

## Flash Point (Cleveland)



Ref. Standard : IS-1448 (Part-69) ASTM D 92, IP36, BS:4689, ISO2592

For determining the flash and fire points of petroleum products, except for fuel oil and those products which have open cup flash point below 79° C (175° F).

## Flash Point (Pensky Martens)



Ref.: Standard IS: 1209, IS:1448 (Part-21), ASTM D93, BS:2839, ISO 2719, DIN 51758, AFNOR M/07-019, IP34

For determining the flash point of fuel oils and lubricating oil, bitumen other than cutback bitumen and suspension of solids in liquids, having a flash point above 49°C

## Tar Viscometer



Ref.: Standard IS:1206, IP72, STPTC. RT 2, RT 3, BS:2000, (Part-72)

For determining the viscosity of cut back bitumen and road oil. The viscometer consists of a chrome plated copper bath, with a drain valve and a central tube to receive the test cup and to position the stirrer, and is mounted on a stand with levelling feet. Stirrer has a curved shield and is provided with an insulated handle,

thermometer socket and swivel support for the valve. Supplied complete with 10 mm cup and ball valve as per the model required.

Standard Tar Viscometer, Electrical Heating with Immersion Heating Elements and Dimmerstat for controlling the temperature. Complete with 10 mm Cup and Valve. Suitable for operation on 220V, 50 Hz, single phase, AC supply.

Standard Tar Viscometer, 10 mm cup and ball valve Electrical Heating similar to AIM 531, but with 4 mm Cup and Valve.

## Universal Penetrometer



Ref.: Standard IS 1448(P 60),IS 1203, IP 49/310/50/179, ASTM D 5/1321/2884/1403/937/217, BS 1377/2000(P49)/4691/ 4698,ISO 2137, IP 50/179, AASHTO T49

Penetrometers are used for testing wide variety of materials such as grease, petroleum, bitumen, tar, asphalt, wax polish, food stuffs , rubber, cement , pharmaceutical creams and soils.

## Redwood Viscometer



These instruments are for determining the viscosity of all oils, expressed in Redwood seconds at the temperatures of test as called for by IP 70. Both types of viscometers, Redwood No.1 and Redwood No. 2 electrical heating models are available. The viscometer consists of a heavily

## COMMERCIAL EQUIPMENTS

silver plated brass oil cup with a precision stainless steel jet assembled in a chromium plated bath fitted with a heating tube or heating element and drain cock. The bath and cup assembly is mounted on a stand with levelling feet. Each unit is supplied complete with silver plated ball valve, spirit level with cover, thermometer clip and receiver of capacity 50ml.

### Saybolt Viscometer



Ref. Standard: ASTM D88, D244, AASHTO T 72

Saybolt Viscosity of petroleum products at specified temperatures between 70°F and 210 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, Dimmerstat for temperature control, Stirrer with shield. Apparatus is supplied complete with insulated handle and thermometer support, receiving flask, withdrawal tube, filter funnel, thermometer support for cup and circular spirit level.

### Cannon Manning / Fensky Viscometer



Standard Ref: IS-1206 (II), IS-1206 (III)

Cannon Manning Viscometers are designed for the determination of the absolute viscosity of bitumen & cut – backs by a vacuum capillary method at specified temperatures. Cannon Fenske Viscometers are designed

## Bitumen/Oil/ Petroleum

for the determination of the Kinematic viscosity by a vacuum capillary method.

### Marshall Test Apparatus



Standard Ref: ASTM D-1559, BS:598-197, EN-12697-34

Marshall Apparatus is used for the measurement of the resistance to plastic flow of cylindrical specimens of bituminous paving mixture loaded on the lateral surface.

### Automatic Compactor



Standard Ref: EN 12697-10-30

The Automatic compactor eliminates the laborious process of manual compaction and allows achievement of even degree of compaction is achieved. The drive mechanism lifts the weight of 4.5 kg and drops it through a 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 preset before each test and automatically stops the machine on completion.

## Flow Cup



Flow cup of the efflux type is used for approximate measurements of apparent viscosity for control of consistency during manufacture and use of paints, lacquers and viscous products. Flow cups with protective skirt are made from gun metal with stainless steel orifice and are equivalent to Type B cups. Each cup is supplied complete with a stand having levelling screws.

## Core Drilling Machine



Ref. Standard : EN 12504-1

The Pavement Core Drilling Machine, Petrol engine powered road building drill has been designed specially for the purpose of drilling test cores from or holes in roads, airport runways, bridges etc.

## Ring and Ball Apparatus



Ref. Standard : IS-1205M, ASTM D 36, E28, IP 198, STPTC PT 3, AASHTO T 53, BS:2000, EN 1427

The new design of Ring and Ball Apparatus is compact user friendly and has better aesthetics. It has magnetic stirrer with heating facility and digital display of temperature, the heating can be adjusted through knob.

## Centrifuge Extractor



Ref. Standard : EN 12697-1, ASTM D2172, AASHTO T-58, T-164

Centrifuge Extractors are used for determining the bitumen percentage in Bituminous Paving mixtures.

paving mixtures. It has a removeable, precision machined, aluminium rotor bowl, mounted on a vertical shaft. A filter paper disc is pressed in-between the rotor bowl and cover plate by tightening a knurled nut. The bowl assembly is enclosed in a housing mounted on a cast body. In the electrical operating model, the rotor bowl is coupled to a motor. The solvent may be introduced during test through a cup on the housing cover.

## Ductility Testing Machine



Ref. Standard: IS:1208, ASTM D113, AASHTO T51

Bituminous surfaces exposed to varying temperature conditions undergo expansion & contraction. So an important characteristic of the binder is its ductility & the degree of ductility has an effect on the cracking bituminous surface due to traffic stress.

## COMMERCIAL EQUIPMENTS

## Bitumen/Oil/ Petroleum

The ductility of bitumen is expressed as the distance in centimetres to which a standard briquette can be elongated before the thread thus formed breaks under specified conditions.

### Bump Integrator



Ref: CRRI design

It is also known as Roughometer or Automatic Road Unevenness Recorder . It gives quantitative integrated evaluation of Surface irregularities on a digital counter/LCD Screen.

### Asphalt Mixer



Ref. Standard: EN 12697-35

Two model of asphalt mixer. This machine is used for laboratory mixing of bituminous materials to prepare the specimens to be used for various asphalt tests. Its is widely used in road construction laboratories, Testing laboratories, Research Institutions. The machine mainly consists of a main frame, variable speed mixer, elevating system, heating pot, electrical control box. The variable speed mixer consists of electric motor, gear box and vertical curved blade. The elevating system consists of a motor, worm gear, up right column, guide bar and stopper block and the heating pot has a double lever metal pot, conduction coil and electric

heater.

In vertical type of mixer the pot can move up and down and in the horizontal type of mixer the elevating system with agitator assembly moves up and down. Suitable for operation on 415 V, 50 Hz, 3 phase, AC supply.

### Skid Resistance Tester



Ref. Standard: BS 812-114

The apparatus consists of a spring loaded rubber slider mounted on a pendulum arm. The arm can be adjusted vertically from a rigid support column. The base has three adjustable feet so that the swing of the pendulum during the test moves through a truly circular path while operated directly on a road surface.

### Film Stripping



Film stripping device is used to measure the resistance of bituminous mixtures to stripping of asphalt from aggregate particles. It is generally used to evaluate mineral aggregates & to judge the adhesion of the bituminous materials. The device consists of a disk on which 4 bottles are mounted. The disc rotates at a speed of approx. 100 rpm. The sample, usually the aggregate fraction which passes a 9.525 mm sieve but is retained on a No. 8 sieve, is placed in the bottles & agitated for 15 minutes. The percentage of aggregate stripped can be visually estimated. The device is provided with a pre set counter. Suitable for operation on 220 V, 50Hz, Single Phase, AC supply.