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IS 2540 (2008): Dimensions for threaded centre holes [PGD
20: Engineering Standards]



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भारतीय मानक
चूडीदार खुले छिद्र के लिये आयाम
(पहला पुनरीक्षण)

Indian Standard
DIMENSIONS FOR THREADED CENTRE HOLES
(*First Revision*)

ICS 25.080.01

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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 Engineering Standards Sectional Committee had been approved by the Production and General Engineering Division Council.

This standard was first published in 1963 and was based on CSN 014917-1956 '60° Threaded centre holes'. Urad Pro Normalisaci and DIN 332 Blatt 2 — 1960 '60° Threaded centre holes'. Duetscher Normenausschuss.

In the present revision, the standard is revised in line with the latest standard DIN 332 Teil 2 — 1983 'Centre holes 60° with threads for shaft ends for rotating electrical machines'.

This standard covers three forms of centre holes, which corresponds to the manufacturing types depending on the available tools.

This standard is one of a series of Indian Standards related to centre holes. Other standards published so far in the series are:

<i>IS No.</i>	<i>Title</i>
2289 : 1976	Specification for 60° dead centres for lathes (<i>first revision</i>)
2473 : 1975	Dimensions for centre holes (<i>first revision</i>)
6708 : 1977	Specification for centre drills type A (<i>first revision</i>)
6709 : 1977	Specification for centre drills type B (<i>first revision</i>)
6710 : 1997	Specification for centre drills type R (<i>first revision</i>)

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 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

DIMENSIONS FOR THREADED CENTRE HOLES (First Revision)

1 SCOPE

This standard prescribes the dimensions of threaded centre holes with 60° countersink. Centre holes as per this standard are meant for the assembly of pulleys and couplings with pressing tools, but not for transportation with eyebolts. The forms of centre holes are functionally equivalent; hence the choice of form is left to the manufacturers.

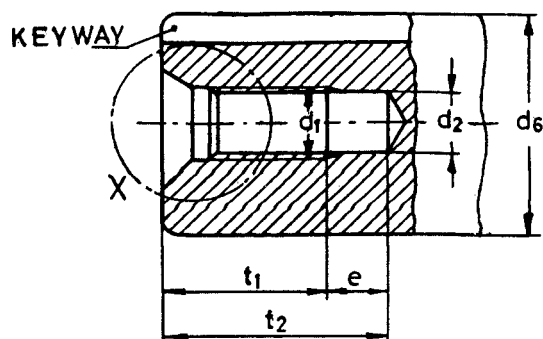
2 REFERENCES

The following standards are necessary adjuncts to this standard:

IS No.	Title
1369 (Part 3) : 1995	Fasteners—Thread run-outs and undercuts: Part 3 Dimensions for screw thread run-outs and undercuts for internal threads (Blind tapped holes) (<i>third revision</i>)
2102 (Part 1) : 1993	General tolerances: Part 1 Tolerances for linear and angular dimensions, without individual tolerance indications (<i>third revision</i>)
10952 : 1984/ ISO 2306 : 1972	Recommendations for drills for use prior to tapping screw threads
11668 : 1985	Technical drawings — Simplified representation of centre holes

3 DIMENSIONS

For dimensions without tolerances in Table 1, the medium grade of tolerances as per IS 2102 (Part 1) is applicable (*see* Fig. 1).



“e” as per IS 1369 (Part 3)

FIG. 1 DIMENSION FOR THREADED CENTRE HOLE

4 DESIGNATION

Designation of a centre hole form DR with thread $d_1 = M8$

Centre Hole DR- M8 IS 2540

Example for details as per IS 11668 for indication on drawing.

Table 1 Dimensions of Threaded Centre Holes

(Clause 3 and Fig. 1)

Sl No.	Threads d_1	$d_2^{1)}$	d_3	d_4	d_5	R	$t_1^{+2}_0$	t_2 Min	$t_3^{+1}_0$	t_4 \approx	t_5 \approx	Recommended Diameter Range of Shaft End $d_6^{2)}$
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
i)	M3	2.5	3.2	5.3	5.8	4	9	12	2.6	1.8	0.2	7 to 10 ³⁾
ii)	M4	3.3	4.3	6.7	7.4	5	10	14	3.2	2.1	0.3	over 10 to 13 ³⁾
iii)	M5	4.2	5.3	8.1	8.8	6.3	12.5	17	4	2.4	0.3	over 13 to 16 ³⁾
iv)	M6	5	6.4	9.6	10.5	8	16	21	5	2.8	0.4	over 16 to 21
v)	M8	6.8	8.4	12.2	13.2	10	19	25	6	3.3	0.4	over 21 to 24
vi)	M10	8.5	10.5	14.9	16.3	16	22	30	7.5	3.8	0.6	over 24 to 30
vii)	M12	10.2	13	18.1	19.8	20	28	37	9.5	4.4	0.7	over 30 to 38
viii)	M16	14	17	23	25.3	25	36	45	12	5.2	1.0	over 38 to 50
ix)	M20	17.5	21	28.4	31.3	31.5	42	53	15	6.4	1.3	over 50 to 85
x)	M24	21	25	34.2	38	40	50	63	18	8	1.6	over 85 to 130

¹⁾ Guide value for drill diameter as per IS 10952.

²⁾ For shaft ends of non-circular cross-sectional form the smallest dimension is valid as d_6 .

³⁾ For shaft ends with through keyway the diameter of shaft end must be minimum 10 mm for centre hole of M3, for centre hole M4 shaft dia must be minimum of 12 mm, and for centre hole M5 shaft dia must be minimum of 16 mm. For smaller diameters of shaft ends the corresponding centre holes can be used only if there is no through key way or there is no key way.

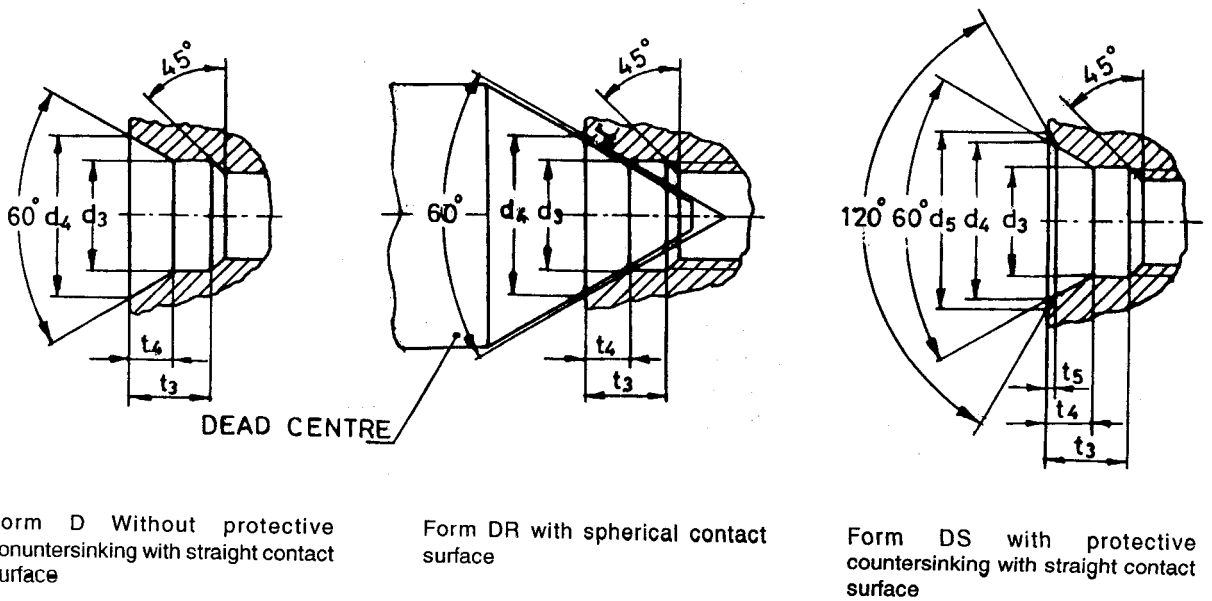


FIG 2 ENLARGED VIEW OF THREADED CENTRE HOLE (DETAIL X, FIG. 1)



FIG. 3 REPRESENTATION IN DRAWINGS

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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