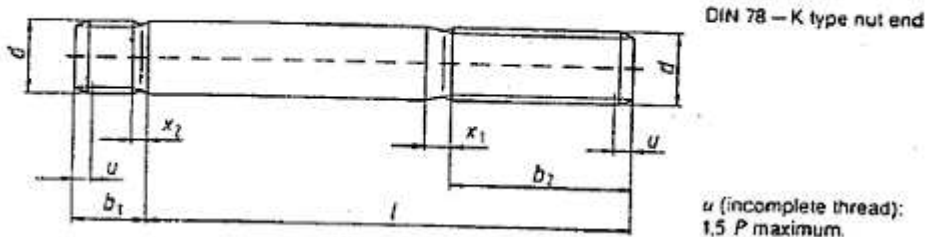


Studs

with a length of engagement equal to about $1 d$

2 Dimensions



b_1 = stud end

Table 1: Dimensions

d	M3	M4	M5	M6	(M7)	M8 M8×1	M10 M10×1,25	M12 M12×1,25 M12×1,5	(M14) M14×1,5	M16 M16×1,5	(M18) M18×1,5	M20 M20×1,5	(M22) M22×1,5	M24 M24×2
b ₁	3	4	5	6	7	8	10	12	14	16	18	20	22	24
b ₂ ¹⁾	12	14	16	18	20	22	26	30	34	38	42	46	50	54
b ₂ ²⁾	18	20	22	24	26	28	32	36	40	44	48	52	56	60
b ₂ ³⁾	—	—	—	—	—	—	45	49	53	57	61	65	69	73
x ₁	1,25	1,75	2,0	2,5	2,5	3,2	3,8	4,3	5,0	5,0	6,3	6,3	6,3	7,5
x ₂	0,7	0,9	1,0	1,25	1,25	1,6	1,9	2,2	2,5	2,5	3,2	3,2	3,2	3,8
l	Approximate mass (7,85 kg/dm ³) per 1000 units, in kg													
12														
(14)														
16														
(18)	0,981													
20	1,09	1,95												
(22)	1,20	2,15	3,47											
25	1,37	2,44	3,93	5,68										
(28)	1,53	2,74	4,39	6,35	8,99									
30	1,64	2,94	4,70	6,79	9,59	12,5								
35		3,43	5,47	7,90	11,1	14,8	23,2							
40		3,93	6,24	9,01	12,6	16,4	26,3	38,8						
45			7,01	10,1	14,1	18,4	29,4	43,2	60,0					
50			7,78	11,2	15,6	20,4	32,4	47,7	66,0	89,6				
55				12,3	17,1	22,4	35,5	52,1	72,1	97,5	123			
60				13,4	18,7	24,3	38,6	56,6	78,1	105	133	170		
65					20,2	26,3	41,7	61,0	84,2	113	143	182	226	
70					21,7	28,3	44,8	65,4	90,2	121	153	195	241	287
75						30,3	47,9	69,9	96,3	129	163	207	256	305
80						32,2	50,9	74,3	102	137	173	219	271	323
(85)							54,0	78,8	108	145	183	232	286	340
90							57,1	83,2	114	153	193	244	301	356
(95)								60,2	87,6	120	161	203	256	316
100								63,3	92,1	126	169	213	269	330
110									101	139	184	233	293	360
120									110	151	200	253	318	390
130										163	216	273	342	420
140										175	232	293	367	450
150											247	313	392	480
160											263	333	417	509
170												353	441	539
180												373	466	569
190													491	599
200													515	629

For ¹⁾ to ³⁾, see page 3

(continued)

Table 1 (concluded)

d	(M27) (M27×2)	M30 M30×2	(M33) (M33×2)	M36 M36×3	(M39) (M39×3)	M42 M42×3	(M45) (M45×3)	M48 M48×3	(M52) (M52×3)
b_1	25	30	32	35	38	42	45	48	52
b_2 ¹⁾	60	66	72	78	84	90	96	102	110
b_2 ²⁾	66	72	78	84	90	96	102	108	116
b_2 ³⁾	79	85	91	97	103	109	115	121	129
r_1	7,5	9,0	9,0	10,0	10,0	11,0	11,0	12,5	12,5
r_2	3,8	4,5	4,5	5,0	5,0	5,5	5,5	6,3	6,3
l js15	Approximate mass (7,85 kg/dm ³) per 1000 units, in kg								
50									
55									
60									
65									
70									
75	392								
80	414								
(85)	437	553							
90	459	580	718						
(95)	482	608	752						
100	504	636	785	942					
110	549	691	852	1022	1228				
120	594	747	919	1102	1322	1550	1822		
130	639	802	986	1182	1416	1659	1947		
140	684	858	1054	1262	1509	1767	2072	2216	
								2358	2837
150	729	913	1121	1342	1603	1876	2197	2500	3004
160	774	969	1188	1421	1697	1985	2321	2642	3170
170	819	1024	1255	1501	1791	2094	2446	2784	3337
180	864	1080	1322	1581	1884	2202	2571	2925	3504
190	909	1135	1389	1661	1978	2311	2696	3068	3671
200	953	1191	1456	1741	2072	2420	2821	3210	3837
220	1043	1302	1591	1901	2259	2637	3071	3494	4171
240	1133	1413	1725	2061	2447	2855	3320	3779	4504
260	1223	1524	1859	2220	2635	3072	3570	4063	4836
280	1313	1635	1994	2380	2822	3290	3620	4347	5171
300		1746	2128	2540	3010	3507	4069	4631	5504
320			2262	2700	3197	3725	4319	4915	5838
340			2396	2860	3385	3942	4569	5199	6171
360				3019	3572	4160	4819	5483	6505
380					3760	4377	5068	5767	6838
400					3947	4595	5318	6051	7172

¹⁾ For lengths, l , of 125 mm or less.
²⁾ For lengths, l , above 125 mm up to 200 mm.
³⁾ For lengths, l , exceeding 200 mm.
Lengths above 400 mm shall be graded in 20 mm steps.
Bracketed sizes and intermediate lengths shall be avoided if possible.
The zone between the continuous thick lines indicates the range of commercial sizes of studs with coarse pitch thread.
Studs of sizes above this range cannot be manufactured with a nut end thread length, h_2 , as specified in the table. In such cases, h_2 will be approximately equal to $l - (r_1 + 3)$. For sizes above the dashed line, $h_2 + r_1$ will be less than $1,2 h_1$. The nut end of these studs shall be rounded (i.e. given a DIN 78 --L type end), unless the end is already marked with the property class.

3 Technical delivery conditions

Table 2: Technical delivery conditions

Material	Steel	
General requirements	As specified in ISO 8992	
Thread	Tolerance	Stud end: Sk6, Nut end: 6g.
	As specified in	DIN 13-51, DIN 13-12 and DIN 13-15.
Mechanical properties	Property class (material) ¹⁾	5.6, 8.8 or 10.9
	As specified in	DIN EN 20 896-1.
Limit deviations, geometrical tolerances	Product grade	A
	As specified in	ISO 4759-1.
Surface finish	Property class 5.6: as processed. Property classes 8.8 and 10.9: (thermally or chemically) blackened. DIN 267-2 shall apply with regard to surface roughness. DIN EN 26 157-3 shall apply with regard to limits for surface discontinuities. ISO 4042 shall apply with regard to electroplating. The limits of thread size shall also apply after coating.	
Acceptance inspection	As specified in ISO 3269.	
¹⁾ Use of other property classes or materials shall be subject to agreement.		