INTERNATIONAL STANDARD

ISO 2238

Second edition
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Machine bridge reamers

Alésoirs de chaudronnerie, à machine

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Foreword

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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 2238 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 2, *High speed steel cutting tools and their attachments*.

This second edition cancels and replaces the first edition (ISO 2238:1972), of which it constitutes a minor revision. In particular, the normative references have been updated and the dimensions in inches have been deleted.

Machine bridge reamers

1 Scope

This International Standard specifies the dimensions of machine bridge reamers. It gives, for a series of diameter ranges, d_1, from 6 mm to 50,8 mm, the values, in millimetres, for the following dimensions of these tools:

— overall length, l_3;

— total cutting edge length, l_2;

— tapered cutting edge length, l_1.

Unless otherwise stated, these reamers are right-hand cutting.

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 296, *Machine tools — Self-holding tapers for tool shanks*

3 Dimensions

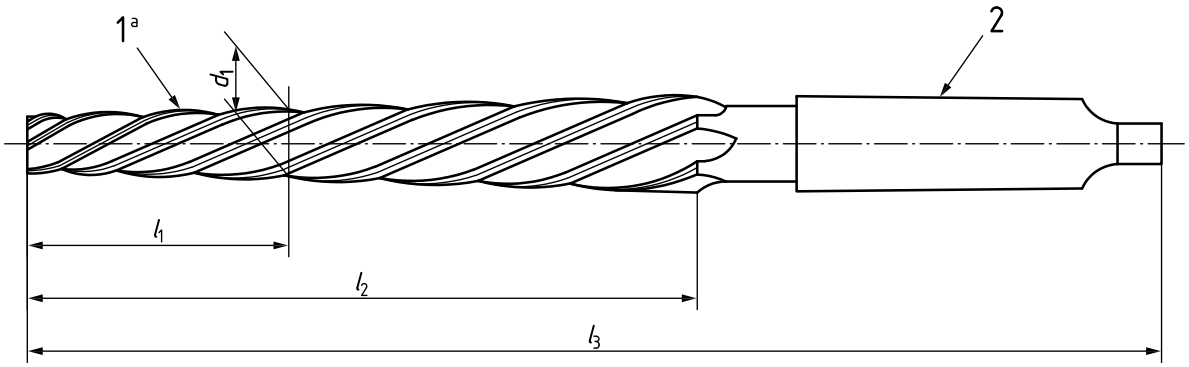
3.1 General

The Morse taper shanks shall be in accordance with ISO 296.

All dimensions and tolerances are given in millimetres.

3.2 Dimensions of machine bridge reamers

The dimensions of machine bridge reamers shall be in accordance with the indications given in Figure 1 and Table 1.



Key

1 rate of taper 1:10

2 Morse taper according to ISO 296

a 1:10 corresponds approximately to an opening angle of 5°45'.

Figure 1 — Dimensions of machine bridge reamers

Table 1 — Dimensions of machine bridge reamers

Diameter ranges, d_1 [a] [b] k11		l_1	l_2	l_3	Morse taper No.
from (over)	to (including)				
6,0	6,7	30	75	151	1
6,7	7,5	32	80	156	
7,5	8,5	34	85	161	
8,5	9,5	36	90	166	
9,5	10,6	38	95	171	
10,6	11,8	40	100	176	
11,8	13,2	42	105	199	2
13,2	14,0	46	115	209	
14,0	15,0	50	125	219	
15,0	16,0	54	135	229	
16,0	17,0	54	135	251	3
17,0	19,0	58	145	261	
19,0	21,2	62	155	271	
21,2	23,6	66	165	281	
23,6	26,5	72	180	296	
26,5	30,0	78	195	311	
30,0	31,5	84	210	326	
31,5	33,5	84	210	354	4
33,5	37,5	88	220	364	
37,5	42,5	92	230	374	
42,5	47,5	96	240	384	
47,5	50,8	100	250	394	

NOTE Tolerance on lengths, l_1 and l_2: lengths, l_1 and l_2, may vary, within one diameter step, between the minimum and maximum limits corresponding respectively to the figures given for nearest lower or upper step (increased or decreased, as far as the total length is concerned, by the length of the two Morse taper, if the Morse taper combined with one of the two adjacent steps is larger or smaller than that the steps is question).

EXAMPLE For the diameter, d_1 = 13 mm, length l_2 may vary between 100 mm and 115 mm from the nominal value 105 mm, and length l_1 may vary between 176 mm and 209 mm from the nominal value 199 mm.

[a] Diameter, d_1, of bridge reamers shall be based on the following principle:

— for rivets below 10 mm in diameter: the diameter of the reamer equals the diameter of the rivet +0,4 mm;

— for rivets 10 mm and above in diameter: the diameter of the reamer equals the diameter of the rivet +1 mm.

[b] The recommended diameters are given in Annex A.

Annex A
(informative)

Recommended stocked dimensions of bridge reamers

The following diameters of bridge reamers, in millimetres, are recommended as stocked dimensions:

6,4 – (7,4) – 8,4 – 11 – 13 – (15) – 17 – (19) – 21 – (23) – 25 – (28) – 31 – (34) – 37 – (40).

They correspond to the rivet diameters 6 mm to 36 mm defined in ISO 1051.

The dimensions in parentheses are only considered as second choice.

Bibliography

[1] ISO 1051, *Rivet shank diameters*

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