



**PRODUCT MANUAL
FOR FLEXIBLE POLYURETHANE FOAM FOR DOMESTIC MATTRESSES
ACCORDING TO IS 7933 :1975**

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 7933:1975
	Title	:	FLEXIBLE POLYURETHANE FOAM FOR DOMESTIC MATTRESSES
	No. of Amendments	:	NIL
2.	Sampling Guidelines:		
a)	Raw material	:	No specific requirement
b)	Grouping guidelines	:	Sample of any size may be tested to cover all sizes being manufactured subject to availability of testing and manufacturing facilities.
c)	Sample Size	:	One full mattress
3.	List of Test Equipment	:	Please refer Annex –A
4.	Scheme of Inspection and Testing	:	Please refer Annex - B
5.	Possible tests in a day :	:	Dimensions, Tensile test , Indentation hardness index, Load quotient (H65/H25) & density
6.	Scope of the Licence :		
	Licence is granted to use Standard Mark as per IS 7933 :1975 with the following scope:		
	Name of the product	FLEXIBLE POLYURETHANE FOAM FOR DOMESTIC MATTRESSES	
	Sizes	Length x width x thickness in mm	

ANNEX-A
PRODUCT MANUAL
FOR FLEXIBLE POLYURETHANE FOAM FOR DOMESTIC MATTRESSES
ACCORDING TO IS 7933 :1975

LIST OF TEST EQUIPMENTS
Major test equipment required to test as per the Indian Standard

Sr. No.	Tests used in with Clause reference	Testing Equipment
1	Tensile test cl. 3.8	Tensile testing machine Splitting machine for Dumbbell test specimen Soft material thickness gauge/ VC <i>As per Cl 3.1 of IS 7888</i>
2	Dimensions cl. 3.4	Soft material thickness gauge/ VC Graduated Dial accurate to 1%, Flat circular foot & Metallic spacers of (10,20,50 mm size) if the GD does not cover (0-100mm) <i>As per Cl 3.1 of IS 7888</i>
3	Compression set test cl. 3.10	compression set apparatus (two parallel flat plates of 200 x 200 mm to clamp the specimen) RH meter/Dry ball wet ball thermometer
4	Heat Ageing test cl. 3.9	Hot air Oven capable of maintaining temperature of 140± 1°C for 16 hours with LC 1°C
5	Indentation hardness characteristic i.e. Load quotient (H65/H25) Cl 3.5	Load deflection Test apparatus accurate to ±0.25 mm consisting of:
6	Indentation hardness index(at 40% deflection) – Cl 3.6	Flat circular indenter foot of 323 sq.cm surface area connected to a load measuring device of accuracy of ±1% or ±0.1 kg whichever is greater.
7	Conditioning of samples	Conditioning chamber (T 27±2°C, RH 65±5%)
8	Durability Test cl. 3.11	Humidity cabinet Shear Fatigue tester apparatus
9	Density cl. 3.7	Shear Fatigue tester apparatus as per cl 7.1 of IS 7888 Weighing balance Soft material thickness gauge/ VC <i>As per Cl 3.1 of IS 7888</i>

The list above is indicative and may not be taken as exhaustive

ANNEX – B

**SCHEME OF INSPECTION AND TESTING
FOR FLEXIBLE POLYURETHANE FOAM FOR DOMESTIC MATTRESSES
ACCORDING TO IS 7933 :1975**

- 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 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 license shall be stamped or printed on a label stitched on each mattress; provided that mattress to which this mark is thus applied conforms to every requirement of the specification.
 - 3.1** Marking and packing shall be done as per the provisions of the Indian Standard. In addition In addition, the following details shall be mentioned on a label stitched on each mattress:
 - a) BIS Licence No. CM/L _____.
 - b) BIS website details i.e.–“For details of BIS certification please visit www.bis.gov.in”
- 4. CONTROL UNIT** – For the purpose of this scheme, all the mattresses of the same size produced in a day from the same material 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 Standard 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 LEVELS OF CONTROL
(Scheme of Inspection and Testing)**

(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
3.2	Condition	Visual	IS:7933-1975	R		Each finished mattresses	
3.3	Colour	Visual	IS:7933-1975	R		Each finished mattresses	
3.4	Dimensions of mattresses		IS:7933-1975	R	One	Each hour	In case of failure, all the mattresses manufactured during the hour shall be checked and only those conforming to the requirement shall be marked.
3.6	Indentation Hardness(characteristic)	6.3.1 & 6.3.2	IS 7888-1976	R	One	Each control Unit	The sample shall be drawn at regular intervals
3.6	Indentation Hardness Index	6.3.3	IS 7888-1976	R	One	Each control Unit	The sample shall be drawn at regular intervals
3.7	Density	4.4	IS 7888-1976	R	One	Each control Unit	The sample shall be drawn at regular intervals
3.8	Tensile Strength	5	IS 7888-1976	R	One	Each control Unit	The sample shall be drawn at regular intervals
3.9	Heat Aging	10	IS 7888-1976	R	One	Each control Unit	The sample shall be drawn at regular intervals

3.10	Compression set	8	IS 7888-1976	R	One	Each control Unit	The sample shall be drawn at regular intervals
3.11	Durability test	7	IS 7888-1976	R	One	Each control Unit	The sample shall be drawn at regular intervals

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 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 to BO head.