INTERNATIONAL STANDARD

ISO 3291

Third edition
2016-11-01

Extra-long Morse taper shank twist drills

Forets extra-longs à queue cône Morse

Reference number
ISO 3291:2016(E)

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 2, *Holding tools, adaptive items and interfaces*.

This third edition cancels and replaces the second edition (ISO 3291:1995), of which it constitutes a minor revision, notably with the addition of Annex A, which gives the relationship between the designations of this International Standard and the ISO 13399 series.

Extra-long Morse taper shank twist drills

1 Scope

This International Standard specifies the dimensions of extra-long Morse taper shank drills in the range of 6 mm to 50 mm diameter with an overall length range of 200 mm to 630 mm.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 10899, *High-speed steel two-flute twist drills — Technical specifications*

3 Dimensions

See Figure 1 and Tables 1 and 2.

4 Technical specifications

Unless otherwise specified, technical requirements shall comply with ISO 10899.

5 Designations

Extra Morse taper shank twist drills in accordance with this International Standard shall be designated by the following:

a) “twist drill”;

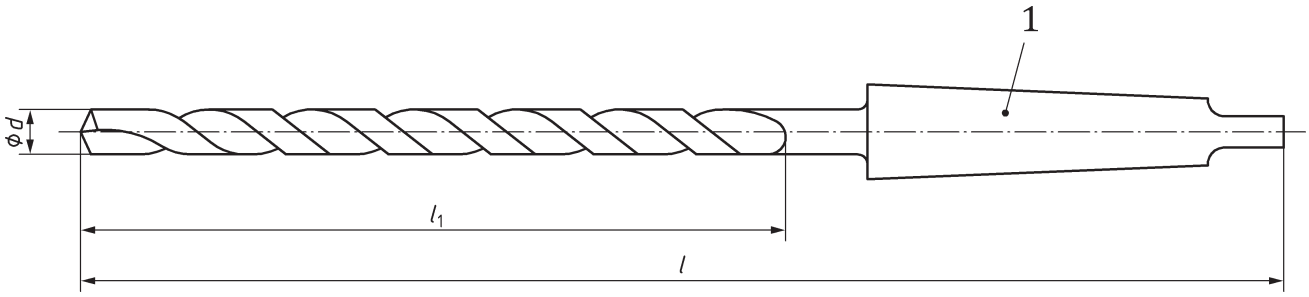
b) a reference to this International Standard, i. e. ISO 3291;

c) drill diameter, *d*, in millimetres;

d) overall length, *l*, in millimetres.

EXAMPLE An extra-long Morse taper shank twist drill of diameter *d* = 10 mm and overall length *l* = 250 mm shall be designated as follows:

Twist drill ISO 3291 - 10 - 250



Key

1 Morse taper shank

Figure 1 — Extra-long Morse taper shank twist drill

Table 1 — Extra-long Morse taper shank twist drill, preferred sizes

Dimensions in millimetres

Preferred diameters d h8	**Overall length** l 200	250	315	400	500	630	**Morse taper shank no.**[a]
6	X	X	X				1
6,5	X	X	X				
7	X	X	X				
7,5	X	X	X				
8	X	X	X				
8,5	X	X	X				
9	X	X	X				
9,5	X	X	X				
10		X	X	X			
11		X	X	X			
12		X	X	X			
13		X	X	X			
14		X	X	X			
15			X	X	X		2
16			X	X	X		
17			X	X	X		
18			X	X	X		
19			X	X	X		
20			X	X	X		
21			X	X	X		
22			X	X	X		
23			X	X	X		

NOTE For the values flute length, l_1, see Table 2.

[a] In accordance with ISO 296.

Table 1 *(continued)*

Preferred diameters *d* h8	**Overall length** *l* 200	250	315	400	500	630	**Morse taper shank no.**[a]
24				X	X	X	3
25				X	X	X	
28				X	X	X	
30				X	X	X	
32				X	X	X	4
35				X	X	X	
38				X	X	X	
40				X	X	X	
42					X	X	
45					X	X	
48					X	X	
50					X	X	
Range of diameters	$6 \leq d \leq 9{,}5$	$6 \leq d \leq 14$	$6 \leq d \leq 23$	$9{,}5 < d \leq 40$	$14 < d \leq 50$	$23 < d \leq 50$	

NOTE For the values flute length, l_1, see Table 2.

[a] In accordance with ISO 296.

Table 2 — Flute length, l_1, of extra-long Morse taper shank twist drill

Dimensions in millimetres

Morse taper shank no.	**Overall length**, *l* 200	250	315	400	500	630
	Flute length, l_1					
1	110	160	225	310		
2			215	300	400	
3				275	375	505
4				250	350	480

Annex A
(informative)

Relationship between designations in this International Standard and ISO 13399 (all parts)

For relationship between designations in this International Standard and preferred symbols according to ISO 13399 (all parts), see Table A.1.

Table A.1 — Relationship between designations in this International Standard and ISO 13399 (all parts)

Symbol in ISO 3291	Reference in ISO 3291	Property name in ISO 13399 (all parts)	Symbol in ISO 13399 (all parts)	Reference in ISO 13399 (all parts)
d	Figure 1 Table 1	cutting diameter	DC	71D084653E57F
l_1	Figure 1 Table 2	length chip flute	LCF	71DCCC27DEF53
l	Figure 1 Table 1 and Table 2	overall length	OAL	71D078EB7C086