

BS ISO 10145-1:2016



BSI Standards Publication

End mills with brazed helical hardmetal tips

Part 1: Dimensions of end mills with parallel
shank

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National foreword

This British Standard is the UK implementation of ISO 10145-1:2016. It supersedes BS 7745-1:1994 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee MTE/18, Tools tips and inserts for cutting applications.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Date	Text affected
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**End mills with brazed helical
hardmetal tips —**

Part 1:
**Dimensions of end mills with
parallel shank**

*Fraises cylindriques deux tailles à plaquettes hélicoïdales en métaux-
durs, brasées —*

Partie 1: Dimensions des fraises à queue cylindrique



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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.

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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 9, *Tools with defined cutting edges, cutting items*.

This second edition cancels and replaces the first edition (ISO 10145-1:1993), which constitutes a minor revision.

ISO 10145 consists of the following parts, under the general title *End mills with brazed helical hardmetal tips*:

- *Part 1: Dimensions of end mills with parallel shank*
- *Part 2: Dimensions of end mills with 7/24 taper shank*

End mills with brazed helical hardmetal tips —

Part 1: Dimensions of end mills with parallel shank

1 Scope

This part of ISO 10145 specifies the general dimensions of end mills with brazed helical hardmetal tips, with parallel shank.

The following two types of end mills with parallel shank are specified:

- end mills with plain parallel shank;
- end mills with flatted parallel shank.

This part of ISO 10145 applies to right-hand and left-hand end mills, irrespective of the helix angle and number of flutes.

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 3338-1, *Parallel shanks for milling cutters — Part 1: Dimensions of plain parallel shanks*

ISO 3338-2, *Cylindrical shanks for milling cutters — Part 2: Dimensional characteristics of flatted cylindrical shanks*

3 Dimensions

The dimensions for end mills as shown in [Figure 1](#) are specified in [Table 1](#).

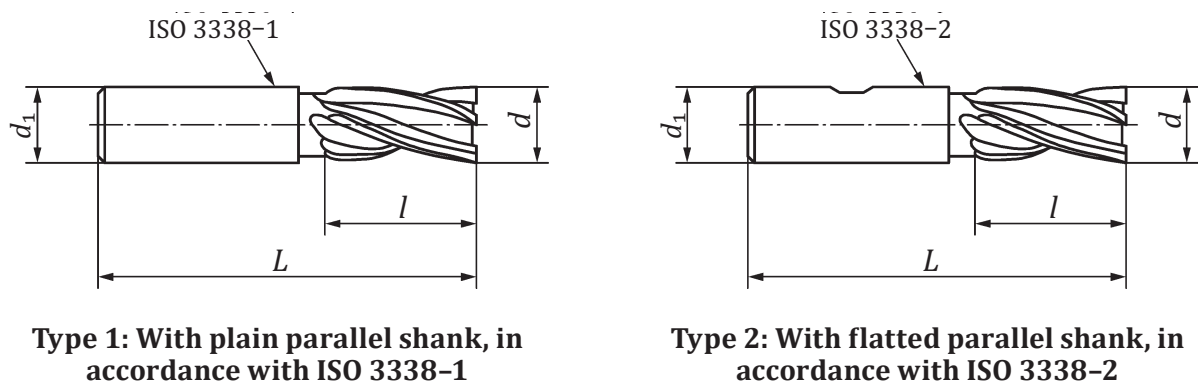


Figure 1 — Dimensions for end mills

Table 1 — Dimensions for end mills

Dimensions in millimetres

<i>d</i>	<i>l</i>		<i>d</i> ₁	<i>L</i>	
	nom.	tol.			
k12				$\begin{matrix} +2 \\ 0 \end{matrix}$	
12	20	$\begin{matrix} +2 \\ 0 \end{matrix}$	12	75	
	25			80	
16	25		16	88	
	32			95	
20	32		20	97	
	40			105	
25	40		$\begin{matrix} +3 \\ 0 \end{matrix}$	25	111
	50				121
32	40	32		120	
	50			130	
40	50	40		140	
	63			153	

Annex A (informative)

Relationship between designations in this part of ISO 10145 and ISO 13399

For relationship between designations in this part of ISO 10145 and preferred symbols according to ISO 13399, see [Table A.1](#).

Table A.1 — Relationship between designations in this part of ISO 10145 and ISO 13399 series

Symbol in ISO 10145-1	Reference in ISO 10145-1	Property name in ISO 13399	Symbol in ISO 13399	Reference in ISO 13399
d	Figure 1 and Table 1	cutting diameter	DC	ISO/TS 13399-3 71CE7A96D9F7D
d_1	Figure 1 and Table 1	connection diameter machine side	DCONMS	ISO/TS 13399-3 71EBDBF5060E6
l	Figure 1 and Table 1	depth of cut maximum	APMX	ISO/TS 13399-3 71D07576C0558
L	Figure 1 and Table 1	overall length	OAL	ISO/TS 13399-3 71D078EB7C086

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