TC 72

INTERNATIONAL STANDARD ISO 93/II

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Textile machinery and accessories — Cylindrical sliver cans — Part II : Spring bottoms

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FOREWORD

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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 93/II was developed by Technical Committee ISO/TC 72, *Textile machinery and accessories*, and was circulated to the member bodies in June 1977.

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

Belgium	Italy	South Africa, Rep. of
Czechoslovakia	Japan	Spain
Egypt, Arab Rep. of	Korea, Rep. of	Switzerland
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United Kingdom

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Textile machinery and accessories — Cylindrical sliver cans — Part II : Spring bottoms

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the principal features of spring bottoms, with and without pre-tension, used in cylindrical sliver cans specified in ISO 93/I.

2 SYMBOLS AND PRINCIPAL FEATURES

2.1 Spring bottoms for cylindrical cans without castors

2.1.1 *Symbols*

d = inside diameter of sliver can

d_4 = outside diameter of spring plate

h = height of sliver can

h_2 = distance from top rim of can to surface of spring plate

h_3 = depth of spring plate

F_n = force of spring

F_v = force of spring in top working position

L_o = length of unloaded spring

L_v = length of spring in top working position (i.e. when constrained)

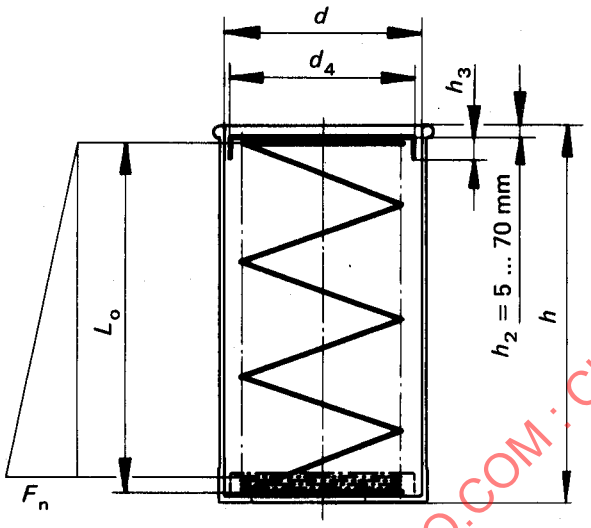

FIGURE 1 — **Spring bottom without pre-tension, type A**

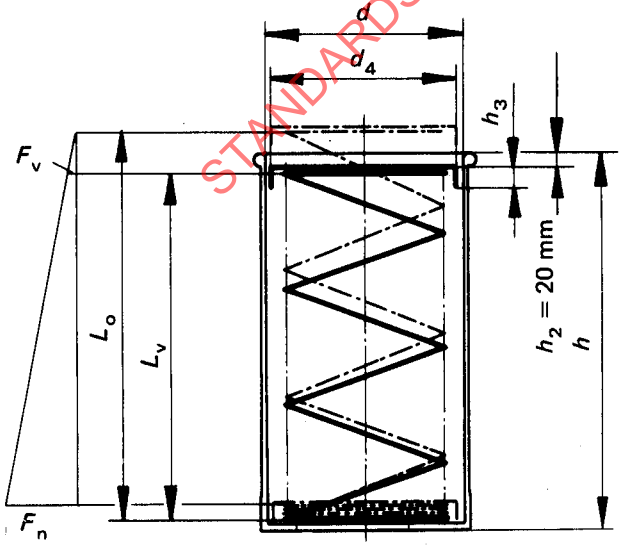

FIGURE 2 — **Spring bottom with pre-tension, type B**

2.1.2 *Principal features*

TABLE 1 — **Principal features of spring bottoms — Types A and B**

Size of can (see ISO 93/I)		Characteristics of springs without pre-tension Type A		Characteristics of springs with pre-tension Type B		Spring plate	
d[1]	h	$L_o \pm 30$	F_n[2]	$L_o \pm 30$	F_n[2]	d_4	h_3
mm	mm	mm	daN	mm	daN	mm	mm
250	800	740	2,5	840	2,5	236	50
300			3,5		3,5	285	
350			5		5	335	
400			8		8	385	
225	900	840	2,5	940	2,5	215	50
250			3		3	236	50
300			4		4	285	50
350			6		6	335	50
400			8		9	385	50
500			13		14	485	55
600			17		18	585	60
700			22		22	682	70
800			28		28	780	85
900			35		35	880	100
1 000			43		43	980	100
300	1 000	940	5	1 040	5	285	50
350			7		7	335	50
400			9		11	385	50
(450)			12		14	435	50
500			14		16	485	55
(550)			16		18	535	55
600			18		20	585	60
700			24		25	682	70
800			31		31	780	85
900			38		38	880	100
1 000			46		46	980	100
400	1 100	1 040	11	1 140	13	385	50
500			16		19	485	55
600			20		22	585	60
700			25		27	682	70
800			34		34	780	85
500	1 200	1 140	19	1 240	21	485	55
600			22		24	585	60
700			27		30	682	70
800			34		37	780	85
900			45		45	880	100
1 000			54		54	980	100
800	1 300	1 240	37	1 340	39	780	85
900			45		47	880	100
1 000			54		56	980	100

1) The values shown in parentheses are considered to be non-preferred sizes.

2) The values of F_n are a guide based on the mass (in kilograms) of average cotton sliver and slivers of similar density which the can will contain. For slivers of lower densities, reductions in the values of F_n will be necessary.

2.2 Spring bottoms for cylindrical cans with castors

2.2.1 *Symbols*

d = inside diameter of sliver can

d_4 = outside diameter of spring plate

h = height of sliver can

h_2 = distance from top rim of can to surface of spring plate

h_3 = depth of spring plate

F_n = force of spring

F_v = force of spring in top working position

L_o = length of unloaded spring

L_v = length of spring in top working position (i.e. when constrained)

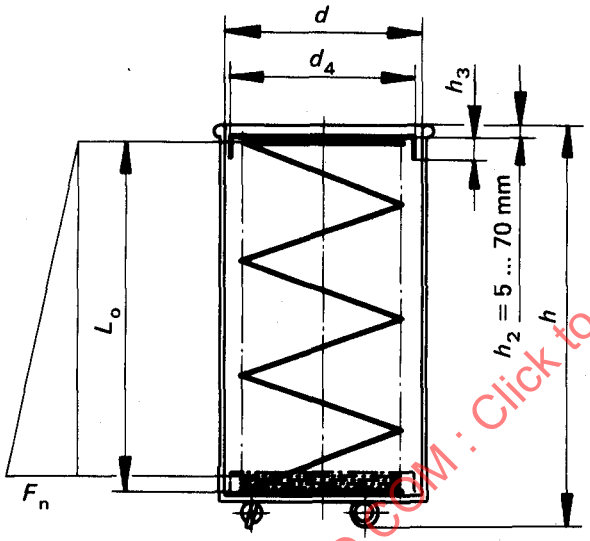

FIGURE 3 – **Spring bottom without pre-tension, type C**

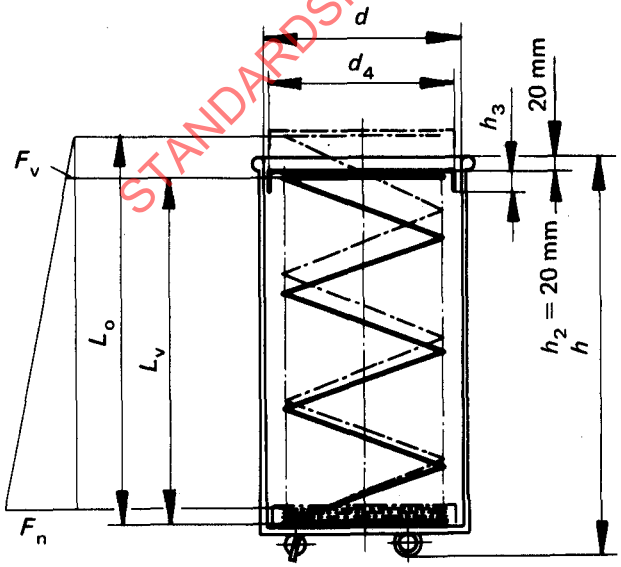

FIGURE 4 – **Spring bottom with pre-tension, type D**

2.2.2 *Principal features*

TABLE 2 – **Principal features of spring bottoms – Types C and D**

Size of can (see ISO 93/I)		Characteristics of springs without pre-tension Type C		Characteristics of springs with pre-tension Type D		Spring plate	
d[1]	h	$L_o \pm 30$	F_n[2]	$L_o \pm 30$	F_n[2]	d_4	h_3
mm	mm	mm	daN	mm	daN	mm	mm
(400)	900	770	8	870	8	385	50
600			16		16	585	60
(400)	1 000	870	8	970	9	385	50
(450)			11		12	435	50
500			13		14	485	55
600			17		18	585	60
700			22		22	682	70
800			28		28	780	85
900			35		35	880	100
(450)	1 100	970	14	1 070	14	435	50
500			16		16	485	55
600			18		20	585	60
700			22		25	682	70
800			28		31	780	85
900			35		38	880	100
1 000			46		46	980	100
500	1 200	1 070	16	1 170	19	485	55
600			20		22	585	60
700			25		27	682	70
800			31		34	780	85
900			38		42	880	100
1 000			46		50	980	100
1 200			68		68	1 180	100
800	1 300	1 170	34	1 270	37	780	85
900			42		45	880	100
1 000			50		54	980	100
1 200			68		73	1 180	100

1) The values shown in parentheses are considered to be non-preferred sizes.

2) The values of F_n are a guide based on the mass (in kilograms) of average cotton sliver and slivers of similar density which the can will contain. For slivers of lower densities, reductions in the values of F_n will be necessary.

3 ORDER SPECIFICATION

The designation used for ordering a spring bottom for a cylindrical sliver can shall include the following particulars :

a) type;

b) characteristics of the spring, i.e. L_o and F_n;

c) dimensions of the spring plate, i.e. d_4 and h_3.

Example :

Spring bottom for cylindrical sliver can, type D, length of unloaded spring $L_o = 1\,170$ mm, force of spring $F_o = 34$ daN, outside diameter of spring plate $d_4 = 780$ mm, depth of spring plate $h_3 = 85$ mm :

Spring bottom D 1 170 × 34 – 780/85 ISO 93/II