

INTERNATIONAL  
STANDARD

**ISO**  
**8489-2**

First edition  
1995-12-15

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**Textile machinery and accessories —  
Cones for cross winding —**

**Part 2:**

Dimensions, tolerances and designation  
of cones with half angle  $3^{\circ} 30'$

*Matériel pour l'industrie textile — Cônes pour bobinage croisé —  
Partie 2: Dimensions, tolérances et désignation des cônes avec  
demi-angle au sommet de  $3^{\circ} 30'$*



Reference number  
ISO 8489-2:1995(E)

## 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 voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 8489-2 was prepared by Technical Committee ISO/TC 72, *Textile machinery and allied machinery and accessories*, Subcommittee SC 2, *Winding and preparatory machinery for fabric manufacture*.

This first edition of ISO 8489-2 cancels and replaces ISO 112:1983, which has been technically revised.

ISO 8489 consists of the following parts, under the general title *Textile machinery and accessories — Cones for cross winding*:

- Part 1: *Recommended main dimensions*
- Part 2: *Dimensions, tolerances and designation of cones with half angle 3 degrees 30'*
- Part 3: *Dimensions, tolerances and designation of cones with half angle 4 degrees 20'*
- Part 4: *Dimensions, tolerances and designation of cones with half angle 4 degrees 20' for winding for dyeing purposes*
- Part 5: *Dimensions, tolerances and designation of cones with half angle 5 degrees 57'*

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International Organization for Standardization  
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

# Textile machinery and accessories — Cones for cross winding —

## Part 2:

Dimensions, tolerances and designation of cones with half angle  $3^{\circ} 30'$

### 1 Scope

This part of ISO 8489 specifies the main dimensions, tolerances and designation of cones for cross winding with a half angle of cone  $3^{\circ} 30'$ . Furthermore, directives are given for the characteristics of cones and for the control of the diameters and lengths of the cone.

### 2 Normative references

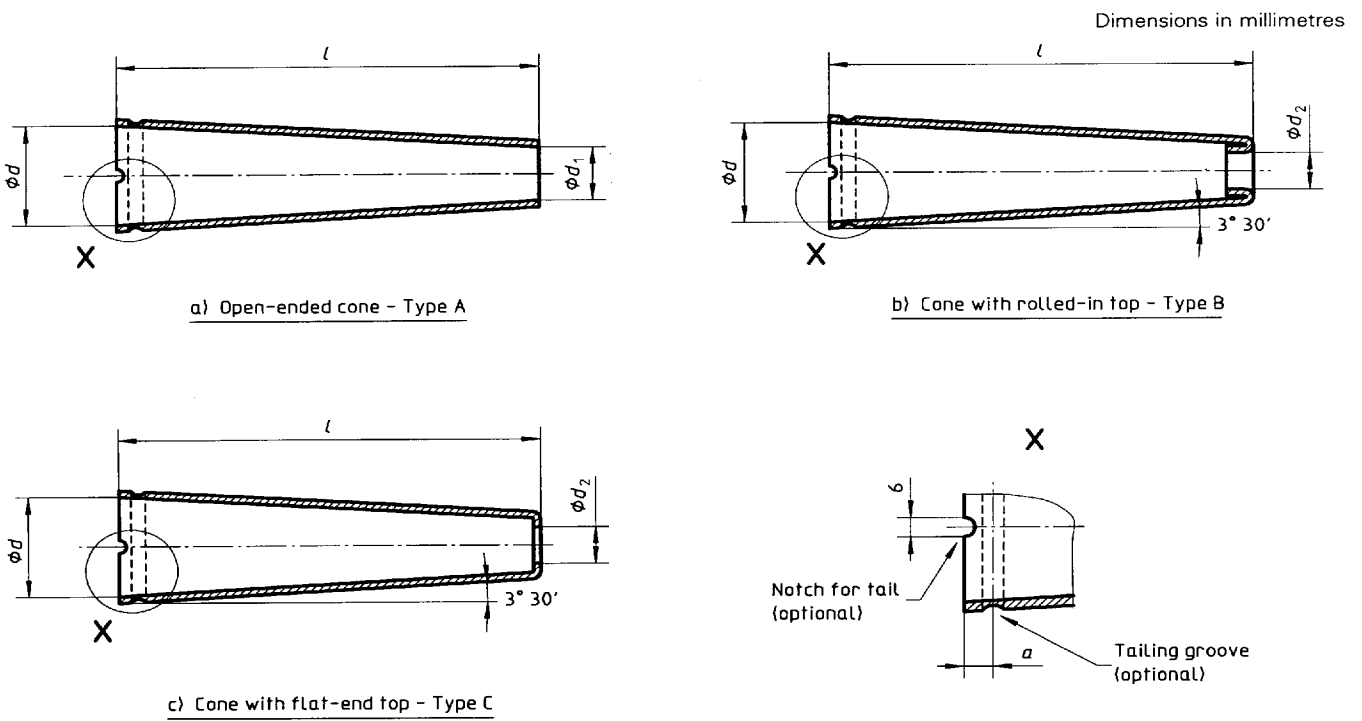
The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8489. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8489 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 286-1:1988, *ISO system of limits and fits — Part 1: Bases of tolerances, deviations and fits*.

ISO 8489-1:1995, *Textile machinery and accessories — Cones for cross winding — Part 1: Recommended main dimensions*.

**3 Dimensions and tolerances**

See figure 1 a), b) and c) and table 1.



**Figure 1 — Cones**

Table 1 — Dimensions

Dimensions in millimetres

$d$		$d_1$		$d_2$ *)		$a$	$l$	
nominal	tolerance	nominal	tolerance	nominal	tolerance	nominal	nominal	tolerance
33	$\pm 0,2$	19,6	$\pm 0,2$	—	—	8	110	$\pm 1$
46**)	$\pm 0,2$	24,7	$\pm 0,2$	17	$\pm 0,5$	8	175**)	$\pm 1,5$
62	$\pm 0,2$	40,7	$\pm 0,2$	30	$\pm 0,5$	8	175	$\pm 1,5$
		33,9	$\pm 0,2$	25	$\pm 0,5$	8	230	$\pm 2$
		26,6	$\pm 0,2$	17	$\pm 0,5$	10	290	$\pm 2,5$
71,5**)	$\pm 0,2$	43,4	$\pm 0,2$	33	$\pm 0,5$	8	230**)	$\pm 2$
		36,1	$\pm 0,2$	25	$\pm 0,5$	10	290	$\pm 2,5$
80	$\pm 0,25$	44,6	$\pm 0,25$	—	—	10	290	$\pm 2,5$
		38,5	$\pm 0,25$	—	—	10	340	$\pm 2,5$

## NOTES

1) The width of wound yarn shall not exceed  $l - 25$  mm.

2) The deviations from the nominal value  $3^\circ 30'$  of the half angle of the 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 winding and further processes.

\*) In certain cases, especially for automatic winding, dimensions of this size must be agreed upon between the interested parties in relation to the wall thickness.

\*\*) Main dimensions as recommended in ISO 8489-1.

#### 4 Characteristics

The following details shall be specified by the manufacturer:

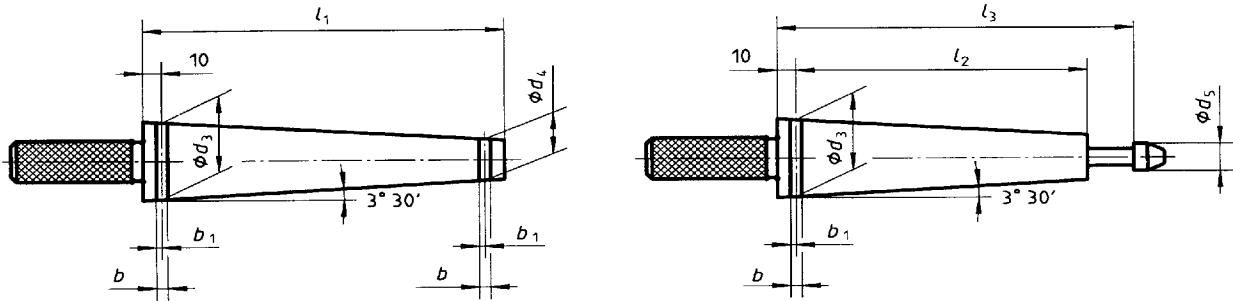
- cone material (paper or plastic);
- surface treatment (paper: untreated, impregnated or lacquered);
- nature of yarn to be wound;
- thickness of cone wall (corresponding to the nature of the yarn to be wound);
- run-out tolerance (if required);
- details of tailing groove and notch for tail (if required);
- number, size and location of perforations (if required).

The minimum distance between the ends of the cone and edges of the nearest holes, if any, shall be  $16 \text{ mm} \pm 0,5 \text{ mm}$ .

5 Dimensions, tolerances and use of the gauges

See figure 2 a) and b) and table 2.

Dimensions in millimetres



$b_1 = (b/2) \pm 0,03$

a) For open-ended cones - Type A

b) For cones with rolled-in and flat-end tops - Types B and C

Figure 2 — Gauges

Table 2 — Dimensions

Dimensions in millimetres

$d_3^{*)}$	$d_4^{*)}$	$l_1$	$d_5^{**})$ h9	$l_2$ max.	$l_3$ min.	$b$ $\pm 0,03$
33	19,6	130	—	—	—	3,2
46	24,7	195	16,3	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	43,4	250	32,3	218	236	3,2
	36,1	310	24,3	278	296	
80	44,6	310	—	—	—	4
	38,5	360	—	—	—	

\*) The tolerance of the diameters of the gauge, measured at any distance from the ends, shall be js6 (see ISO 286-1:1988).

\*\*) In certain cases, especially for automatic winding, dimensions of this size must be agreed upon between the interested parties in relation to the wall thickness.

The inner dimensions of the cone are in accordance with this part of ISO 8489 if the edge of the larger end of the cone, after it has been placed gently on the gauge and then pressed firmly home by hand, is between the tolerance marks.

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

## 6 Control of cone length

To check the tolerances of the length of the cone, a suitable gauge for checking lengths, for example a slide-gauge, must be used. The conical gauges shown cannot be used for this purpose.

## 7 Designation

The designation of a cone for cross winding with a half angle of  $3^{\circ} 30'$  shall include the following information, in the order given:

- a) "Cone";
- b) reference to this part of ISO 8489, i.e. ISO 8489-2;
- c) its type (A, B or C);
- d) its large inner diameter,  $d$ , in millimetres;
- e) its length,  $l$ , in millimetres.

### EXAMPLE

A cone with a half angle of  $3^{\circ} 30'$ , type B, with a large inner diameter  $d$  of 71,5 mm and length  $l$  of 230 mm shall be designated as follows:

**Cone ISO 8489-2 - B 71,5 × 230**

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**ICS 59.120.20**

**Descriptors:** textile machinery, winding, winders, cones, dimensions.

Price based on 5 pages

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