



उत्पाद मैनुअल
घरेलु गद्दे के लिए लचीले पॉलीयूरेथेन फोम - विशिष्टि
IS 7933:2022 के अनुसार

PRODUCT MANUAL
FOR FLEXIBLE POLYURETHANE FOAM FOR DOMESTIC MATTRESSES
ACCORDING TO IS 7933:2022

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 7933:2022
	शीर्षक Title	:	Flexible polyurethane foam for domestic mattresses - specification
	संशोधनों की संख्या No. of amendments	:	01
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	No specific requirement
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Sample of any size of each type of foam shall be tested

c)	नमूने का परिमाण Sample Quantity	:	One piece of flexible polyurethane foam of size equivalent to the mattress in which it is intended to be used 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 (incase of market surveillance, effort may be made to procure therequired quantity of product sample, as far as possible since raw material sample may not be available in market)
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer to Annex-A
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex-B
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	Dimensions, Tensile test, Indentation Hardness Characteristics, Indentation hardness index & Density 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 readyreference 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 7933:2022 with the following scope:		
	Name of the product	Flexible Polyurethane Foam for Domestic Mattresses	
	Type	Type 1 and/or Type 2	
	Sizes	Length x width x thickness in mm	

**BUREAU OF INDIAN STANDARDS
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ANNEX – A

LIST OF TEST EQUIPMENTS

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sr. No.	Tests used in with Clause Reference	Test equipment
1.	Dimensions Cl. 5.4	For dimensions below 100 mm - Soft material thickness gauge consisting of Graduated Dial accurate to 1%, Flat circular foot & Metallic spacers of (10,20,50 mm size) if the Graduated Dial does not cover (0-100 mm) <i>as per Cl 3.1 of IS 7888.</i> <i>For dimensions greater than 100 mm - Vernier calipers or steel tape should be used with an accuracy of ± 1 percent.</i>
2.	Indentation hardness characteristic i.e. Load quotient Cl. 5.5,	Load deflection Test apparatus accurate to ± 0.25 mm consisting of: Flat circular indenter foot of 323 sq.cm surface area connected to a load measuring device of accuracy of $\pm 1\%$ or ± 0.1 kg whichever is greater.
3.	Indentation hardness index (at 40% deflection) Cl 5.6,	
4.	Conditioning of samples	Conditioning chamber (T $27 \pm 2^\circ\text{C}$, RH $65 \pm 5\%$)
5.	Durability Test Cl. 5.7	Humidity cabinet Shear Fatigue tester apparatus as per cl 7.1 of IS 7888
6.	Density Cl. 5.8, Table 1	Weighing balance Soft material thickness gauge/ Vernier Calipers <i>As per Cl 3.1 of IS 7888</i>
7.	Tensile test Cl. 5.8, Table 1	Tensile testing machine Splitting machine for Dumbbell test specimen Soft material thickness gauge/ Vernier Calipers <i>As per Cl 3.1 of IS 7888</i>
8.	Heat Ageing test Cl. 5.8, Table 1	Hot air Oven capable of maintaining temperature of $140 \pm 1^\circ\text{C}$ for 16 hours with LC 1°C
9.	Compression set test Cl. 5.8, Table 1	Compression set apparatus (two parallel flat plates of 200x 200 mm to clamp the specimen) RH meter/Dry ball wet ball thermometer

ANNEX B

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 : Entire quantity of polyurethane foam of the same type and size produced in a day from the same consignment of material.

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 piece of flexible polyurethane foam and/or the package containing the material 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 piece of flexible polyurethane foam and/or the package containing the material:

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 Method Cl. Ref.	Test Method IS		No. of Sample	Frequency	Remarks
5.1	Constituent		IS 7933	R	Firm to have adequate in-process controls to check compliance of this parameter as per the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
5.2	Condition		IS 7933	R	Firm to have adequate in-process controls to check compliance of this parameter as per the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
5.3	Colour		IS 7933	R	Firm to have adequate in-process controls to check compliance of this parameter as per the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		

5.4	Dimensions		IS 7933	R	Firm to have adequate in-process controls to check compliance of this parameter as per the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
5.5	Indentation Hardness (characteristic)	6.3.1 & 6.3.2	IS 7888	R	One	Each control Unit	
5.6	Indentation Hardness Index	6.3.3	IS 7888	R	One	Each control Unit	
5.7	Durability test	7	IS 7888	R	One	Each control Unit	
5.8, Table 1, Sl. No.i	Density	4	IS 7888	R	One	Each control Unit	
5.8, Table 1, Sl. No.ii	Tensile Strength	5	IS 7888	R	One	Each control Unit	
5.8, Table 1, Sl. No.iii	Heat Aging	10	IS 7888	R	One	Each control Unit	
5.8, Table 1, Sl. No.iv	Compression set	8	IS 7888	R	One	Each control Unit	