

TIGHTENING TORQUE FOR METRIC COARSE MILD STEEL BOLTS (GRADE 4.6)

Diameter & Pitch	Thread Stress Area mm ²	Black		Zinc Plated	
		Tightening torque Nm	Pre-load kN	Tightening torque Nm	Pre-load kN
M5 x 0.8	14.2	1.9	2.74	2.59	2.4
M6 x 1	20.1	3.3	3.87	3.65	4.1
M8 x 1.25	36.6	8.0	7.1	6.7	10.1
M10 x 1.5	58	16.1	11.3	10.7	20.3
M12 x 1.75	84.3	27	16.4	15.5	34
M14 x 2	115	44	22.5	21.3	55
M16 x 2	157	67	30.9	29.3	85
M18 x 2.5	192	93	37.7	35.7	118
M20 x 2.5	245	131	48.3	45.8	167
M22 x 2.5	302	176	60.1	57.1	225
M24 x 3	353	226	69.5	65.9	287
M27 x 3	459	331	91.2	86.7	424
M30 x 3.5	561	450	111.0	105.3	575

TIGHTENING TORQUE FOR METRIC COARSE HIGH TENSILE BOLTS (GRADE 8.8)

Diameter & Pitch	Thread Stress Area mm ²	Black		Zinc Plated	
		Tightening torque Nm	Pre-load kN	Tightening torque Nm	Pre-load kN
M5 x 0.8	14.2	7.4	5.2	7.0	6.5
M6 x 1	20.1	10.4	9.0	9.9	11.3
M8 x 1.25	36.6	19.1	21.6	18.1	27.3
M10 x 1.5	58	30.3	43	28.8	54
M12 x 1.75	84.3	44.1	73	41.9	93
M14 x 2	115	60.6	117	57.5	148
M16 x 2	157	82.9	180	78.8	230
M18 x 2.5	192	104	259	99	329
M20 x 2.5	245	134	363	127	464
M22 x 2.5	302	166	495	158	634
M24 x 3	353	192	625	183	798
M27 x 3	459	252	915	240	1176
M30 x 3.5	561	307	1246.0	292	1597

