

Universal Testing Machine

- Used for various performance tests on asphalt mixture samples.
- ASTM D7369; EN 12697; etc



Gyratory Compactor

- Used to perform mixture design according to Superpave design method.
- Combines simultaneous action of selected vertical static compaction and of the shearing action resulting from the rotation of the mould on its inclined axis.
- ASTM D6307; AASHTO TP-4; EN 12697-31.



Dynamic Shear Rheometer (DSR)

- Used for testing asphalt bitumen to determine its various rheological properties.
- AASHTO T315-10



British Pendulum Tester

- Used in the design and maintenance of public highways and to test the frictional and skid resistance of new roads, road markings and iron works.
- AASHTO T 278; AASTM D3319.



MARSHALL Impact Compactor

- Designed for the preparation of bituminous specimens for Marshall stability and flow tests.
- ASTM D 1559, D 6926; AASHTO T245.



MARSHALL Stability Tester

- Designed to determine the maximum load and flow values of bituminous mixtures.
- ASTM D1559, D5581, D6927, D6931; AASHTO T245, T283; EN 12697-44



<u>Thermal Stress Restrained Specimen Test</u> <u>Machine (TSRST)</u>

- Designed for testing thermo-volumetric properties and thermal cracking resistance of asphalt concrete mixtures.
- ASHTO TP 10-93.



Standard Penetrometer

- Used for specifying the penetration grade of asphalt bitumen.
- The amount of penetration to bituminous sample defines its consistency expressed as the distance in tenths of a millimeters that a standard needle penetrates vertically into a specimen of the bituminous sample under specified conditions of temperature, load and duration of loading.
- ASTM D5/D5M; AASHTO T 49



Rotational Viscometer

- Used to determine the viscosity of asphalt binders in the high temperature range of manufacturing and construction. This measurement is used in the Superpave PG asphalt binder specification.
- AASHTO T 316; ASTM D 4402



Flash and Fire Point Tester

- Used to determine the minimum temperature up to which bitumen sample can be exposed. Once the minimum temperature limit is exceeded, the asphalt bitumen demonstrate flash and catch fire.
- ASTM D92; AASHTO T48.



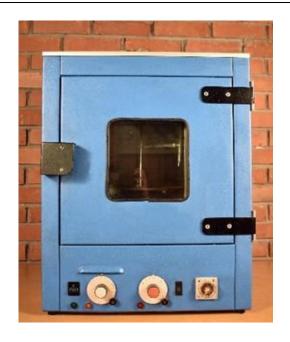
Softening Point Apparatus

- Used for determining softening point of bituminous materials by ring and ball method.
- ASTM D36-06; AASHTO T53.



Los Angeles Abrasion Tester

- Used for the determination of aggregate resistance to fragmentation.
- ASTM C131, C535; AASHTO T96; EN 1097-2, 12697-17, 13450



Bitumen Oven for Thin Film Oven Test

- Simulates short-term aging by heating a film of asphalt binder.
- AASHTO T 179; ASTM D 1754



Bitumen Oven for Rolling Thin-Film Oven Test

- Provides simulated short term aged asphalt binder for physical property testing. The RTFO also provides a quantitative measure of the volatiles lost during the aging process.
- AASHTO T 240; ASTM D 2872



Vacuum Oven for SARA Analysis

- Used to help separation of four defined fractions from petroleum asphalts. The four fractions are defined as saturates, aromatics, resins and asphaltenes.
- ASTM D4124



Vacuum Oven for SARA Analysis

- Used to help separation of four defined fractions from petroleum asphalts. The four fractions are defined as saturates, aromatics, resins and asphaltenes.
- ASTM D4124



Standard Proctor Test Apparatus

- Determine the compaction of different types of soil and the properties of soil with a change in moisture content.
- AASHTO T99-86; ASTM D698-91



<u>Vibratory Hammer for Compaction of Soil</u>

- Used for preparing test specimens of road base and subbase materials and bituminous mixtures by vibrating hammer.
- EN 13286-4; BS 1377:4 / EN 12697-9, 12697-10, 12697-32.



Laboratory Mixer

- Designed for mixing of soil and asphalt samples to be used for mechanical tests such as compaction, indirect tensile, Marshall etc.
- EN 12697-35.



Sieve Machine

• Used to perform mechanical sieving of granular soil and paving materials.



Laboratory Ovens

- Used for drying and heating various laboratory specimens such as aggregate, asphalt, soil, etc.
- EN 932-5, 1097-5; ASTM C127, C136, D558, D559, D560, D698, D1557, D1559 BS 1377:1, 1924:1