INTERNATIONAL STANDARD

ISO 3438

Second edition
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Subland twist drills with Morse taper shanks for holes prior to tapping screw threads

Forets étagés à queue cône Morse pour avant-trous de taraudage

Reference number
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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.

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

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 3438 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 3438:1975), which has been technically revised, in particular in order to align with ISO 273:1979.

Subland twist drills with Morse taper shanks for holes prior to tapping screw threads

1 Scope

This International Standard lays down the dimensions of subland twist drills with Morse taper shanks for holes prior to tapping screw threads.

The drills have been designed to produce holes prior to tapping metric threads (coarse pitch series) over a selected range of M8 to M30.

This International Standard complements ISO 2306.

Subland twist drills with cylindrical shanks for holes prior to tapping screw threads are dealt with in ISO 3439.

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*

ISO 2306, *Drills for use prior to tapping screw threads*

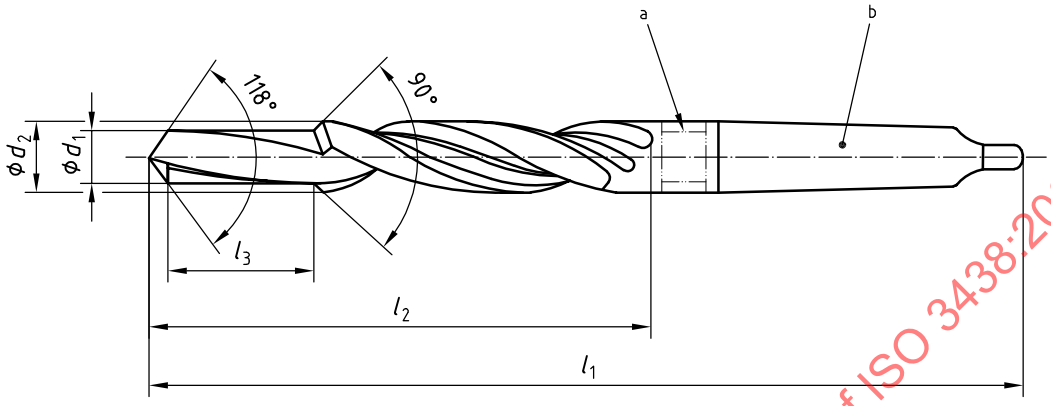
ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

ISO 10899:1996, *High-speed steel two-flute twist drills — Technical specifications*

3 Dimensions

See Figure 1 and Table 1.

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



[a] Optional recess.

[b] Morse taper in acordance with ISO 296, but with a cone tolerance of AT7 in accordance with ISO 10899:1996, 5.3 and Annex A.

Figure 1 — Subland twist drill with Morse taper shank

Table 1 — Dimensions of Subland twist drills with Morse taper shanks for holes prior to tapping metric screw threads

Dimensions in millimetres

d_2 h8	d_1 h8	l_1[a]	l_2[a]	l_3[a]	Morse taper No.	Thread
9	6,8	162	81	21	1	M8 × 1,25
11	8,5	175	94	25,5		M10 × 1,5
13,5	10,2	189	108	30		M12 × 1,75
15,5	12	218	120	34,5	2	M14 × 2
17,5	14	228	130	38,5		M16 × 2
20	15,5	238	140	43,5		M18 × 2,5
22	17,5	248	150	47,5		M20 × 2,5
24	19,5	281	160	51,5	3	M22 × 2,5
26	21	286	165	56,5		M24 × 3
30	24	296	175	62,5		M27 × 3
33	26,5	334	185	70	4	M30 × 3,5

[a] The tolerance on overall length l_1 and flute lengths l_2 and l_3 shall be the “very coarse” class as given in ISO 2768-1.