International Standard 112

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Textile machinery and accessories — Cones for yarn winding (cross wound) — Half angle of the cone 3° 30′

Matériel pour l'industrie textile — Cônes pour bobinage croisé — Demi-angle du cône 3° 30′

Second edition — 1983-05-15

UDC 677.053.296.2 **Ref. No. ISO 112-1983 (E)**

Descriptors : textile machinery, yarns, cones, winding, dimensions, dimensional tolerances.

Price based on 3 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

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.

International Standard ISO 112 was developed by Technical Committee ISO/TC 72, *Textile machinery and allied machinery and accessories*, and was circulated to the member bodies in March 1982.

It has been approved by the member bodies of the following countries :

Australia	India	South Africa, Rep. of
Brazil	Indonesia	Spain
China	Japan	Switzerland
Czechoslovakia	Korea, Rep. of	Turkey
Egypt, Arab Rep. of	Mexico	United Kingdom
France	Poland	USSR
Germany, F.R.	Romania	Yugoslavia

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Belgium
Italy

This second edition cancels and replaces the first edition (i.e. ISO 112-1975).

Textile machinery and accessories — Cones for yarn winding (cross wound) — Half angle of the cone 3° 30′

1 Scope and field of application

This International Standard lays down the dimensions and the tolerances of cones for yarn winding (cross wound) having a half angle of the cone of 3° 30′, as well as the dimensions and tolerances of the gauges for measuring the cone.

2 Dimensions and tolerances

See figures and tables on page 2.

The value in brackets should be avoided wherever possible.

Dimensions which are not specified are left to the discretion of the manufacturer.

The width of wound yarn shall not exceed $L - 25$ mm.

The deviations from the nominal value 3° 30′ of the half angle of cone are limited by the tolerances for D, D_1 and L, as indicated in the table. They do not influence the practical use of the cones during the winding and further processes.

3 Material

The material may be untreated, impregnated or lacquered paper or suitable plastic.

The following details shall be specified :

a) nature of yarn to be wound;

b) treatment of surface;

c) wall thickness (corresponding to the nature of yarn);

d) details of tailing groove and notch for tail (if required);

e) number, size and location of perforation (if required)..

The minimum distance between the ends of the cone and edges of the nearest holes, if any, shall be 15 mm.

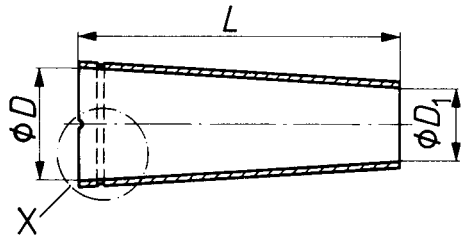
4 Use of the gauge

The inner dimensions of the cone are in accordance with this International Standard if the edge of the larger end of the cone, after it has been placed loosely on the gauge and then pressed home by hand, is between the tolerance marks.

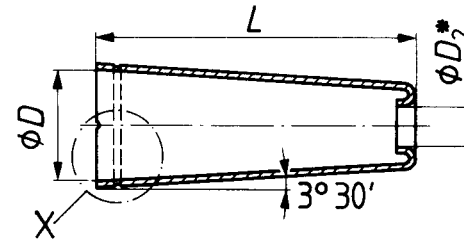
To control the smaller diameter of an open-ended cone additionally, it shall be placed with the smaller end first on the gauge. The edge of the smaller end of the cone must then be between the tolerance marks on the corresponding end of the gauge.

5 Control of the length of the cone

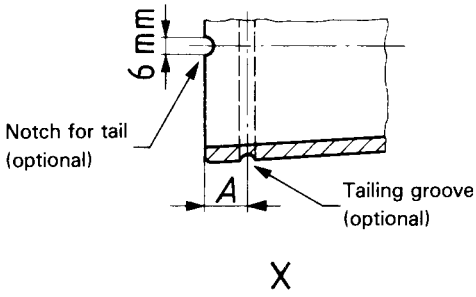
To control the tolerances of the length of the cone, a suitable gauge for controlling lengths, for example, a slide-gauge, has to be used. The conical gauges shown cannot be used for this purpose.

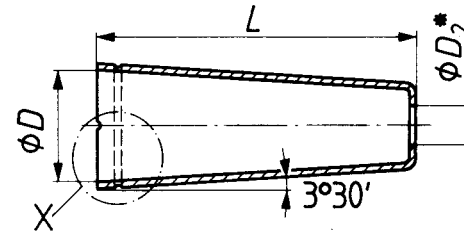


a) — Open-ended cone



b) — Cone with rolled-in top





c) — Cone with flat-end top

Figure 1 — Cones

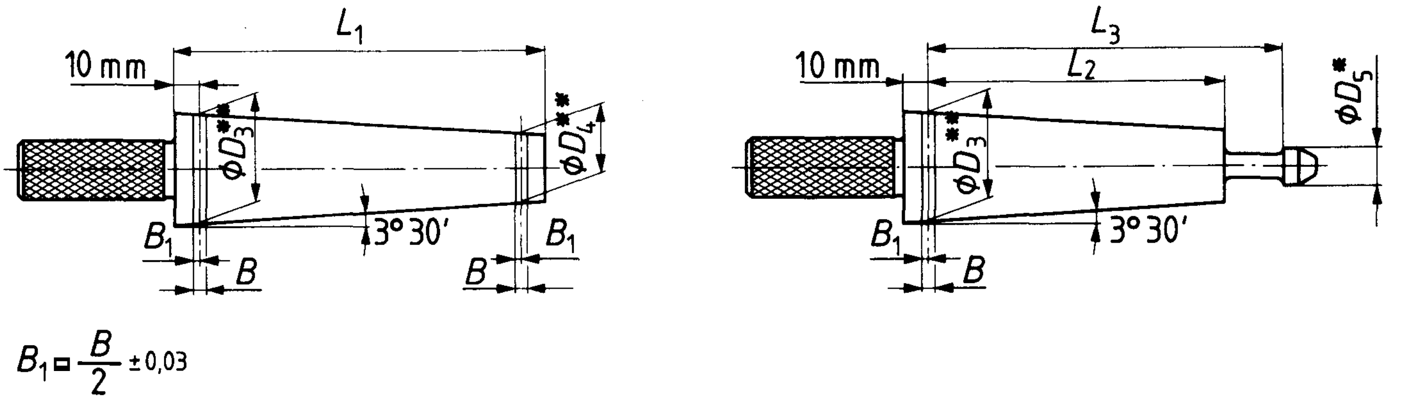
Table 1 — Cones

Values in millimetres

D	Toler-ance	L	Toler-ance	D_1	Toler-ance	D_2* ± 0,5	A
33	± 0,2	110	± 1	19,6	± 0,2	–	8
36	± 0,2	140	± 1	18,9	± 0,2	–	8
46	± 0,2	175	± 1,5	24,7	± 0,2	17	8
(58)	± 0,2	175	± 1,5	36,7	± 0,2	24	8
62	± 0,2	175	± 1,5	40,7	± 0,2	30	8
		230	± 2	33,9		25	8
		290	± 2,5	26,6		17	10
71,5	± 0,2	175	± 1,5	50,2	± 0,2	40	8
		230	± 2	43,4		33	8
		290	± 2,5	36,1		25	10
80	± 0,25	290	± 2,5	44,6	± 0,25	–	10
		340		38,5		–	10
		390		32,4		–	10
105	± 0,3	340	± 2,5	63,4	± 0,35	–	10
		390		57,3	± 0,3	–	
		450	± 3	50	± 0,25	–	12

If necessary, the runout tolerance shall be agreed upon between supplier and user.

• In certain cases, especially for automatic winding, dimensions D_2 and D_5 have to be agreed upon between the interested parties in relation to the wall thickness.



a) — Gauge for open-ended cones

b) — Gauge for cones with rolled-in and flat-end tops

Figure 2 — Gauges

Table 2 — Gauges

Values in millimetres

D_3**	D_4**	L_1	D_5* h9	L_2 max.	L_3 min.	B ± 0,03
33	19,6	130	—	—	—	3,2
36	18,9	160	—	—	—	3,2
46	24,7	195	16,3	163	181	3,2
58	36,7	195	23,3	163	181	3,2
62	40,7	195	29,3	163	181	3,2
	33,9	250	24,3	218	236	
	26,6	310	16,3	278	296	
71,5	50,2	195	39,3	163	181	3,2
	43,4	250	32,3	218	236	
	36,1	310	24,3	278	296	
80	44,6	310	—	—	—	4
	38,5	360	—	—	—	
	32,4	410	—	—	—	
105	63,4	360	—	—	—	6
	57,3	410	—	—	—	
	50	470	—	—	—	

* In certain cases, especially for automatic winding, dimensions D_2 and D_5 have to be agreed upon between the interested parties in relation to the wall thickness.

** The tolerances of the cone diameters of the gauge, measured at any distance from the ends, shall be j_s6 (see ISO/R 286, *ISO System of limits and fits — Part 1 : General, tolerances and deviations,* page 23).