



उत्पाद मानुयल
LATEX FOAM RUBBER PRODUCTS
IS 1741:2019 के अनुसार

PRODUCT MANUAL FOR
LATEX FOAM RUBBER PRODUCTS
ACCORDING TO IS 1741:2019

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 1741 : 2019
	शीर्षक Title	:	Latex foam rubber products –Specification (First Revision)
	संशोधन संख्या No. of Amendments	:	0
2.	नमूनाकरण दिशा निर्देश Sampling Guidelines:		

a)	कच्चा माल Raw material	:	Natural rubber latex, synthetic rubber latex or their blends
b)	समूहिकरण दिशा निर्देश Grouping guidelines	:	Please refer ANNEX - <u>A</u>
c)	नमूनेका परिमाण Sample Size	:	1 Sq.m x 2 pieces
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer ANNEX – <u>B</u>
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	Please refer ANNEX – <u>C</u>
5.	एक दिन में संभावित परीक्षण Possible tests in a day :		
	(i) Colour (cl.8.) (ii) Odour (cl.9.) (iii) Indentation hardness index (cl.5.) (iv) Dimensions (cl.10.)		
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 1741 : 2019 with the following scope:		
	Name of the product	Latex Foam Rubber Products	
	Type	Cored, Uncored(Solid)	
	Grades	Soft, Medium, Hard, Extra Hard	

ANNEX A

Grouping Guidelines

IS 1741:2019 classifies Latex Foam Rubber Products into the following types and grades:-

Type

- a) Cored
- b) Uncored (Solid)

Grades

- a) Soft
- b) Medium
- c) Hard
- d) Extra Hard

For the purpose of GoL/CSoL, the following Grouping Guidelines shall be considered:-

- 1) One sample of each type and grade of any size may be drawn and tested. If sample drawn is of higher grade, lower grades may also be covered in the licence i.e. if sample of Core Type and grade Extra Head is drawn, tested and is found conforming, the recommendation may include Soft, Medium, Hard grades of Core Type, also.
- 2) While considering inclusion of additional varieties, it shall be ensured that complete manufacturing facilities & testing facilities for all requirements are available with manufacturer for the type and grades to be included in the licence.
- 3) During the operation of licence, it shall be ensured that all varieties covered in the scope of the license are drawn for independent testing on rotation over a period of time.

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.	Indentation hardness index (cl.5.)	Apparatus for Indentation Hardness Test(refer Fig. 1 of IS 1741 : 2019), Indentor (diameter 305.00 $\pm$ 0.25 mm with a 25 $\pm$ 1 mm radius at the outer edge), Conditioning Chamber (Temperature 27 $\pm$ 2 °C, Humidity 65 $\pm$ 5 percent)
2.	Dimensions (cl.10.)	Dial gauge having circular foot of 6.5 cm sq in area and exerting a total pressure of 3 gm in sample (LC 0.02 mm), Steel rule (LC 0.2 mm), Vernier calliper (LC 0.2 mm), Steel Rule (LC 1 mm)
3.	Flexing test (cl.11.)	Conditioning Chamber (Temperature 27 $\pm$ 2 °C, Humidity 65 $\pm$ 5 percent), Apparatus for Flexing test (refer Fig 3 of IS 1741 : 2019), Indentor (circular, 305 mm in diameter, with a 13 mm radius on the bottom edge)
4.	Ageing (cl.12.)	Air Oven, Thermometer ,Stopwatch
5.	Compression set (cl.13.)	Method A- Compression device, Dial gauge having circular foot of 6.5 cm sq in area and exerting a total pressure of 3 gm in sample (LC 0.1 mm), Oven (capable of maintaining 70 $\pm$ 1 °C) Method B- Circular Flat Indentor (305 mm in diameter and weighing 25 kg), Oven, Conditioning Chamber (Temperature 27 $\pm$ 2 °C, Humidity 65 $\pm$ 5 percent), Stopwatch.
6.	Metallic impurities (cl.14.)	Copper : Appratus : Photoelectric Absorptiometer , Nessler tubes, Weighing balance, Silica Crucible, Muffle Furnace, Stopwatch, Glasswares, Burner, Titration Apparatus, Filter Papers, Asbestos Board Reagents : Light Magnesium oxide, Hydrochloric acid- Nitric acid mixture, Standard Copper Solution, Ammonium Hydroxide Solution (Sp. gravity 0.90),

		Zinc Diethyldithiocarbamate reagent, anhydrous sodium sulphate, Ammonium citrate solution Manganese: Apparatus : Photoelectric Absorptiometer or Nessler tubes, Weighing balance, Kjeldahl flask of resistance glass or silica, Hot plate, Whatman No. 1 filter paper, stopwatch, glasswares, Burner Reagents: Hydrogen peroxide, Dilute sulphuric acid, Standard Manganese Solution, Nitric Acid, Phosphoric acid, Potassium Periodate, Potassium permanganate, Stabilized Distilled water, Sulphuric acid
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The above list is indicative only and may not be treated as exhaustive.

ANNEX B

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. PACKING AND MARKING - The Standard Mark, as given in the Schedule of the licence, shall be printed or stamped on the label applied or engraved on latex rubber product, provided always that the product to which this mark is thus applied conforms to every requirement of the specification.

3.1 Packing and marking shall be done as per the provision of the Indian Standard. In addition, the following details shall be mentioned on each pack or on a securely attached label, legibly and indelibly:

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, the latex foam rubber products of the same type and grade manufactured from the same batch or consignment shall constitute a control unit. If a consignment is declared to consist of different batches of manufacture, the groups of latex foam rubber products manufactured from each batch shall constitute separate control units.

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
LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
7	Material and Workmanship	7	IS 1741:2019	R	Two	Each control unit	-----
8	Colour	8.1	IS 1741:2019	R	Five	Each control unit	The colour of the latex foam rubber products shall be as agreed to between the purchaser and the supplier
9	Odour	9.1	IS 1741:2019	R	Two	Each control unit	-----
5.1.1	Indentation Hardness Index	Annex B	IS 1741:2019	R	One	Each control unit	-----
10	Dimensions	Annex C	IS 1741:2019	R	Two	Each control unit	-----
11	Flexing Test	Annex D	IS 1741:2019	R	One	Each control unit	-----
12	Ageing	Annex E	IS 1741:2019	R	One	Every 30th control unit	See Note 3
13	Compression Set	Annex F	IS 1741:2019	R	One	Each control unit	-----
14	Metallic Impurities	Annex G	IS 1741:2019	R	One	Every 10th 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: 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.

Note 3: In case of failure in ageing test, one sample from each control unit shall be tested and the original frequency of testing shall be restored only when consecutive three control units are found to pass.