



Sheeting, Tickings and Bedsheets — Specification
IS 175: 2023 के अनुसार

PRODUCT MANUAL
FOR Sheeting, Tickings and Bedsheets —
Specification
ACCORDING TO IS 175: 2023

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना - I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure uniformity 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.

1.	मानक संख्या IS No.	:	IS 175: 2023
	शीर्षक Title	:	Sheeting, Tickings and Bedsheets — Specification
	संशोधनों की संख्या No. of amendments	:	01
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	<i>The fabric shall be conforming to the requirements specified in clause 3 of ISS.</i> <i>Compliance to the above may be established through supplier test certificate/test report from BIS recognized lab/empanelled lab or any other lab having accreditation as per IS/ISO/IEC17025 or in-house testing/combination thereof.</i> <i>Note: This section indicates the requirements for raw material(if specified in the IS)for which compliance is to be established during Grant of Licence/Change in Scope of Licence/Factory Surveillance.</i>

b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer to Annex-A
c)	नमूने का परिमाण Sample Quantity	:	Note: This section indicates the quantity of the sample of the product and/or the raw material (if applicable), required to be sent to the laboratory for testing, for the purpose of Grant of Licence/Change in Scope of Licence/ Factory Surveillance (in case of market surveillance, effort may be made to procure the required quantity of product sample, as far as possible since raw material sample may not be available in market)
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	:	i. Type ii. Variety iii. Size of bedsheet iv. Finishing Note: Apart from the above, any other requirements/parameters may also be declared as per the standard, as applicable.
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer to Annex-B
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex-C
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	All tests are possible to be carried out in a day except Fibre content, Scouring Loss & Colour Fastness, provided that conditioned samples are available. Note: This section is for the guidance of BIS Certification Officers/Technical Auditors of BIS Authorized Outside Surveillance Agencies(OSAs) during factory inspection to provide ready reference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor.		
6.	लाइसेंस का दायरा/Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 175: 2023 with the following scope:		
	Name of the product	Sheeting, Tickings and Bedsheets	
	Type	Sheeting/Tickings/Bedsheets	
	Variety	1/2/3/4/5	
	Size of bedsheet	1/2/3/4/5/6/7/8	
	Finishing	Scoured/Bleached/Dyed or Printed	

ANNEX-A
GROUPING GUIDELINES

- i. **Based on the constructional and performance requirements of fabric, 5 varieties of fabric have been defined in the Standard:**
- a) Variety 1
 - b) Variety 2
 - c) Variety 3
 - d) Variety 4
 - e) Variety 5
- ii. **Further, based on the type of finishing, there are 3 kinds of Sheeting, Tickings & Bedsheets defined:**
- a) Scoured
 - b) Bleached
 - c) Dyed or Printed
- iii. **In addition to above, following sizes of Bedsheets have been stated in the Standard:**

Size	Width, cm	Length, cm
1	135	215
2	135	230/240
3	150	215
4	150	230/240
5	175	255
6	230	230
7	230	275
8	275	275

- iv. **Considering the above, following grouping guidelines for GoL/ CSoL have been developed:**
- a) Sample for each variety (Variety1/2/3/4/5) of **Sheeting/Tickings/Bedsheets** of each finish (Scoured/Bleached/Dyed or Printed) intended to be covered in the licence shall be drawn and tested to cover that variety and finish in the scope of the licence.
 - b) Sample of bedsheet of highest size to be drawn to cover all the lower sizes of bedsheets in the scope of licence.
 - c) If samples of dyed or printed **Sheeting/Tickings/Bedsheets** are drawn and tested, bleached & scoured **Sheeting/Tickings/Bedsheets** may also be covered. Similarly, if samples of bleached **Sheeting/Tickings/Bedsheets** are drawn and tested, scoured **Sheeting/Tickings/Bedsheets** may also be covered.
 - d) Scope of licence shall be restricted based on the manufacturing and testing facilities available.
 - e) During operation of licence, samples of each variety covered in the scope of licence, shall be tested in rotation, to the extent possible.

ANNEX-B

LIST OF TEST EQUIPMENTS

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sl. No.	Tests Used In With Clause Reference	Test Equipment/Chemical
1	Fibre content	i) For preliminary identification Alcohol 92%, Phloroglucinol, Hydrochloric acid ii) For physical inspection Compound Microscope (100X-500X), Dissecting Needles, glass slides, cover glasses, and cross sectioning device iii) By Staining Test or Dissolution test Mixture of dyestuffs (e.g. Zinc chlor-ide, Detex, Shirlastain etc.), Known Dyed Samples or Sulphuric acid 80%, Cuprammonium hydroxide, NaOH 5%, Balance (capable of weighing to $\pm 10 \mu\text{g}$)
2	Count of Yarn	Weighing Balance (L.C.-0.001 g), Scissor/blade/cutter, Calibrated Steel Ruler (L.C.-1 mm)
3	Weave	Magnifying lens
	Ends/picks per cm	Conditioning Chamber, Thread counter or Counting Glass, Flat Table
	Mass	<u>Method A-Conditioned Mass Method</u> Horizontal, Flat Smooth Table, Graduated Steel Scale, Balance (L.C. 0.005 g), Conditioning Chamber, Calibrated Steel Rule of at least 2 m <u>Method B- Oven-Dry Method</u> Horizontal, Flat Smooth Table, Graduated Steel Scale, Drying Oven (Suitable for drying sample to constant mass at 105 to 110°C), Balance (L.C. 0.005 g), T-Square
	Width	Calibrated rule, conforming to ISO 10012-1, and having a length greater than the width of the fabric or 1 m, whichever is higher, graduated in millimetres. Measuring Table as per clause 6.2 of IS 1954.
	Breaking load on 5.0 cm x 20cm strips (raveled strip method)	Constant-rate-of-extension (CRE) Tensile testing machine capable of constant rates of extension of 20 mm/min and 100 mm/min, with an accuracy of $\pm 10 \%$, equipment for cutting samples, Equipment for cutting test specimen and for fraying them to obtain the required width, Conditioning Chamber

	Dimensional change	Watertight Tray or Container, Steel Rule, Means of Marking Reference Points, Two Pieces of Plate Glass (each measuring at least 600 × 600 mm), Sodium Hexametaphosphate, An Efficient Wetting Agent (for example sodium di-octyl sulphosuccinate or dodecyl benzene sodium sulphonate), Conditioning Chamber, Towel
	Scouring loss	Soxhlet Apparatus, Drying Oven (Capable of maintaining a temperature of 105 °C ± 3 °C), Weighing Balance (capable of weighing to an accuracy of 0.001g), Desizing Enzyme, Sodium Chloride, Caustic Soda, Acetic Acid Solution, Chloroform, Weighing Bottle, Diastase, Conical Flask, Hot Plate
	pH value	Distilled or Deionized Water, Potassium Chloride Solution, Buffer Solutions, Stoppered Glass or Polypropylene flasks, Mechanical Shaker, Beakers, Rods, pH Meter with a glass electrode, Balance, Volumetric Flask, Sample Preparation/Cutting Equipment
	Resistance to pilling	Pill testing box (pilling box), Auxiliary materials like Polyurethane test specimen tubes, Mounting jig, Self-adhesive polyvinyl chloride (PVC) tape, Sewing machine
	Colour fastness to Light	For Colour Fastness to Daylight(as per IS/ISO 105-B01: 2014 (Superseding IS 686 : 1985)) - o Source of Daylight - o Reference materials - o Exposure Rack - o Opaque Cardboard - o Grey Scale for Measuring change in colour Or For Colour Fastness to artificial light (as per IS/ISO 105-B02: 2014(Superseding IS 2454 : 1985)) - Reference materials - Humidity test control fabric - Light Source (xenon arc lamp) - black-standard thermometer or a black-panel thermometer - Humidity chamber - Covers - Colour matching lamps - Assessment cabinet - Sample mounting card - Assessment mask
	Colour fastness to Washing	Suitable mechanical laundering device, Balance (0.01 g), Mechanical stirrer, Non-corrodible (stainless steel balls), Means of heating the soap solution, Soap, Sodium Carbonate, Soap Solution, Grade 3 water, Adjacent fabrics, Multifibre adjacent fabric, Two single fibre adjacent fabrics, Non-dyeable fabric, Grey scales

	Colour fastness to Bleaching: Hypochlorite,	Glass or glazed porcelain container, Hypochlorite solutions, Sodium hypochlorite solution or Lithium hypochlorite Solution, Hydrogen peroxide solution, soap solution, Grey scale, Grade 3 water
	Colour fastness to Rubbing	Suitable colour fastness to rubbing tester, Cotton rubbing cloth, Soft-back waterproof abrasive paper, Grey scale, distilled water
	Colour fastness to Perspiration, acidic and alkaline	Test devices as per cl 4.1 of IS/ISO 105-E04, Oven, Alkaline (cl 4.3) and Acid (cl 4.4) solution as per of IS/ISO 105-E04, adjacent fabric, Grey scale for assessing change in colour, Grey scale for assessing staining, Spectrophotometer or colorimeter for assessing change in colour and staining, A set of 11 glass or acrylic resin plates, Flat-bottomed dish made of inert materials.
	Sewing Thread	Weighing Balance (L.C. 0.001 g), Pin or any suitable sharp item, Calibrated Steel Ruler, Conditioning Chamber
	Hems,	Calibrated Steel Ruler (L.C. 1 mm)
	Sewing,	Magnified Pick glass
	Dimensions	Calibrated rule, conforming to ISO 10012-1, and having a length greater than the width of the fabric or 1 m, whichever is higher, graduated in millimetres. Measuring Table as per clause 6.2 of IS 1954.

ANNEX C

SCHEME OF INSPECTION AND TESTING

1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: the entire quantity of Sheeting, Tickings and Bedsheets processed under similar conditions in a shift.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING- It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as "R" or other tests which can be subcontracted as "S". Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as "R" in Column 2 of Table 1) is also optional.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as “R” in Column 2 of Table 1), where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 TEST RECORDS- The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

3. PACKING AND MARKING - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each sheeting, tickings and bedsheets, provided always that the material so marked conforms to each requirement of the specification.

3.1 Packing and Marking shall be done as per the Indian Standard.

3.2 Additional Marking requirements: The material shall also be marked with the following additional requirement on each sheeting, tickings and bedsheets:

a) “For BIS certification details please visit www.bis.gov.in”

4. REJECTION - All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. 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
(ONLY FOR GUIDANCE PURPOSE)

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or)S:Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
3.1 & 3.1.1	Fibre content	--	IS :175-1989 & IS: 11195-1985	R		Each Batch of Fabric	
3.2	Yarn	--	IS 171 :1985 and IS: 7866-1975(For Guidance only)	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.		
3.3 & Table 1	Count of Yarn (wrap & weft)	--	IS 3442	R			
-do-	Weave	--	Visual	R			
-do-	End & Picks/cm	--	IS 1963	R			
-do-	Mass	--	IS 1964	R			
-do-	Width	--	IS 1954	R			
3.4	Freedom from defects	Annex-B	IS 175	R			
3.1.1, 3.5 & Table 2	PERFORMANCE REQUIREMENT OF FABRICS						
-do-	Breaking Load (Warpway and	--	IS 1969 (Part 1)	R		Each control unit	

	weftway)						
-do-	Dimensional Change (Warpway and weftway)	--	IS 2977	R		Each control unit	
-do-	Scouring loss	--	IS 1383	R		Each control unit	
-do-	pH Value	--	IS 1390	R		Each control unit	
-do-	Resistance to pilling	--	IS 10971	S		Each control unit	
3.1.1, 3.5 & Table 3	COLOUR FASTNESS REQUIREMENTS						
-do-	Light	--	IS/ISO 105-B01 or IS/ISO 105-B02	S		Once in 6 months Or Whenever there is change in raw material	Applicable only for dyed or printing fabric
-do-	Washing: Test 3 a) Change in colour b) Staining of adjacent fabrics	--	IS/ISO 105-C10	R		Each control unit	Applicable only for dyed or printing fabric
-do-	Bleaching: Hypochlorite	--	IS/ISO 105-N01	R		Each control unit	Applicable only for dyed or printing fabric
-do-	Rubbing: a) Dry b) Wet	--	IS/ISO 105-X12	R		Each control unit	Applicable only for dyed or printing fabric
-do-	Perspiration acidic and alkaline a) Change in colour b) Staining of adjacent fabrics	--	IS/ISO 105-E04	R		Each control unit	Applicable only for dyed or printing fabric
4.2	Sewing thread	4.2	IS 175	R		Each control unit	

4.3	Hems	4.3	IS 175	R		Each control unit	
4.4	Side edges	4.4	IS 175	R		Each control unit	
4.5	Sewing	4.5	IS 175	R		Each control unit	
4.6 & Table 4	Dimensions	4.6	IS 175	R		Each control unit	