भारतीय मानक

Indian Standard

IS 5473 : 2024

वस्त्रादि — वूलन और वर्स्टेड मिल्स में प्रयुक्त डबल फ्लैंज्ड बॉबिन्स — विशिष्टि

(पहला पुनरीक्षण)

Textiles — Double Flanged Bobbins Used in Woollen and Worsted Mills — Specification

(First Revision)

ICS 59.120.10

भारतीय मानक ब्यूरो
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October 2024 **Price Group 4**

Textile Machinery and Accessories Sectional Committee, TXD 14

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Textile Machinery and Accessories Sectional Committee had been approved by the Textiles Division Council.

Double-flanged bobbins are used on various machines, such as draw frames, gill pin boxes, fly frames, cop spinning and dolly doubling frames, in woollen and worsted mills.

These bobbins generally consist of a top flange, a shank and bottom flange. The flanges are generally made of solid wood, laminated wood, vulcanized fibre or ply combination of vulcanized fibre and plastics and shank of good quality timber.

Since the dimensions and shape of double-flanged bobbins used in woollen and worsted mills vary to a great extent depending on the machine in conjunction with which they are to be used, this standard prescribes only the permissible tolerances on various dimensions.

This standard is based on the manufacturing practices followed in the country in this field.

This standard contains **3.1** to **3.3**, **4.1**, **4.2**, **4.3**, **4.4** and **5.3** which call for agreement between the buyer and the seller permitting the buyer to use his option for selection to suit his requirements.

This standard was originally published in 1969. This revision has been brought out to incorporate the following changes:

a) Marking clause has been modified;

b) References to Indian Standards have been updated; and

c) Packing clause have been incorporated.

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TEXTILES — DOUBLE FLANGED BOBBINS USED IN WOOLLEN AND WORSTED MILLS — SPECIFICATION

(First Revision)

1 SCOPE

This standard prescribes the requirements for double-flanged bobbins for use on various machines in woollen and worsted mills.

2 REFERENCES

The standards given below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of these standards:

IS No.	*Title*
IS 707 : 2011	Timber technology and utilization of wood, bamboo and cane — Glossary of terms (*third revision*)
IS 1141 : 1993	Seasoning of timber — Code of practice (*second revision*)

3 MANUFACTURE

3.1 Material

The shank and flanges of the bobbin shall be made of the material as agreed to between the buyer and the seller. The wooden flanges may be reinforced, if specified by the buyer, with tin plate having a minimum thickness of 0.315 mm or any other metal sheet of thickness as agreed between the buyer and the seller subject to a tolerance of ± 0.03 mm. Timber, wherever, used in the manufacture of shanks or flanges, shall be of good quality and fully seasoned (*see* IS 1141).

3.2 Workmanship

The flanges shall be well-secured to the shank of the bobbin by screwing with resin and then pegging. The bottom flange shall be provided with a groove to accommodate the driving unit of the spindle as prescribed by the buyer.

3.3 Smoothness of Surface

The bobbin shall be finished smooth and varnished or enamelled as prescribed by the buyer.

3.4 Freedom from Defects

The bobbin shall be free from any visual defect which is likely to affect its life or usefulness. For description of various types of defects of timber, *see* IS 707.

4 REQUIREMENTS

4.1 Type

The bobbin shall be of the type as required by the buyer for use on a particular machine.

4.2 Dimensions

The dimensions of the bobbin shall be as prescribed by the buyer depending on the machine. The tolerances on the various dimensions shall however, be as follows:

Sl No.	*Dimension*	*Tolerance, mm*
(1)	(2)	(3)
i)	Overall length	± 2
ii)	Distance between flanges	± 1
iii)	Diameter of flanges	± 1
iv)	Diameter of shank	± 1
v)	Inside bore diameter	± 0.5
vi)	Thickness of flanges	± 0.5

4.3 Concentricity

Flanges of the bobbin shall be concentric with the bore of the shank.

The eccentricity of the bobbin both at top and bottom flanges when measured on a whit in bobbin tester or any other suitable apparatus as agreed to between the buyer and the seller shall not be more than 0.5 mm.

4.4 Weight

The average weight of a bobbin in a lot shall be as agreed to between the buyer and the seller.

A tolerance of ± 4 percent on the agreed weight of the bobbin shall, however, be permissible.

5 SAMPLING

5.1 Lot

All the bobbins of the same type and manufactured from the same material under essentially similar conditions supplied to one buyer against one despatch note shall constitute a lot.

5.2 The conformity of a lot to the requirements of this standard shall be determined on the basis of the tests carried out on the samples selected from it.

5.3 Unless otherwise agreed to between the buyer and the seller, the samples shall be selected as prescribed in 5.4 and 5.5.

5.4 The number of packages to be selected from a lot shall depend on the size of the lot and shall be in accordance with col (2) and col (3) of Table 1. The packages so selected shall constitute the gross sample.

Table 1 Sample Size and Permissible Number of Non-conforming Bobbins

(*Clauses* 5.4 *and* 5.5)

Sl No.	**No. of Packages in the Lot**	**No. of Packages to be Selected (Gross Sample)**	**No. of Bobbins to be Selected for Testing Dimensions and Concentric**	**Permissible No. of Non - confirming Bobbins Amongst those Selected as in Col (4)**	**No. of Bobbins to be Selected for Testing Other Requirements from Amongst those Selected as in Col (4)**	**Permissible No. of Non - confirming Bobbins Amongst those Selected as in Col (6)**
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Up to 3	All	200	4	20	0
ii)	4 to 6	4	315	5	30	0
iii)	7 to 14	5	500	7	40	1
iv)	15 and above	10	800	9	50	2

5.5 The number of bobbins to be tested and the criterion for conformity for each of the characteristics shall be as follows:

Sl No.	*Characteristic*	*No. of Bobbins to be Tested*	*Criterion for Conformity*
(1)	(2)	(3)	(4)
i)	Dimensions and concentricity	According to col (4) of Table 1	Non-conforming bobbins not to exceed the corresponding number given in col (5) of Table 1
ii)	Workmanship, smoothness of surface and freedom from defects	According to col (6) of Table 1	Non-conforming bobbins not to exceed the corresponding number given in col (7) of Table 1
iii)	Weight	Two sets of specified number of bobbins from each package if the gross sample consists of 5 or less packages, or one set of specified number of bobbins from each package if the gross sample consists of more than 5 packages	Each observed value satisfies the requirement

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Textile Machinery and Accessories Sectional Committee, TXD 14

Organization	*Representative(s)*
Central Manufacturing Technology Institute, Bengaluru	DR NAGAHANUMAIAN **(*Chairperson*)**
ATE Enterprises Private Limited, New Delhi	SHRI ABHIJIT KULKARNI SHRI ANIL KUMAR SHARMA (*Alternate*)
Bajaj Industries Private Limited, Kolkata	REPRESENTATIVE
Bhowmick Calculator, Kolkata	SHRI GOUTAM BHOWMICK SHRI VIVEKANANDA BHOWMICK (*Alternate*)
Bombay Textile Research Association, Mumbai	SHRI VIJAY GAWDE SHRI R. A. SHAIKH (*Alternate*)
Central Manufacturing Technology Institute, Bengaluru	SHRI B. R. MOHANRAJ SHRI K. SARAVANAN (*Alternate*)
Confederation of Indian Textile Industry, New Delhi	SHRIMATI CHANDRIMA CHATTERJEE SHRI ANMOL GUPTA (*Alternate*)
ICAR - Central Institute for Research on Cotton Technology, Mumbai	DR N. SHANMUGAM DR T. SENTHIL KUMAR (*Alternate*)
India ITME Society, Mumbai	SHRI S. SENTHIL KUMAR SHRIMATI SEEMA SRIVASTAVA (*Alternate*)
Indian Jute Industries Research Association, Kolkata	SHRIMATI SAUMITA CHOUDHURY SHRI PARTHA SANYAL (*Alternate*)
Indian Jute Mills Association, Kolkata	SHRI BHUDIPTA SAHA SHRI TANMOY SINGHA (*Alternate*)
Indian Textile Accessories and Machinery Manufacturers Association, Mumbai	SHRI N. D. MHATRE SHRI CHANDRESH SHAH (*Alternate*)
Inspiron Engineering Private Limited, Ahmedabad	SHRI ANKUR SONI
Kusters Calico Machinery Limited, Karjan	SHRI DEVANG PARIKH SHRI SHUBHASIS SUR (*Alternate*)
Lagan Engineering Company Limited, Kolkata	REPRESENTATIVE
Lakshmi Machine Works Limited, Coimbatore	SHRIMATI KALPANA A. SHRIMATI DIVYA V. (*Alternate*)
Laxmi Shuttleless Looms Private Limited, Ahmedabad	SHRI KETAN SANGHVI
Ludlow Jute Limited, Kolkata	REPRESENTATIVE

Organization	*Representative(s)*
Ministry of Heavy Industries and Public Enterprises, Department of Heavy Industry, New Delhi	SHRI SANJEEV GUPTA SHRI S. SUNDAR (*Alternate*)
National Safety Council, Navi Mumbai	SHRI LALIT R. GABHANE SHRI R. R. DEOGHARE (*Alternate*)
Office of the Textile Commissioner, Mumbai	SHRI N. K. SINGH SHRI NAROTTAM KUMAR (*Alternate*)
Peass Industrial Engineers Private Limited, Navsari	SHRI RAVI S. RAO SHRI NAIMISHKUMAR RAMANLAL TANDEL (*Alternate*)
Synthetic and Art Silk Mills Research Association, Mumbai	DR MANISHA MATHUR SHRI SANJAY SAINI (*Alternate*)
Technocraft Industries India Limited, Mumbai	SHRI RAVINDER KUMAR SHRI R. MURALI (*Alternate*)
Truetzschler India Private Limited, Ahmedabad	SHRI PRAVIN KANDGE SHRI SHILADITYA JOSHI (*Alternate*)
Veermata Jijabai Technological Institute, Mumbai	DR SURANJANA GANGOPADHYAY DR S. P. BORKAR (*Alternate*)
BIS Directorate General	SHRI J. K. GUPTA, SCIENTIST 'E'/ DIRECTOR AND HEAD (TEXTILES) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
SHRI SWAPNIL
SCIENTIST 'B'/ASSISTANT DIRECTOR
(TEXTILES), BIS

Bureau of Indian Standards

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Review of Indian Standards

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