



## PRODUCT MANUAL FOR CEMENT CONCRETE FLOORING TILES ACCORDING TO IS 1237: 2012

*This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.*

1.	<b>Product</b>	:	IS 1237: 2012
	<b>Title</b>	:	Cement Concrete Flooring Tiles
	<b>No. of Amendments</b>	:	1
<b>2. Sampling Guidelines:</b>			
a)	<b>Raw material</b>	:	a) Cement – Clause 5.1 of IS 1237: 2012 b) Aggregates – Clause 5.2 of IS 1237: 2012 & IS 383 c) Pigment – Clause 5.3 of IS 1237: 2012
b)	<b>Grouping guidelines</b>	:	Please refer ANNEX- A
c)	<b>Sample Size</b>	:	Qty - 25 Tiles
<b>3. List of Test Equipment</b>			
		:	Please refer ANNEX- B
<b>4. Scheme of Inspection and Testing</b>			
		:	Please refer ANNEX- C
<b>5. Possible tests in a day:</b>			
	(i)		Dimensions (Clause 7)
	(ii)		Thickness of wearing layer (Clause 8.3)
	(iii)		Flatness of the tile surface (Clause 12.2)
	(iv)		Perpendicularity (Clause 12.3)
	(v)		Straightness (Clause 12.4)
<b>6. Scope of the Licence:</b>			
	“Licence is granted to use Standard Mark as per IS 1237:2012 with the following scope:		
	Name of the product	Cement Concrete Flooring Tiles	
	Size (mm)	Length x Breadth x Thickness	
	Class	General purpose tiles/ Heavy duty floor tiles	
	Type	Plain cement tiles/ Plain coloured tiles/ Terrazzo Tiles (with or without pigments and chip size smallest upto 6mm/12mm/20mm)	
	No of layer	Single layer or monolayer/ Double layer	

## ANNEX A

### Grouping Guidelines

1. IS 1237: 2012 covers Cement Concrete Flooring Tiles as given below:
  - a) Classification - General Purpose tiles  
- Heavy duty floor tiles
  - b) No of layers - Single layer/ Monolayer  
- Double layer
  - c) Plain cement tiles and Plain coloured tiles
  - d) Terrazzo tiles (Pigmented/non-pigmented) – Chip of size varying from smallest to 6 mm/12mm/20 mm
  - e) Sizes – 200 x 200, 250 x 250, 300 x 300, 400 x 400 mm  
(Half tiles for use with full tiles are also permitted. Shapes and size of tiles other than above are permitted as per agreement between the supplier and purchaser)
2. Considering the above, following grouping guidelines is developed for GoL/CSoL:
  - a) One sample of tile of highest size from each classification and each type (i.e. plain cement tiles/Plain coloured tiles/terrazzo tiles) shall be tested for all requirements to cover tiles of all sizes upto and including the tested size for that particular classification and type.
  - b) If heavy duty floor tile is tested, then general purpose tile for the applicable sizes and type may also be covered.
  - c) If double layer tile is tested, single layer/monolayer tile of same classification and type may also be covered.
  - d) Tiles of special shape and size shall be covered in the licence separately and considering the relaxation specified at 2(b) and (c) above.
3. The Firm shall declare the varieties they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
4. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

**ANNEX B****List of Test Equipment***Major test equipment required to test as per the Indian Standard*

<b>Sl. No.</b>	<b>Tests used in with Clause Reference</b>	<b>Test Equipment</b>
1	Dimensions and Tolerances (Clause 7 and 8)	<ul style="list-style-type: none"> <li>- Metal ruler of specified length</li> <li>- Vernier calliper</li> <li>- Micrometer/ Dial thickness gauge</li> <li>- Suitable gauges and templates</li> </ul>
2	Flatness of the tile surface (Clause 12.2)	<ul style="list-style-type: none"> <li>- Metal ruler of specified length</li> <li>- Filler gauges</li> <li>- Fine thread</li> </ul>
3	Perpendicularity (Clause 12.3)	<ul style="list-style-type: none"> <li>- Filler gauges</li> <li>- Metal ruler of specified length</li> <li>- Engineer's Square with one arm longer than the side of tile</li> </ul>
4	Straightness (Clause 12.4)	<ul style="list-style-type: none"> <li>- Metal ruler of specified length</li> <li>- Filler gauges</li> <li>- Fine thread</li> </ul>
5	Water Absorption (Clause 12.5)	<ul style="list-style-type: none"> <li>- Water tank of adequate size</li> <li>- Thermostatically control oven</li> <li>- Stop watch</li> <li>- Weighing balance</li> </ul>
6	Wet Transverse Strength (Clause 12.6)	<ul style="list-style-type: none"> <li>- Water tank of adequate size</li> <li>- Apparatus for determination of wet transverse strength as per Clause F-2 capable of applying load gradually and at uniform rate not exceeding 2000 N/ min.)</li> <li>- Vernier calliper</li> <li>- Dial calliper pistol type for thickness measurement</li> <li>- Plywood - 3 mm in thickness and 20 mm in length</li> <li>- Stop watch</li> </ul>

7	Resistance to wear (Clause 12.7)	<ul style="list-style-type: none"> <li>- Abrasion testing Machine (As per Clause G-2 of IS 1237)</li> <li>- Tile cutter</li> <li>- Tile grinder</li> <li>- Thermostatically control oven</li> <li>- Weighing balance</li> <li>- Arrangement for measuring change in thickness as per clause G-1-3-3 and Fig 1 and 2 of IS 1237: 2012 with dial gauge set up (with least count of at least 0.01 mm)</li> <li>- Abrasive powder (As per clause G-3 of IS 1237: 2012)</li> <li>- Vernier calliper</li> <li>- Metal ruler of specified length</li> </ul>
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*The above list is indicative only and may not be treated as exhaustive.*

**ANNEX C**  
**Scheme of Inspection and Testing**

1. **LABORATORY** - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.
  - 1.1 The manufacturer shall prepare a calibration plan for the test equipments.
2. **TEST RECORDS** - The manufacturer shall maintain test records for the tests carried out to establish conformity.
3. **LABELLING AND MARKING** - As per the requirement of IS 1237: 2012
4. **CONTROL UNIT** - All tiles of same type, class, shape and size manufactured from identical raw material and under similar conditions of manufacturing in a week shall constitute a control unit
5. **LEVELS OF CONTROL** - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.
  - 5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.
6. **REJECTIONS** - Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

**TABLE 1**

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
5.1	Cement	5.1	IS 1237	S	-	-	Cement shall be ISI marked and received with test certificate.
5.2	Aggregates	5.2	IS 1237	S	One	Once in a year for each source and size of aggregates received	Additional sample shall be tested whenever there is change of source of supply of material. No further testing is required, if accompanied with test certificate or ISI marked.
5.3	Pigments	5.3, 5.3.1, 5.3.2, 5.3.3	IS 1237	S	One	Each Consignment	No further testing is required, if accompanied with test certificate or ISI marked
7 and 8	Dimensions and Tolerances	7, 7.1.1., Table 1, 8.1, 8.3 (Except 8.3)	IS 1237	R	Each Tile	-	Checked with suitable gauges and templates
9	Special shape and size	9	IS 1237	R	-	-	Supplied as per agreement between the supplier and the purchaser. \$\$
10	General quality	10	IS 1237	R	Each Tile	-	Adequate visual inspection shall be done to ensure quality of tiles as per Standard.
11	Finish	11.1, 11.2	IS 1237	R	Each Tile	-	

12.2	Flatness of the tile surface	12.1, 12.2, Annex B	IS 1237	R	6 Tiles	Each control unit	-
12.3	Perpendicularity	12.1, 12.3, Annex C	IS 1237	R	6 Tiles	Each Control unit	-
12.4	Straightness	12.1, 12.4, Annex D	IS 1237	R	6 Tiles	Each control unit	-
12.5	Water absorption	12.1, 12.5, Annex E	IS 1237	R	*6 Tiles	Each control unit	If any sample fails in the requirement, twice the number of samples from same control unit shall be tested and control unit accepted if retested sample passes.
12.5	Wet transverse strength	12.1, 12.6, Annex F	IS 1237	R	*6 Tiles	Each control unit	
8.3	Thickness of wearing layer	8.3	IS 1237	R	*6 Tiles	Each control unit	
12.7	Resistance to wear	12.1, 12.7, Annex G	IS 1237	R	*6 Tiles	Each control unit	

\*samples shall be chosen in such a way that it is a representative of all the days of production.

\$\$ Half tiles and special tiles to be checked for dimensions as per the number of samples and frequency as that of the tiles

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.