
अतिरिक्त लंबाई के मोर्स टेपर शैंक ट्विस्ट
ड्रिल

(तीसरा पुनरीक्षण)

Extra-Long Morse Taper Shank Twist
Drills

(Third Revision)

ICS 25.100.30

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NATIONAL FOREWORD

This Indian Standard (Third Revision) which is identical to ISO 3291 : 2016 'Extra-long morse taper shank twist drills' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on recommendation of the Cutting Tools Sectional Committee and approval of the Production and General Engineering Division Council.

This standard was originally published in 1975 based on ISO 3291 : 1975 and subsequently revised in 1983 and 2005. This third revision has been brought out to align it with latest version of ISO 3291. In this revision, the relationship between symbols used in this standard and symbols according to ISO 13399 series on 'Cutting tool data representation and exchange' has been added as Annex A.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.; and
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to the following International Standard for which Indian Standard also exists. The corresponding Indian Standard which is to be substituted in their place are listed below along with its degree of equivalence for the edition indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 296 : 1991 Machine tools — Self-holding tapers for tool shanks	IS 1715 : 2002 Self-holding tapers — Dimensions (<i>third revision</i>)	Not equivalent

The Committee has reviewed the provisions of the following International Standard referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard:

<i>International Standard</i>	<i>Title</i>
ISO 10899	High-speed steel two-flute twist drills — Technical specifications

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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Indian Standard

EXTRA-LONG MORSE TAPER SHANK TWIST DRILLS

(*Third Revision*)

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.

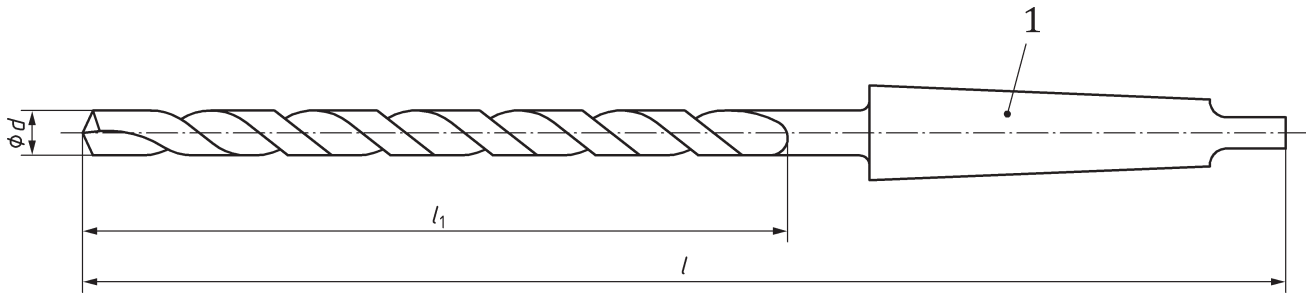
5 Designations

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						Morse taper shank no. ^a
	200	250	315	400	500	630	
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		
16			X	X	X	2	
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 <i>d</i>	Overall length						Morse taper shank no. ^a
	<i>l</i>						
h8	200	250	315	400	500	630	
24				X	X	X	3
25				X	X	X	
28				X	X	X	
30				X	X	X	
32				X	X	X	
35				X	X	X	
38				X	X	X	
40				X	X	X	
42					X	X	
45					X	X	
48					X	X	4
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, <i>l</i>					
	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

Bibliography

- [1] ISO 235, *Parallel shank jobber and stub series drills and Morse taper shank drills*
- [2] ISO 494, *Cylindrical shank twist drills — Long series*
- [3] ISO 3292, *Extra-long parallel shank twist drills*
- [4] ISO 13399 (all parts), *Cutting tool data representation and exchange*

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Amendments Issued Since Publication

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