Compliance with following International Standards:
IS : 13630 (Part 12), ISO 10545 (Part - 6)

Operating Principle:
The ability of unglazed tiles to resist deep abrasion is determined by holding the tile under test in a vertical plane and pressing it against a steel disc rotating at a specified speed. The abrasive material of specified grit size is dropped from a funnel at fixed rate so as to fall between the face of the tile under test and the steel disc. The length of impression produced on the surface of the tile under test is measured. The volume of material abraded away from the tile is calculated to evaluate resistance to deep abrasion of the tile under test.

Construction details:
The Resistance to Deep Abrasion Tester for unglazed tiles consists of following parts and accessories.

- A metal disc held with its axis lying in a horizontal plane
- A motorized arrangement to rotate the disc,
- A pre-set type electronic counter to record the number of rotations of the disc and also to automatically stop the motor after a preset number of rotations
- A frame to hold the test specimen in a vertical plane tangential to the circumference of the metal disc
- A trolley on which the test specimen holder is mounted and
- Dead weights to pull the trolley to press the test specimen against the metal disc.

The metal disc is made of commercially available mild steel. It can be rotated about a horizontal axis at the specified speed with the help of an electric motor and a two stage V-belt and pulley arrangement. A pre-set type electronic counter with reset and memory backup is provided to record the total number of rotations of the disc and also to switch off the motor after the desired number of rotations.

The test specimen is held in a clamp such that its upper face lies in a vertical plane and can be pressed against the outer face of the metal disc. The clamp is mounted on a wheeled trolley moving over guide rods. The trolley can be pulled with the help of dead weight to press the test specimen against the metal disc.

Abrasive material in form of fused aluminum oxide powder of 80-grit can be dropped between the test specimen and the outer face of metal disc from a funnel to abrade the test specimen. A storage hopper for the abrasive materials is placed over the funnel to give a continuous supply of the material to it. The rate of flow of abrasive material can be controlled manually with the help of a ball valve fitted below the hopper.

The above components are mounted over a rigid metallic frame. A collection tray for used abrasive material is placed in the frame. Transparent Silica Glass pates of size 150 X 150 X 10 mm is supplied for calibration purpose. The abrasive material (white fused aluminum oxide of grit no. 80) needed for conducting the test is available as optional spare. The equipment is finished in grey hammertoe stoving painting and bright chrome/zinc plating to give it a corrosion resistant finish.

Note: Specifications are subject to change.

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28.02.2022

Technical Specification

Diameter of steel disc	:	200 ± 0.2 mm
Thickness of steel disc	:	10 ± 0.1 mm
Material of steel disc	:	Mild steel (Commercially Grade)
Speed of rotation of disc	:	75 ± 5 rpm
Force applied on test specimen	:	Adjustable between 5 and 20 kg in steps of 1 kg.
Motor	:	1/4 HP single-phase 230 volts AC
Counter	:	3 digit pre-set type electronic counter with memory back up and push button reset.
Capacity of storage hopper	:	5 liter
Power Supply	:	230 volts, 50 Hz, Single Phase, AC Supply
Weight	:	90-100 Kgs Approx.

Note: Specifications are subject to change.

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