

INTERNATIONAL STANDARD

**ISO
9904**

First edition
1989-11-15

Textile machinery and accessories — Steel pins for spinning preparatory and spinning machinery

*Matériel pour l'industrie textile — Pointes en acier pour les matériels de préparation
de filature et de filature*



Reference number
ISO 9904 : 1989 (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 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 9904 was prepared by Technical Committee ISO/TC 72, *Textile machinery and allied machinery and accessories*.

Annex A of this International Standard is for information only.

Textile machinery and accessories — Steel pins for spinning preparatory and spinning machinery

1 Scope

This International Standard specifies the steel pins recommended for spinning preparatory and spinning machinery.

2 Basic dimensions

The basic dimensions of the pins are given in table 1.

Table 1 — Basic dimensions of pins
(see figures 1 and 2)

Number	Corresponding dimension mm	Number	Corresponding dimension mm
1	7,62	17	1,42
2	7,01	18	1,22
3	6,35	19	1,07
4	5,97	20	0,99
5	5,39	21	0,88
6	4,88	22	0,79
7	4,47	23	0,71
8	4,06	24	0,62
9	3,76	25	0,535
10	3,35	26	0,5
11	2,95	27	0,44
12	2,62	28	0,38
13	2,34	29	0,355
14	1,98	30	0,33
15	1,79	31	0,3
16	1,63	32	0,28
		33	0,25

3 Round pins

3.1 Dimensions

Round pins are divided into the following three types:

Type A Round pins for spinning preparatory machinery, in which

$$l_2 = \frac{2}{3} l_1 \quad \text{for } 5,56 \text{ mm} \leq l_1 \leq 17,46 \text{ mm}$$

$$l_2 = \frac{3}{4} l_1 \quad \text{for } 19,05 \text{ mm} \leq l_1 \leq 50,8 \text{ mm}$$

Type B Hackle pins for bast fibre spinning machinery, in which

$$l_2 = \frac{1}{2} l_1$$

Type C Card pins, in which

$$l_2 = \frac{1}{4} l_1$$

The dimensions of the various types are shown in figure 1 and given in table 2.

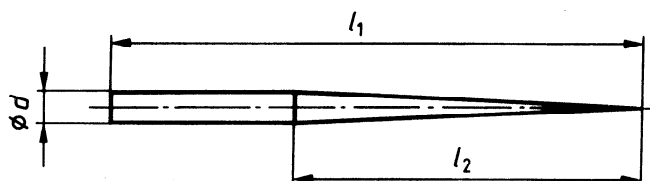


Figure 1 — Round pin

Table 2 – Dimensions of the various types of round pin

Dimensions in millimetres

Diameter No. 1)		Length d	Code number	7/32	1/4	9/32	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1	1 1/16	1 1/8	1 3/16	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	1 7/8	2
				5,56	6,35	7,14	9,53	11,11	12,7	14,29	15,88	17,46	19,05	20,64	22,23	23,81	25,4	26,99	28,58	30,16	31,75	34,93	38,1	41,28	44,45	47,63	50,8
				0 tol. - 0,2										0 tol. - 0,3													
7	4,47	0 - 0,025																			B						
8	4,06																				B					A	
9	3,76																				C	B	C	C	C	C	
(9 1/2)	3,56																				C	C	C	C	C	C	
10	3,35																		B		C	B	C	A	A	C	A
(10 1/2)	3,15	0 - 0,018																			C	C	C	C	C	C	
11	2,95													C			B	C	B	C	C	B	C	A	A	C	A
(11 1/2)	2,78															C		C	C	C	C	C	C	C	C	C	
12	2,62										C						B	C	B	C	A	B	C	C	C	A	A
(12 1/2)	2,48															C		C	C	C	C	C	C	C	C		
13	2,34										C				C	C	B	C	B	C	A	B	C	A	B	A	A
(13 1/2)	2,16														C	C	C		C	C	C	C	C				
14	1,98								A	A				C	C	C	B	C	B	C	A	B	A	B	A	A	
(14 1/2)	1,88														C	C	C		C	C	C	C					
15	1,79							A	A	A					C	C	A	B	A	A	A	B	A	B	A	A	A
(15 1/2)	1,72										C			C	C	C	C		C	C	C	C					

Table 2 (continued)

Dimensions in millimetres

Diameter No.1)		Length d	Code number	Length																									
				tol.																									
				0 - 0,2												0 - 0,3													
		l_1	tol.	7/32	1/4	9/32	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1	1 1/16	1 1/8	1 3/16	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	1 7/8	2		
16	1,63	0 - 0,018						A	A	A				A	A	A	A	A	A	A	A	A	A	A			A		
(16 1/2)	1,52											C	C					C				C	C	C	C				
17	1,42								A	A					A	A	A	A	A	A	A	A	A	A	A				
18	1,22								A	A	A				A		A	A	A	A	A	A	A	A	A				
19	1,07								A	A					A		A	A	A	A	A	A	A	A					
20	0,99	0 - 0,015				A	A	A	A					A			A	A	A	A									
21	0,88		A	A		A	A	A	A					A	A	A				A	B		B						
22	0,79		A	A	A	A	A	A			A			A	A	A				B		A	B		B				
23	0,71		A	A	A	A	A	A						A	A	A				B		A	B		B				
24	0,62		A	A	A	A	A	A			A			A						B		A	B		B				
25	0,535		A	A	A	A	A	A			A	A	A							B		A	B						
26	0,5		A	A	A	A	A	A			A	A								B		B							
27	0,44	0 - 0,01	A	A		A	A	A			A	A							B										
28	0,38					A	A				A	A							B										
29	0,355					A	A																						

Table 2 (concluded)

Dimensions in millimetres

Diameter No. 1)		Length l_1	Code number	7/32	1/4	9/32	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1	1 1/16	1 1/8	1 3/16	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	1 7/8	2
				5,56	6,35	7,14	9,53	11,11	12,7	14,29	15,88	17,46	19,05	20,64	22,23	23,81	25,4	26,99	28,58	30,16	31,75	34,93	38,1	41,28	44,45	47,63	50,8
				0 - 0,2										0 - 0,3													
30	0,33	0 - 0,01					A	A																			
31	0,3						A																				
32	0,28						A																				
33	0,25						A																				

1) Pins with numbers shown in brackets shall be used for repair purposes only.

3.2 Characteristics

Material: Steel (quality at the choice of the manufacturer)

Vickers hardness: Diameters Nos. 1 to 20: 700 HV2 to 770 HV2
Diameters Nos. 21 to 33: 650 HV2 to 720 HV2Surface roughness: Types A and B: $R_a < 0,1 \mu\text{m}$
Type C: $R_a < 0,8 \mu\text{m}$

3.3 Designation

The designation of a round pin shall include the following information in the order given:

- "round pin";
- reference of this International Standard;
- diameter number;
- length, l_1 .

EXAMPLE

Round pin ISO 9904 — 16 - 25,4

4 Flat pins

4.1 Dimensions

The dimensions are shown in figure 2 and given in table 3.

4.2 Characteristics

Material: Steel (quality at the choice of the manufacturer)

Vickers hardness: 670 HV2 to 735 HV2

Surface roughness (on flat side): $R_a < 0,05 \mu\text{m}$

4.3 Designation

The designation of the flat pin shall include the following information in the order given:

- "flat pin";
- reference of this International Standard;
- cross-section number;
- length, l .

EXAMPLE

Flat pin ISO 9904 — 17 × 23 - 22,23