

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 724

ISO GENERAL PURPOSE METRIC SCREW THREADS

BASIC DIMENSIONS

1st EDITION
May 1968

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BRIEF HISTORY

The ISO Recommendation R 724, *ISO general purpose metric screw threads – Basic dimensions*, was drawn up by Technical Committee ISO/TC 1, *Screw threads*, the Secretariat of which is held by the Sveriges Standardiseringskommission (SIS).

Work on this question by the Technical Committee began in 1962 and led, in 1964, to the adoption of a Draft ISO Recommendation.

In September 1965, this Draft ISO Recommendation (No. 782) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

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

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council which decided, in May 1968, to accept it as an ISO RECOMMENDATION.

ISO GENERAL PURPOSE METRIC SCREW THREADS

BASIC DIMENSIONS

1. SCOPE

This ISO Recommendation tabulates the basic dimensions for ISO general purpose metric screw threads according to ISO Recommendation R 261.* The values refer to the basic profile according to ISO Recommendation R 68.**

2. APPLICATION

When metric units are given in a national standard, the values should preferably be rounded to three decimal places.

When a conversion to inch units is required, the following rules should be applied :

- (1) divide the relevant figure, found in the tables, by 25.4;
- (2) round the value obtained to four decimal places.

3. CALCULATION

The values given in this ISO Recommendation have been calculated from the following formulae. The values have been given to six decimal places in order to enable a proper conversion to inch units (see section 2).

$$D_2 = D - 2 \times 3/8 H = D - 0.649\,519\,053\,P \text{ mm}$$

$$d_2 = d - 2 \times 3/8 H = d - 0.649\,519\,053\,P \text{ mm}$$

$$D_1 = D - 2 \times 5/8 H = D - 1.082\,531\,755\,P \text{ mm}$$

$$d_1 = d - 2 \times 5/8 H = d - 1.082\,531\,755\,P \text{ mm}$$

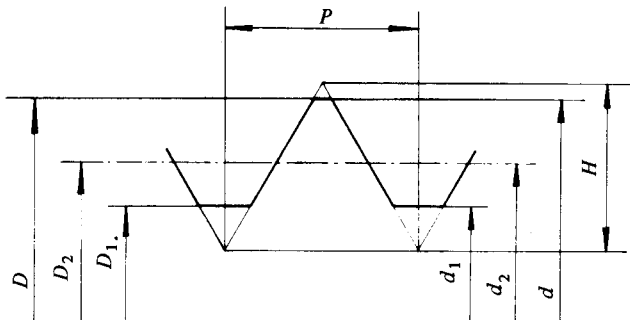
where

D is the basic major diameter for internal threads,
 D_2 is the basic pitch diameter for internal threads,
 D_1 is the basic minor diameter for internal threads,
 d is the basic major diameter for external threads,
 d_2 is the basic pitch diameter for external threads,
 d_1 is the basic minor diameter for external threads,
 H is the height of fundamental triangle,
 P is the pitch.

* At present under revision under the new title, *ISO general purpose metric screw threads – General plan* (Draft ISO Recommendation No. 1499).

** At present under revision under the new title, *ISO general purpose screw threads – Basic profile* (Draft ISO Recommendation No. 1498).

4. BASIC DIMENSIONS IN MILLIMETRES



Nominal diameter	Pitch P	Major diameter D, d	Pitch diameter D_2, d_2	Minor diameter D_1, d_1
1	0.25	1.000 000	0.837 620	0.729 367
	0.2	1.000 000	0.870 096	0.783 494
1.1	0.25	1.100 000	0.937 620	0.829 367
	0.2	1.100 000	0.970 096	0.883 494
1.2	0.25	1.200 000	1.037 620	0.929 367
	0.2	1.200 000	1.070 096	0.983 494
1.4	0.3	1.400 000	1.205 144	1.075 240
	0.2	1.400 000	1.270 096	1.183 494
1.6	0.35	1.600 000	1.372 668	1.221 114
	0.2	1.600 000	1.470 096	1.383 494
1.8	0.35	1.800 000	1.572 668	1.421 114
	0.2	1.800 000	1.670 096	1.583 494
2	0.4	2.000 000	1.740 192	1.566 987
	0.25	2.000 000	1.837 620	1.729 367
2.2	0.45	2.200 000	1.907 716	1.712 861
	0.25	2.200 000	2.037 620	1.929 367
2.5	0.45	2.500 000	2.207 716	2.012 861
	0.35	2.500 000	2.272 668	2.121 114
3	0.5	3.000 000	2.675 240	2.458 734
	0.35	3.000 000	2.772 668	2.621 114
3.5	0.6	3.500 000	3.110 289	2.850 481
	0.35	3.500 000	3.272 668	3.121 114
4	0.7	4.000 000	3.545 337	3.242 228
	0.5	4.000 000	3.675 240	3.458 734
4.5	0.75	4.500 000	4.012 861	3.688 101
	0.5	4.500 000	4.175 240	3.958 734
5	0.8	5.000 000	4.480 385	4.133 975
	0.5	5.000 000	4.675 240	4.458 734
5.5	0.5	5.500 000	5.175 240	4.958 734
6	1	6.000 000	5.350 481	4.917 468
	0.75	6.000 000	5.512 861	5.188 101
7	1	7.000 000	6.350 481	5.917 468
	0.75	7.000 000	6.512 861	6.188 101
8	1.25	8.000 000	7.188 101	6.646 835
	1		7.350 481	6.917 468
	0.75		7.512 861	7.188 101
9	1.25	9.000 000	8.188 101	7.646 835
	1		8.350 481	7.917 468
	0.75		8.512 861	8.188 101