
INTERNATIONAL STANDARD**724**

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

ISO metric screw threads – Basic dimensions

Filetages métriques ISO – Dimensions de base

First edition – 1978-11-15

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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 724 was developed by Technical Committee ISO/TC 1, *Screw threads*.

It was submitted directly to the ISO Council, in accordance with clause 6.13.1 of the Directives for the technical work of ISO. It cancels and replaces ISO Recommendation R 724-1968, which had been approved by the member bodies of the following countries :

Australia	Germany, F.R.	South Africa, Rep. of
Austria	Hungary	Spain
Belgium	India	Sweden
Brazil	Israel	Switzerland
Canada	Italy	Turkey
Chile	Japan	United Kingdom
Czechoslovakia	Netherlands	U.S.A.
Denmark	New Zealand	U.S.S.R.
Egypt, Arab Rep. of	Norway	Yugoslavia
Finland	Poland	
France	Romania	

No member body expressed disapproval of the document.



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ISO metric screw threads – Basic dimensions

ERRATUM

Page 2

In table;

for nominal diameter of 2,2, the pitch diameter should be 1,908 (not 1,907);

for nominal diameter of 2,5, the pitch diameter should be 2,208 (not 2,207).

Page 3

In table;

for nominal diameter of 39, the pitch diameter should be 38,026 (not 38,025);

for nominal diameter of 52, the minor diameter should be 46,587 (not 47,587).

Page 4

In table;

for nominal diameter of 76, the pitch diameter should be 74,701 (not 76,701).

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ISO metric screw threads – Basic dimensions

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1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the basic dimensions, in millimetres, of ISO metric screw threads according to ISO 261, *ISO general purpose metric screw threads – General plan*. The values refer to the basic profile according to ISO 68, *ISO general purpose screw threads – Basic profile*.

D = basic major diameter of internal thread (nominal diameter)

d = basic major diameter of external thread (nominal diameter)

D_2 = basic pitch diameter of internal thread

d_2 = basic pitch diameter of external thread

D_1 = basic minor diameter of internal thread

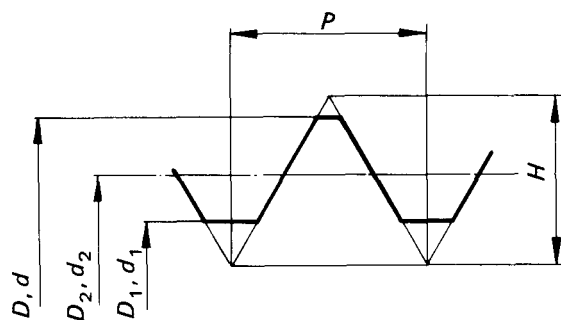
d_1 = basic minor diameter of external thread

H = height of fundamental triangle

P = pitch

2 BASIC DIMENSIONS

The values of D_2 , d_2 , D_1 and d_1 have been calculated from the following formulae and rounded, in the tables, to the third decimal place :



$$D_2 = D - 2 \times \frac{3}{8} H = D - 0,649 5 P$$

$$d_2 = d - 2 \times \frac{3}{8} H = d - 0,649 5 P$$

$$D_1 = D - 2 \times \frac{5}{8} H = D - 1,082 5 P$$

$$d_1 = d - 2 \times \frac{5}{8} H = d - 1,082 5 P$$

Nominal diameter = Major diameter D, d	Pitch P	Pitch diameter D_2, d_2	Minor diameter D_1, d_1
1	0,25	0,838	0,729
	0,2	0,870	0,783
1,1	0,25	0,938	0,829
	0,2	0,970	0,883
1,2	0,25	1,038	0,929
	0,2	1,070	0,983
1,4	0,3	1,205	1,075
	0,2	1,270	1,183
1,6	0,35	1,373	1,221
	0,2	1,470	1,383
1,8	0,35	1,573	1,421
	0,2	1,670	1,583
2	0,4	1,740	1,567
	0,25	1,838	1,729
2,2	0,45	1,905	1,713
	0,25	2,038	1,929
2,5	0,45	2,205	2,013
	0,35	2,273	2,121
3	0,5	2,675	2,459
	0,35	2,773	2,621
3,5	0,6	3,110	2,850
	0,35	3,273	3,121
4	0,7	3,545	3,242
	0,5	3,675	3,459
4,5	0,75	4,013	3,688
	0,5	4,175	3,959
5	0,8	4,480	4,134
	0,5	4,675	4,459
5,5	0,5	5,175	4,959
6	1	5,350	4,917
	0,75	5,513	5,188
7	1	6,350	5,917
	0,75	6,513	6,188
8	1,25	7,188	6,647
	1	7,350	6,917
	0,75	7,513	7,188
9	1,25	8,188	7,647
	1	8,350	7,917
	0,75	8,513	8,188
10	1,5	9,026	8,376
	1,25	9,188	8,647
	1	9,350	8,917
	0,75	9,513	9,188

Nominal diameter = Major diameter D, d	Pitch P	Pitch diameter D_2, d_2	Minor diameter D_1, d_1
11	1,5	10,026	9,376
	1	10,350	9,917
	0,75	10,513	10,188
12	1,75	10,863	10,106
	1,5	11,026	10,376
	1,25	11,188	10,647
	1	11,350	10,917
14	2	12,701	11,835
	1,5	13,026	12,376
	1,25	13,188	12,647
	1	13,350	12,917
15	1,5	14,026	13,376
	1	14,350	13,917
16	2	14,701	13,835
	1,5	15,026	14,376
	1	15,350	14,917
17	1,5	16,026	15,376
	1	16,350	15,917
18	2,5	16,376	15,294
	2	16,701	15,835
	1,5	17,026	16,376
	1	17,350	16,917
20	2,5	18,376	17,294
	2	18,701	17,835
	1,5	19,026	18,376
	1	19,350	18,917
22	2,5	20,376	19,294
	2	20,701	19,835
	1,5	21,026	20,376
	1	21,350	20,917
24	3	22,051	20,752
	2	22,701	21,835
	1,5	23,026	22,376
	1	23,350	22,917
25	2	23,701	22,835
	1,5	24,026	23,376
	1	24,350	23,917
26	1,5	25,026	24,376
27	3	25,051	23,752
	2	25,701	24,835
	1,5	26,026	25,376
	1	26,350	25,917
28	2	26,701	25,835
	1,5	27,026	26,376
	1	27,350	26,917

Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
30	3,5	27,727	26,211
	3	28,051	26,752
	2	28,701	27,835
	1,5	29,026	28,376
	1	29,350	28,917
32	2	30,701	29,835
	1,5	31,026	30,376
33	3,5	30,727	29,211
	3	31,051	29,752
	2	31,701	30,835
35	1,5	32,026	31,376
	1,5	34,026	33,376
36	4	33,402	31,670
	3	34,051	32,752
	2	34,701	33,835
	1,5	35,026	34,376
38	1,5	37,026	36,376
	4	36,402	34,670
39	3	37,051	35,752
	2	37,701	36,835
	1,5	38,026	37,376
	3	38,051	36,752
40	2	38,701	37,835
	1,5	39,026	38,376
	4,5	39,077	37,129
42	4	39,402	37,670
	3	40,051	38,752
	2	40,701	39,835
	1,5	41,026	40,376
	4,5	42,077	40,129
45	4	42,402	40,670
	3	43,051	41,752
	2	43,701	42,835
	1,5	44,026	43,376
48	5	44,752	42,587
	4	45,402	43,670
	3	46,051	44,752
	2	46,701	45,835
	1,5	47,026	46,376
50	3	48,051	46,752
	2	48,701	47,835
	1,5	49,026	48,376
52	5	48,752	46,587
	4	49,402	47,670
	3	50,051	48,752
	2	50,701	49,835
	1,5	51,026	50,376

Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
55	4	52,402	50,670
	3	53,051	51,752
	2	53,701	52,835
	1,5	54,026	53,376
56	5,5	52,428	50,046
	4	53,402	51,670
	3	54,051	52,752
	2	54,701	53,835
58	1,5	55,026	54,376
	4	55,402	53,670
	3	56,051	54,752
60	2	56,701	55,835
	1,5	57,026	56,376
	5,5	56,428	54,046
	4	57,402	55,670
62	3	58,051	56,752
	2	58,701	57,835
	1,5	59,026	58,376
	4	59,402	57,670
	3	60,051	58,752
64	2	60,701	59,835
	1,5	61,026	60,376
	6	60,103	57,505
	4	61,402	59,670
	3	62,051	60,752
65	2	62,701	61,835
	1,5	63,026	62,376
	4	62,402	60,670
	3	63,051	61,752
68	2	63,701	62,835
	1,5	64,026	63,376
	6	64,103	61,505
	4	65,402	63,670
	3	66,051	64,752
70	2	66,701	65,835
	1,5	67,026	66,376
	6	66,103	63,505
	4	67,402	65,670
72	3	68,051	66,752
	2	68,701	67,835
	1,5	69,026	68,376
	6	68,103	65,505
	4	69,402	67,670

Nominal diameter = Major diameter D, d	Pitch P	Pitch diameter D_2, d_2	Minor diameter D_1, d_1
75	4	72,402	70,670
	3	73,051	71,752
	2	73,701	72,835
	1,5	74,026	73,376
76	6	72,103	69,505
	4	73,402	71,670
	3	74,051	72,752
	2	74,701	73,835
	1,5	75,026	74,376
78	2	76,700	75,835
80	6	76,103	73,505
	4	77,402	75,670
	3	78,051	76,752
	2	78,701	77,835
	1,5	79,026	78,376
82	2	80,701	79,835
85	6	81,103	78,505
	4	82,402	80,670
	3	83,051	81,752
	2	83,701	82,835
	90	6	86,103
4		87,402	85,670
3		88,051	86,752
2		88,701	87,835
95		6	91,103
	4	92,402	90,670
	3	93,051	91,752
	2	93,701	92,835
	100	6	96,103
4		97,402	95,670
3		98,051	96,752
2		98,701	97,835
105		6	101,103
	4	102,402	100,670
	3	103,051	101,752
	2	103,701	102,835
	110	6	106,103
4		107,402	105,670
3		108,051	106,752
2		108,701	107,835
115		6	111,103
	4	112,402	110,670
	3	113,051	111,752
	2	113,701	112,835
	120	6	116,103
4		117,402	115,670
3		118,051	116,752
2		118,701	117,835

Nominal diameter = Major diameter D, d	Pitch P	Pitch diameter D_2, d_2	Minor diameter D_1, d_1	
125	6	121,103	118,505	
	4	122,402	120,670	
	3	123,051	121,752	
	2	123,701	122,835	
	130	6	126,103	123,505
4		127,402	125,670	
3		128,051	126,752	
2		128,701	127,835	
135		6	131,103	128,505
	4	132,402	130,670	
	3	133,051	131,752	
	2	133,701	132,835	
	140	6	136,103	133,505
4		137,402	135,670	
3		138,051	136,752	
2		138,701	137,835	
145		6	141,103	138,505
	4	142,402	140,670	
	3	143,051	141,752	
	2	143,701	142,835	
	150	6	146,103	143,505
4		147,402	145,670	
3		148,051	146,752	
2		148,701	147,835	
155		6	151,103	148,505
	4	152,402	150,670	
	3	153,051	151,752	
	160	6	156,103	153,505
		4	157,402	155,670
3		158,051	156,752	
165		6	161,103	158,505
		4	162,402	160,670
	3	163,051	161,752	
	170	6	166,103	163,505
		4	167,402	165,670
3		168,051	166,752	
175		6	171,103	168,505
		4	172,402	170,670
	3	173,051	171,752	
	180	6	176,103	173,505
		4	177,402	175,670
3		178,051	176,752	
185		6	181,103	178,505
		4	182,402	180,670
	3	183,051	181,752	

Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
190	6	186,103	183,505
	4	187,402	185,670
	3	188,051	186,752
195	6	191,103	188,505
	4	192,402	190,670
	3	193,051	191,752
200	6	196,103	193,505
	4	197,402	195,670
	3	198,051	196,752
205	6	201,103	198,505
	4	202,402	200,670
	3	203,051	201,752
210	6	206,103	203,505
	4	207,402	205,670
	3	208,051	206,752
215	6	211,103	208,505
	4	212,402	210,670
	3	213,051	211,752
220	6	216,103	213,505
	4	217,402	215,670
	3	218,051	216,752
225	6	221,103	218,505
	4	222,402	220,670
	3	223,051	221,752
230	6	226,103	223,505
	4	227,402	225,670
	3	228,051	226,752
235	6	231,103	228,505
	4	232,402	230,670
	3	233,051	231,752

Nominal diameter = Major diameter <i>D, d</i>	Pitch <i>P</i>	Pitch diameter <i>D₂, d₂</i>	Minor diameter <i>D₁, d₁</i>
240	6	236,103	233,505
	4	237,402	235,670
	3	238,051	236,752
245	6	241,103	238,505
	4	242,402	240,670
	3	243,051	241,752
250	6	246,103	243,505
	4	247,402	245,670
	3	248,051	246,752
255	6	251,103	248,505
	4	252,402	250,670
	3	253,051	251,752
260	6	256,103	253,505
	4	257,402	255,670
	3	258,051	256,752
265	6	261,103	258,505
	4	262,402	260,670
	3	263,051	261,752
270	6	266,103	263,505
	4	267,402	265,670
	3	268,051	266,752
275	6	271,103	268,505
	4	272,402	270,670
	3	273,051	271,752
280	6	276,103	273,505
	4	277,402	275,670
	3	278,051	276,752
285	6	281,103	278,505
	4	282,402	280,670
	3	283,051	281,752
290	6	286,103	283,505
	4	287,402	285,670
	3	288,051	286,752
295	6	291,103	288,505
	4	292,402	290,670
	3	293,051	291,752
300	6	296,103	293,505
	4	297,402	295,670
	3	298,051	296,752

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