

INTERNATIONAL STANDARD

**ISO
8404**

Third edition
2013-09-15

Tools for moulding — Angle pins

Outillage de moulage — Doigts de démoulage

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Reference number
ISO 8404:2013(E)

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Published in Switzerland

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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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 8, *Tools for pressing and moulding*.

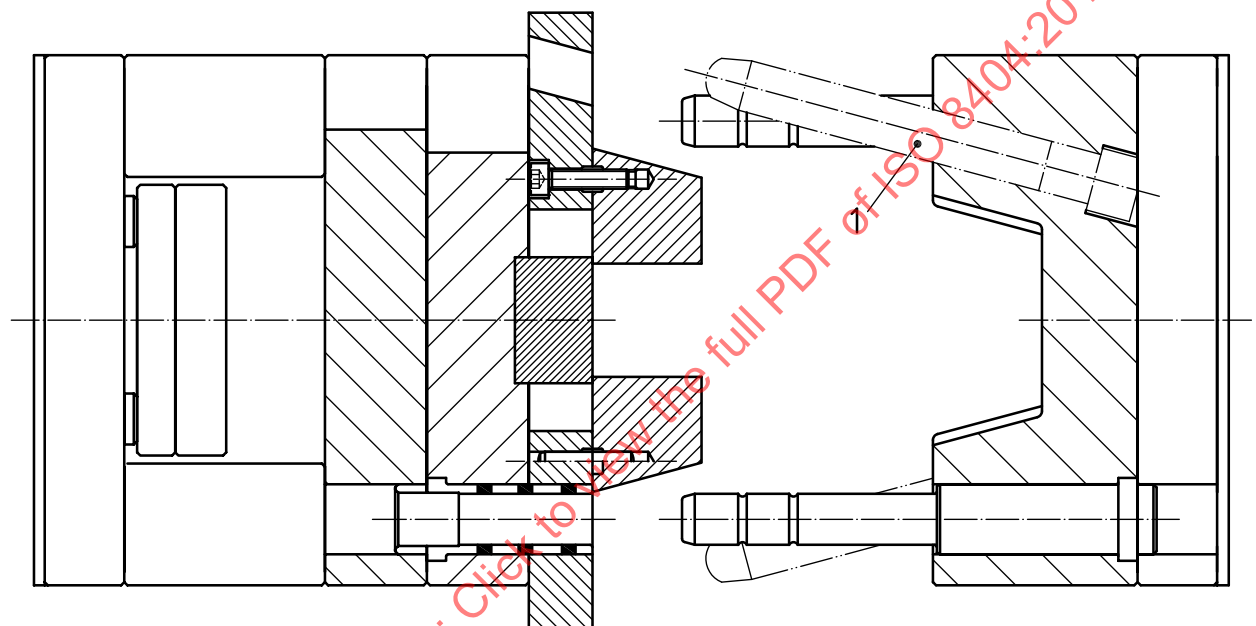
This third edition cancels and replaces the second edition (ISO 8404:2003), which has been technically revised.

Tools for moulding — Angle pins

1 Scope

This International Standard specifies the basic dimensions, in millimetres, of headed angle pins (type A) and of straight angle pins (type B) intended for use in diescast dies and tools for moulding (an example of application is shown in [Figure 1](#)).

It also specifies the material hardness and designation of the angle pins (types A and B).



Key

- 1 angle pin (ISO 8404 - A)

Figure 1 — Application example of a headed angle pin, type A

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

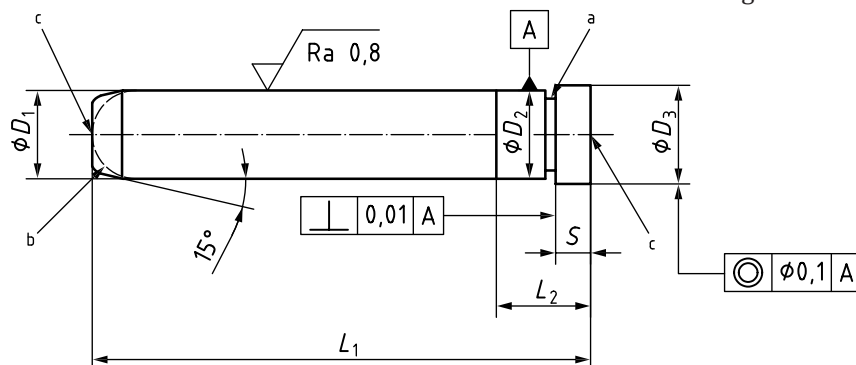
ISO 4957, *Tool steels*

3 Dimensions

3.1 Type A — Headed angle pins

The dimensions of headed angle pins shall be in accordance with the indications of [Figure 2](#) and [Table 1](#).

Dimensions in millimetres
surface roughness values in micrometres
general tolerance: ISO 2768-m



Key

- a Radius or undercut.
- b The leading end can be rounded. The choice of shape is left to the manufacturer.
- c Optional centres.

Figure 2 — Type A

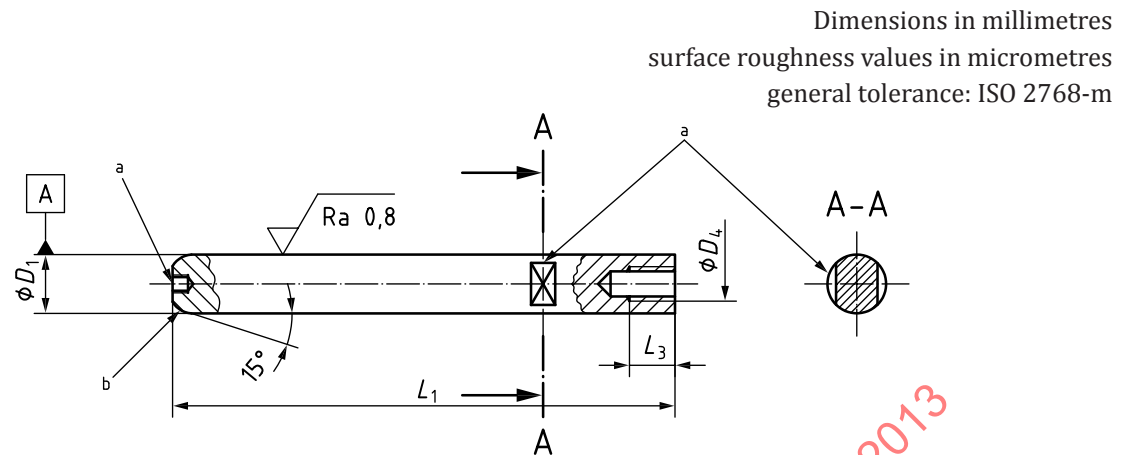
Table 1 — Type A

Dimensions in millimetres

$D_1\ g6$	10	12	16	20	25	32	40
$D_2\ m6$							
S_{min}	3	6	8	8	16	16	15
$D_3\ \begin{smallmatrix} 0 \\ -0,2 \end{smallmatrix}$	14	16	20	25	30	38	48
$L_1\ \begin{smallmatrix} 0 \\ -1,5 \end{smallmatrix}$	$L_2\ \begin{smallmatrix} -0,5 \\ -1,0 \end{smallmatrix}$						
63	16	16					
80	16	16	26				
100	22	22	26	30			
125	22	22	26	30			
160			36	40			
200			36	40	42	47	54
250				40	42	47	62
315					42	54	62
400						54	62
500							71

3.2 Type B — Straight angle pins

The dimensions of straight angle pins shall be in accordance with the indications of [Figure 3](#) and [Table 2](#).

**Key**

- a Position and dimensions of width across flats or alternatively hexagon sockets are left to the manufacturer's discretion.
- b The leading end can be rounded. The choice of shape is left to the manufacturer.

Figure 3 — Type B**Table 2 — Type B**

Dimensions in millimetres

D_1 k6		10	12	16	20	25	32
D_4		M6	M6	M8	M10	M12	M16
$L_3^{+1,5}_0$		12	12	16	20	24	32
$L_1^{0}_{-1,5}$	63	X	X	X	X		
	80	X	X	X	X	X	
	100	X	X	X	X	X	X
	125	X	X	X	X	X	X
	160			X	X	X	X
	200			X	X	X	X
	250				X	X	X
	315					X	X
	400						X

4 Material and hardness

Angle pins shall be made from tool steel in accordance with ISO 4957. The hardness values shall be as follows:

- shaft: (62 ± 2) HRC;
- head (type A): (45 ± 5) HRC.

5 Designation

Angle pins for diecast dies and tool for moulding in accordance with this International standard shall be designated by the following:

- a) "Angle pin";
- b) a reference to this International standard, i.e. ISO 8404;
- c) the type of angle pin (type A or B);
- d) its diameter D_1 , in millimetres;
- e) its length L_1 , in millimetres.

EXAMPLE A type A angle pin with a diameter $D_1 = 20$ mm and a length of $L_1 = 160$ mm is designated as follows:

Angle pin ISO 8404 - A 20 × 160

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