

International Standard



7079

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Core drills with parallel shanks and with Morse taper shanks

Forets-aléseurs à queue cylindrique et à queue cône Morse

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Descriptors : drills, core drills, dimensions, dimensional tolerances.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 7079 was developed by Technical Committee ISO/TC 29, *Small tools*, and was circulated to the member bodies in May 1980.

It has been approved by the member bodies of the following countries :

Australia	Hungary	Poland
Austria	India	South Africa, Rep. of
Belgium	Israel	Spain
Bulgaria	Italy	Sweden
Czechoslovakia	Japan	Switzerland
Egypt, Arab Rep. of	Mexico	United Kingdom
France	Netherlands	USSR

The member body of the following country expressed disapproval of the document on technical grounds :

Germany, F. R.

This International Standard cancels and replaces International Standard ISO 235/2-1972, of which it constitutes a technical revision.

Core drills with parallel shanks and with Morse taper shanks

1 Scope and field of application

This International Standard specifies the dimensions of core drills with parallel shanks and with Morse taper shanks.

It includes two tables for each of the above specified types, giving respectively :

- the dimensions for the preferred diameters and
- the corresponding lengths defined in terms of diameter ranges.

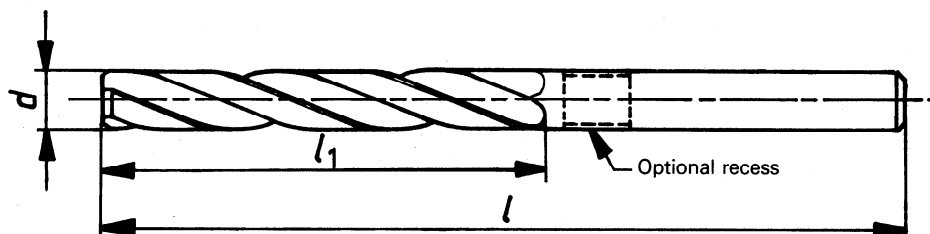
The tables show only metric dimensions which are alone recommended in the future for this type of drill.

Unless otherwise stated, these drills will be right-hand cutting drills.

2 Reference

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

3 Core drills with parallel shanks



3.1 Dimensions for the preferred diameters

Dimensions in millimetres

d h8	l_1	l
3,00	33	61
3,30	36	65
3,50	39	70
3,80	43	75
4,00		
4,30	47	80
4,50		
4,80	52	86
5,00		
5,80	57	93
6,00		
6,80	69	109
7,00		
7,80	75	117
8,00		
8,80	81	125
9,00		
9,80	87	133
10,00		

d h8	l_1	l
10,75	94	142
11,00		
11,75		
12,00	101	151
12,75		
13,00		
13,75	108	160
14,00		
14,75	114	169
15,00		
15,75	120	178
16,00		
16,75	125	184
17,00		
17,75	130	191
18,00		
18,70	135	198
19,00		
19,70	140	205

NOTES

1 Intermediate sizes

When intermediate sizes are needed, reference should be made to the general table in 3.2 for the corresponding lengths.

2 Flute portion

- Tolerance on diameter d measured near the point : h8.
- Back taper : at the manufacturer's discretion.

3 Shank

These drills are normally made without driving tenon.

4 Tolerance on lengths

See general table in 3.2.

3.2 General table : Corresponding lengths set out as a function of diameter ranges

Dimensions in millimetres

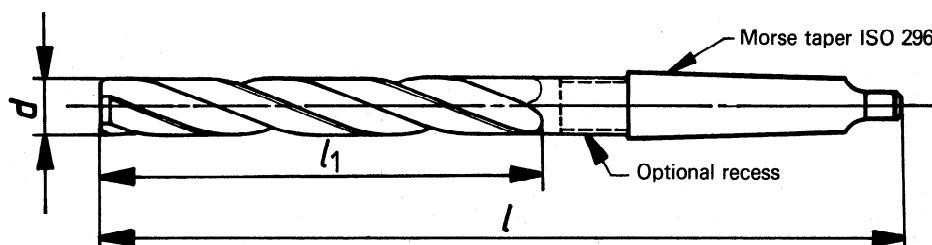
Diameter ranges d		Corresponding lengths	
over	up to and including	l_1	l
	3,00	33	61
3,00	3,35	36	65
3,35	3,75	39	70
3,75	4,25	43	75
4,25	4,75	47	80
4,75	5,30	52	86
5,30	6,00	57	93
6,00	6,70	63	101
6,70	7,50	69	109
7,50	8,50	75	117
8,50	9,50	81	125
9,50	10,60	87	133
10,60	11,80	94	142
11,80	13,20	101	151
13,20	14,00	108	160
14,00	15,00	114	169
15,00	16,00	120	178
16,00	17,00	125	184
17,00	18,00	130	191
18,00	19,00	135	198
19,00	20,00	140	205

NOTE — Tolerance on lengths

Lengths l and l_1 may vary, within one diameter range, between the minimum and maximum limits corresponding respectively to the figures given for the nearest lower or upper range.

Example : For diameter 4 mm, length l_1 may vary between 39 and 47 mm about nominal value 43 mm, and length l may vary between 70 and 80 about nominal value 75 mm.

4 Core drills with Morse taper shanks



4.1 Dimensions for the preferred diameters

d h8	l_1	l	Morse taper No.	
7,80	75	156	1	
8,00				
8,80				
9,00	81	162		
9,80				
10,00	87	168		
10,75				
11,00	94	175		
11,75				
12,00				
12,75	101	182		
13,00				
13,75	108	189		
14,00				
14,75	114	212		
15,00				
15,75				
16,00	120	218		
16,75				
17,00				
17,75	125	223		
18,00				
18,75	130	228		
19,00				
19,75				
20,00	135	233		
20,75				
21,00				
21,75	140	238		
22,00				
22,75				
23,00	145	243		
	150	248		
	155	253		

Dimensions in millimetres

d h8	l_1	l	Morse taper No.
23,70	160	281	3
24,00			
24,70			
25,00			
25,70	165	286	
26,00			
27,70	170	291	
28,00			
29,70	175	296	
30,00			
31,60	185	306	
32,00	185	334	4
33,60	190	339	
34,00			
34,60			
35,00			
35,60	195	344	
36,00			
37,60	200	349	
38,00			
39,60			
40,00			
41,60	205	354	
42,00			
43,60	210	359	
44,00			
44,60			
45,00			
45,60	215	364	
46,00			
47,60	220	369	
48,00			
49,60			
50,00			

NOTES

1 Intermediate sizes

When intermediate sizes are needed, reference should be made to the general table in 4.2 for the corresponding lengths.

2 Flute portion

- Tolerance on diameter d measured near the point : h8.
- Back taper : at the manufacturer's discretion.

3 Shank

In accordance with ISO 296.

4 Tolerance on lengths

See general table in 4.2.

4.2 General table : Corresponding lengths set out as a function of diameter ranges

Dimensions in millimetres

Diameter ranges d		Corresponding lengths			Diameter ranges d		Corresponding lengths		
over	up to and including	l_1	l	Morse taper No.	over	up to and including	l_1	l	Morse taper No.
7,50	8,50	75	156	1	23,02	23,60	155	276	3
8,50	9,50	81	162		23,60	25,00	160	281	
9,50	10,60	87	168		25,00	26,50	165	286	
10,60	11,80	94	175		26,50	28,00	170	291	
11,80	13,20	101	182		28,00	30,00	175	296	
13,20	14,00	108	189		30,00	31,50	180	301	
14,00	15,00	114	212	2	31,50	31,75	185	306	4
15,00	16,00	120	218		31,75	33,50		334	
16,00	17,00	125	223		33,50	35,50	190	339	
17,00	18,00	130	228		35,50	37,50	195	344	
18,00	19,00	135	233		37,50	40,00	200	349	
19,00	20,00	140	238		40,00	42,50	205	354	
20,00	21,20	145	243		42,50	45,00	210	359	
21,20	22,40	150	248		45,00	47,50	215	364	
22,40	23,02	155	253		47,50	50,00	220	369	

NOTE — Tolerance on lengths

Lengths l and l_1 may vary, within one diameter step, between the minimum and maximum limits corresponding respectively to the figures given for the nearest lower or upper step (increased or reduced, as far as the total length is concerned, by the difference between the lengths of the two tapers, if the taper combined with one of the two adjacent steps is larger or smaller than that of the step in question).

Example : For the diameter 15 mm, length l_1 may vary between 108 and 120 from the nominal value 114 mm, with a tolerance ± 6 . As the tolerance for l is the same as that for $l_1 (\pm 6)$, l can vary between 206 and 218 from the nominal value 212 mm.

5 Core drills for pre-finishing operations

The following amount of stock removal is recommended and the diameters of the core drills should be calculated accordingly :

Dimensions in millimetres

Diameters d		Stock removal
over	up to and including	
—	10	0,20
10	18	0,25
18	30	0,30
30	50	0,40