



Allthread Tightening Torque

Allthread

Tensile / Yield / Shear Strength – Tightening Torque

METRIC ALLTHREAD - RECOMMENDED TIGHTENING TORQUE CLASS 4.6

Size	Pitch (mm)	Stress Area (mm ²)	Core Area (mm ²)	Tensile Strength (kN)	Proof Strength (kN)	Shear Strength (kN)	Recommended Tightening Torque		
							Plain (Nm)	Zinc (Nm)	HDG (Nm)
M3	0.50	5.0	4.5	2.0	1.1	1.1	0.4	0.3	0.9
M4	0.70	8.8	7.8	3.5	2.0	1.9	1.0	0.7	2.2
M5	0.80	14.2	12.7	5.7	3.2	3.0	2.1	1.5	4.4
M6	1.00	20.1	17.9	8.0	4.5	4.3	3.5	2.5	7.4
M8	1.25	36.6	32.8	14.6	8.2	7.9	8.6	6.0	18.0
M10	1.50	58.0	52.3	23.2	13.1	12.6	17.0	11.9	35.6
M12	1.75	84.3	76.2	33.7	19.0	18.3	29.6	20.7	62.1
M14	2.00	115.0	104.7	46.0	25.9	25.1	47.1	33.0	98.9
M16	2.00	157.0	144.0	62.8	35.3	34.6	73.5	51.4	154.3
M18	2.50	192.0	175.0	76.8	43.2	42.0	101.1	70.8	212.3
M20	2.50	245.0	225.0	98.0	55.1	54.0	143.3	100.3	301.0
M22	2.50	303.0	281.0	121.2	68.2	67.4	195.0	136.5	409.5
M24	3.00	353.0	324.0	141.2	79.4	77.8	247.8	173.5	520.4
M27	3.00	459.0	427.0	183.6	103.3	102.5	362.5	253.7	761.2
M30	3.50	561.0	519.0	224.4	126.2	124.6	492.3	344.6	1033.8
M33	3.50	694.0	647.0	277.6	156.2	155.3	669.9	468.9	1406.8
M36	4.00	817.0	759.0	326.8	183.8	182.2	860.3	602.2	1806.6
M39	4.00	976.0	912.0	390.4	219.6	218.9	1113.4	779.4	2338.1
M42	4.50	1120.0	1050.0	448.0	252.0	252.0	1375.9	963.1	2889.4
M48	5.00	1470.0	1380.0	588.0	330.8	331.2	2063.9	1444.7	4334.1
M56	5.50	2030.0	1910.0	812.0	456.8	458.4	3325.1	2327.6	6982.8
M64	6.00	2680.0	2520.0	1072.0	603.0	604.8	5017.0	3511.9	10535.6



Note:

The tightening torque values given in the above table serve only as a guide. A k factor of 0.2 has been used which assumes threads are plain finish, burr free with a light oil coating. It should be noted that these figures are based on the first tightening of single assemblies in isolation.



Allthread

Tensile / Yield / Shear Strength – Tightening Torque

HOBSON PRECISION SAMPSONROD® - RECOMMENDED TIGHTENING TORQUE CLASS 8.8

Size	Pitch (mm)	Stress Area (mm ²)	Core Area (mm ²)	Tensile Strength (kN)	Proof Strength (kN)	Shear Strength (kN)	Recommended Tightening Torque		
							Plain (Nm)	Zinc (Nm)	HDG (Nm)
M6	1.00	20.1	17.9	16.1	11.7	8.6	9.1	6.4	19.1
M8	1.25	36.6	32.8	29.3	21.2	15.7	22.1	15.5	46.4
M10	1.50	58.0	52.3	46.4	33.6	25.1	43.7	30.6	91.8
M12	1.75	84.3	76.2	67.4	48.9	36.6	76.3	53.4	160.2
M14	2.00	115.0	104.7	92.0	66.7	50.3	121.4	85.0	254.9
M16	2.00	157.0	144.0	125.6	91.1	69.1	189.4	132.6	397.8
M18	2.50	192.0	175.0	159.4	115.2	84.0	269.6	188.7	566.1
M20	2.50	245.0	225.0	203.3	147.0	108.0	382.0	268.0	803.0
M22	2.50	303.0	281.0	251.5	181.8	134.9	520.0	364.0	1092.0
M24	3.00	353.0	324.0	293.0	211.8	155.5	661.0	463.0	1388.0
M27	3.00	459.0	427.0	381.0	275.4	205.0	967.0	677.0	2030.0
M30	3.50	561.0	519.0	465.6	336.6	249.1	1313.0	919.0	2757.0
M33	3.50	694.0	647.0	576.0	416.4	310.6	1786.0	1250.0	3751.0
M36	4.00	817.0	759.0	678.1	490.2	364.3	2294.0	1606.0	4818.0
M39	4.00	976.0	912.0	810.1	585.6	437.8	2969.0	2078.0	6235.0
M42	4.50	1120.0	1050.0	929.6	672.0	504.0	3670.0	2568.0	7705.0
M48	5.00	1470.0	1380.0	1220.1	882.0	662.4	5504.0	3853.0	11558.0
M56	5.50	2030.0	1910.0	1684.9	1218.0	916.8	8867.0	6207.0	18621.0
M64	6.00	2680.0	2520.0	2224.4	1608.0	1209.6	13379.0	9365.0	28095.0



Note:

The tightening torque values given in the above table serve only as a guide. A k factor of 0.2 has been used which assumes threads are plain finish, burr free with a light oil coating. It should be noted that these figures are based on the first tightening of single assemblies in isolation.



Allthread

Tensile / Yield / Shear Strength – Tightening Torque

HOBSON PRECISION HOBROD™ - RECOMMENDED TIGHTENING TORQUE CLASS 10.9

Size	Pitch (mm)	Stress Area (mm ²)	Core Area (mm ²)	Tensile Strength (kN)	Proof Strength (kN)	Shear Strength (kN)	Recommended Tightening Torque		
							Plain (Nm)	Zinc (Nm)	HDG (Nm)
M6	1.00	20.1	17.9	20.9	16.7	8.6	13.0	9.1	27.3
M8	1.25	36.6	32.8	38.1	30.4	15.7	31.6	22.1	66.3
M10	1.50	58.0	52.3	60.3	48.1	25.1	62.6	43.8	131.4
M12	1.75	84.3	76.2	87.7	70.0	36.6	109.2	76.4	229.2
M14	2.00	115.0	104.7	119.6	95.5	50.3	173.7	121.6	364.8
M16	2.00	157.0	144.0	163.3	130.3	69.1	271.0	189.7	569.2
M18	2.50	192.0	175.0	199.7	159.4	84.0	372.9	261.0	783.1
M20	2.50	245.0	225.0	254.8	203.3	108.0	528.7	370.1	1110.3
M22	2.50	303.0	281.0	315.1	251.5	134.9	719.3	503.5	1510.4
M24	3.00	353.0	324.0	367.1	293.0	155.5	914.1	639.9	1919.7
M27	3.00	459.0	427.0	477.4	381.0	205.0	1337.2	936.0	2808.1
M30	3.50	561.0	519.0	583.4	465.6	249.1	1816.0	1271.2	3813.5
M33	3.50	694.0	647.0	721.8	576.0	310.6	2471.1	1729.8	5189.4
M36	4.00	817.0	759.0	849.7	678.1	364.3	3173.6	2221.5	6664.5
M39	4.00	976.0	912.0	1015.0	810.1	437.8	4107.1	2875.0	8624.9
M42	4.50	1120.0	1050.0	1164.8	929.6	504.0	5075.6	3552.9	10658.8
M48	5.00	1470.0	1380.0	1528.8	1220.1	662.4	7613.4	5329.4	15988.2
M56	5.50	2030.0	1910.0	2111.2	1684.9	916.8	12266.1	8586.3	25758.8
M64	6.00	2680.0	2520.0	2787.2	2224.4	1209.6	18507.0	12954.9	38864.7



Note:

The tightening torque values given in the above table serve only as a guide. A k factor of 0.2 has been used which assumes threads are plain finish, burr free with a light oil coating. It should be noted that these figures are based on the first tightening of single assemblies in isolation.