



उत्पाद मानुयल
HOSPITAL RUBBER SHEETINGS
IS 4135:1974 के अनुसार

PRODUCT MANUAL FOR
HOSPITAL RUBBER SHEETINGS
ACCORDING TO IS 4135:1974

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन (विनियम की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरणके प्रचलन में रीति और पारदर्शिता के सुसंगत सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

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.	उत्पाद Product	:	IS 4135:1974
	शीर्षक Title:	:	Specification for Hospital Rubber Sheetings
	संशोधन संख्या No. of Amendments	:	01
2.	नमूनाकरण दिशा निर्देश Sampling Guidelines:		
a)	कच्चा माल Raw material	:	No specific raw material requirement
b)	समूहिकरण दिशा निर्देश Grouping guidelines	:	NA

c)	नमूने का परिमाण Sample Size:	:	5 m
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer ANNEX - A
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	Please refer ANNEX - B
5.	एक दिन में संभावित परीक्षण Possible tests in a day	:	All the tests except Resistance to Phenol, Resistance to Ageing, Colour and Breaking Strength, are possible to be carried out in a day.
6.	लाइसेन्स का कार्यक्षेत्र /Scope of the Licence :		
	IS 4135:1974 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्रके लिए प्रदान किया जाता है Licence is granted to use Standard Mark as per IS 4135:1974 with the following scope:		
	Name of the product	Hospital Rubber Sheetings	
	Grade/Variety	As applicable (Grade A/Grade B)	

ANNEX- A
TO THE PRODUCT MANUAL FOR
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List of Test Equipment

Sl. No.	Tests used in with Clause Reference	Test Equipment
1.	Mass of Base fabric and finished fabric (Clause 3.1, Table 1)	Analytical Balance Air Oven Water Bath Flask Solvent or Swelling Agent Protractor Acetone Conditioning Chamber (27 $\pm$ 2 $^{\circ}$ C, 65 $\pm$ 5 RH)
2.	Proofing content (Clause 3.2)	Analytical Balance Vernier Callipers Beaker Erlenmeyer flask (Also refer A-3 of Appendix A of IS 4135)
3.	Polymer Content (Clause 3.2.3)	Equipment as per Appendix A-1 to A-10 of IS 5915
4.	Length& Width (Clause 3.3.2& 3.3.3)	Flat table Steel Scale Vernier Callipers Micrometer
5.	Waterproofness (Clause 3.3.4)	Open Mouthed Vessel fiited with a clamp Pressure Gauge Hardness Tester Manometer Soft Rubber Sealing Gaskets Conditioning Chamber
6.	Reaction of Aqueous Extract (Clause 3.3.5)	Analytical Balance Extraction Apparatus Reflux Condenser Methyl Orange Phenolphthalein
7.	Resistance to Xylol (Clause 3.3.6)	Micrometer Thermometer Watch glass Xylol Beaker
8.	Resistance to Phenol (Clause 3.3.7)	Water Bath(Thermostatically controlled) Thermometer Beaker

		Phenol (5% aqueous solution conforming to IS 538) Ammonia Solution (relative density 0.880 (See IS 799) Soap Solution (5% aqueous solution of soap conforming to type 1 of IS 285)
9.	Resistance to Disinfectants and Detergents (Clause 3.3.8)	Water Bath (Thermostatically controlled) Beaker Phenol (5% aqueous solution conforming to IS 538) Ammonia Solution (relative density 0.880 (See IS 799) Soap Solution (5% aqueous solution of soap conforming to type 1 of IS 285)
10.	Resistance to Ageing (Clause 3.3.9)	Air Oven Thermometer
11.	Autoclaving test (Clause 3.3.10)	Autoclave Thermometer Stopwatch
12.	Colour (Clause 3.3.11)	
a)	Fastness to Washing (Clause 3.3.11.1)	Spectrophotometer Analytical Balance Mechanical Laundering device Water bath Mechanical Stirrer Grey Scale Hot plate Non-corrodible Stainless steel Ball (Dia : 6mm) Grade 3 water Soap Sodium Carbonate, anhydrous Soap Solution Adjacent Fabrics (See cl.5.5 of IS/ISO 105-C10)
b)	Fastness to Light (Clause 3.3.11.2)	Humidity Chamber Blue Wool Reference Material 1 to 8 and L2 to L9 Light sources (Close match to Solar Radiation) Black-panel Thermometer Colour matching Lamp Grey Scale Assessment Cabinet
13.	Breaking Strength (Clause 3.1, 3.3.12, Table 1)	Constant Rate of Extension (CRE) Tensile Testing Machine Clamping Device Test piece Cutter Wetting Agent Atmosphere for conditioning

The above list is indicative only and may not be treated as exhaustive.

ANNEX- B
TO THE PRODUCT MANUAL FOR
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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 method given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipment.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. PACKING AND MARKING – The Standard Mark as given in the schedule of the licence, shall be marked on the printed/Stencilled on the surface at the intervals of 1 meter, provided always that the rubber sheets to which this mark is applied conforms to the requirements of the specification.

3.1 In addition, the following information shall be given on each Rubber Sheetings by Stamp/Stencil/Sticker on outer surface legibly:

- a) Manufacturer's name or trade mark if any;
- b) Grade and Polymer content of sheeting;
- c) Date of manufacture and batch number;
- d) Made in India; if required
- e) Licence number (CM/L.....)

~~3.1 Packing and Marking shall be done as per the provisions of the Indian Standard. In addition, the following shall be incorporated on each roll or packet:~~

- ~~i) — BIS Licence Number CM/L..... and~~
- ~~ii) — BIS website details i.e. For details of BIS certification please visit www.bis.gov.in~~

3.2 The hospital rubber sheetings shall be packed as agreed to between the purchaser and manufacturer

4. CONTROL UNIT - For the purpose of this scheme, all the finished sheetings of the same grade and quality manufactured from the same batch of raw material vulcanised under similar conditions in a shift of 8 hours shall constitute a control unit.

5. LEVELS OF CONTROL - The tests as indicate in Table 1 and at the levels of controls

specified therein, shall be carried out on the whole production of the factory which is covered by this scheme and appropriate records and charts maintained in accordance with item 2 above.

5.1 All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the 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
LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or)S: Sub-contracting permitted	Levels of Control		
Clause	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
3.1	Raw Material Base fabric	3.1	IS 4135:1974 IS 7016(Part II)	R	Two	Each consignment	-----
SHEETINGS:							
3.2.3	Polymer content	3.2.3 Appendix - A	IS 4135 IS 5915	R	One	Once in a week for each Grade and quality	-----
3.3.1	General(Visual)	3.3.1	IS 4135	R	Each	Each Length	Visual Each Length means individual cut lengths or rolls ordered/supplied
3.3.2	Length	3.3.2 2	IS 4135:1974 IS 7016(Part 1)	R	Each	Each Length	Each Length means individual cut lengths or rolls ordered/supplied
3.3.3	Width	3	IS 7016(Part 1)	R	Each	Each Length	Each Length means individual cut lengths or rolls ordered/supplied
3.3.4	Water Proofness	6	IS 7016(Part 7)	R	One	Each control unit	-----
3.3.5	Reaction of Aqueous Extract	A-4	IS 4135:1974	R	One	Each control unit	-----
3.3.6	Resistance to Xylol	A-5	IS 4135:1974	R	One	Each control unit	-----
3.3.7	Resistance to Phenol	A-6	IS 4135:1974	R	One	Once in a week for each grade	-----
3.3.8	Resistance to Disinfectants and Detergents	A-7	IS 4135:1974	R	One	Each control unit	
3.3.9	Resistance to Ageing	3.2	IS 3400(Part 4)	R	One	Once in a week for each grade	

3.3.10	Autoclaving test	A-8	IS 4135:1974	R	One	Each control unit	
3.3.11	Colour (visual)	3.3.11	IS 4135:1974	R	Each	Each control unit	Visual
3.3.11.1	Fastness to Washing	7	IS/ISO 105-C10	S	One	One sample from each 20000 m or once in six months whichever is earlier for each grade and whenever new consignment of colour pigment is introduced.	Sample for Fastness to washing & Fastness to light may be got tested from any BIS approved laboratory.
3.3.11.2	Fastness to Light	3	IS/ISO 105-B02	S	One		
3.3.12 & Table 1	Mass	4	IS 7016(Part 1)	R	One	Each control unit	-----
-do-	Proofing Content	A-3	IS 4135:1974	R	One	Each control unit	-----
-do-	Breaking Strength	4	IS 7016(Part 2)/ ISO 1421	R	One	Each control unit	-----

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

~~Note 2: The control unit and levels of control as decided by the Bureau are obligatory to which the licensee shall comply with.~~

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.