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IS 5101 (1991): Twist Drills, Parallel Shank, Jobber Series
[PGD 32: Cutting tools]



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भारतीय मानक

एंठन बरमा, समानान्तर शैंक, जोबर सीरिज — विशिष्ट

(पहला पुनरीक्षण)

Indian Standard

TWIST DRILLS, PARALLEL SHANK, JOBBER
SERIES — SPECIFICATION

(*First Revision*)

UDC 621.951.452

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BUREAU OF INDIAN STANDARDS
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FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Drills and Reamers Sectional Committee had been approved by the Production Engineering Division Council.

This standard was first published in 1969. The first revision has been brought out to bring in line with latest revision of ISO 235.

The following modifications are made in this revision:

- a) The tolerances have been clubbed with dimension in 3.
- b) Requirements for material and hardness are included.
- c) The range of diameter of twist drills — jobbers series, have been modified and increased from 16.00 mm to 20.00 mm.

In the preparation of this standard, considerable assistance has been derived from ISO 235 : 1980 'Parallel shank jobber and stub drills and Morse taper shank drills', issued by the International Organization for Standardization (ISO).

Indian Standard

TWIST DRILLS, PARALLEL SHANK, JOBBER SERIES — SPECIFICATION

(*First Revision*)

1 SCOPE

This standard covers the dimensions and other requirements for twist drills, parallel shank, jobber series, with or without driving tenon.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>
5099 : 1983	Technical supply conditions for twist drills (<i>first revision</i>)
5360 : 1969	Dimensions for driving tenons
7778 : 1975	Methods for sampling small tools

3 DIMENSIONS

Dimensions shall be as given in Table 1.

3.1 Tolerances

The flute length ' l_1 ' and overall length ' l ' may vary between the corresponding lengths specified for the preceding and the following ranges of diameters.

Example

The overall length for 8·10 mm diameter may vary between the values 109 and 125 mm from the specified value of 117 mm. Correspondingly the flute length (l_1) may vary between 69·0 and 81·0 mm from the specified value of 75·0 mm.

3.1.1 In case of range of diameters 0·19 mm to 0·24 mm, the tolerance on l_1 shall be $2·5 \pm 0·5$ and the tolerance on l shall be 19 ± 1 . In case of range of diameters, 19 mm to 20 mm, the tolerance on l_1 shall be 140 ± 5 and tolerance on l shall be 205 ± 7 .

4 MATERIAL AND HARDNESS

Shall be in accordance with IS 5099 : 1983.

5 GENERAL REQUIREMENTS

5.1 'Tool type N' shall be supplied, unless otherwise specified according to IS 5099 : 1983.

5.2 The diameter ' d ' shall be measured as near the point as practicable.

5.3 These drills are normally made without driving tenon. In case required with driving tenon, the dimensions shall be according to IS 5360 : 1969.

5.4 For the requirements not covered in this standard, it shall conform to the requirements of IS 5099 : 1983.

6 SAMPLING

The sampling and criteria of acceptance shall be in accordance with IS 7778 : 1975.

7 DESIGNATION

7.1 A jobber series twist drill with 10·20 mm diameter, of 'tool type N' and for right hand cutting and made from high speed steel shall be designated as:

Twist Drill 10·20 IS 5101

7.2 When the twist drill is required with other tool types (H or S) or with a driving tenon (T), this shall be mentioned in the designation as:

Twist Drill 10·20 S — T IS 5101

8 MARKING

Shall be as given in IS 5099 : 1983.

9 PROTECTIVE COATING AND PACKAGING

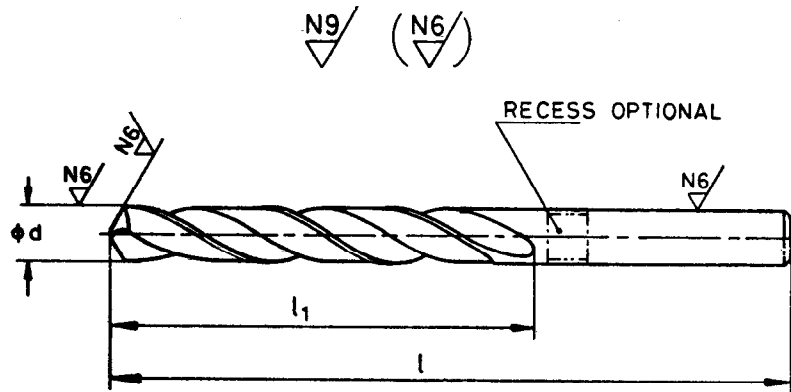
Shall be as given in IS 5099 : 1983.

10 TESTS

Shall be carried out according to IS 5099 : 1983.

Table 1 Dimensions for Twist Drill, Parallel Shank, Jobber Series
(Clause 3)

All dimensions in millimetres.



d h8	Range of Diameters d		l_1	l	d h8	Range of Diameters d		l_1	l
	Over	Up to and including				Over	Up to and including		
0.20 0.22	0.19	0.24	2.5	19	1.10 1.15	1.06	1.18	14.0	36
0.25 0.28 0.30	0.24	0.30	3.0		1.20 1.25 1.30	1.18	1.32	16.0	38
0.32 0.35 0.38	0.30	0.38	4.0		1.35 1.40 1.45 1.50	1.32	1.50	18.0	40
0.40 0.42 0.45 0.48	0.38	0.48	5.0		1.55 1.60 1.65 1.70	1.50	1.70	20.0	43
0.50 0.52	0.48	0.53	6.0		1.75 1.80 1.85 1.90	1.70	1.90	22.0	46
0.55 0.58 0.60	0.53	0.60	7.0		1.95 2.00 2.05 2.10	1.90	2.12	24.0	49
0.62 0.65	0.60	0.67	8.0		2.15 2.20 2.25 2.30 2.35	2.12	2.36	27.0	53
0.68 0.70 0.72 0.75	0.67	0.75	9.0		2.40 2.45 2.50 2.55 2.60 2.65	2.36	2.65	30.0	57
0.78 0.80 0.82 0.85	0.75	0.85	10.0						
0.88 0.90 0.92 0.95	0.85	0.95	11.0						
0.98 1.00 1.05	0.95	1.06	12.0						

Table 1 (Continued)

d h8	Range of Diameters d		l_1	l	d h8	Range of Diameters d		l_1	l
	Over	Up to and including				Over	Up to and including		
2.70 2.75 2.80 2.85 2.90 2.95 3.00	2.65	3.00	33.0	61	6.80 6.90 7.00 7.10 7.20 7.30 7.40 7.50	6.70	7.50	69.0	109
3.10 3.20 3.30	3.00	3.35	36.0	65	7.60 7.70 7.80 7.90 8.00 8.10 8.20 8.30 8.40 8.50	7.50	8.50	75.0	117
3.40 3.50 3.60 3.70	3.35	3.75	39.0	70	8.60 8.70 8.80 8.90 9.00 9.10 9.20 9.30 9.40 9.50	8.50	9.50	81.0	125
3.80 3.90 4.00 4.10 4.20	3.75	4.25	43.0	75	9.60 9.70 9.80 9.90 10.00 10.10 10.20 10.30 10.40 10.50 10.60	9.50	10.60	87.0	133
4.30 4.40 4.50 4.60 4.70	4.25	4.75	47.0	80	10.70 10.80 10.90 11.00 11.10 11.20 11.30 11.40 11.50 11.60 11.70 11.80	10.60	11.80	94.0	142
4.80 4.90 5.00 5.10 5.20 5.30	4.75	5.30	52.0	86					
5.40 5.50 5.60 5.70 5.80 5.90 6.00	5.30	6.00	57.0	93					
6.10 6.20 6.30 6.40 6.50 6.60 6.70	6.00	6.70	63.0	101					

Table 1 (Concluded)

d h8	Range of Diameters d		l_1	l	d h8	Range of Diameters d		l_1	l								
	Over	Up to and including				Over	Up to and including										
11.90 12.00 12.10 12.20 12.30 12.40 12.50 12.60 12.70 12.80 12.90 13.00 13.10 13.20	11.80	13.20	101.0	151	14.25 14.50 14.75 15.00	14.00	15.00	114.0	169								
15.25 15.50 15.75 16.00					15.00					16.00	120.0	178					
16.50 17.00													16.00	17.00	125	184	
17.50 18.00																	17.00
18.50 19.00	18.00	19.00	135	198													
19.50 20.00					19.00	20.00	140	205									
13.30 13.40 13.50 13.60 13.70 13.80 13.90 14.00									13.20	14.00	108.0	160	17.50 18.00	17.00	18.00	130	
18.50 19.00													18.00				19.00
19.50 20.00	19.00	20.00	140	205													

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