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**Tools for moulding — Mould bases —  
Round locating elements and spacers**

*Outillage de moulage — Éléments de moule — Plots de centrage  
cylindriques et rondelles de réglage*

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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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 8406 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 8, *Tools for pressing and moulding*.

This second edition cancels and replaces the first edition (ISO 8406:1991), clause 3 of which has been technically revised.

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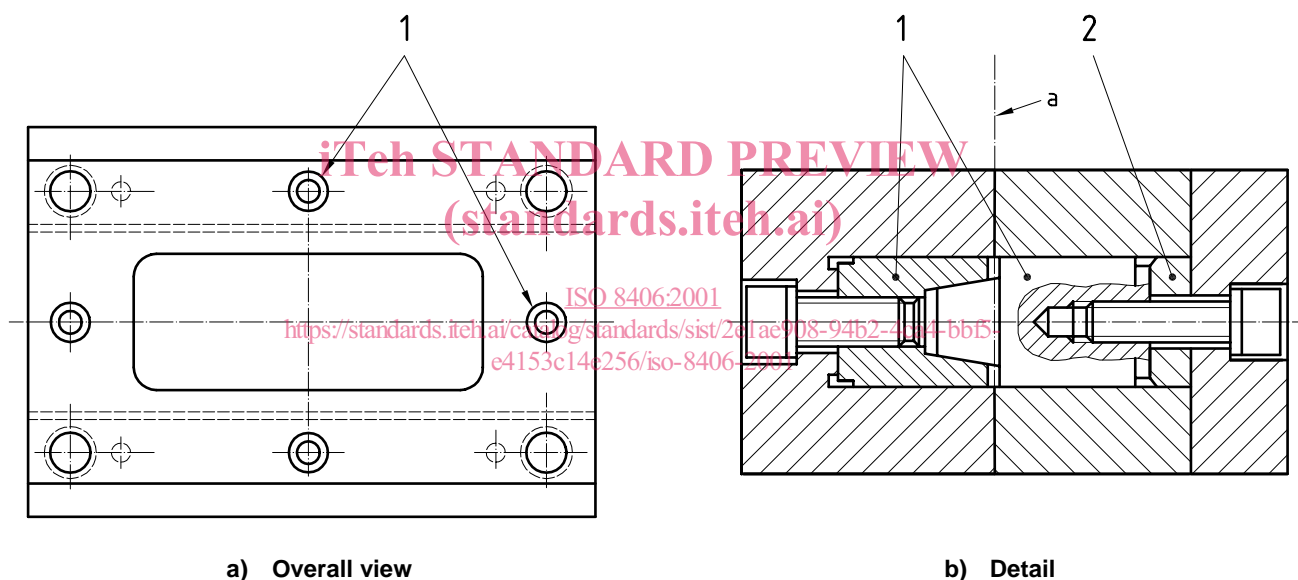
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# Tools for moulding — Mould bases — Round locating elements and spacers

## 1 Scope

This International Standard specifies the basic dimensions, in millimetres, of round locating elements and spacers intended for use in moulds for the accurate location of two mould parts with respect to one another. See example of mounting in Figure 1.

It also specifies the material, hardness and designation of locating elements and its spacers in accordance with this International Standard.



### Key

- 1 Round locating elements
- 2 Spacer
- a Parting level

Figure 1 — Example of mounting of round locating elements

## 2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

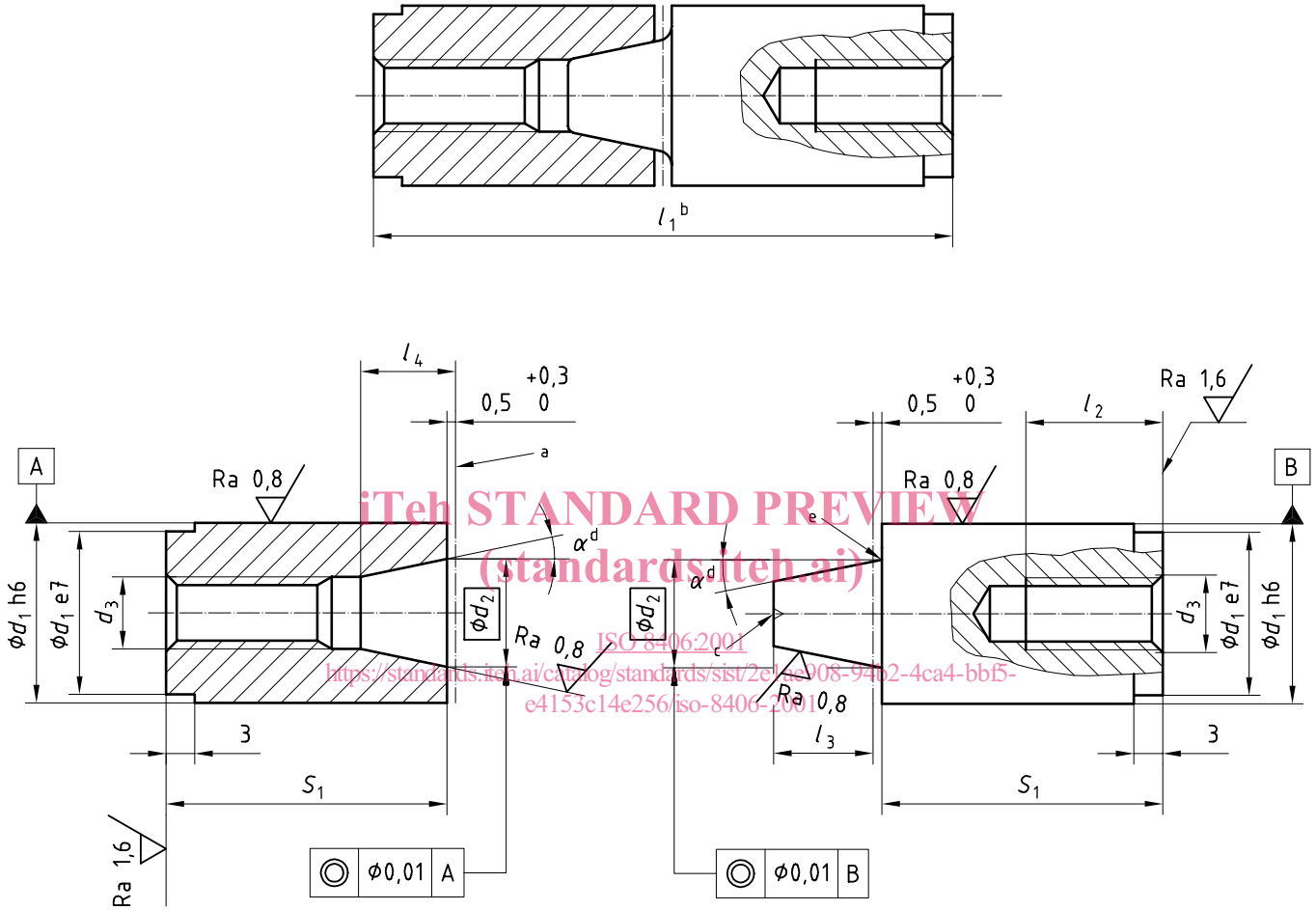
ISO 4957:1999, *Tool steels*

### 3 Dimensions

#### 3.1 Round locating elements

See Figure 2 and Table 1.

Surface roughness values in micrometers



- a Gauge plane
- b The length is adjusted after mounting and the locating elements are supplied in pairs.
- c Centre hole for machining is permitted.
- d The angle  $\alpha$  is left to the manufacturer's discretion.
- e The shape of the root of the taper on the male part is left to the manufacturer's discretion.

Figure 2 — Round locating elements

Table 1 — Dimensions of round locating elements

$d_1$	$d_2$	$d_3$	$l_1$	$l_2$	$l_3$ $\pm 0,5$	$l_4$ $\pm 0,5$	$S_1$ $\begin{matrix} +0,2 \\ 0 \end{matrix}$
12	6	M4	40	11	5	7	19,5
16	10	M5	50	11	6	8	24,5
20	12	M8	64	15	9	11	31,5
25	16	M8	64	15	10	12	31,5
32	20	M10	80	18	14	16	39,5
40	25	M10	100	18	18	20	49,5
50	32	M12	100	20	25	27	49,5

### 3.2 Spacers

See Figure 3 and Table 2.

Surface roughness values in micrometers

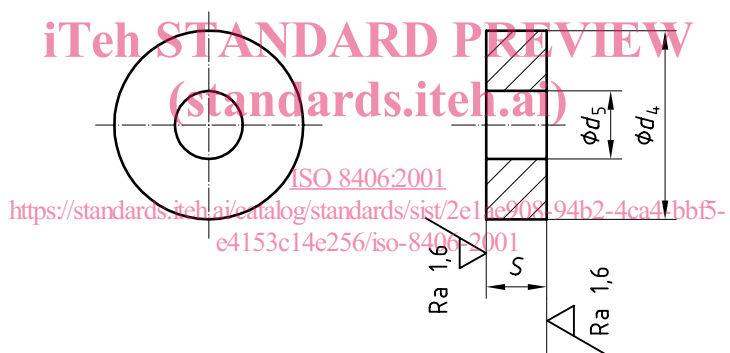


Figure 3 — Spacer

**Table 2 — Dimensions of spacers**

$d_4$ -0,2 -0,5	$S$ +0,2 +0,1	$d_5$
12	5	4,5
	12	
16	7	5,5
	15	
20	8	9
	18	
25	8	9
	18	
32	10	11
	23	
40	13	11
	30	
50	13	13,5
	30	

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**4 Material and hardness**

ISO 8406:2001

Locating elements and spacers shall be made from tool steel in accordance with ISO 4957 and shall have a hardness value of  $(62 \pm 2)$  HRC.

**5 Designation**

Locating element or spacer in accordance with this International Standard shall be designated by

- a) "Locating element" or "Spacer";
- b) reference to this International Standard, i.e. ISO 8406;
- c) the diameter  $d_1$  for locating elements, or  $d_4$  for spacers, in millimetres;
- d) the angle  $\alpha$  for locating elements, in degrees.

EXAMPLE A locating element with diameter  $d_1 = 32$  mm and an angle  $\alpha = 15^\circ$  is designated as follows:

**Locating element ISO 8406-32/15**



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