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Tools for moulding — Ejector sleeves with cylindrical head — Basic series for general purposes

Outillage de moulage — Éjecteurs tubulaires à tête cylindrique — Série de base pour usages généraux

ICS: 25.120.30

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 8, *Tools for pressing and moulding*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This fourth edition cancels and replaces the third edition (ISO 8405:2013) which has been technically revised.

The main changes compared to the previous edition is as follows:

- modification of the value of concentricity tolerance of t to the fixed value of 0,04

Tools for moulding — Ejector sleeves with cylindrical head — Basic series for general purposes

1 Scope

This document specifies the dimensions and tolerances, in millimetres, of ejector sleeves with cylindrical head which are used in compression and injection moulds and in die casting dies.

It also gives material guidelines and hardness requirements, and specifies the designation of ejector sleeves with cylindrical head.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6751, *Tools for moulding — Ejector pins with cylindrical head*

3 Terms and definitions

No terms and definition are listed in this document.

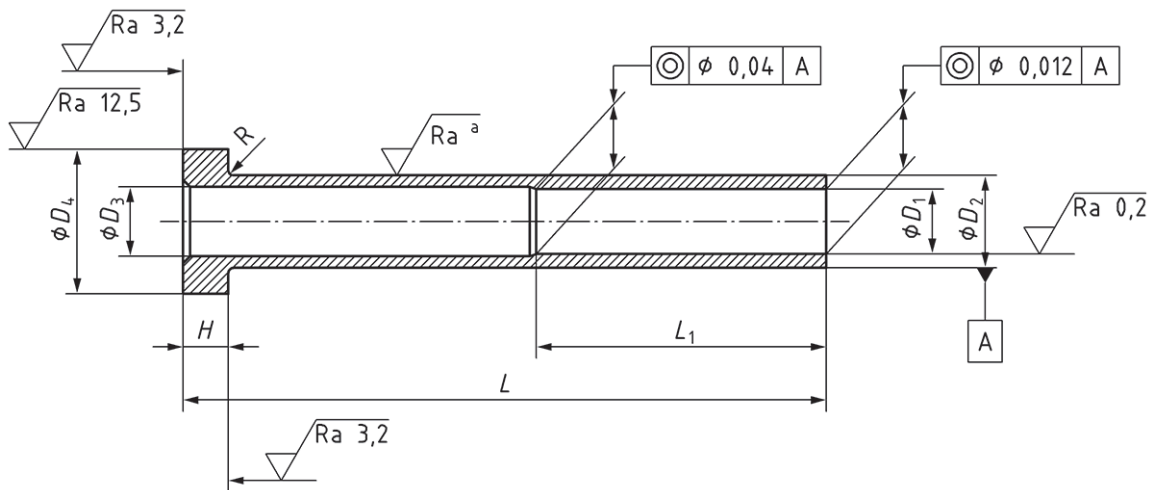
ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Dimensions

The dimensions of ejector sleeves with cylindrical head shall be in accordance with the indications of [Figure 1](#) and [Table 1](#).

Surface roughness values in micrometres



Key

^a Ra 0,8 for hot worked steel. Ra 0,4 for alloyed cold worked steel.

Figure 1 — Ejector sleeves

Table 1 — Ejector sleeves

Dimensions in millimetres

D_1^a H5	D_2 g6	D_3	D_4 0 -0,2	L_1 +1 0	L +1 0							H^b 0 -0,05	R +0,2 0		
					75	100	125	150	175	200	225			250	275
2	4	2,5 ^{+0,2} _{-0,1}	8	35	X	X	X							3	0,3
2,5	5	3 ^{+0,2} _{-0,1}	10		X	X	X								
3		3,5 ^{+0,2} _{-0,1}		14	45	X	X	X	X						5
4	8	4,5 ^{+0,2} _{-0,1}	X			X	X	X	X						
5		5,5 ^{+0,3} _{-0,1}	16	45		X	X	X	X	X	X			7	0,8
6	10	6,5 ^{+0,3} _{-0,1}				X	X	X	X	X	X	X	X		
8	12	8,5 ^{+0,3} _{-0,1}	22	45		X	X	X	X	X	X	X	X	7	0,8
10	14	10,5 ^{+0,3} _{-0,1}					X	X	X	X	X	X	X		
12	16	12,5 ^{+0,3} _{-0,1}					X	X	X	X	X	X	X		

^a For repair, the following diameters for D_1 are recommended: 2,2; 2,7; 3,2; 4,2; 5,2; 6,2; 8,2; 10,2; 12,5 (for $D_1 = 12,5$, $D_3 = 13$).

^b For shaft diameters, D_2 , larger than those given in [Table 1](#), up to 32 mm, the ratio of head height and diameter shall be the same as for ejector pins given in ISO 6751.

5 Material and hardness

Ejector sleeves with cylindrical head shall be made of hot worked steel or alloyed cold worked steel. The hardness of the shaft and head, respectively, are given in [Table 2](#).

Table 2 — Material and hardness

Material	Hardness ^a	
	Shaft	Head
Hot worked steel	min. 1 400 MPa core strength min. 950 HV 0,3	(45 ± 5) HRC hot-forged
Alloyed cold worked steel	(60 ± 2) HRC	

^a The point at which hardness is measured is left to the manufacturer's discretion.

6 Designation

Ejector sleeves with cylindrical head according to this document shall be designated by the following:

- “Ejector sleeve with cylindrical head”;
- a reference to this document (i.e. ISO 8405:2013);
- the diameter, D_1 , in millimetres;
- the length, L , in millimetres;
- the material.

EXAMPLE An ejector sleeve with cylindrical head with diameter $D_1 = 2$ mm, length $L = 75$ mm, and made of hot worked steel is designated as follows:

Ejector sleeve with cylindrical head ISO 8405 - 2 - 75 - Hot worked steel