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## End mills with brazed helical hardmetal tips —

### Part 2: Dimensions of end mills with 7/24 taper shank

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

*Partie 2: Dimensions des fraises à queue cône 7/24*

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# Contents

	Page
Foreword.....	iv
<b>1 Scope.....</b>	<b>1</b>
<b>2 Normative references.....</b>	<b>1</b>
<b>3 Dimensions.....</b>	<b>1</b>
<b>Annex A (informative) Relationship between designations in this part of ISO 10145 and ISO 13399.....</b>	<b>3</b>

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## Foreword

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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)).

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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 10145-2:1993), 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 2:

## Dimensions of end mills with 7/24 taper shank

### 1 Scope

This part of ISO 10145 specifies the general dimensions of end mills with brazed helical hardmetal tips, with 7/24 taper shank.

The following two types of end mills with 7/24 taper shank are specified:

- end mills with 7/24 taper shank for manual changing;
- end mills with 7/24 taper shank for automatic tool changers.

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

### 2 Normative references

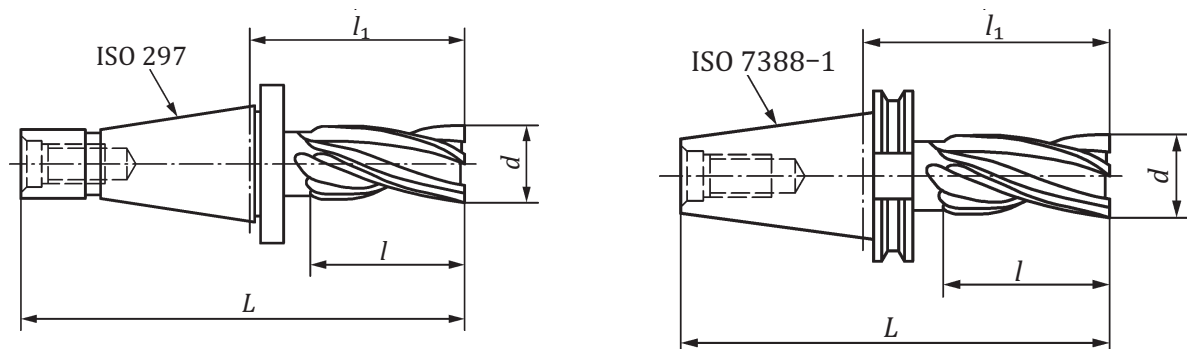
The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 297, *7/24 tapers for tool shanks for manual changing*

ISO 7388-1, *Tool shanks with 7/24 taper for automatic tool changers — Part 1: Dimensions and design of shanks of forms A, AD, AF, U, UD and UF*

### 3 Dimensions

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



**Type 1: With 7/24 taper shank for manual changing, in accordance with ISO 297**

**Type 2: With 7/24 taper shank for automatic tool changers, in accordance with ISO 7388-1**

**Figure 1 — Dimensions for endmills**

Table 1 — Dimensions for endmills

Dimensions in millimetres

<i>d</i>	<i>l</i>	Type 1				Type 2			
		Taper no. 40		Taper no. 50		Taper no. 40		Taper no. 50	
		<i>l</i> <sub>1</sub>	<i>L</i>	<i>l</i> <sub>1</sub>	<i>L</i>	<i>l</i> <sub>1</sub>	<i>L</i>	<i>l</i> <sub>1</sub>	<i>L</i>
k12	$+3/0$	$+3/0$		$+3/0$		$+3/0$		$+3/0$	
32	40	84	177,4	—	—	91	159,4	—	—
	50	94	187,4	—	—	101	169,4	—	—
40	50	94	187,4	103	229,8	101	169,4	107	208,75
	63	107	200,4	116	242,8	114	182,4	120	221,75
50	50	94	187,4	103	229,8	101	169,4	107	208,75
	80	124	217,4	133	259,8	131	199,4	137	238,75
63	63	—	—	116	242,8	—	—	120	221,75
	100	—	—	153	279,8	—	—	157	258,75

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## 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 10145-2	Reference in ISO 10145-2	Property name in ISO 13399	Symbol in ISO 13399	Reference in ISO 13399
$d$	<a href="#">Figure 1</a> and <a href="#">Table 1</a>	cutting diameter	DC	ISO/TS 13399-3 71CE7A96D9F7D
$d_1$	<a href="#">Figure 1</a> and <a href="#">Table 1</a>	connection diameter machine side	DCONMS	ISO/TS 13399-3 71EBDBF5060E6
$l$	<a href="#">Figure 1</a> and <a href="#">Table 1</a>	depth of cut maximum	APMX	ISO/TS 13399-3 71D07576C0558
$l_1$	<a href="#">Figure 1</a> and <a href="#">Table 1</a>	protruding length	LPR	ISO/TS 13399-3 71DCD394BB20E
$L$	<a href="#">Figure 1</a> and <a href="#">Table 1</a>	overall length	OAL	ISO/TS 13399-3 71D078EB7C086
taper No.	<a href="#">Table 1</a>	connection size code machine side	CZCMS	ISO/TS 13399-3 727C2BCCC5596

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