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भारतीय मानक मसौदा

वस्त्रादि – बॉबिन्स और पन्र्स – विशिष्ट

भाग 3 प्लास्टिक फ्लायर बॉबिन्स

[आई एस 9337 (भाग 3) का पहला पुनरीक्षण]

Draft Indian Standard

TEXTILES — BOBBINS AND PIRNS — SPECIFICATION
PART 3 PLASTIC FLYER BOBBINS

[First Revision of IS 9337 (Part 3)]

ICS 59.120.10

Textile Machinery and Accessories
Sectional Committee, TXD 14

Last date for receipt of comment is
14 May 2024

FOREWORD

(Formal clauses will be added later)

A plastic flyer bobbin is an essential component used in textile machinery, particularly in speed frames and roving machines. The plastic flyer bobbin fits onto the simplex spindle with a close tolerance. It ensures smooth operation without jerks or jumps while starting or running the machine. The surface of the bobbin is grooved to securely hold even the last layer of roving in place.

This standard was originally published in 1992. This revision has been made to incorporate the following changes:

- a) Requirement of Bottom Notches has been modified;
- b) Requirement of Roving Sticking Band has been modified;
- c) Marking clause has been modified; and
- d) References to Indian standards have been updated.

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.

1 SCOPE

This standard specifies the requirements for plastic flyer bobbins for use on speed frames.

2 REFERENCES

The standards listed 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 editions of the standards listed below.

<i>IS No.</i>	<i>Title</i>
IS 4904 : 2006	Calibration blocks for use in ultrasonic Non — Destructive testing — Specification (<i>fourth revision</i>)
IS 4905 : 2015	Random sampling and randomization procedures (<i>first revision</i>)

3 NOMENCLATURE

For the purpose of this standard the nomenclature as given in Fig. 1 shall be followed.

4 MATERIAL

4.1 Suitable virgin plastic raw material like HDPE, UHMWPE, PP and its copolymers, nylon, ABS, etc shall be used by injection moulding to manufacture bobbins which are tough, sturdy and stable in dimensions and exhibit least static charges.

4.2 Raw materials which produce soft or flexible bobbins or cause distortion in shape are undesirable.

4.3 Bobbins shall be able to withstand atmospheric temperatures ranging from 20 °C to 60 °C.

5 WORKMANSHIP AND FINISH

The bobbins shall be smooth finished both inside and outside and shall not have any sharp edges, cracks, distortions or trapped air bubbles. Dimensional accuracy shall be maintained and bobbins shall run true on the machine.

6 DESIGNATION

The designation of the bobbins shall be in terms of the lift of the machine and flyer size.

7 DIMENSIONS

The dimensions of the bobbins shall be in accordance with the requirements of Table 1 read with Fig. 1

Table 1 Dimensions of Flyer Bobbins

(Clause 7.1 and Fig. 1)

All dimensions in millimeters.

SI No.	Lift H	Overall Height L	Portion where the bobbin gets guided by respective spindle d	Outer diameter of the bobbin at which the material gets wounded d ₁	Inner diameter of the bobbin d ₂	inner diameter of the bobbin at which the bobbin gets seated in bobbin drive wheel d ₃	Maximum outer diameter of bobbin d ₄	Diameter of Spindle d ₅ (see Note)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	300	340	22.2	44	34	36.5	51	22
ii)	300	340	25.2	48	38	40.3	56.5	25
iii)	350	395	25.2	48	38	40.0	56.5	25
iv)	400	450	25.2	48	38	40.3	56.5	25
v)	400	450	27.2	51	40	42.3	60	27
vi)	450	500	30.2	53	42	44.3	60	30
Tolerance, mm	—	± 1.5	± 0.1	± 0.5	- 0	± 0.2	± 0.5	—
NOTES								
1 Dimensions which are not specified are left to the discretion of the manufacturer.								
2 This Table covers bobbins of standard dimensions. In case a buyer orders bobbins with different dimensions, the quality characteristics and tolerances on respective dimensions shall be applicable to such bobbins also.								
3 d ₅ is given for guidance only.								

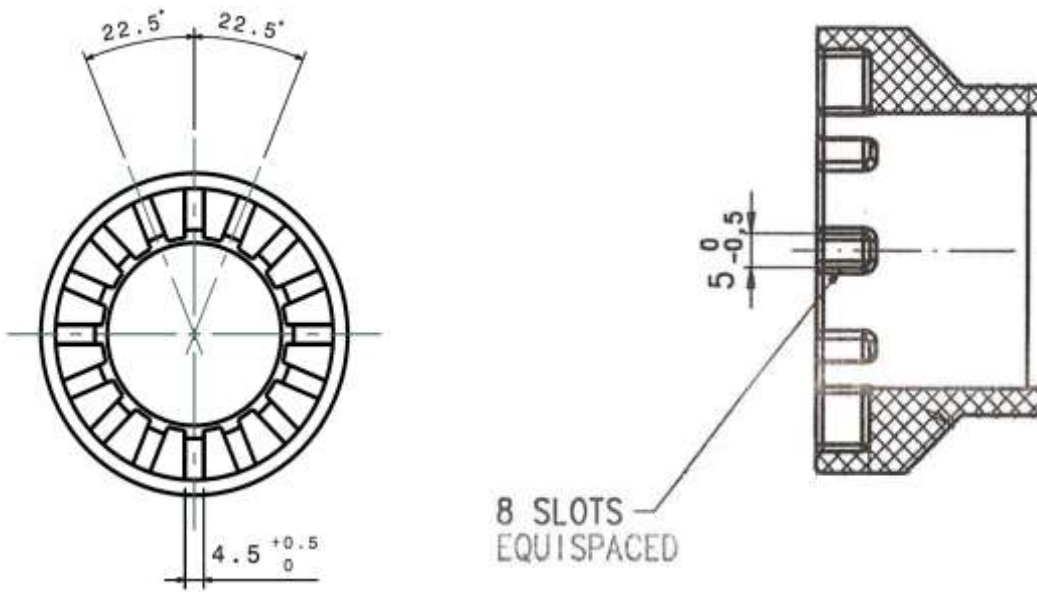


FIG. 2 BOTTOM NOTCHES

8.3 Colour

Colour shall be as agreed to between the buyer and the manufacturer.

8.4 Roving Sticking Band

- a) Roving sticking band must be provided to start winding of the roving on bobbin;
- b) Size and position of the roving sticking band will be decided by machine manufacturers; and
- c) Direction of the roving bobbin must be as shown in Fig.1 when seen from the top of the bobbin.

Direction of Rotation from Top of the Bobbin

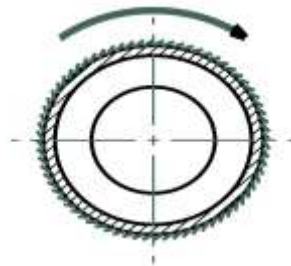


FIG. 3 ROVING STICKING BAND

9 SAMPLING

9.1 Lot

The quantity of bobbins manufactured from the same material and of the same dimensions delivered to a buyer against one despatch note shall constitute a lot.

9.2 The conformity of a lot shall be determined on the basis of tests carried out the sample selected from a lot. Unless otherwise agreed to between the buyer and the seller the number of bobbins to, be selected at random in the sample shall be according to col (2) and col (3) of Table 2. In order to ensure randomness of selection, methods given in IS 4905 shall be followed.

9.3 The bobbins selected in accordance with **9.2** shall be inspected for freedom from defects, dimensions and other requirements. The lot shall be considered conforming to the requirements of this standard if the number of bobbins failing to meet the requirements of anyone or more of the characteristics does not exceed the corresponding number given in col (4) of Table 2.

Table 2 Sample Size and Criteria for Conformity
(Clauses 9.2 and 9.3)

Sl No.	Lot Size	Sample Size	Permissible No. of Non-conforming Bobbins
(1)	(2)	(3)	(4)
i)	Up to 1 000	32	1
ii)	1 001 to 3 000	50	2
iii)	3 001 to 10 000	80	3
iv)	10 000 and above	120	5

10 MARKING

10.1 Each pack of bobbins shall bear the following information:

- a) Indication of the source of manufacture;
- b) Lift of the bobbin;
- c) Number of bobbins in the pack;
- d) Month and year of manufacture; and
- e) Any other information required by the buyer.

10.2. BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016*

and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

11 PACKING

The bobbins shall be packed in accordance with the agreement between the buyer and the seller.