
INTERNATIONAL STANDARD



888

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

**Bolts, screws and studs — Nominal lengths, and thread lengths
for general purpose bolts**

Boulons, vis et goujons — Longueurs de tige nominales, et longueurs filetées des boulons d'application générale

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Descriptors : fasteners, bolts, screws, studs, dimensions, threaded length.

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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 2 has reviewed ISO Recommendation R 888 and found it technically suitable for transformation. International Standard ISO 888 therefore replaces ISO Recommendation R 888-1968 to which it is technically identical.

ISO Recommendation R 888 was approved by the Member Bodies of the following countries :

Austria	India	Portugal
Belgium	Iran	Romania
Canada	Ireland	South Africa, Rep. of
Chile	Israel	Spain
Czechoslovakia	Italy	Sweden
Denmark	Japan	Switzerland
Egypt, Arab Rep. of	Korea, Rep. of	Thailand
Finland	Netherlands	Turkey
Germany	New Zealand	United Kingdom
Greece	Norway	U.S.S.R.
Hungary	Poland	Yugoslavia

The Member Bodies of the following countries expressed disapproval of the Recommendation on technical grounds :

France
U.S.A.

The Member Bodies of the following countries disapproved the transformation of ISO/R 888 into an International Standard :

Canada
France
Japan
Netherlands
U.S.A.

Bolts, screws and studs – Nominal lengths, and thread lengths for general purpose bolts

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies nominal lengths for bolts, screws and studs, and thread lengths for general purpose bolts.

2 REFERENCE

ISO 225, *Bolts, screws and studs – Dimensioning*.

3 NOMINAL LENGTHS FOR BOLTS, SCREWS AND STUDS

The basic dimensions shown in table 1 apply to the nominal lengths of bolts and screws (for example : hexagon bolts,

slotted head screws, cross recess head screws) and studs of both metric and inch sizes. Table 1 indicates the comparable basic lengths in the two systems, but values are not intended to be identical.

Lengths in brackets should be avoided as far as possible.

For dimensioning of nominal lengths, see ISO 225.

4 THREAD LENGTHS FOR GENERAL PURPOSE BOLTS

The thread lengths shown in tables 2, 3 and 4 apply to bolts (for example : hexagon bolts) of both metric and inch sizes. Table 2 contains the formulae on which the calculation of the thread lengths indicated in tables 3 and 4 was based.

For dimensioning of thread lengths, see ISO 225.

TABLE 1 – Basic dimensions in millimetres and in inches

Nominal length /		Nominal length	
mm	in	mm	in
2	1/16	60	—
2,5	3/32	65	2 1/2
3	1/8	70	2 3/4
4	5/32	75	3
5	3/16	80	3 1/4
6	1/4	85	—
(7)	—	90	3 1/2
8	5/16	(95)	3 3/4
(9)	—	100	4
10	3/8	(105)	4 1/4
(11)	7/16	110	4 1/2
12	1/2	(115)	—
14	9/16	120	4 3/4
16	5/8	(125)	—
(18)	—	130	5
20	3/4	140	5 1/2
(22)	7/8	150	6
25	1	160	—
(28)	1 1/8	170	6 1/2
30	1 1/4	180	7
(32)	—	190	7 1/2
35	1 3/8	200	8
(38)	—	220	9
40	1 1/2	240	—
45	1 3/4	260	10
50	2	280	11
55	2 1/4	300	12

TABLE 2 – Formulae – Dimensions in millimetres and inches

mm		
Nominal length /		Formulae for thread length <i>b</i>
over	to	
—	125	$2d + 6$
125	200	$2d + 12$
200	—	$2d + 25$

in		
Nominal length /		Formulae for thread length <i>b</i>
over	to	
—	5	$2d + 1/4$
5	8	$2d + 1/2$
8	—	$2d + 1$

d = nominal diameter of the bolt

TABLE 3 – Allocation of the thread lengths to the bolt diameters
Dimensions in millimetres

Thread diameter <i>d</i>	1,6	2	2,5	3	4	5	6	7	8	10	12	14	16	18	20	
Thread length <i>b</i>	$l \leq 125$	9	10	11	12	14	16	18	20	22	26	30	34	38	42	46
	$125 < l \leq 200$	—	—	—	—	—	—	—	—	28	32	36	40	44	48	52
	$l > 200$	—	—	—	—	—	—	—	—	—	—	—	—	57	61	65

Thread diameter <i>d</i>	22	24	27	30	33	36	39	42	45	48	52	56	60	64	68	
Thread length <i>b</i>	$l \leq 125$	50	54	60	66	72	78	84	90	96	102	—	—	—	—	
	$125 < l \leq 200$	56	60	66	72	78	84	90	96	102	108	116	124	132	140	148
	$l > 200$	69	73	79	85	91	97	103	109	115	121	129	137	145	153	161

Thread diameter <i>d</i>	72	76	80	85	90	95	100	105	110	115	120	125	130	140	150
Thread length <i>b</i>	$l \leq 125$	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	$125 < l \leq 200$	156	164	172	182	192	—	—	—	—	—	—	—	—	—
	$l > 200$	169	177	185	195	205	215	225	235	245	255	265	275	285	305

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TABLE 4 – Allocation of the thread lengths to the bolt diameters
Dimensions in inches
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Thread diameter <i>d</i>	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1 1/8	1 1/4	
Thread length <i>b</i>	$l \leq 5$	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4
	$5 < l \leq 8$	—	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	2	2 1/4	2 1/2	2 3/4	3
	$l > 8$	—	—	—	—	—	—	—	—	2 3/4	3	3 1/4	3 1/2

Thread diameter <i>d</i>	1 3/8	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4
Thread length <i>b</i>	$l \leq 5$	3	3 1/4	3 3/4	4 1/4	—	—	—	—	—	—	—
	$5 < l \leq 8$	3 1/4	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	—
	$l > 8$	3 3/4	4	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	8	8 1/2