

INTERNATIONAL STANDARD

ISO
10069-1

First edition
1991-11-01

Tools for pressing — Elastomer pressure springs —

Part 1:

General specification

(standards.iteh.ai)

Outillage de presse — Ressorts de compression en élastomère —

Partie 1: Spécifications générales
<https://standards.iteh.ai/standards/iso-10069-1:1991>
83-42ce-b04a-d9db67af79e1/iso-10069-1-1991



Reference number
ISO 10069-1:1991(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 10069-1 was prepared by Technical Committee ISO/TC 29, *Small tools*, Sub-Committee SC 8, *Tools for pressing and moulding*.

ISO 10069 consists of the following parts, under the general title *Tools for pressing* — *Elastomer pressure springs*:

- Part 1: *General specification*
- Part 2: *Specification of accessories*

Annex A of this part of ISO 10069 is for information only.

Tools for pressing — Elastomer pressure springs —

Part 1:

General specification

1 Scope

This part of ISO 10069 specifies the dimensions, in millimetres, of elastomer pressure springs intended for use in press tools, and the diameters, in millimetres, of counterbores for these pressure springs. It also gives information concerning materials and their hardness, and specifies the designation of springs in accordance with this part of ISO 10069 together with the marking of packages.

Examples of suitable applications are given in annex A.

Dimensions of accessories (spring collars and pilot pins) are specified in ISO 10069-2.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions

of this part of ISO 10069. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 10069 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

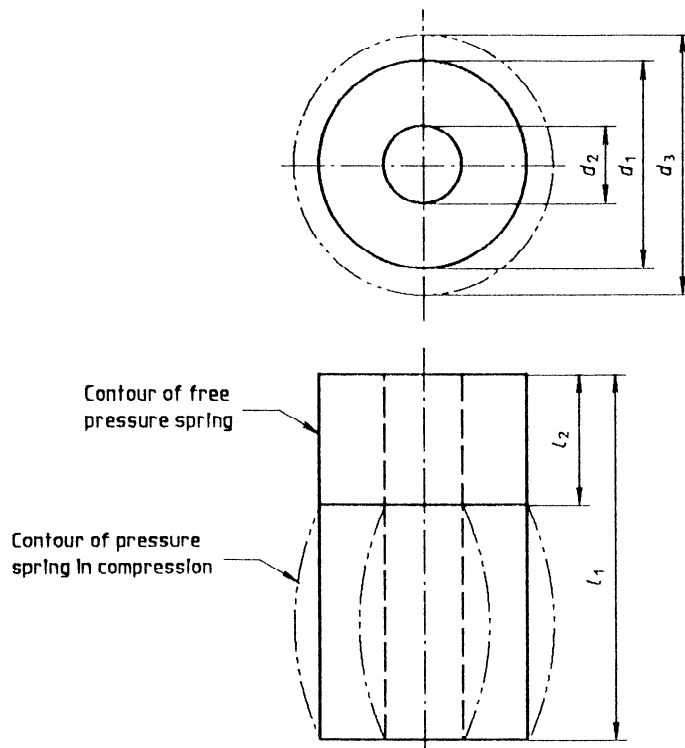
ISO 10069-2:1991, *Tools for pressing — Elastomer pressure springs — Part 2: Specification of accessories*

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3 Dimensions

3.1 Elastomer pressure springs

See figure 1 and tables 1 and 2.



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d_1 is the diameter of the free pressure spring
 d_2 is the internal diameter of the pressure spring
 d_3 is the diameter of the pressure spring in compression
 l_1 is the length of the free pressure spring
 l_2 is the difference between the free and fully compressed lengths
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Figure 1 — Pressure spring

Table 1 — General dimensions of elastomer pressure springs

d_1	d_2	d_3, max for l_2, max		l_1										
		CR ¹⁾	PUR ¹⁾	16	20	25	32	40	50	63	80	100	125	160
16	6,5	21,6	20	X	X	X								
20	8,5	27	25	X	X	X	X							
25	10,5	33,8	31,3		X	X	X	X						
32	13,5	43,2	40				X	X	X	X				
40		54	50				X	X	X	X	X			
50	17	67,5	62,5				X	X	X	X	X	X		
63		85	78,8				X	X	X	X	X	X	X	
80	21	108	100				X	X	X	X	X	X	X	
100		135	125				X	X	X	X	X	X	X	
125	27	168,8	156,3				X	X	X	X	X	X	X	X

1) See clause 4 for an explanation of these abbreviations.

Table 2 — Values of the load F , and the difference between the free and fully compressed lengths, l_2 , for elastomer springs in accordance with table 1

d_1	l_1	CR		PUR		d_1	l_1	CR		PUR					
		F max. kN	$l_2^{1)}$ max.	F max. kN	$l_2^{2)}$ max.			F max. kN	$l_2^{1)}$ max.	F max. kN	$l_2^{2)}$ max.				
16	16	0,3	5,6	1,2	4	63	32	10	11,2	21	8				
	20		7		5		40		14		10				
	25		8,75		6,25		50		17,5		12,5				
20	16	0,5	5,6	2	4		63		63	18	22,05	38	15,75		
	20		7		5				80		28		20		
	25		8,75		6,25				100		35		25		
	32		11,2		8				125		43,75		31,25		
25	20	0,8	7	3,5	5		80		32	18	11,2	38	8		
	25		8,75		6,25				40		14		10		
	32		11,2		8				50		17,5		12,5		
	40		14		10				63		22,05		15,75		
32	32	2,3	11,2	4,5	8				100		80	27	28	65	20
	40		14		10	100		35			25				
	50		17,5		12,5	125		43,75			31,75				
	63		22,05		15,75	150		52,5			39,375				
40	32	3,6	11,2	8,5	8	125		32			42		11,2	100	8
	40		14		10			40					14		10
	50		17,5		12,5			50					17,5		12,5
	63		22,05		15,75			63					22,05		15,75
	80		28		20		80	28		20					
50	32	5,5	11,2	13	8		150	40		56			14	150	10
	40		14		10			50					17,5		12,5
	50		17,5		12,5			63					22,05		15,75
	63		22,05		15,75			80	28			20			
	80		28		20			100	35			25			
	100		35		25			125	43,75			31,75			
								125	100			42	35	150	25
						125			43,75		31,75				
						160			56		40				

1) $l_{2, \max} = 0,35 l_1$

2) $l_{2, \max} = 0,25 l_1$

4 Materials and their hardness

The material may be either an elastomer based on chloroprene rubber (CR) with a nominal hardness of 70 Shore A or an elastomer based on polyurethane rubber (PUR) with a nominal hardness of 90 Shore A. Both these materials shall have a temperature resistance up to approximately 80 °C.

5 Designation

An elastomer pressure spring in accordance with this part of ISO 10069 shall be designated by

- a) "Elastomer pressure spring";
- b) reference to this part of ISO 10069 (i.e. ISO 10069-1);
- c) its diameter, d_1 ;
- d) its length, l_1 ;

- e) the material (CR or PUR).

EXAMPLE

An elastomer pressure spring, made of elastomer based on chloroprene rubber (CR), of diameter $d_1 = 16$ mm and length $l_1 = 20$ mm is designated as follows:

Elastomer pressure spring ISO 10069-1 - 16 × 20 - CR

6 Marking

Elastomer pressure springs in accordance with this part of ISO 10069 shall be marked on the smallest packing unit with the following information:

- a) their diameter, d_1 ;
- b) their length, l_1 ;
- c) the material symbol (CR or PUR).

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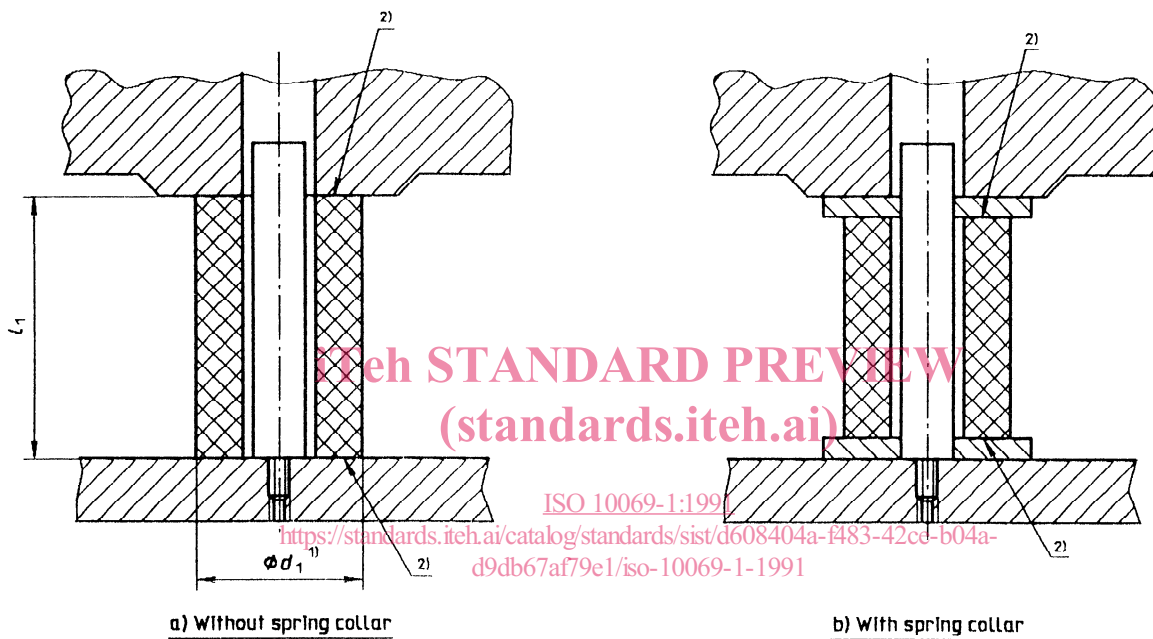
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Annex A
(informative)

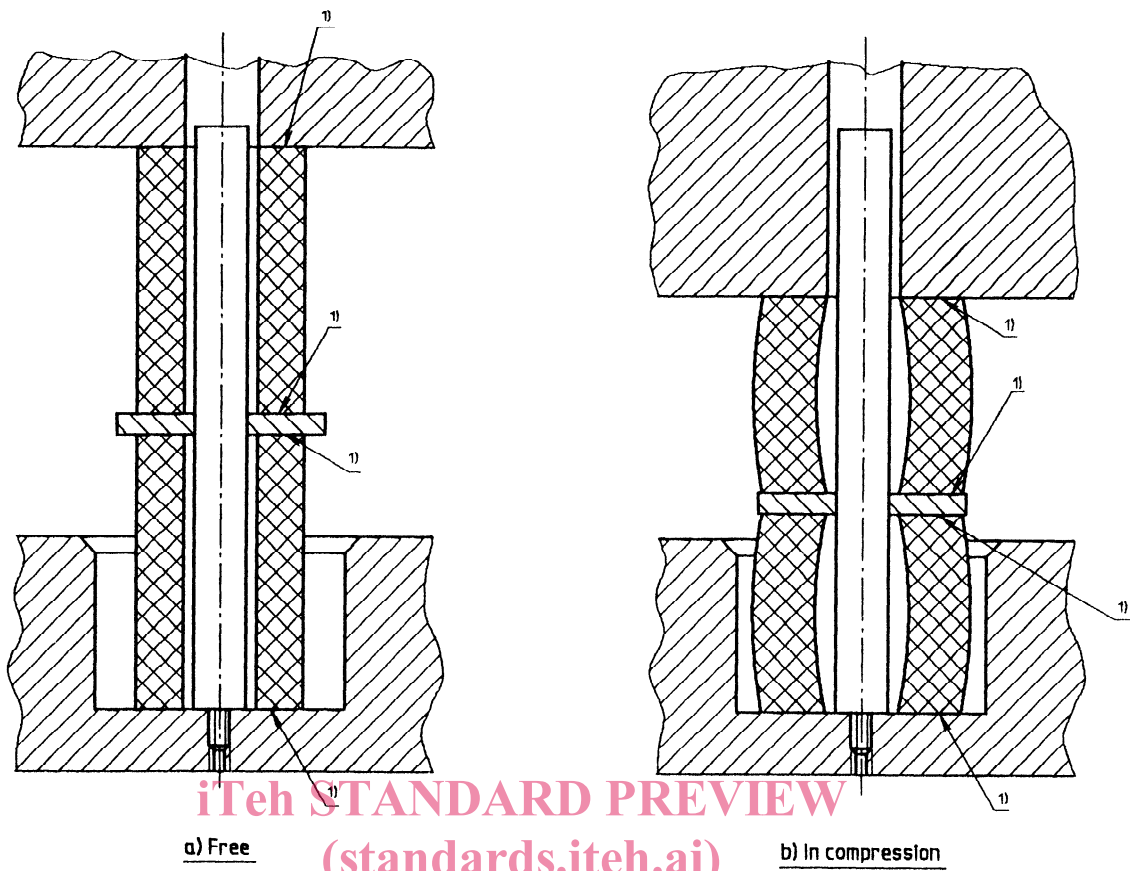
Examples of suitable applications

Examples of suitable applications are shown in figures A.1 to A.3.



- 1) $\phi d_1 \leq l_1$
- 2) The contact surface should be lubricated before mounting. It is recommended that only mineral oils or grease should be used for elastomer pressure springs made of polyurethane rubber (PUR).

Figure A.1 — Single elastomer pressure spring



1) The contact surface should be lubricated before mounting. It is recommended that only mineral oils or grease should be used for elastomer pressure springs made of polyurethane rubber (PUR).

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Figure A.2 — Double elastomer pressure spring with one spring collar