

# INTERNATIONAL STANDARD

# ISO 8404

Third edition  
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## Tools for moulding — Angle pins

*Outils de moulage — Doigts de démoulage*

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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.

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](http://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](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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*.

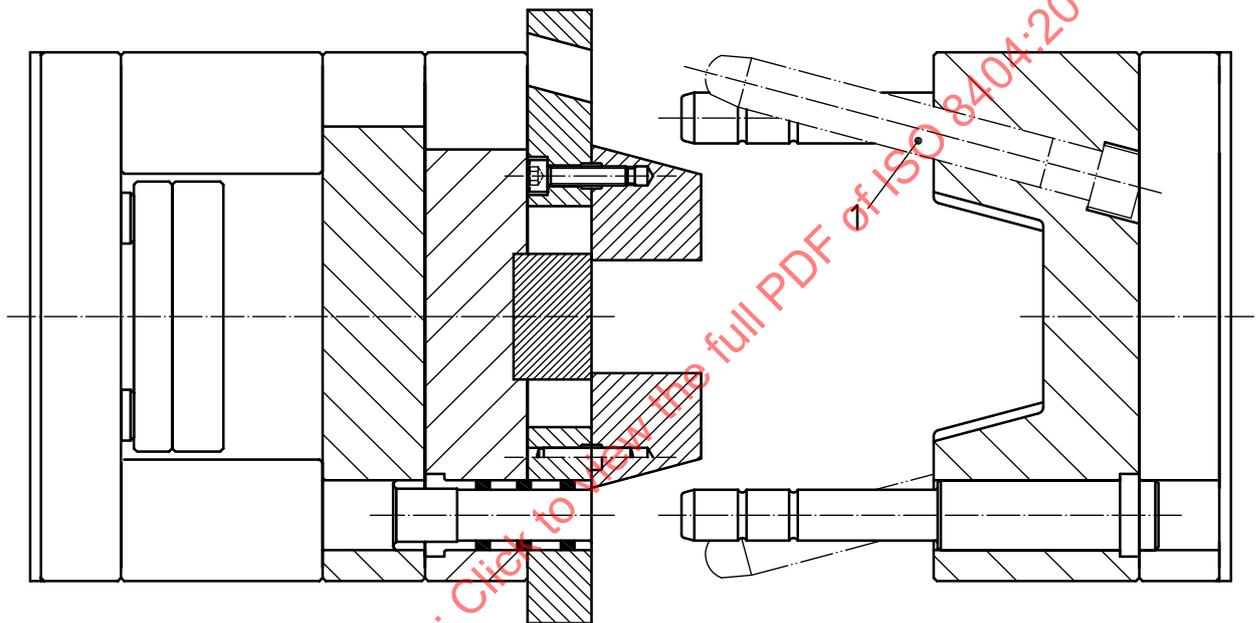
This third edition cancels and replaces the second edition (ISO 8404:2003), which has been technically revised.

# 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 diecast 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*

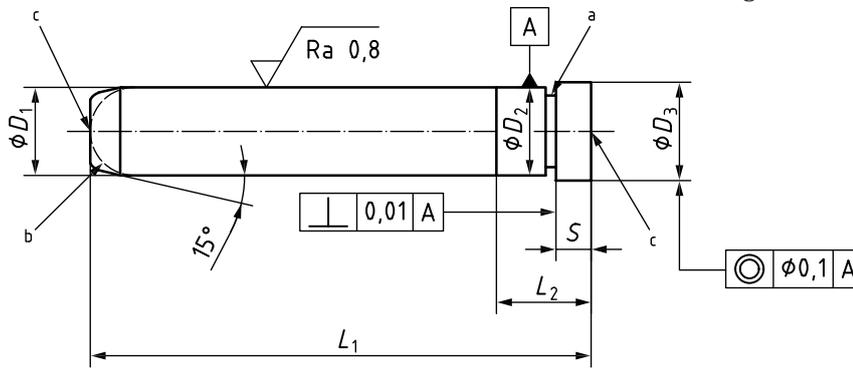
ISO 4957, *Tool steels*

## 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**

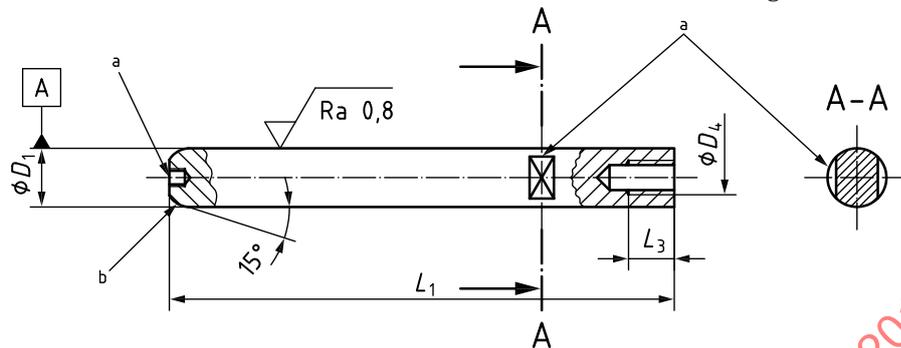
Dimensions in millimetres

$D_1$ g6	10	12	16	20	25	32	40
$D_2$ m6							
$S_{\min}$	3	6	8	8	16	16	15
$D_3$ $^0_{-0,2}$	14	16	20	25	30	38	48
$L_1$ $^0_{-1,5}$	$L_2$ $^{-0,5}_{-1,0}$						
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](#).

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



**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:  $(62 \pm 2)$  HRC;
- head (type A):  $(45 \pm 5)$  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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