

MARYLAND METRICS Technical Data Chart

Standard tightening torque for metric screw threads

Standard tightening torque [N•m] (Reference value)

[N•m] = Newton meter

Nominal diameter	T[N•m]	0.5T series[N•m]	1.8T series [N•m]	2.4T series [N•m]
M1	0.0195	0.0098	0.035	0.047
(M1.1)	0.027	0.0135	0.049	0.065
M1.2	0.037	0.0185	0.066	0.088
(M1.4)	0.058	0.029	0.104	0.14
M1.6	0.086	0.043	0.156	0.206
(M1.8)	0.128	0.064	0.23	0.305
M2	0.176	0.088	0.315	0.42
(M2.2)	0.23	0.116	0.41	0.55
M2.5	0.36	0.18	0.65	0.86
M3	0.63	0.315	1.14	1.5
(M3.5)	1	0.5	1.8	2.4
M4	1.5	0.75	2.7	3.6
(M4.5)	2.15	1.08	3.9	5.2
M5	3	1.5	5.4	7.2
M6	5.2	2.6	9.2	12.2
(M7)	8.4	4.2	15	20
M8	12.5	6.2	22	29.5
M10	24.5	12.5	44	59
M12	42	21	76	100
(M14)	68	34	122	166
M16	106	53	190	255
M18	146	73	270	350
M20	204	102	370	490
(M22)	282	140	500	670
M24	360	180	650	860
(M27)	520	260	940	1240
M30	700	350	1260	1700
(M33)	960	480	1750	2300
M36	1240	620	2250	3000
(M39)	1600	800	2900	3800
M42	2000	1000	3600	4800
(M45)	2500	1260	4500	6000
M48	2950	1500	5300	7000
(M52)	3800	1900	6800	9200
M56	4800	2400	8600	11600
(M60)	5900	2950	10600	14000
M64	7200	3600	13000	17500
(M68)	8800	4400	16000	21000

Standard bolt stress: 210 [N/mm²] Stress area of bolt (JIS B 1082)

Note: Conversion values rolled up to effective 3-digits.

Screws and applicable "T" series

	Standard T series	0.5T series	1.8T series	2.4T series
Applicable screws (Strengths) (*Material)	4.6 ~ 6.8 SS, SC, SUS	Brass, Copper, Aluminum	8.8 ~ 12.9 SCr, SNC, SCM	10.9 ~ 12.9 SCr, SNC, SCM, SNCM
**Axial tension standard value [N/mm ²] Min - Max	210 300 ~ 160	105 150 ~ 80	380 540 ~ 290	500 710 ~ 380
Application	To be applied to ordinary screws, unless otherwise specified	Male and female screws with copper, aluminum or plastic, for die-cast plastic products	Durable screw joints made of special steel including those affected by additional dynamic loads (Friction clamping)	
Applicable products	Ordinary products	Electronic products	Vehicles, Engines	Construction products

Note: *material callouts are JIS (Japanese standard)

Basic data courtesy of Tohnichi Torque Handbook

**The maximum to the minimum of the axial stress is considered as the dispersion of the torque coefficient.

Example: $\sigma_{max} = 210 \times (0.2 \div 0.14) = 300$ [N/mm²] Torque coefficient: 0.14 (minimum) ~ 0.2 (average) ~ 0.26 (maximum)