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

Current stock of countersunk TCBs are indicated by blue cells

Length *(l)*			M12		M16		M20		M22		M24		M27		M30		M36	
			l_s	l_g	l_s	l_g	l_s	l_g	l_s	l_g	l_s	l_g	l_s	l_g	l_s	l_g	l_s	l_g
nom	*min*	*max*	*min*	*max*	*min*	*max*	*min*	*max*	*min*	*max*	*min*	*max*	*min*	*max*	*min*	*max*	*min*	*Max*
40	*38.75*	*41.25*	-	15														
45	*43.75*	*46.25*	-	15														
50	*48.75*	*51.25*	-	15	-	18												
55	*53.5*	*56.5*	16.25	25	-	18												
60	*58.5*	*61.5*	21.25	30	-	18												
65	*63.5*	*66.5*	26.25	35	-	18	-	23	-	24								
70	*68.5*	*71.5*	31.25	40	22	32	-	23	-	24								
75	*73.5*	*76.5*	36.25	45	27	37	-	23	-	24	-	28						
80	*78.5*	*81.5*	41.25	50	32	42	-	23	-	24	-	28	-	29.5				
85	*83.25*	*86.75*	46.25	55	37	47	26.5	39	-	24	-	28	-	29.5				
90	*88.25*	*91.75*	51.25	60	42	52	31.5	44	27.5	40	-	28	-	29.5	-	33.5		
95	*93.25*	*96.75*	56.25	65	47	57	36.5	49	32.5	45	-	28	-	29.5	-	33.5		
100	*98.25*	*101.75*	61.25	70	52	62	41.5	54	37.5	50	31	46	-	29.5	-	33.5		
105	*103.25*	*106.75*			57	67	46.5	59	42.5	55	36	51	-	29.5	-	33.5		
110	*108.25*	*111.75*			62	72	51.5	64	47.5	60	41	56	-	29.5	-	33.5	-	39
115	*113.25*	*116.75*			67	77	56.5	69	52.5	65	46	61	40	55	-	33.5	-	39
120	*118.25*	*121.75*			72	82	61.5	74	57.5	70	51	66	45	60	-	33.5	-	39
125	*123*	*127*			77	87	66.5	79	62.5	75	56	71	50	65	41.5	59	-	39
130	*128*	*132*			76	86	65.5	78	61.5	80	55	70	49	64	40.5	58	-	39
135	*133*	*137*			81	91	70.5	83	66.5	85	60	75	54	69	45.5	63	-	39
140	*138*	*142*			86	96	75.5	88	71.5	90	65	80	59	74	50.5	68	-	39

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

When $l_{s\,min}$ as calculated by the formula in ***a*** is less than k 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.

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			l_s	l_g	l_s	l_g	l_s	l_g	l_s	l_g	l_s	l_g	l_s	l_g	l_s	l_g	l_s	l_g
nom	*min*	*max*	*min*	*max*	*min*	*max*	*min*	*max*	*Min*	*max*	*min*	*max*	*min*	*max*	*Min*	*max*	*min*	*Max*
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

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When $l_{s\,min}$ as calculated by the formula in ***a*** is less than *k* nom. + 0,5*d* 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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