350mm, Drill speeds : 900 R.P.M. for soft samples and 350 R.P.M. for hard Samples, Water swivel : Built in the machines. Accessories: (1) Thin wall diamond bits. (2) Core barrel.



SL-BT-024

Core Cutting/ Drilling Machine SL-BT-025 (Motorized)

Rated Voltage: ~220 V / 50Hz,

Power Input: 2800W, No-Load Speed: 840rpm,

Max. bit diameter: Ø50mm/100mm/150mm Shaft Male: 1 1/4" UNC

Features : 1. Compact size with light weight as well as safety in operation, 2. The drills are equipped with a friction clutch as well as over load current protection for protecting motor, 3. High-strength gear to keep the drill working long hours constantly, 4. Excellent speed, smooth and stability during drilling, 5. Out setting water swivel seal facilitate making replacement when the seal worn out, 6. Bits capacity: 25mm Dia - 150mm Dia

Complete Combination : The core drill includes drill motor, base, column, carriage, control panel, friction clutch, motor mount plate, rack, gear-box, out setting water swivel seal, hydraulic system. Optional parts include water pump, rod for ceiling jack, water container, adapters. Application : The Core Drill is the industry standard, designed for concrete, reinforced concrete, Asphalt and brick in construction.



SL-BT-025

Rock/ Concrete Cutting Machine SL-BT-026

Electrically operated with cooling system.MASONRY TABLE SAW

For people who work with stone, brick, large tiles or blocks, it goes without saying that precision is crucial to the end result. But the efficiency of the machine should never compromise the need for good ergonomics and a reasonable workload. Put simply, the stone or tile you cut must fit perfectly, just as the machine and the blade you use must fit your work situation perfectly. Universal table saw with a unique super-stable height adjustment device, lockable in any position. max. cutting depth in top position is 230 mm, by turning the material over.



SL-BT-026

ASPHALT / BITUMEN

Asphalt & Concrete Floor Saw SL-BT-027

Driven by electrical motor or by engine as per customers requirement. Diamond bit of 100 mm to 600 mm maximum can be supplied as per requirement. The trolley in which the engine is fitted is supplied with cooling arrangements with the help of a water tank. Arrangements to control the depth is also provided. A safety guard is also provided on the diamond blade. Two wheels are provided for easy movability of the machine.



SL-BT-027

Loss on Heating/ Thin Film Oven SL-BT-028

Precise, Hot Air Drying Better Mineral / Blanket Insulation for high Temperature & to avoid heat loss Silent Hot Air Blower, Unique design of Air Circulation provide through out uniform Air movement Unique design of ventilation keeps the surface of the instruments from being Burnt even when the instruments i.e. Oven Temperature maintained at 200°C Polish / Hair Line 304 grade S. Steel sheet interior, long operation, corrosion resistant Kanthal A-1 Super quality coil shaped & Air heater tubular model wound on side/on the back of the Oven for better accuracy Full feature with Digital Temperature Controller cum Indicator having Alarm facility (On Customer request) Toughened Glass view window to observe /Test the material without disturbing the Temperature condition of the chamber. Working Temperature required as per IS : ASTM is 163°C \pm 1°C Provide with detachable metal shaft (Both for Loss on Heating / Thin Film Oven) Reduction gear is fitted from outside rotated by a vertical shaft having 5-6 RPM.



SL-BT-028

Applications : For Bitumen Testing Loss of weight, softening Point, Penetration Loss of wt in Bitumen & Flux Oils (For Construction / Road Projects Department/ Industries)

Specifications : Size: 16" x 16" x 16", Capacity: 60 ltr, Heater Wattage: 1.5 KW

Rolling Thin Film Oven SL-BT-029

ASTM D2872

Certified temperature control, Digital Display Internal Fan

The Rolling Thin Film Oven Test is used to obtain homogeneously aged material by the application of heat and air in order to simulate these affects in conventional mixing. The oven is of double wall construction with side vents and of the heated convection type of air Circulation. An electronic controller maintains the temperature at 163 \pm 0.5° C. A vertical, carriage is supplied to support 8 glass sample containers, which are rotated at 15 \pm 0.2rpm. An outlet orifice 1mm in diameter is connected to a 7.6m length of copper tubing and flow meter which controls the airflow at 4000 ml/min. Air is blown into the sample containers at their lowest point of travel by an internal airjet. The oven is supplied with 8 glass sample containers and a thermometer (IP 47C/ASTM 13C). Internal dimensions 483 x 450 x 381mm. A separate source of compressed air is required to operate this oven. Operating Voltage 230 V A.C., Single Phase



SL-BT-029

Core Cutting Grinding Machine SL-BT-030

Table Mounted

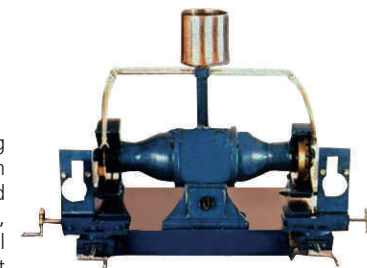
Stable Construction Feed arrangement for cutting

Feed arrangement for cutting

Cooling water arrangement

Heavy Duty, Single Phase Motor 230 V A.C.

Specification : This unit is designed for cutting and grinding cylindrical rock specimens upto NX size. The outfit includes 200mm dia diamond impregnated cutter, a fine diamond impregnated grinding wheel a water supply system and sampler holder. A V-Vice, to hold the sample up to 55mm dia x 140mm long to be cut parallel and square to the longitudinal axis is provided. Cores longer than 140mm can be prepared by reversing the specimen and holding against the vice, A hand feed arrangement is provided to facilitate the specimen with a uniform and smooth feeding motions. This unit is provided with a 1 HP, Single Phase, 230 V A.C. Motor.



SL-BT-030