

BOLTS WITH HEXAGONAL HEAD
PRODUCT GRADE B

Constructions and dimensions

GOST 7798-70

Extract

CONTRACT

№ PB/835606213601

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BOLTS WITH HEXAGONAL HEADS
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7798-70

EXTRACT

1. Present standard deals with bolts with hexagonal heads of product grade B with thread diameter ranging from 6 to 48 mm.
2. Design and dimensions of bolts should correspond to those specified in drawing and in table 1 and 2.
3. Thread – as per GOST 24705-81. Run-out and undercut of threads – as per GOST 27148-86. Ends of bolts – as per GOST 12414-86.
4. Radius under the head – as per GOST 24760-81.
5. Tolerances for dimensions, deviation of shapes and location of surfaces and methods of checking, not established by present standard, are as per GOST 1759.1-82.
6. Permissible surface defects of bolts and methods of checking are as per GOST 1759.2-82.
7. Alternate make of bolt, is set by manufacturer.
8. Bolts with diameter of smooth part of shank d_1 approximately equal to pitch diameter of thread, may be manufactured.
9. Bolts of make 1 and 2 with rises on end surface of head with dimensions, not reducing the strength of heads, may be manufactured for applying the marking symbols, during this depth of rises should not exceed 0.4 k.
10. Technical requirements are as per GOST 1759.0-87.

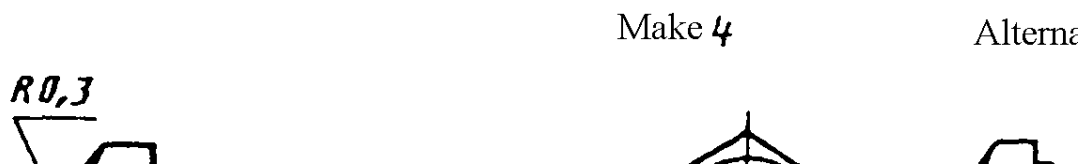
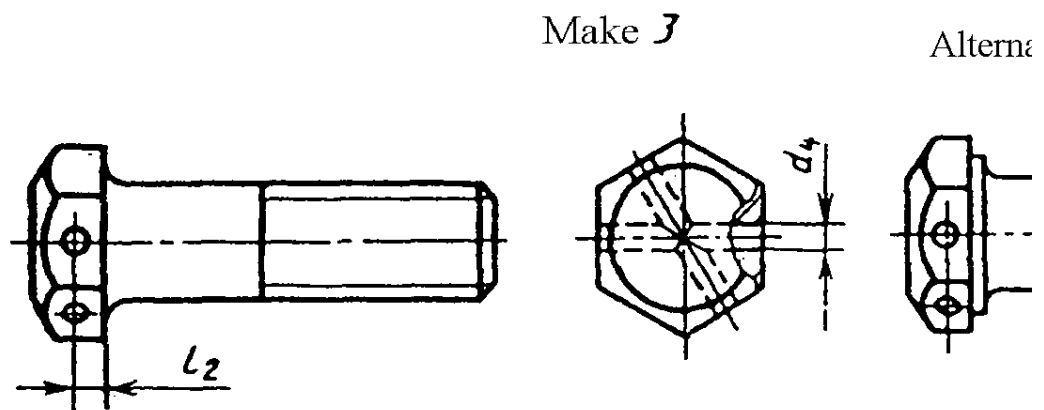
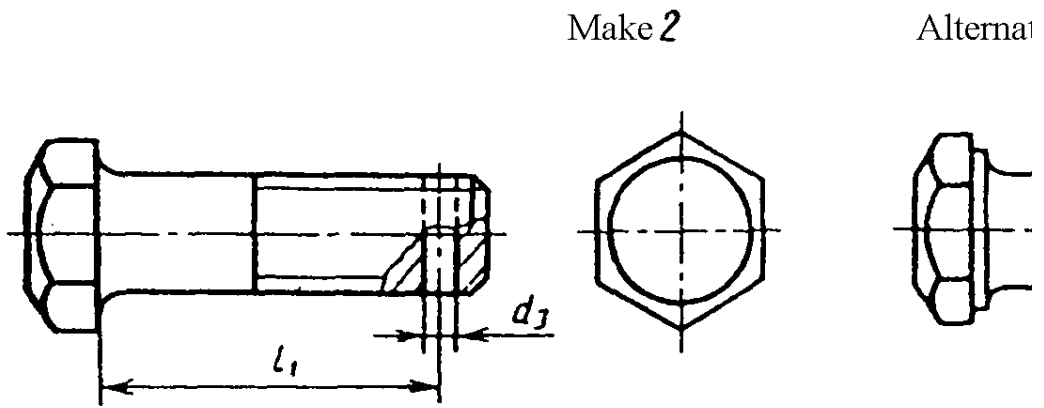
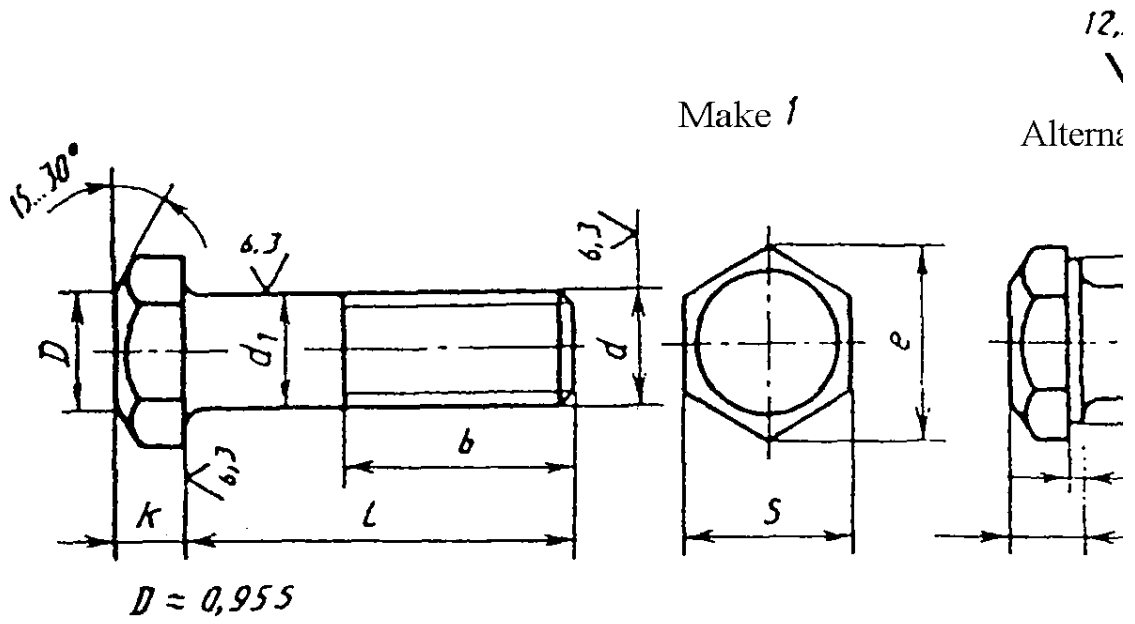


Table 1

mm

Nominal diameter of threads, d		0	8	10	12	(14)	16	(18)	20	(22)	24	(27)	30	36	42	48
Thread pitch	Coarse	1	1.25	1.5	1.75	2	2	2.5	2.5	2.5	3	3	3.5	4	4.5	5
	Fine	-	1	1.25	1.25	1.5	1.5	1.5	1.5	1.5	2	2	2	3	3	3
Diameter of shank, d_1		6	8	10	12	14	16	18	20	22	24	27	30	36	42	48
Width across flat, S		10	13	17	10	22	24	27	30	32	36	41	46	55	65	75
Height of head, k		4.0	5.3	6.4	7.5	8.8	10.0	12.0	12.5	14.0	15.0	17.0	18.7	22.5	26.0	30.0
Diameter of circumscribed circle, e , not less than		10.9	14.2	18.7	20.9	21.0	26.2	29.6	33.0	35.0	39.6	45.2	50.9	60.8	71.3	82.6
d_w , not less than		87	11.5	15.5	17.2	21.1	22.0	24.8	27.7	29.5	33.2	38.0	42.7	51.1	59.9	69.4
h_w	not less than	0.15					0.20						0.25			
	not more than	0.6					0.8									
Diameter of hole in shank, d_3		1.6	2.0	2.5	3.2		4.0		5.0			6.3		8.0		
Diameter of hole in head, d_4 (deviation limit H15)		2.0	2.5	3.2			4.0						5.0			
Distance from supporting surface to the axis of hole in head, l_2 (deviation limit js15)		2.0	2.8	3.5	4.0	4.5	5.0	6.0	6.5	7.0	7.5	8.5	9.5	11.5	13.0	15.0

Note. Dimensions of bolts, specified in brackets, are not recommended to use.

Dimensions in mm

Length of bolts, l	Length of thread b and distance from supporting surface of head to the axis of hole in shank l_1 during nominal diameter of thread d (bolts with thread along the entire length of shank)																					
	6		8		10		12		(14)		16		18		20		(22)		24		(27)	
	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b
8	—	×	—	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10	—	×	—	×	—	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	—	×	—	×	—	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14	10	×	—	×	—	×	—	×	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16	12	×	12	×	—	×	—	×	—	×	—	—	—	—	—	—	—	—	—	—	—	—
(18)	14	×	14	×	14	×	—	×	—	×	—	×	—	—	—	—	—	—	—	—	—	—
20	16	×	16	×	16	×	15	×	—	×	—	×	—	×	—	—	—	—	—	—	—	—
(22)	18	18	18	×	18	×	17	×	17	×	—	×	—	×	—	—	—	—	—	—	—	—
25	21	18	21	×	21	×	20	×	20	×	19	×	—	×	—	×	—	—	—	—	—	—
(28)	24	18	24	22	24	×	23	×	23	×	22	×	22	×	—	×	—	×	—	—	—	—
30	26	18	26	22	26	×	25	×	25	×	24	×	24	×	24	×	—	×	—	—	—	—
(32)	28	18	28	22	28	26	27	×	27	×	26	×	26	×	26	×	25	×	—	×	—	—
35	31	18	31	22	31	26	30	30	30	×	29	×	29	×	29	×	28	×	28	×	—	×
(38)	34	18	34	22	34	26	33	30	33	×	32	×	32	×	32	×	31	×	31	×	—	×
40	36	18	36	22	36	26	35	30	35	34	34	×	34	×	34	×	33	×	33	×	32	×
45	41	18	41	22	41	26	40	30	40	34	39	38	39	×	39	×	38	×	38	×	37	×
50	46	18	46	22	46	26	45	30	45	34	44	38	44	42	44	×	43	×	43	×	42	×
55	51	18	51	22	51	26	50	30	50	34	49	38	49	42	49	46	48	×	48	×	47	×
60	56	18	56	22	56	26	55	30	55	34	54	38	54	42	54	46	53	50	53	×	52	×
65	61	18	61	22	61	26	60	30	60	34	59	38	59	42	59	46	58	50	58	54	57	×
70	66	18	66	22	66	26	65	30	65	34	64	38	64	42	64	46	63	50	63	54	62	60

Dimensions in mm

Length of bolts, l	Length of thread b and distance from supporting surface of head to the axis of hole in shank l_1 during nominal diameter of thread d (bolts with thread along the entire length of																						
	6		8		10		12		(14)		16		(18)		20		(22)		24		(27)		
	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l_1	b	l
110	—	—	—	—	106	26	105	30	105	34	104	38	104	42	104	46	103	50	103	54	102	60	10
(115)	—	—	—	—	111	26	110	30	110	34	109	38	109	42	109	46	108	50	108	54	107	60	10
120	—	—	—	—	116	26	115	30	115	34	114	38	114	42	114	46	113	50	113	54	112	60	11
(125)	—	—	—	—	121	26	120	30	120	34	119	38	119	42	119	46	118	50	118	54	117	60	11
130	—	—	—	—	126	32	125	36	125	40	124	44	124	48	124	52	123	56	123	60	122	66	12
140	—	—	—	—	136	32	135	36	135	40	134	44	134	48	134	52	133	56	133	60	132	66	13
150	—	—	—	—	146	32	145	36	145	40	144	44	144	48	144	52	143	56	143	60	142	66	14
160	—	—	—	—	156	32	155	36	155	40	154	44	154	48	154	52	153	56	153	60	152	66	15
170	—	—	—	—	166	32	165	36	165	40	164	44	164	48	164	52	163	56	163	60	162	66	16
180	—	—	—	—	176	32	175	36	175	40	174	44	174	48	174	52	173	56	173	60	172	66	17
190	—	—	—	—	186	32	185	36	185	40	184	44	184	48	184	52	183	56	183	60	182	66	18

1. Bolts with dimension of length, specified in brackets, are not recommended to use.
2. Bolts, for which value b is located above the thick line, may be manufactured with thread length upto head.

Example of conventional designation of bolt of make 1, with thread diameter $d=12$ mm, with length $l=60$ mm, with coarse thread pitch with tolerance field 6 g, strength class 5.8, with out coating:

Bolt M12-6g x 60.58 GOST 7798-70

Also, make 2, with fine thread pitch with tolerance range 6g, strength class 10.9 made from steel of grade 40X, with coating 01 with thickness 6 microns:

Bolt 2M12x1.25-6g x 60.10.9.40X.016 GOST 7798-70