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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Textile machinery and accessories — Beams for winding —

Part 5 :

Sectional beams for warp knitting machines — Terminology and main dimensions

Matériel pour l'industrie textile — Ensouples pour enroulement —

Partie 5 : Ensouples sectionnelles pour métiers à mailles jetées — Terminologie et dimensions principales

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8116-5 was prepared by Technical Committee ISO/TC 72, *Textile machinery and allied machinery and accessories*.

This first edition of ISO 8116-5 cancels and replaces the first edition of ISO 1025 : 1981, of which it constitutes a minor revision.

ISO 8116 consists of the following parts, under the general title *Textile machinery and accessories* — *Beams for winding* :

- Part 1 : *Vocabulary*
- Part 2 : *Warper's beams — Terminology and main dimensions*
- Part 3 : *Weaver's beams — Terminology and main dimensions*
- Part 4 : *Quality classification of flanges for weaver's beams, warper's beams and sectional beams*
- Part 5 : *Sectional beams for warp knitting machines — Terminology and main dimensions*
- Part 6 : *Beams for ribbon weaving and ribbon knitting — Terminology and main dimensions¹⁾*

1) To be published.

Textile machinery and accessories — Beams for winding —

Part 5 :

Sectional beams for warp knitting machines — Terminology and main dimensions

1 Scope

This part of ISO 8116 defines the basic terms for sectional beams for warp knitting machines and lays down the main dimensions as well as the maximum values of variation of form and position for the main elements of these beams. For cases where a limit for the residual unbalance must be fixed, a recommendation is made for the choice of quality grade.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8116. At the time of publication, the editions indicated

were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8116 are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 286-2 : 1988, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts*.

ISO 1940-1 : 1986, *Mechanical vibration — Balance quality requirements of rigid rotors — Part 1: Determination of permissible residual unbalance*.

ISO 2013 : 1983, *Textile machinery and accessories — Beams — Method of measuring variations of form and position*.

3 Terminology

- d_1 = flange diameter

d_2 = outside barrel diameter

d_3 = bore diameter of flange

d_4 = inside barrel diameter

d_5 = outside diameter of mandrel or shaft

l_1 = length between flanges

l_2 = overall length
- s = flange thickness

x = width of key

b = width of keyway

h = d_3 + keyway depth

y = d_5 + height of key

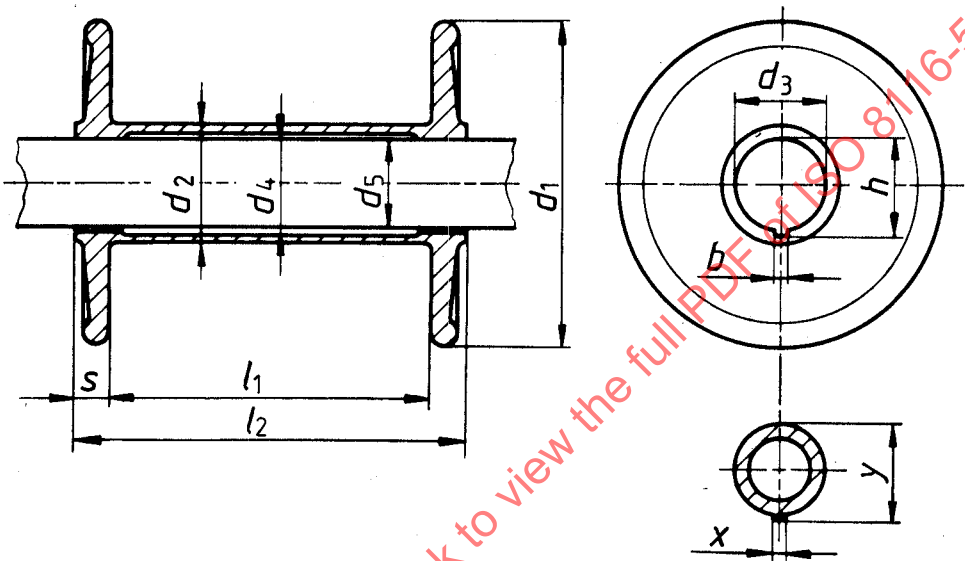


Figure 1 — Sectional beam

4 Main dimensions

Table 1 — Main dimensions
Values in millimetres

d_1 ± 3	l_2 $\begin{smallmatrix} 0 \\ -1 \end{smallmatrix}$	d_2 1) min.	d_3 H112)	b min.	h min.
355	$\begin{smallmatrix} 355 \\ 535 \end{smallmatrix}$	110	70,4	14	75
535	$\begin{smallmatrix} 535 \\ 1\ 065 \\ 1\ 270 \\ 1\ 325 \end{smallmatrix}$	185	152,7	19	159
765	$\begin{smallmatrix} 1\ 065 \\ 1\ 270 \\ 1\ 325 \end{smallmatrix}$	250			
815		295			
915		360			
1 015					

1) Minimum values depending on the setting device of the machine.

2) See ISO 286-2.

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

The permissible circular axial run-out tolerance, T_a , of flanges is given in table 2.

This circular axial run-out tolerance shall be measured in accordance with ISO 2013.

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

d_1	T_a
335	0,2
535	0,35
765	0,5
815	
915	0,75
1 015	

6 Parallelism tolerance, NP , between flanges

The permissible value of parallelism tolerance, NP , between the flanges shall be less than or equal to $2 T_a$.

This parallelism shall be measured in accordance with ISO 2013.

7 Total run-out tolerance, T_r , of barrel

The permissible total run-out tolerance of the barrel is given, in millimetres, by the formula

$$T_r = \frac{0,25 \times l_1}{1\,000}$$

This total run-out shall be measured in accordance with ISO 2013.

8 Residual unbalance

Depending on the circumstances, it is sometimes necessary to fix a value for the residual unbalance of sectional beams. In general, a quality grade G6,3¹⁾ will be appropriate. If special conditions call for another grade, this shall be specified.

9 Other specifications

The following details should be specified as appropriate :

- a) materials of barrel and flanges;
- b) nature of material to be wound;
- c) fabrication process of flanges (casting or forging);
- d) surface quality and, if possible, treatment (paint, chromium-plating or nickelling, etc.) of the beam in contact with the material to be wound (inner sides of the flanges and the outside barrel diameter);
- e) number of grooves (one or two) to be included in the boss of each flange.

10 Designation

Example of designation for a sectional beam (for warp knitting machines) with flange diameter $d_1 = 535$ mm and overall length $l_2 = 1\,065$ mm :

Sectional beam ISO 8116-5 535 × 1 065

1) See ISO 1940-1.

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