ULTIMATE TENSILE & PROOF LOADS - METRIC COARSE

ISO 898-1:2013 TABLE 4
MINIMUM ULTIMATE TENSILE LOADS - ISO METRIC COARSE PITCH THREAD

Thread [a] *d*	Nomial Stress Area *As,nom*[b] mm²	PROPERTY CLASS								
		4.6	4.8	5.6	5.8	6.8	8.8	9.8	10.9	12.9
		MINIMUM ULTIMATE TENSILE LOAD, $F_{m,min}$ ($A_{s,nom}$ X $R_{m,min}$), N								
M3	5,03	2 010	2 110	2 510	2 620	3 020	4 020	4 530	5 230	6 140
M3,5	6,78	2 710	2 850	3 390	3 530	4 070	5 420	6100	7 050	8 270
M4	8,78	3 510	3 690	4 390	4 570	5 270	7 020	7 900	9 130	10 700
M5	14,2	5 680	5 960	7 100	7 380	8 520	11 350	12 800	14 800	17 300
M6	20,1	8 040	8 440	10 000	10 400	12 100	16 100	18 100	20 900	24 500
M7	28,9	11 600	12 100	14 400	15 000	17 300	23 100	26 000	30 100	35 300
M8	36,6	14 600[c]	15 400	18 300[c]	19 000	22 000	29 200[c]	32 900	38 100[c]	44 600
M10	58	23 200[c]	24 000	29 000[c]	30 200	34 800	46 400[c]	52 200	60 300[c]	70 800
M12	84,3	33 700	35 400	42 200	43 800	50 600	67 400[d]	75 900	87 700	103 000
M14	115	46 000	48 300	57 500	59 800	69 000	92 000[d]	104 000	120 000	140 000
M16	157	62 800	65 900	78 500	81 600	94 000	125 000[d]	141 000	163 000	192 000
M18	192	76 800	80 600	96 000	99 800	115 000	159 000	---	200 000	234 000
M20	245	98 000	103 000	122 000	127 000	147 000	203 000	---	255 000	299 000
M22	303	121 000	127 000	152 000	158 000	182 000	252 000	---	315 000	370 000
M24	353	141 000	148 000	176 000	184 000	212 000	293 000	---	367 000	431 000
M27	459	184 000	193 000	230 000	239 000	275 000	381 000	---	477 000	560 000
M30	561	224 000	236 000	280 000	292 000	337 000	466 000	---	583 000	684 000
M33	694	278 000	292 000	347 000	361 000	416 000	576 000	---	722 000	847 000
M36	817	327 000	343 000	408 000	425 000	490 000	678 000	---	850 000	997 000
M39	976	390 000	410 000	488 000	508 000	586 000	810 000	---	1 020 000	1 200 000

(a) - Where no thread pitch is indicated in a thread designation, coarse pitch is specified. (b) - To calculate $A_{s,nom}$, refer to 9.1.6.1 in the official standard. **(c)** - For fasteners with thread tolerance 6az in accordance with ISO 965-4 subject to hot dip galvanising, reduced values in accordance with ISO 10684:2004, Annex A, apply. **(d)** - For structural bolting 70 000 N (for M12), 95 500 N (for M14) and 130 000 N (for M16).

ISO 898-1:2013 TABLE 5
PROOF LOADS - ISO METRIC COARSE PITCH THREAD

Thread [a] *d*	Nomial Stress Area *As,nom*[b] mm²	PROPERTY CLASS								
		4.6	4.8	5.6	5.8	6.8	8.8	9.8	10.9	12.9
		MINIMUM ULTIMATE TENSILE LOAD, F_p ($A_{s,nom}$ X $S_{p,nom}$), N								
M3	5,03	1 130	1 560	1 410	1 910	2 210	2 920	3 270	4 180	4 880
M3,5	6,78	1 530	2 100	1 900	2 580	2 980	3 940	4 410	5 630	6 580
M4	8,78	1 980	2 720	2 460	3 340	3 860	5 100	5 710	7 290	8 520
M5	14,2	3 200	4 400	3 980	5 400	6 250	8 230	9 230	11 800	13 800
M6	20,1	4 520	6 230	5 630	7 640	8 840	11 600	13 100	16 700	19 500
M7	28,9	6 500	8 960	8 090	11 000	12 700	16 800	18 800	24 000	28 000
M8	36,6	8 240[c]	11 400	10 200[c]	13 900	16 100	21 200[c]	23 800	30 400[c]	35 500
M10	58	13 000[c]	18 000	16 200[c]	22 000	25 500	33 700[c]	37 700	48 100[c]	56 300
M12	84,3	19 000	26 100	23 600	32 000	37 100	48 900[d]	54 800	70 000	81 800
M14	115	25 900	35 600	32 200	43 700	50 600	66 700[d]	74 800	95 500	112 000
M16	157	35 300	48 700	44 000	59 700	69 100	91 000[d]	102 000	130 000	152 000
M18	192	43 200	59 500	53 800	73 000	84 500	115 000	---	159 000	186 000
M20	245	55 100	76 000	68 600	93 100	108 000	147 000	---	203 000	238 000
M22	303	68 200	93 900	84 800	115 000	133 000	182 000	---	252 000	294 000
M24	353	79 400	109 000	98 800	134 000	155 000	212 000	---	293 000	342 000
M27	459	103 000	142 000	128 000	174 000	202 000	275 000	---	381 000	445 000
M30	561	126 000	174 000	157 000	213 000	247 000	337 000	---	466 000	544 000
M33	694	156 000	215 000	194 000	264 000	305 000	416 000	---	576 000	673 000
M36	817	184 000	253 000	229 000	310 000	359 000	490 000	---	678 000	792 000
M39	976	220 000	273 000	273 000	371 000	429 000	586 000	---	810 000	947 000

(a) - Where no thread pitch is indicated in a thread designation, coarse pitch is specified. (b) - To calculate $A_{s,nom}$, refer to 9.1.6.1 in the official standard. **(c)** - For fasteners with thread tolerance 6az in accordance with ISO 965-4 subject to hot dip galvanising, reduced values in accordance with ISO 10684:2004, Annex A, apply. **(d)** - For structural bolting 50 700 N (for M12), 68 800 N (for M14) and 94 500 N (for M16).