



उत्पाद मैनुअल
Specification for Thermoplastic Hoses (Textile Reinforced) for Water — General Purpose
IS 12585:2023 के अनुसार

PRODUCT MANUAL
FOR Specification for Thermoplastic Hoses (Textile Reinforced) for Water — General Purpose
ACCORDING TO IS 12585:2023

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना- I के तहत प्रमाणन के संचालन में अभ्यास और पारदर्शिता के संचालन में पारदर्शिता सुनिश्चित करने 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 लाइसेंस/प्रमाणपत्र 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 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 12585:2023
	शीर्षक Title	:	Specification for Thermoplastic Hoses (Textile Reinforced) for Water — General Purpose
	संशोधनों की संख्या No. of amendments	:	NIL
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Materials shall conform to Cl. 5 of IS 12585:2023. Conformity may be established through test certificate of supplier, test report from BIS recognized/empanelled lab or accredited lab or in house testing or combination thereof.
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer Annex-A
c)	नमूने का आकार Sample Size	:	5 mtrs (test specimens in the form of disks or sheets as required for both lining and cover for various tests may be provided separately if the same cannot be taken out from the product)

3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer Annex-B
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer Annex-C
5.	एक दिन में संभावित परीक्षण Possible tests in a day All tests on conditioned samples as applicable		
6.	लाइसेंस का दायरा /Scope of the Licence: “Licence is granted to use Standard Mark as per IS 12585:2023 with the following scope:		
	Name of the product	Thermoplastic Hoses (Textile Reinforced) for Water — General Purpose	
	Type	Type1 (Low pressure)/ Type 2 (Medium)/ Type 3 (High Pressure)	
	Insidediameter	4, 6, 8,32, 38, 50 mm	

BUREAU OF INDIAN STANDARDS
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ANNEX-A

GROUPING GUIDELINES

The following grouping guidelines shall be followed for grant of licence and change in scope of licence. Based on the type and size, hoses shall be classified into two groups as follows:

Group	Inside diameter (Size)	Type
Group I	04 – 20 mm	Type 1, Type 2, Type 3
Group II	21 – 50 mm	Type 1, Type 2, Type 3

One sample from each group of the highest and lowest size and each type, shall be tested for all the requirements of the specification in order to cover the complete range of sizes in that group. It shall however be ensured and recorded that applicant/licensee has got complete manufacturing as well as testing facilities for the sizes required to be covered as per grouping.

During surveillance, it shall be ensured that samples of all types and sizes covered in licence scope are drawn by rotation.

ANNEX – B

LIST OF TEST EQUIPMENTS

Major test equipment required to test as per the Indian Standard

Sl no	Tests with Clause Reference	Test Equipment
1.	Inside diameter and tolerances on Inside Dia , CI 6.1 (ISO 4671)	Micrometer, Vernier callipers/Plug guages, thickness calliper dial gauge with rounded feet,
2.	concentricity , CI 6.2 (ISO 4671)	optical magnifier, Scale/measuring tape,
3.	Tolerance on Length , CI 6.3 (ISO 4671)	Arrangement for maintaining test temperature 23+7/-3 °C
4.	Wall thickness , CI 6.4 (ISO 4671)	
5.	Tensile Strength , CI 7.1 , Table 2 (ISO 527-2)	Tensile testing machine IS 13360 (Part 5/Sec 2) : 2017/ ISO 527-2 : 2012, Clause 5, specifically
6.	Elongation at break , CI 7.1 , Table 2 (ISO 527- 2)	5.1.1 to 5.1.4, conditioning chamber
7.	Resistance to ageing , CI 7.1 , Table 2 (Method A OR B , ISO 188:2011, ISO 527-2)	Air oven as per CI 4.1 IS 3400 (Part 4) : 2012/ ISO 188 : 2011, Tensile testing machine IS 13360 (Part 5/Sec 2) : 2017/ ISO 527-2 : 2012, Clause 5, specifically 5.1.1 to 5.1.4
8.	Loss in Mass on Heating , CI 7.1 , Table 2 (Method B , ISO 176:2005)	Analytical balance, Micrometer, Thermostatic bath or oven, Wire cages, Activated carbon, Containers (metal cans of cylindrical form), conditioning chamber in accordance with ISO ISO 291
9.	Proof pressure at 23 °C , CI 7.2 , Table 3 (ISO 1402)	Pressure source, Calibrated pressure gauge or pressure transducer with digital readout, length
10	Burst pressure at 23 °C , CI 7.2 , Table 3 (ISO 1402)	measuring tape, temperature controlled tanks for carrying out test at specified temperature
11	Proof pressure at 60 °C , CI 7.2 , Table 3 (ISO 1402)	
12	Burst pressure at 60 °C , CI 7.2 , Table 3 (ISO 1402)	
13	Change in length at maximum working pressure at 23 °C , CI 7.2 , Table 3 (ISO 1402)	
14	Adhesion between components , CI 7.2 , Table 3 (ISO 8033)	Tensile Test machine as per CI 5.1 of IS 3400 (Part 24) : 2021/ISO 8033 : 2016, conditioning chamber
15	UV resistance (Xenon arc lamp) , CI 7.2 , Table 3 (Method A , ISO 30013:2011)	Xenon-arc lamps as per 6.2 of ISO 30013:2011(E), conditioning chamber in accordance with ISO 23529 or ISO 291
16	Flexibility at 23 °C , CI 7.2 , Table 3 (Method A1 , ISO 10619-1)	Apparatus as per 4.1 of IS 443 (Part 10) : 2023/ISO 10619-1 : 2017, conditioning chamber, arrangement for maintaining test temperature and humidity as per 4.4 of IS 443 (Part 10) : 2023/ISO 10619-1 : 2017, stopwatch

17	Low temperature flexibility , Cl 7.2 , Table 3 (Method B (at -10°C +- 2°C) , ISO 10619-2)	Test apparatus as per 5.2 of IS 443 (Part 11) : 2023/ ISO 10619-2 : 2021, conditioning chamber (-10 +-2 °C), test rig as per Cl 5.2.3 of IS 443 (Part 11) : 2023/ ISO 10619-2 : 2021 for hoses with a bore greater than 22 mm
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The list above is indicative only and may not be considered as exhaustive

ANNEX B

SCHEME OF INSPECTION AND TESTING

1. **LABORATORY-** A laboratory shall be maintained, which shall be suitably equipped (as 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 and implement a calibration plan for the test equipment.

2. **TEST RECORD-** 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 legibly and indelibly marked on each length of hose, provided always that the hose 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 provisions of the Indian Standard.

3.2 In addition, the following shall be incorporated on each hose or an accompanying label or package:

a) BIS Licence Number CM/L— ; and

b) BIS website details i.e. — “For details of BIS certification please visit www.bis.gov.in

1. **4. CONTROL UNIT-** For the purpose of this scheme, total length of the hose of the same type and Inside diameter (size), manufactured from the same consignment of raw material and produced in a day shall constitute a control unit.

5. **LEVELS OF CONTROL** :- The tests as indicate in Table 1 and at the levels of controls in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and records maintained in accordance with paragraph 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. **REJECTION** - 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.

TABLE1
LEVELS OF CONTROL

(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
5	Materials and construction	5	IS 12585	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		Materials shall conform to Cl. 5 of IS 12585:2023. Conformity may be established through test certificate of supplier, test report from BIS recognized/empanelled lab or accredited lab or in house testing or combination thereof.

6	Dimensions						
6.1	Inside diameters and tolerances on inside diameter		ISO 4671	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		
6.2	Concentricity		ISO 4671	R	-do-		
6.3	length		ISO 4671	R	-do-		
6.4	Minimum wall thickness		ISO 4671	R	-do-		
7	Physical properties						
7.1	Thermoplastic materials						
i)	Minimum tensile strength		ISO 527-2	R	One	Once a month	
ii)	Minimum elongation at break		ISO 527-2	R	One	Once a month	
iii)	Resistance to ageing		ISO 188:2011 (3 days at 70 °C ± 1 °C), method A or B; ISO 527-2 (dumb-bell test piece)	R	One	Once a month	
iv)	Loss in mass on heating		IS 13360 (Part 8/ Sec 4) : 2018/ISO 176 : 2005, method B	R	One	Once a month	
7.2	Finished hoses						
i)	Proof pressure at 23 °C		IS 443 (Part 3) : 2017/ISO 1402 : 2009	R	One	Each control unit	

ii)	Minimum burst pressure at 23 °C		IS 443 (Part 3) : 2017/ISO 1402 : 2009	R	One	Each control unit	
iii)	Proof pressure at 60 °C		IS 443 (Part 3) : 2017/ISO 1402 : 2009	R	One	Each control unit	
iv)	Minimum burst pressure at 60 °C		IS 443 (Part 3) : 2017/ISO 1402 : 2009	R	One	Each control unit	
v)	Change in length at maximum working pressure at 23 °C		IS 443 (Part 3) : 2017/ISO 1402 : 2009	R	One	Each control unit	
vi)	Adhesion between components		IS 3400 (Part 24) : 2021/ISO 8033 : 2016	R	One	Once in a week	
vii)	UV resistance (xenon-arc lamp)		ISO 30013:2011, method A	S	One	Once in three months	
viii)	Flexibility at 23 °C		IS 443 (Part 10) : 2023/ISO 10619-1 : 2017*	R	One	Once in a week	
ix)	Low-temperature flexibility		method B of IS 443 (Part 11) : 2023/ISO 10619-2 : 2021**at -10 °C ± 2 °C	S	One	Once in three months	

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 by BO Head.

*IS 443 (Part 10):2023/ISO 10619-1: 2017 has superseded IS 12656 : 2014/ISO 10619-1 : 2011

** IS 443 (Part 11):2023/ISO 10619-2: 2021 has superseded IS 12657 : 2014/ISO 10619-2 : 2011