भारतीय मानक

Indian Standard

IS 16582 (Part 5) : 2018
ISO 8116-5 : 2008

वस्त्रादि मशीनरी एवं सहायकांग — लपेटनें के लिये बीम

भाग 5 ताना बुनाई मशीनों के लिये अनुभागीय बीम

Textile Machinery and Accessories — Beams for Winding

Part 5 Sectional Beams for Warp Knitting Machines

ICS 59.120.30

भारतीय मानक ब्यूरो
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Textiles Machinery and Accessories Sectional Committee, TXD 14

NATIONAL FOREWORD

This Indian Standard (Part 5) which is identical with ISO 8116-5 : 2008 'Textile machinery and accessories — Beams for winding — Part 5: Sectional beams for warp knitting machines' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Textiles Machinery and Accessories Sectional Committee and approval of the Textile Division Council.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their places, are listed below along with their degree of equivalence for the editions indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 286-2 ISO system of limits and fits — Part 2 : Tables of standard tolerance grades and limit deviations for holes and shafts	IS 919 (Part 2) : 2014 Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes : Part 2 Tables of standard tolerance classes and limit deviations for holes and shafts (*second revision*)	Identical with ISO 286-2 : 2010
ISO 1940-1 Mechanical vibration — Balance quality requirements for rotors in a constant (rigid) state — Part 1: Specification and verification of balance tolerances	IS/ISO 1940-1 : 2003 Mechanical vibration — Balance quality requirements for rotors in a constant (rigid) state : Part 1 Specification and verification of balance tolerances	Identical with ISO 1940-1 : 2003
ISO 8116-4 Textile machinery and accessories — Beams for winding — Part 4 : Test methods and quality classification of flanges for weaver's beams	IS 16582 (Part 4) : 2018 Textile machinery and accessories — Beams for winding : Part 4 Test methods and quality classification of flanges for weaver's beams	Identical with ISO 8116-4 : 2008

The technical committee has reviewed the provisions of the following International Standard referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard:

International Standard	*Title*
ISO 8116-8	Textile machinery and accessories — Beams for winding — Part 8 : Definitions of run-out tolerances and methods of measurement

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 : 1960 'Rules for rounding off numerical values (*revised*)'. 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

TEXTILE MACHINERY AND ACCESSORIES — BEAMS FOR WINDING

PART 5 SECTIONAL BEAMS FOR WARP KNITTING MACHINES

1 Scope

This part of ISO 8116 specifies the main dimensions, mechanical strength, designation and permissible values of tolerances of form and position for the main elements of sectional beams for warp knitting machines. For cases where a limit must be fixed for the residual imbalance, a recommendation is made for the choice of quality grade.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 286-2, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts*

ISO 1940-1, *Mechanical vibration — Balance quality requirements for rotors in a constant (rigid) state — Part 1: Specification and verification of balance tolerances*

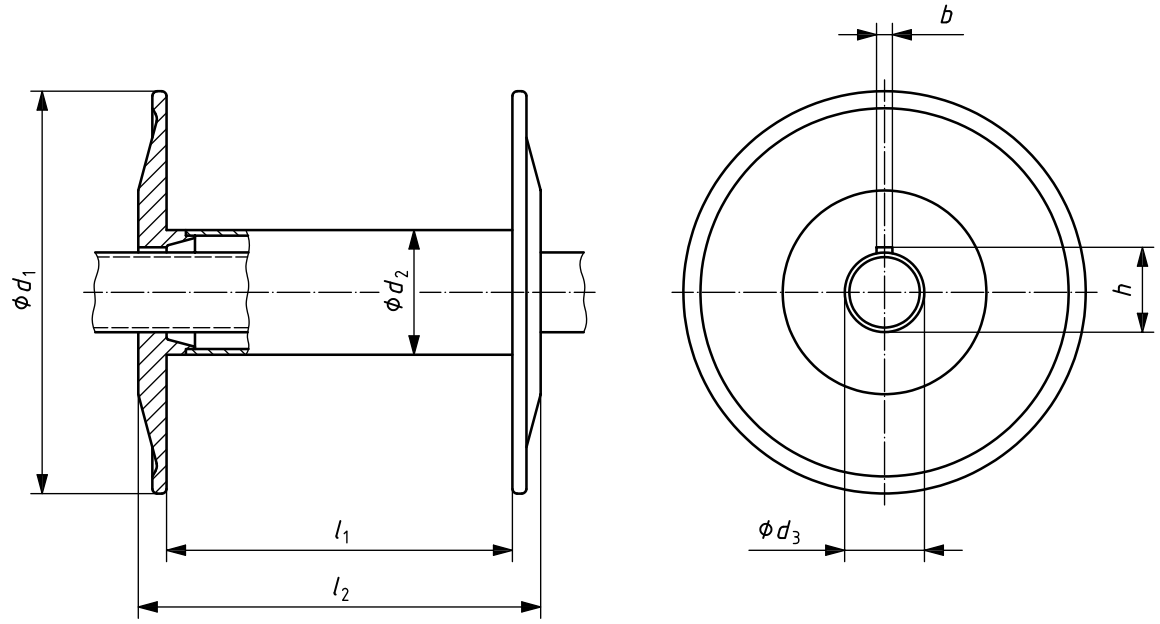
ISO 8116-4, *Textile machinery and accessories — Beams for winding — Part 4: Test methods and quality classification of flanges for weaver's beams, warper's beams and sectional beams*

ISO 8116-8, *Textile machinery and accessories — Beams for winding — Part 8: Definitions of run-out tolerances and methods of measurement*

3 Main dimensions

The main dimensions of the sectional beams are given and explained in Figure 1.

The main dimensions of the sectional beams given in Table 1 shall be met.



Key

d_1 flange diameter
d_2 outside barrel diameter
d_3 bore diameter of flange
l_1 length between flanges
l_2 overall length
b width of keyway
h d_3 + keyway depth

Figure 1 — Sectional beam

Table 1 — Main dimensions

Dimensions in millimetres

d_1 ± 3	l_2 ± 1	d_2 [a] min	d_3 H11[b]	b min	h min
355	355 535	110	70,4	14,2	75
532	535 1 065 1 270 1 325	196	152,7	19,6	165,3
762	1 065 1 270 1 325	298			
1 000		360			

[a] Minimum values depending on the setting device of the machine.
[b] Standard tolerance grades and limit deviations in accordance with ISO 286-2.

4 Mechanical strength

The mechanical strength of sectional beams for knitting machines is classified in accordance with the quality classes defined in ISO 8116-4. The mechanical strength of sectional beams for knitting machines shall be verified, depending on the quality class, by the test method given in ISO 8116-4.

5 Circular axial run-out tolerance, T_a, of flanges

The permissible circular axial run-out tolerance, T_a, of flanges given in with Table 2 shall be met.

The run-out tolerance shall be measured in accordance with ISO 8116-8.

Table 2 — Permissible circular axial run-out tolerance of flanges

d_1 mm	T_a mm
335	0,2
532	0,35
762	0,5
1 000	0,75

6 Total run-out tolerance, T_r, of barrel

The permissible total run-out tolerance, T_r, of the barrel shall be measured in millimetres and calculated using Equation (1):

$$T_r = \frac{0,25 \times l_1}{1000} \quad (1)$$

The run-out tolerance shall be measured in accordance with ISO 8116-8.

7 Residual imbalance

Depending on the circumstances, it may be necessary to fix a value for the residual imbalance of sectional beams. In general, a quality grade G 6,3 in accordance with ISO 1940-1 will be appropriate. If special conditions call for another grade, this shall be specified.

8 Taper reception

At a flange diameter, d_1, of 762 mm or greater, the sectional beam may be designed with a taper reception as given in Figure 2 in order to achieve a better centring on mandrel.

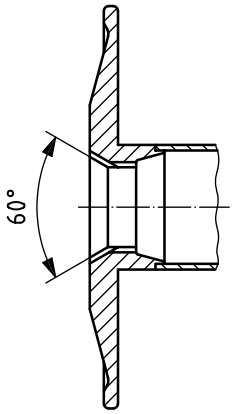


Figure 2 — Taper reception

9 Other specifications

The following details should be specified as appropriate:

a) materials of the barrel and flanges;

b) nature of the material to be wound;

c) fabrication process of the sectional beam flanges (casting or forging);

d) surface quality and, if possible, the treatment (paint, chromium-plating, nickel-plating, etc.) of the beam in contact with the material to be wound (inner sides of the flanges and the surface of the outside barrel diameter);

e) number of grooves (one or two) to be included in the boss of each flange;

f) taper reception (if received).

10 Designation

The designation of a sectional beam in accordance with this part of ISO 8116 shall include the following information in the order given:

a) “Sectional beam”;

b) reference to this part of ISO 8116, i.e. ISO 8116-5;

c) flange diameter, d_1, in millimetres;

d) overall length, l_2, in millimetres;

e) quality class Q1, Q2, Q3 or Q4 in accordance with ISO 8116-4.

EXAMPLE A sectional beam for warp knitting machines with flange diameter d_1 = 535 mm and overall length l_2 = 1 065 mm with the quality class Q4 shall be designated as follows:

Sectional beam ISO 8116-5 - 535 × 1 065-Q4

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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