

# INTERNATIONAL STANDARD

**ISO**  
**9449**

Second edition  
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## Tools for moulding — Centring sleeves

*Outillage de moulage — Douilles de centrage*

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Reference number  
ISO 9449:2007(E)

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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 9449 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 9449:1990), of which it constitutes a minor revision. In particular, the indication of surface textures has been updated in accordance with ISO 1302:2002.

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# Tools for moulding — Centring sleeves

## 1 Scope

This International Standard specifies the dimensions and tolerances, in millimetres, for centring sleeves intended to be used for locating the spacing blocks in relation to the fixed clamp plates in moulds.

It gives indications concerning materials and hardness, and specifies the designation of centring sleeves which meet the requirements of this International Standard.

## 2 Dimensions

The dimensions of centring sleeves shall conform to the indications of Figure 1 and Table 1.

## 3 Material and corresponding hardness

The material and corresponding hardness are left to the manufacturer's discretion.

## 4 Designation

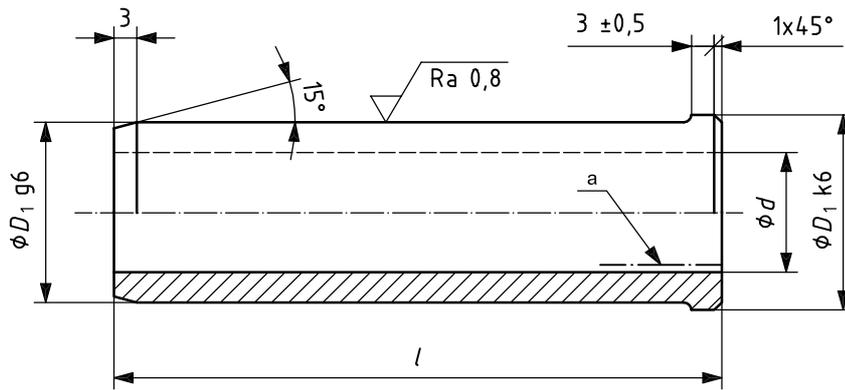
A centring sleeves in accordance with this International Standard shall be designated by:

- a) "centring sleeve";
- b) a reference to this International Standard, i.e. ISO 9449;
- c) its internal diameter,  $d$ ;
- d) its length,  $l$ .

EXAMPLE The designation for a centring sleeve of internal diameter  $d = 12$  mm and length  $l = 20$  mm is as follows:

**Centring sleeve ISO 9449 - 12 × 20**

Surface roughness values in micrometres



NOTE The centring sleeves are intended to fit in bores having a tolerance H7.

<sup>a</sup> The design of the rear part, for extraction purposes, is left to the manufacturer's discretion.

Figure 1 — Centring sleeves

Table 1 — Dimensions of centring sleeves

<i>l</i>	<i>d</i>							
	12	16	20	25	32	40	50	
0 -1	$+1,5$ $+0,5$							
	<i>D</i> <sub>1</sub> <sup>a</sup>							
	18	22	28	32	40	50	63	
20	x	x						
25	x	x						
32	x	x	x					
40	x	x	x					
50	x	x	x					
(56)	x	x	x	x				
63	x	x	x	x				
(71)	x	x	x	x				
80	x	x	x	x	x			
(90)	x	x	x	x	x			
100	x	x	x	x	x			
112		x	x	x	x			
125			x	x	x	x	x	x
(140)			x	x	x	x	x	x
160			x	x	x	x	x	x
(180)						x	x	x
200							x	x
NOTE Values show in parentheses are to be avoided.								
<sup>a</sup> See Figure 1 for tolerances.								