

Bolt lengths and thread tolerances for standard TCBs to EN 14399-10:2018

Length (l)			M12		M16		M20		M22		M24		M27		M30		M36	
			<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>
<i>nom</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>Max</i>
30	28.75	31.25	-	7														
35	33.75	36.25	-	7														
40	38.75	41.25	-	7	-	8												
45	43.75	46.25	6.25	15	-	8												
50	48.75	51.25	11.25	20	-	8	-	10	-	10								
55	53.5	56.5	16.25	25	-	8	-	10	-	10								
60	58.5	61.5	21.25	30	12	22	-	10	-	10	-	12	-	12				
65	63.5	66.5	26.25	35	17	27	-	10	-	10	-	12	-	12				
70	68.5	71.5	31.25	40	22	32	11.5	24	-	10	-	12	-	12	-	14		
75	73.5	76.5	36.25	45	27	37	16.5	29	12.5	25	-	12	-	12	-	14		
80	78.5	81.5	41.25	50	32	42	21.5	34	17.5	30	-	12	-	12	-	14		
85	83.25	86.75	46.25	55	37	47	26.5	39	22.5	35	16	31	-	12	-	14	-	16
90	88.25	91.75	51.25	60	42	52	31.5	44	27.5	40	21	36	15	30	-	14	-	16
95	93.25	96.75	56.25	65	47	57	36.5	49	32.5	45	26	41	20	35	-	14	-	16
100	98.25	101.75	61.25	70	52	62	41.5	54	37.5	50	31	46	25	40	16.5	34	-	16
105	103.25	106.75			57	67	46.5	59	42.5	55	36	51	30	45	21.5	39	-	16
110	108.25	111.75			62	72	51.5	64	47.5	60	41	56	35	50	26.5	44	-	16
115	113.25	116.75			67	77	56.5	69	52.5	65	46	61	40	55	31.5	49	23	35
120	118.25	121.75			72	82	61.5	74	57.5	70	51	66	45	60	36.5	54	22	42
125	123	127			77	87	66.5	79	62.5	75	56	71	50	65	41.5	59	27	47
130	128	132			76	86	65.5	78	61.5	80	55	70	49	64	40.5	58	26	46
135	133	137			81	91	70.5	83	66.5	85	60	75	54	69	45.5	63	31	51

α $l_{g \max} = l_{\text{nom}} - b$; $l_{s \min} = l_{g \max} - 5p$

When $l_{s \min}$ as calculated by the formula in α is less than $k \text{ nom} \cdot +0,5d$ then the bolts shall be fully threaded, and in the case $l_{g \max}$ is equal to a_{\max} as specified in ISO 3508 for product grade C. Fully threaded bolts are shown above the bold stepped line.

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			<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>	<i>l_s</i>	<i>l_g</i>
<i>nom</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>Min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>min</i>	<i>max</i>	<i>Min</i>	<i>max</i>	<i>min</i>	<i>Max</i>
140	138	142			86	96	75.5	88	71.5	90	65	80	59	74	50.5	68	36	56
145	143	147			91	101	80.5	93	76.5	95	70	85	64	79	55.5	73	41	61
150	148	152			96	106	85.5	98	81.5	100	75	90	69	84	60.5	78	46	66
155	153	157			101	111	90.5	103	86.5	105	80	95	74	89	65.5	83	51	71
160	156	164			106	116	95.5	108	91.5	110	85	100	79	94	70.5	88	56	76
165	161	169			111	121	100.5	113	96.5	115	90	105	84	99	75.5	93	61	81
170	166	174			116	126	105.5	118	101.5	120	95	110	89	104	80.5	98	66	86
175	171	179			121	131	110.5	123	106.5	125	100	115	94	109	85.5	103	71	91
180	176	184			126	136	115.5	128	111.5	130	105	120	99	114	90.5	108	76	96
185	181	189			131	141	120.5	133	116.5	135	110	125	104	119	95.5	113	81	101
190	186	194			136	146	125.5	138	121.5	140	115	130	109	124	100.5	118	86	106
195	191	199			141	151	130.5	143	126.5	145	120	135	114	129	105.5	123	91	111
200	196	204			146	156	135.5	148	131.5	150	125	140	119	134	110.5	128	96	116
210	206	214					132.5	145	128.5	141	122	137	116	131	107.5	125	93	113
220	216	224					142.5	155	138.5	151	132	147	126	141	117.5	135	103	123
230	226	234									142	157	136	151	127.5	145	113	133
240	236	244									152	167	146	161	137.5	155	123	143
250	246	254									162	177	156	171	147.5	165	133	153
260	256	264									172	187	166	181	157.5	175	143	163
270	266	274									182	197	176	191	167.5	185	153	173
280	276	284									192	207	186	201	177.5	195	163	183
290	286	294									202	217	196	211	187.5	200	173	193

$l_{g \max} = l_{\text{nom}} - b$; $l_{s \min} = l_{g \max} - 5p$

When $l_{s \min}$ as calculated by the formula in α is less than $k \text{ nom.} + 0,5d$ then the bolts shall be fully threaded, and in the case $l_{g \max}$ is equal to a_{\max} as specified in ISO 3508 for product grade C. Fully threaded bolts are shown above the bold stepped line.