INTERNATIONAL STANDARD

ISO 2780

Third edition
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Milling cutters with tenon drive — Interchangeability dimensions for cutter arbors — Metric series

Fraises à métaux à entraînement par tenons — Dimensions d'interchangeabilité avec les mandrins porte-fraise — Série métrique

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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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 2780 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 2, *High speed steel cutting tools and their attachments*.

This third edition cancels and replaces the second edition (ISO 2780:1986), Table 2 of which has been technically revised.

Milling cutters with tenon drive — Interchangeability dimensions for cutter arbors — Metric series

1 Scope

This International Standard specifies the dimensions for interchangeability between milling cutters with tenon drive and the cutter seating of cutter arbors.

It is applicable only to milling cutters of the metric series.

It gives the interchangeability dimensions for:

— the milling cutters;

— the cutter seating on the arbor;

— the cutter retaining screw on the cutter arbor.

2 Normative references

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

ISO 240:1994, *Milling cutters — Interchangeability dimensions for cutter arbors or cutter mandrels*

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

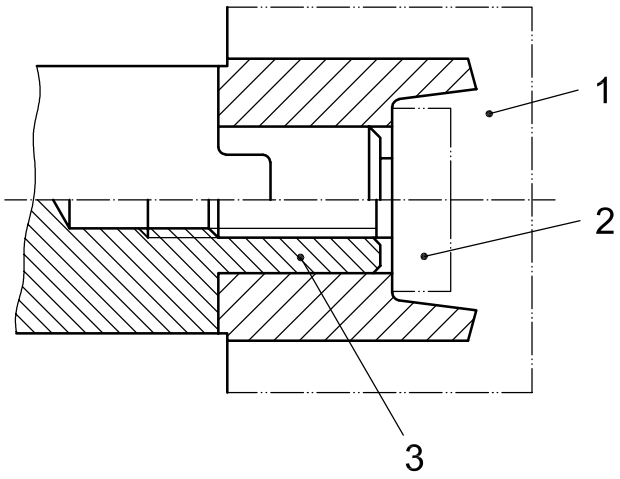
3 Dimensions

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 General layout

See Figure 1.



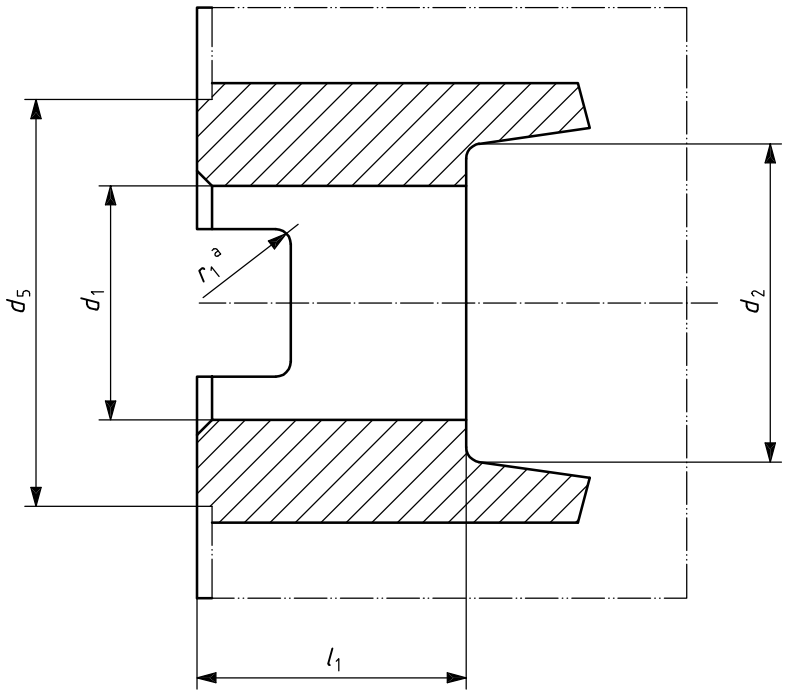
Key

1 tenon drive cutter
2 cutter retaining screw on cutter arbor
3 arbor spigot

Figure 1 — General layout

3.3 Interchangeability dimensions of cutter

The dimensions for the interchangeability of the cutter are shown in Figure 2 and given in Table 1.



[a] For dimension r_1, see ISO 240.

Figure 2 — Cutter

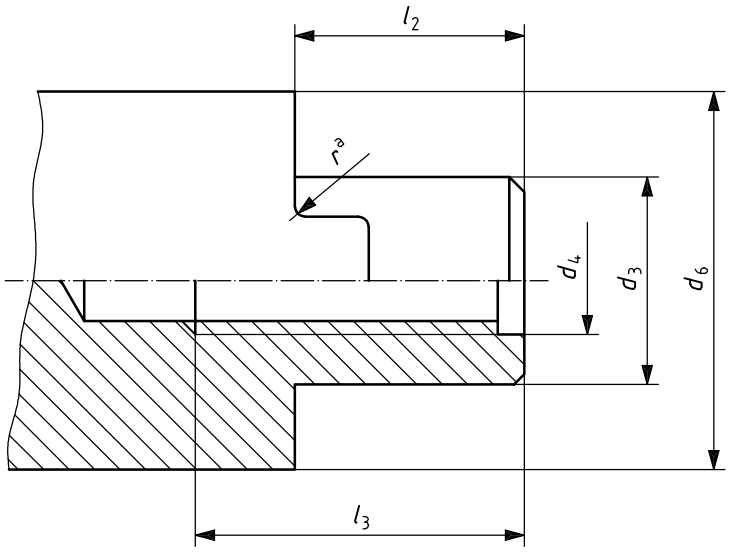
Table 1 — Interchangeability dimensions of cutter

d_1 H7	d_2 min	d_5[a] min	l_1 $^{+1}_{0}$
16	23	33	18
22	30	41	20
27	38	49	22
32	45	59	25
40	56	71	28
50	67	91	31
[a] Relief with diameter d_5 on the back face of the body is optional.			

The tenon seatings shall be in accordance with ISO 240.

3.4 Interchangeability dimensions of seating of cutter on arbor

The dimensions for the interchangeability of the seating of the cutter on the arbor are shown in Figure 3 and given in Table 2.



[a] For dimension r, see ISO 240.

Figure 3 — Arbor spigot

Table 2 — Interchangeability dimensions of the seating

d_3 h6	d_4	d_6 min.	l_2 min.	l_3 $^{0}_{-1}$
16	M8	32	20	17
22	M10	40	22	19
27	M12	48	26	21
32	M16	58	30	24
40	M20	70	34	27
50	M24	90	40	30

The tenon seatings shall be in accordance with the metric series of ISO 240.

3.5 Interchangeability dimensions of the cutter retaining screw on the cutter arbor

The dimensions for the interchangeability of the cutter retaining screw on the cutter arbor are shown in Figure 4 and given in Table 3.

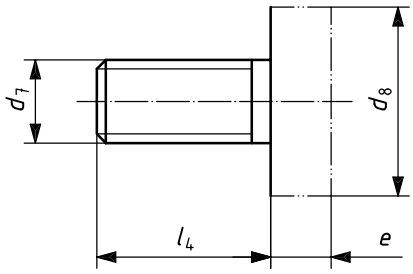


Figure 4 — Cutter retaining screw on cutter arbor

Table 3 — Dimensions of cutter retaining screw on cutter arbor

d_3[a]	d_7	d_8 max.	l_4 $^{+3}_{0}$	e max.
16	M8	20	16	6
22	M10	28	18	7
27	M12	35	22	8
32	M16	42	26	9
40	M20	52	30	10
50	M24	63	36	12

[a] Nominal diameter of spigot.

The shape of the retaining screw head is at the option of the manufacturer, only the overall dimensions d_8 and e having to be respected.

Bibliography

[1] ISO 2586:1985, *Shell end mills with plain bore and tenon drive — Metric series*

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