

# METRIC ALLTHREAD RECOMMENDED TIGHTENING TORQUE CLASS 4.6



## METRIC ALLTHREAD - RECOMMENDED TIGHTENING TORQUE CLASS 4.6

Size	Pitch (mm)	Stress Area (mm <sup>2</sup> )	Core Area (mm <sup>2</sup> )	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



*For further technical information please contact Southeast Fasteners direct*

**Note:**  
The tightening torque values given in the 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.

<b>Southeast Fastener</b>	<b>ABN 30117890114</b>	
<b>Larapinta Branch:</b>	71 Axis Place, LARAPINTA QLD 4110	TEL: 07 3273 4400   FAX: 07 3272 4999
<b>Eagle Farm Branch:</b>	109A Links Avenue South, EAGLE FARM QLD 4009	TEL: 07 3268 77 88   FAX: 07 3268 5689

# ALLTHREAD MINIMUM TENSILE STRENGTH (MPa OR N/MM<sup>2</sup>)



## ALLTHREAD - MINIMUM TENSILE STRESS (MPa or N/mm<sup>2</sup>)

Nominal Size	Pitch mm	Stress Area mm <sup>2</sup>	Class 4.6	Class 8.8	Class 10.9	Sampsonrod™	Hobrod™	Brass
M3	0.50	5.03	400	800	1040	-	-	400
M4	0.70	8.78	400	800	1040	-	-	400
M5	0.80	14.20	400	800	1040	-	-	400
M6	1.00	20.10	400	800	1040	800	1040	400
M8	1.25	36.60	400	800	1040	800	1040	400
M10	1.50	58.00	400	800	1040	800	1040	400
M12	1.75	84.30	400	800	1040	800	1040	380
M14	2.00	115.00	400	800	1040	800	1040	-
M16	2.00	157.00	400	800	1040	800	1040	380
M18	2.50	192.00	400	830	1040	830	1040	-
M20	2.50	245.00	400	830	1040	830	1040	380
M22	2.50	303.00	400	830	1040	830	1040	-
M24	3.00	353.00	400	830	1040	830	1040	380
M27	3.00	459.00	400	830	1040	830	1040	-
M30	3.50	561.00	400	830	1040	830	1040	-
M33	3.50	694.00	400	830	1040	830	1040	-
M36	4.00	817.00	400	830	1040	830	1040	-
M39	4.00	976.00	400	830	1040	830	1040	-
M42	4.50	1121.00	400	830	1040	830	1040	-
M48	5.00	1473.00	400	830	1040	830	1040	-
M52	5.00	1758.00	400	830	1040	830	1040	-
M64	6.00	2676.00	400	830	1040	830	1040	-



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# ALLTHREAD MINIMUM STRESS UNDER PROOF LOAD (MPa OR N/MM2)



## ALLTHREAD - MINIMUM STRESS UNDER PROOF LOAD (MPa or N/mm<sup>2</sup>)

Nominal Size	Pitch mm	Stress Area mm <sup>2</sup>	Class 4.6	Class 8.8	Class 10.9	Sampsonrod™	Hobrod™	Brass
M3	0.50	5.03	225	580	830	-	-	160
M4	0.70	8.78	225	580	830	-	-	160
M5	0.80	14.20	225	580	830	-	-	160
M6	1.00	20.10	225	580	830	580	830	160
M8	1.25	36.60	225	580	830	580	830	160
M10	1.50	58.00	225	580	830	580	830	160
M12	1.75	84.30	225	580	830	580	830	160
M14	2.00	115.00	225	580	830	580	830	-
M16	2.00	157.00	225	580	830	580	830	160
M18	2.50	192.00	225	600	830	600	830	-
M20	2.50	245.00	225	600	830	600	830	160
M22	2.50	303.00	225	600	830	600	830	-
M24	3.00	353.00	225	600	830	600	830	160
M27	3.00	459.00	225	600	830	600	830	-
M30	3.50	561.00	225	600	830	600	830	-
M33	3.50	694.00	225	600	830	600	830	-
M36	4.00	817.00	225	600	830	600	830	-
M39	4.00	976.00	225	600	830	600	830	-
M42	4.50	1121.00	225	600	830	600	830	-
M48	5.00	1473.00	225	600	830	600	830	-
M52	5.00	1758.00	225	600	830	600	830	-
M64	6.00	2676.00	225	600	830	600	830	-



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# ALLTHREAD MINIMUM PROOF LOAD (KN)



## ALLTHREAD - MINIMUM PROOF LOAD (KN)

Nominal Size	Pitch mm	Stress Area mm <sup>2</sup>	Class 4.6	Class 8.8	Class 10.9	Sampsonrod™	Hobrod™	Brass
M3	0.50	5.03	1.13	2.92	4.17	-	-	0.80
M4	0.70	8.78	1.98	5.09	7.29	-	-	1.40
M5	0.80	14.20	3.20	8.24	11.79	-	-	2.27
M6	1.00	20.10	4.52	11.66	16.68	11.66	16.68	3.22
M8	1.25	36.60	8.24	21.23	30.38	21.23	30.38	5.86
M10	1.50	58.00	13.10	33.60	48.10	33.60	48.10	9.28
M12	1.75	84.30	19.00	48.90	70.00	48.90	70.00	13.49
M14	2.00	115.00	25.90	66.70	95.50	66.70	95.50	-
M16	2.00	157.00	35.30	91.10	130.30	91.10	130.30	25.12
M18	2.50	192.00	43.20	115.20	159.40	115.20	159.40	-
M20	2.50	245.00	55.10	147.00	203.30	147.00	203.30	39.20
M22	2.50	303.00	68.20	181.80	251.50	181.80	251.50	-
M24	3.00	353.00	79.40	211.80	293.00	211.80	293.00	56.48
M27	3.00	459.00	103.30	275.40	381.00	275.40	381.00	-
M30	3.50	561.00	126.20	336.60	465.60	336.60	465.60	-
M33	3.50	694.00	156.20	416.40	576.00	416.40	576.00	-
M36	4.00	817.00	183.80	490.20	678.10	490.20	678.10	-
M39	4.00	976.00	219.60	585.60	810.10	585.60	810.10	-
M42	4.50	1121.00	252.20	672.60	930.40	672.60	930.40	-
M48	5.00	1473.00	331.40	883.80	1222.60	883.80	1222.60	-
M52	5.00	1758.00	395.60	1054.80	1459.10	1054.80	1459.10	-
M64	6.00	2676.00	602.10	1605.60	2221.10	1605.60	2221.10	-



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# ALLTHREAD MINIMUM ULTIMATE TENSILE LOAD (KN)



## ALLTHREAD - MINIMUM ULTIMATE TENSILE LOAD (KN)

Nominal Size	Pitch mm	Stress Area mm <sup>2</sup>	Class 4.6	Class 8.8	Class 10.9	Sampsonrod™	Hobrod™	Brass
M3	0.5	5.03	2.01	4.02	5.23	-	-	2.01
M4	0.7	8.78	3.51	7.02	9.13	-	-	3.51
M5	0.8	14.20	5.68	11.36	14.77	-	-	5.68
M6	1	20.10	8.04	16.08	20.90	16.08	20.90	8.04
M8	1.25	36.60	14.60	29.28	38.06	29.28	38.06	14.64
M10	1.5	58.00	23.20	46.40	60.30	46.40	60.30	23.20
M12	1.75	84.30	33.70	67.40	87.70	67.40	87.70	32.03
M14	2	115.00	46.00	92.00	119.60	92.00	119.60	-
M16	2	157.00	62.80	125.60	163.30	125.60	163.30	59.66
M18	2.5	192.00	76.80	159.40	199.70	159.40	199.70	-
M20	2.5	245.00	98.00	203.30	254.80	203.30	254.80	93.10
M22	2.5	303.00	121.20	251.50	315.10	251.50	315.10	-
M24	3	353.00	141.20	293.00	367.10	293.00	367.10	134.14
M27	3	459.00	183.60	381.00	477.40	381.00	477.40	-
M30	3.5	561.00	224.40	465.60	583.40	465.60	583.40	-
M33	3.5	694.00	277.60	576.00	721.80	576.00	721.80	-
M36	4	817.00	326.80	678.10	849.70	678.10	849.70	-
M39	4	976.00	390.40	810.10	1015.00	810.10	1015.00	-
M42	4.5	1121.00	448.40	930.40	1165.80	930.40	1165.80	-
M48	5	1473.00	589.20	1222.60	1531.90	1222.60	1531.90	-
M52	5	1758.00	703.20	1459.10	1828.30	1459.10	1828.30	-
M64	6	2676.00	1070.40	2221.10	2783.00	2221.10	2783.00	-



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