INTERNATIONAL STANDARD

ISO 6751

Fourth edition
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Tools for moulding — Ejector pins with cylindrical head

Outillage de moulage — Éjecteurs à tête cylindrique

Reference number
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 6751 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 8, *Tools for pressing and moulding*.

This fourth edition cancels and replaces the third edition (ISO 6751:1998), of which it constitutes a minor revision. In particular, the indication of surface textures has been updated in accordance with ISO 1302:2002.

Tools for moulding — Ejector pins with cylindrical head

1 Scope

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

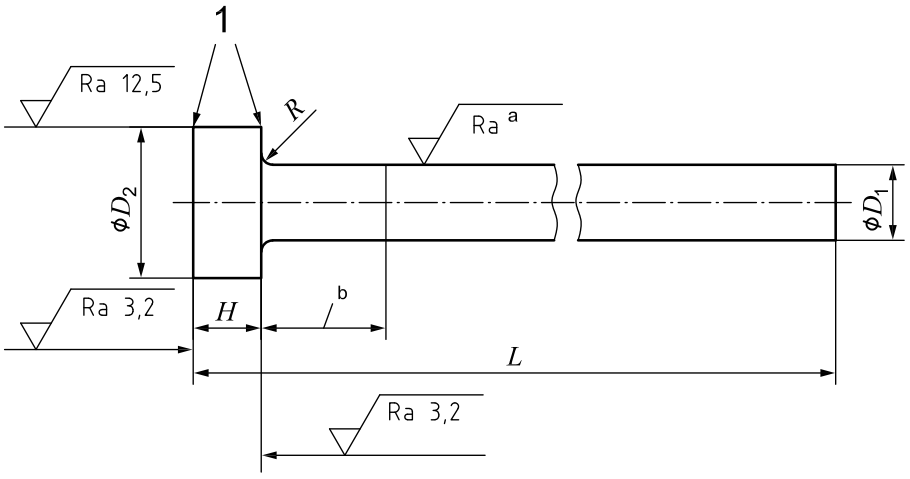
It also gives material guidelines and hardness requirements, and specifies the designation of ejector pins with cylindrical head.

Flat ejector pins are specified in ISO 8693 and shouldered ejector pins are specified in ISO 8694.

2 Dimensions

The dimensions of ejector pins shall be in accordance with the indications of Figure 1 and Tables 1 and 2.

Surface roughness values in micrometres



Key

1 edge without burrs

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

b Providing the ejector pin with an alternative surface roughness or a small variation on the diameter, D_1, over a certain length is permitted.

Figure 1 — Ejector pin with cylindrical head

Table 1 — Dimensions of ejector pins with cylindrical head of hot worked steel

Dimensions in millimetres

D_1 g6		D_2	L $^{+2}_{0}$											H	R
Standard size	Oversize	$^{0}_{-0,2}$	100	125	160	200	250	315	400	500	630	800	1 000	$^{0}_{-0,05}$	$^{+0,2}_{0}$
2		4	X	X	X	X								2	0,2
	2,2			X		X									
2,5		5	X	X	X	X									0,3
	2,7			X		X									
3		6	X	X	X	X	X	X						3	
	3,2			X		X		X							
3,5		7	X	X	X	X	X	X							
	3,7			X		X		X							
4		8	X	X	X	X	X	X	X						
	4,2		X		X		X		X						
5		10	X	X	X	X	X	X	X	X					
	5,2			X		X		X		X					
6		12	X	X	X	X	X	X	X	X	X			5	0,5
	6,2		X		X		X		X		X				
8		14	X	X	X	X	X	X	X	X	X	X			
	8,2			X		X		X		X		X			
10		16	X	X	X	X	X	X	X	X	X	X	X		
	10,2		X		X		X		X		X		X		
12		18		X	X	X	X	X	X	X	X	X	X	7	0,8
	12,5			X	X	X	X	X	X	X	X	X	X		
16		22			X	X	X	X	X	X	X	X	X		
20		26			X	X	X	X	X	X	X	X	X	8	1
25		32				X	X	X	X	X	X	X	X	10	
32		40					X	X	X	X	X	X	X		

Table 2 — Dimensions of ejector pins with cylindrical head of alloyed cold worked steel

Dimensions in millimetres

D_1 g6		D_2	L $^{+2}_{0}$								H	R
Standard size	Oversize	$^{0}_{-0,2}$	80	100	125	160	200	250	315	400	$^{0}_{-0,05}$	$^{+0,2}_{0}$
1,5		3	X	X	X	X					1,5	0,2
	1,6		X	X	X	X						
2		4	X	X	X	X	X				2	
	2,2		X		X		X					
2,5		5	X	X	X	X	X					0,3
	2,7		X		X		X					
3		6	X	X	X	X	X	X			3	
	3,2			X		X		X				
3,5		7	X	X	X	X	X	X				
	3,7			X		X		X				
4		8	X	X	X	X	X	X	X			
	4,2		X		X		X		X			
5		10	X	X	X	X	X	X	X			
	5,2		X		X		X		X			
6		12	X	X	X	X	X	X	X		5	0,5
	6,2		X		X		X		X			
8		14	X	X	X	X	X	X	X	X		
	8,2			X		X		X		X		
10		16		X	X	X	X	X	X	X		
	10,2			X		X		X		X		
12		18		X	X	X	X	X	X	X	7	0,8
	12,5			X	X	X	X	X	X	X		
16		22		X	X	X	X	X	X	X		
20		26			X	X	X	X	X	X	8	1

3 Material and hardness

Ejector pins with cylindrical head shall be made of hot worked steel or alloyed cold worked steel. The hardness of the shaft and head shall conform to the indications of Table 3.

Table 3 — 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.

4 Designation

Ejector pins with cylindrical head according to this International Standard shall be designated by:

a) “ejector pin with cylindrical head”;

b) reference to this International Standard, i.e. ISO 6751;

c) ejector pin diameter, D_1, in millimetres;

d) ejector pin length, L, in millimetres;

e) ejector pin material.

EXAMPLE The designation for an ejector pin with cylindrical head of diameter D_1 = 2 mm, of length L = 100 mm and of hot worked steel is as follows:

Ejector pin with cylindrical head ISO 6751 - 2 - 100 - Hot worked steel

Bibliography

[1] ISO 1302:2002, *Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation*

[2] ISO 8693, *Tools for moulding — Flat ejector pins*

[3] ISO 8694, *Tools for moulding — Shouldered ejector pins*

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