

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 235

PARALLEL SHANK TWIST DRILLS
JOBBER AND STUB SERIES
AND MORSE TAPER SHANK TWIST DRILLS

1st EDITION

December 1961

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Printed in Switzerland

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BRIEF HISTORY

The ISO Recommendation R 235, *Parallel Shank Twist Drills, Jobber and Stub Series, and Morse Taper Shank Twist Drills*, was drawn up by Technical Committee ISO/TC 29, *Small Tools*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question by the Technical Committee began in 1947, taking into account the studies which had been made by the former International Federation of the National Standardizing Associations (ISA), and led, in 1958, to the adoption of a Draft ISO Recommendation.

In September 1959, this Draft ISO Recommendation (No. 301) was submitted to all the ISO Member Bodies for enquiry. It was approved, subject to some editorial amendments, by the following Member Bodies:

Austria	Hungary	Portugal
Belgium	India	Romania
Burma	Italy	Sweden
Czechoslovakia	Mexico	Switzerland
France	Netherlands	United Kingdom
Germany	Pakistan	U.S.S.R.
Greece	Poland	

Two Member Bodies opposed the approval of the Draft:

Canada, U.S.A.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in December 1961, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 235

ISO/R 235 - 1961 (E)

ERRATUM

April 1963

**PARALLEL SHANK TWIST DRILLS
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First Printing - June 1962

ERRATUM

Page 13, Note 3. *Shank*, 3rd line,

in place of: "...** dealing with 5 per cent tapers for tool shanks",

read: "...** dealing with self-holding tapers for tool shanks".

PARALLEL SHANK TWIST DRILLS JOBBER AND STUB SERIES AND MORSE TAPER SHANK TWIST DRILLS

INTRODUCTION

I. SCOPE

This ISO Recommendation relates to twist drills and deals with the following three types:

1. Parallel shank twist drills, stub series. Tables 1.1 to 1.3,
2. Parallel shank twist drills, jobber series. Tables 2.1 to 2.3,
3. Morse taper shank twist drills and core drills Tables 3.1 to 3.3.

Other types of twist drills will be dealt with in further ISO Recommendations as and when current work on them is completed.

For each type of drill mentioned above, the ISO Recommendation comprises three tables giving respectively:

- (1) the recommended dimensions in millimetres,
- (2) the recommended dimensions in inches,
- (3) the corresponding lengths, in millimetres and in inches, set out as functions of diameter steps.

II. INTERCHANGEABILITY

The numerical tables have been drawn up in such a way as to ensure that the standard dimensions in millimetres and inches correspond as closely as possible.

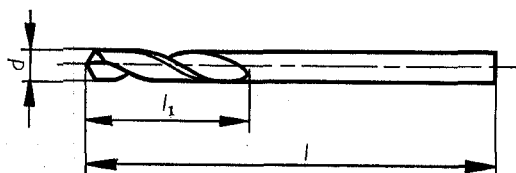
To this end, the complete range of diameters has been subdivided into a number of steps, the limits of which have been derived from the preferred number series for the metric values and converted directly from those for the inch values; the lengths and taper shank dimensions remain the same for the metric and the inch values within a given step.

The recommended diameters in the two systems of units of measurement differ, however, and the number of recommended diameters, in a given step, also differs in one system from that in the other.

Finally, the tolerance on the diameter of the cutting portion has been standardized solely on the basis of the metric values of h8*, converted directly into inches for inch drills.

* ISO System of Limits and Fits.

1. PARALLEL SHANK TWIST DRILLS, STUB SERIES



1.1 Recommended dimensions in millimetres

d	l_1	l	d	l_1	l	d	l_1	l	d	l_1	l
0.50	3	20	9.50	40	84	18.50			27.50		
0.80	5	24	9.80			18.75	64	127	27.75	81	162
1.00	6	26	10.00	43	89	19.00			28.00		
1.20	8	30	10.20			19.25			28.25		
1.50	9	32	10.50			19.50	66	131	28.50		
1.80	11	36	10.80			19.75			28.75		
2.00	12	38	11.00			20.00			29.00	84	168
2.20	13	40	11.20	47	95	20.25			29.25		
2.50	14	43	11.50			20.50	68	136	29.50		
2.80			11.80			20.75			29.75		
3.00	16	46	12.00			21.00			30.00		
3.20	18	49	12.20			21.25			30.25		
3.50	20	52	12.50			21.50			30.50		
3.80			12.80	51	102	21.75	70	141	30.75	87	174
4.00	22	55	13.00			22.00			31.00		
4.20			13.20			22.25			31.25		
4.50	24	58	13.50			22.50			31.50		
4.80			13.80	54	107	22.75			31.75		
5.00	26	62	14.00			23.00	72	146	32.00		
5.20			14.25			23.25			32.50	90	180
5.50			14.50			23.50			33.00		
5.80	28	66	14.75	56	111	23.75			33.50		
6.00			15.00			24.00			34.00		
6.20			15.25			24.25			34.50		
6.50	31	70	15.50			24.50	75	151	35.00	93	186
6.80			15.75	58	115	24.75			35.50		
7.00			16.00			25.00			36.00		
7.20	34	74	16.25			25.25			36.50	96	193
7.50			16.50			25.50			37.00		
7.80			16.75	60	119	25.75			37.50		
8.00			17.00			26.00	78	156	38.00		
8.20	37	79	17.25			26.25			38.50		
8.50			17.50			26.50			39.00	100	200
8.80			17.75	62	123	26.75			39.50		
9.00	40	84	18.00			27.00	81	162	40.00		
9.20			18.25	64	127	27.25					