



## ABRASION TESTING MACHINE FOR GLAZED TILES-(4 SAMPLES)-(BIS 13630-11, EN ISO 10545-7)

### Compliance with following International Standards

IS : 13630 (Part 11), ISO : 10545 (Part 7) -  
Matching the standard with deviations

### Operating Principle

The ability of glazed tiles to resist surface abrasion encountered in everyday use is determined by abrading the glazed surface either with a wet abrasive media consisting of steel balls of 1 to 5 mm diameter, aluminum oxide abrasive powder, and distilled water; or with a dry abrasive media consisting of porcelain cylinders and Aluminum Oxide Abrasive Powder.



The test is conducted by holding a number of test specimens on a flat horizontal disc. The disc is rotated at a speed of 300 rpm with the axis of rotation 22.5 mm out. This causes the abrasive load placed above the test specimen to rub over the surface of test specimen in a circle of 45 cm diameter. The abrasive load is kept in place over the test surface inside a rubber lined cylindrical metallic ring. The ring also keeps the test specimen firmly pressed against the metallic disc.

### Construction Details

1. The Resistance to surface Abrasion tester for glazed tiles consists of a fabricated horizontal metal disc, a motorized arrangement to rotate the disc, a pre set type electronic counter, specimen holding ring for holding test specimens on the surface of the disc.
2. The metallic disc is fabricated from mild steel plate. It can be rotated at a vertical axis displaced by 22.5 from the centre of the disc such that any point on its surface traverses through a circle of 45 mm diameter once for each revolution of the disc. A counter weight is fixed on the lower face of the disc to balance the effect of vibrations set up due to its eccentricity.
3. The disc is rotated at a speed of 300 rpm with the help of a motor and V belt and pulley arrangement. A pre set type electronic counter with key lock 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.
4. The test specimens are held against the upper surface of the disc with the help of rubber lined circular rings and holding plates with cover which serve both to hold the test specimens and as containers for abrasive loads placed over them. FOUR such holders are provided to hold up to FOUR test specimens over the disc at one time.
5. The above components are mounted over a rigid metallic base. The equipment is finished in attractive powder coating and

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GST TIN No. : 24AABCE4018L1ZU  
I.T. PAN No. : AABCE 4018L  
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bright chrome / Zinc plating to give it a corrosion resistant finish.

6. Supplied with steel balls of 1mm - 5mm diameter and WHITE FUSED ALUMINIUM OXIDE 80 GRIT only. Other grinding media at extra cost.

**Supplied with ABRASIVE LOAD and ABRASIVE POWER as per following (A)**

**(A) For Wet Abrasion Load (Standard supply)**

1. Steel Balls of 5, 3, 2 & 1 mm diameter
2. White fused alumina oxide of 80 grit

**(B) For dry abrasive Load (At Extra cost)**

1. Porcelain cylinders (set of 50 cylinders of 20 mm length X 20 mm dia and 50 cylinders of 15 mm length X 15 mm dia.
2. Silicon Carbide powder of 30 grit
3. Float Glass of size 100 X 100 X 10 mm (set of 100 nos.)

**Technical Specification**

- Diameter of rotating disc : 580 mm
- Eccentricity of axis of rotation of the disc : 22.5 mm
- Speed of rotation of disc :  $300 \pm 10$  rpm
- Max. no of test specimens tested at a time : 4 numbers
- Inside diameter of specimen holding ring : 83 mm
- Distance of centre of test area from center of disc : 195 mm
- Electric Motor power : 1/4 HP Single-phase, 230 Volts, 50 Hz, AC supply
- Digital counter : 4 digits pre-set type electronic counter with memory back up and key-lock reset

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