BOLT TORQUE GUIDE

Torque figures for bolts and screws with metric thread and head dimensions, as in DIN 912, 931, 934 etc. The figures M_A in this table include:

a) coefficient of friction μ total = 0.14
b) 90% of minimum elongation
c) torque figures when assembling fasteners

- The coefficient of friction μ total = 0.14 applies for fasteners without coating (self colour) when slightly lubricated.
- Additional lubrication of the thread will substantially alter the coefficient of friction, leading to uncontrollable pre-load situations.
- Pre-load situations will also be influenced by the fastening methods and tools used.
- The following figures are guidelines only.
- Figures are in Nm (newton metres).

METRIC COARSE THREAD BOLTS AND SCREWS

TIGHTENING TORQUE

Figures in Nm. Based on coefficients of friction μ total of 0.100

Thread diameter	Property classes				
	4.6	5.6	8.8	10.9	12.9
M4	1.02	1.37	3.0	4.4	5
M5	2.00	2.70	5.9	8.7	10
M6	3.50	4.60	10	15	18
M8	8.40	11	25	36	43
M10	17	22	49	72	84
M12	29	39	85	125	145
M14	46	62	135	200	235
M16	71	95	210	310	365
M18	97	130	300	430	500
M20	138	184	425	610	710
M22	186	250	580	820	960
M24	235	315	730	1,050	1,220
M27	350	470	1,100	1,550	1,800
M30	475	3635	1,450	2,100	2,450
M33	645	8865	1,970	2,770	3,330
M36	830	1,111	2,530	3,560	4,280

METRIC FINE THREAD BOLTS AND SCREWS

TIGHTENING TORQUE

Tightening torque M_A max (Nm). Based on coefficients of friction μ total of 0.100

Thread diameter	Property classes		
	8.8	10.9	12.9
M8 x 1.00	22	30	36
M10 x 1.25	42	59	71
M12 x 1.25	76	105	130
M14 x 1.50	120	165	200
M16 x 1.50	180	250	300
M18 x 1.50	260	365	435
M20 x 1.50	360	510	610
M22 x 1.50	480	680	810
M24 x 2.00	610	860	1,050

UNITS

CONVERSION FIGURES

To get Ncm from Nm	**Nm × 100**
To get inch pounds from Ncm	**Ncm × 0.08851**
To get foot pounds from Ncm	**Ncm × 0.00737**
To get foot pounds from Nm	**Nm × 0.7376**

All information is given for guidance only.

For guidance only. Always check against the relevant standard.