



उत्पाद मैनुअल
आई एस 653:1992 के अनुसार
लिनोलियम शीट और टाइलें के लिए

दस्तावेज संख्या – पी एम/आई एस 653/1/ फ़रवरी 2022

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूल्यांकन) विनियम, 2018 के तहत यह उत्पाद मैनुअल प्रमाणीकरण के प्रचालन में रीति और पारिश्रिता की सुसंगतता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसी द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस प्रमाणीकरण लाइसेंस/ प्रमाणपत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज का उपयोग किया जा सकता है।

**PRODUCT MANUAL FOR
LINOLEUM SHEETS AND TILES
ACCORDING TO IS 653 : 1992**

Document No.- PM/ IS 653/1/Feb 2023

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.

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
मानक भवन, ९, बहादुर शाह ज़फ़र मार्ग
Manak Bhawan, 9, Bahadur Shah Zafar Marg
नई दिल्ली- ११०००२
New Delhi – 110002



PRODUCT MANUAL FOR LINOLEUM SHEETS AND TILES ACCORDING TO IS 653 : 1992

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.	Product	:	IS 653 : 1992
	Title	:	Linoleum Sheets and Tiles
	No. of Amendments	:	1
2.	Sampling Guidelines:		
a)	Raw material	:	---
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	Sheet- 5m roll, Tiles – 40 pieces
3.	List of Test Equipment	:	Please refer ANNEX – B
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – C
5.	Possible tests in a day :		
	(i) Linear dimension	(iv) Thickness	
	(ii) Finish	(v) Squariness	
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 653 : 1992 with the following scope:		
	Name of the product	Linoleum Sheets/ Tiles	
	Type	- Plain Linoleum - Moire, Jaspe and Marble LiDoleum	
	Thickness	4.5 mm / 3.2 mm / 2.5 mm / 2 mm	
	Size of Tile (for Tiles only)		

BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9, Bahadur Shah Zafar
Marg, New Delhi – 110002

ANNEX A

Grouping Guidelines

1. Linoleum Sheets and Tiles are classified as given below:
 - a) Type :
 - Plain Linoleum
 - Moire, Jaspe and Marble Linoleum
 - b) Thickness - 4.5 mm / 3.2 mm / 2.5 mm / 2 mm
 - c) Size of Tiles – 225, 300 and 450 mm square
Note: Other sizes as agreed to between the manufacturer and the purchaser may be used
2. Considering the above, following grouping guidelines for GoL/CSoL have been developed:
 - a) Sheets/ Tiles of minimum and maximum thickness from each Type shall be tested for all the requirements to cover all thickness in the thickness range tested and that particular Type tested.
 - b) Tiles of any size shall be tested for all the requirements to cover all the sizes of tiles.
3. The Firm shall declare the varieties of Sheets and Tiles 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 types and sizes 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*

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Dimensions (Cl 5)	- Vernier caliper or other suitable equipment - Micrometre - measuring tape
2	Squareness (only for tiles) (Table 1)	- L-shaped metal jig as per cl 3.2.1 of IS 9704:1980
3	Seasoning (for plain linoleum only) (Table 1)	- single-edge razor blade or equivalent cutting tool - protractor
4	Residual Indentation (Table 1)	- indentation tester as per cl 5.2.1 of IS 9704:1980 - dial micrometer as per cl 5.2.2 of IS 9704:1980 - steel plate (at least 6.35mm thick) - stop watch/ other time measuring device - arrangement to maintain temp at 27 ± 2 °C and RH at 65 ± 5 % - arrangement to apply load of 30 kgf
5	Flexibility (Table 1)	- mandrels- 50 & 75mm dia
6	Water absorption (Table 1)	- weighing balance as per cl 7.2.1 of IS 9704:1980 - glass paper - distill water
7	Colour fastness to day light (Table 1)	- artificial light source as per cl 9.3.1 of IS 9704:1980 - Geometric Grey Scale - Standard pattern as per cl 9.3.3 of IS 9704:1980 - Dry & wet bulb Thermometer

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 requirements of IS 653:1992.

4. CONTROL UNIT – All the sheets and tiles of the same type, size manufactured from the same material consignment in a day 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 Methods Clause Reference			No. of Sample	Frequency	Remarks
5.1	Linear dimension	5.1	IS 653	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
5.2	Thickness	5.2	IS 653	R			
5.3	Width of sheet	5.3	IS 653	R			
6	Finish	6	IS 653	R	All sheets and Tiles		-
7	Squareness (for tiles only)	7	IS 653	R	10	Each control unit	-
7	Seasoning (for plain linoleum only)	7	IS 653	R	1	Alternate control unit	
7	Residual Indentation	7	IS 653	R	1	Alternate control unit	
7	Flexibility	7	IS 653	R	1	Alternate control unit	
7	Water absorption	7	IS 653	R	1	Alternate control unit	
7	Colour fastness to day light	7	IS 653	R	1	Alternate control unit	

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled 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 of BO Head.