
Cylindrical shanks for milling cutters —
Part 2:
Dimensional characteristics of flatted
cylindrical shanks

Queues cylindriques d'outils à fraiser —

Partie 2: Caractéristiques dimensionnelles des queues cylindriques à méplat

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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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. www.iso.org/directives

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

The committee responsible for this document is ISO/TC 29, Subcommittee SC 2, *High speed steel cutting tools and their attachments*.

This seventh edition cancels and replaces the sixth edition (ISO 3338-2:2007), of which it constitutes a minor revision. In particular, an annex giving the relationship between the symbols of this part of ISO 3338 and the symbols according to ISO 13399 (all parts) has been added.

ISO 3338 consists of the following parts, under the general title *Cylindrical shanks for milling cutters*:

- *Part 1: Dimensional characteristics of plain cylindrical shanks*
- *Part 2: Dimensional characteristics of flatted cylindrical shanks*
- *Part 3: Dimensional characteristics of threaded shanks*

Cylindrical shanks for milling cutters —

Part 2:

Dimensional characteristics of flatted cylindrical shanks

1 Scope

This part of ISO 3338 specifies the dimensions of flatted cylindrical shanks for milling cutters, of diameters 6 mm to 20 mm for single-flatted shanks, of 25 mm to 63 mm for double-flatted shanks and of 6 mm to 32 mm for shank with inclined clamping surface. In the case of single-flatted shanks, it is applicable to both single-ended cutters and double-ended cutters, as double-flatted shanks cannot admit single-ended cutters.

The dimensions of plain cylindrical shanks and threaded shanks are given in ISO 3338-1 and ISO 3338-3, respectively.

The two shank types covered by ISO 3338-1 and this part of ISO 3338 have the same dimensional characteristics (diameters and lengths), but different tolerances on diameters, namely:

- h8 for plain cylindrical shanks, commonly used for tools mounted in collets;
- h6 for flatted cylindrical shanks, intended to be mounted in chucks and secured with a clamping screw, and requiring an accuracy adjustment.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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*

3 Dimensions

3.1 General

All dimensions and tolerances are given in millimetres. Tolerances not specified shall be of tolerance class "m" in accordance with ISO 2768-1.

3.2 WE form — Flatted cylindrical shanks with single flat for diameter, d_1 , of 6 mm to 20 mm

The dimensions of flatted cylindrical shanks with single flat shall be in accordance with the dimensions shown in [Figure 1](#) and given in [Table 1](#).

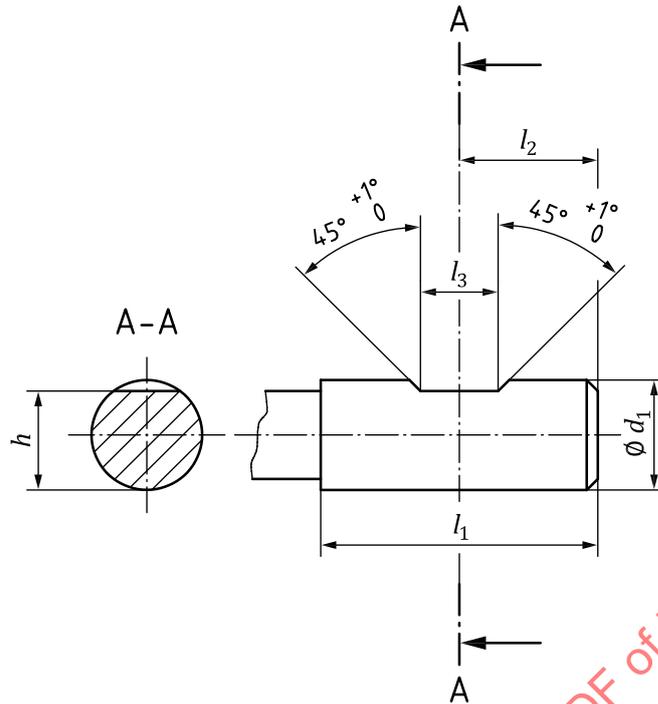


Figure 1 — WE Form — Flatted cylindrical shanks with single flat

3.3 WE form — Flatted cylindrical shanks with double flat for diameter, d_1 , of 25 mm to 63 mm

The dimensions of flatted cylindrical shanks with double flat shall be in accordance with the dimensions shown in [Figure 2](#) and [Table 1](#).

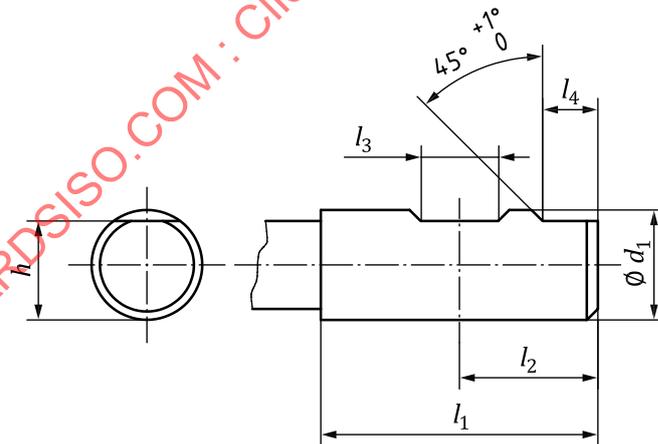


Figure 2 — WE form — Flatted cylindrical shanks with double flat

Table 1 — WE form — Flatted cylindrical shanks with single or double flat

d_1 h6	l_1 $+2$ 0	l_2 0 -1	l_3 $+0,05$ 0	l_4 $+1$ 0	h h11	
6	36	18	4,2	-	4,8	
8			5,5		6,6	
10	40	20	7		8,4	
12	45	22,5	8		10,4	
14					12,7	
16	48	24	10		14,2	
18					16,2	
20	50	25	11		18,2	
25	56	32	12		17	23
32	60	36	14		19	30
40	70	40		38		
50	80	45	18	23	47,8	
63	90	50			60,8	

3.4 WN form — Flatted cylindrical shanks with inclined clamping surface

The dimensions of flatted cylindrical shanks with inclined clamping surface shall be in accordance with the dimensions shown in in [Figure 3](#) and [Table 2](#).

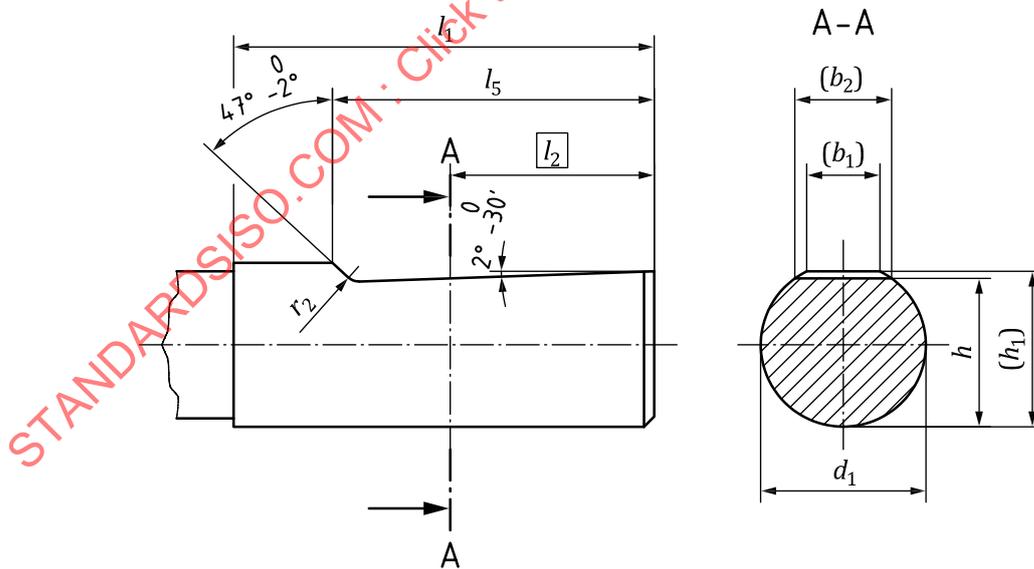


Figure 3 — WN form — Flatted cylindrical shanks with inclined clamping surface

Table 2 — WN form — Flatted cylindrical shanks with inclined clamping surface

d_1 h6	l_1 $\begin{smallmatrix} +2 \\ 0 \end{smallmatrix}$	l_2	l_5 $\begin{smallmatrix} 0 \\ -1 \end{smallmatrix}$	h h11	h_1	b_1	b_2	r_2
6	36	18	25	4,8	5,4	3,5	4,8	1,2
8				6,6	7,2	4,7	6,1	
10	40	20	28	8,4	9,1	5,7	7,3	
12	45	22,5	33	10,4	11,2	6	8,2	
14				12,7	-	-	8,1	
16	48	24	36	14,2	15	7,6	10,1	1,6
18				16,2	-	-	10,8	
20	50	25	38	18,2	19,1	8,4	11,5	
25	56	32	44	23	24,1	9,3	13,6	
32	60	36	48	30	31,2	9,9	15,5	

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Annex A (informative)

Relationship between the symbols of this part of ISO 3388 and ISO 13399 (all parts)

For the relationship between the symbols of this part of ISO 3388 and symbols according to the ISO 13399 series, see [Table A.1](#).

Table A.1 — Relationship between symbols in this part of ISO 3388 and ISO 13399 (all parts)

Symbol in this part of ISO 3338 (ISO 3338-2)	Reference in this part of ISO 3338 (ISO 3338-2)	Property name in the ISO 13399 series	Symbol in the ISO 13399 series	Reference in the ISO 13399 series BSU code
b_1	Not specified	Not specified	Not specified	Not specified
b_2	Not specified	Not specified	Not specified	Not specified
d_1	Figure 1 , Figure 2 and Figure 3	Shank diameter	DMM	ISO/TS 13399-3 71CF29862B277
h	Not specified	Not specified	Not specified	Not specified
h_1	Not specified	Not specified	Not specified	Not specified
l_1	Figure 1 , Figure 2 and Figure 3	Shank length	LS	ISO/TS 13399-3 71CF298870946
l_2	Not specified	Not specified	Not specified	Not specified
l_3	Not specified	Not specified	Not specified	Not specified
l_4	Not specified	Not specified	Not specified	Not specified
r_2	Not specified	Not specified	Not specified	Not specified