



**AJAX SPURWAY FASTENERS
NEW ZEALAND**

P.O. BOX 30026 LOWER HUTT

Technical Data Sheet

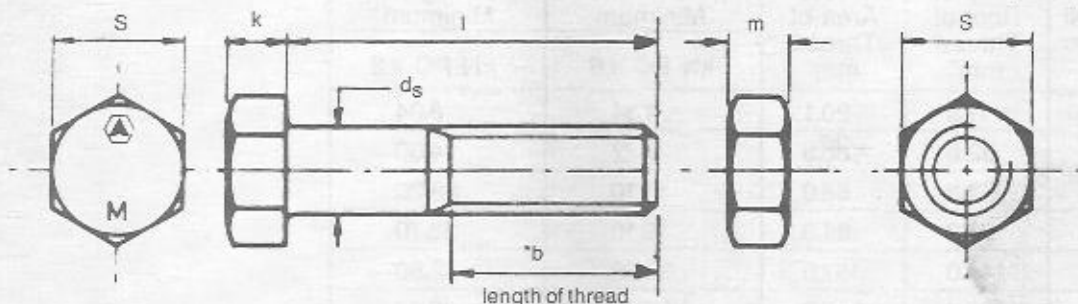
NZ 7/90

Metric Commercial Hexagon Bolts & Nuts and Set Screws. ISO Metric Coarse Pitch Series. Threads, Class 8g. Property Classes 4.6 Relevant Australian Standards Bolts and Set Screws AS 1111., Nuts AS 1112.

Metric Commercial Hexagon Bolts & Nuts and Set Screws.



1. DIMENSIONS.



All dimensions in millimetres

Nominal Dia D	Pitch of Thread P	Shank Diameter d_s		Width Across Flats S		Head Thickness k		Nut Thickness m	
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
M6	1.0	6.48	5.52	10.0	9.64	4.38	3.62	5.20	4.90
M8	1.25	8.58	7.42	13.0	12.57	5.68	4.92	6.80	6.44
M10	1.5	10.58	9.42	16.0	15.57	6.85	5.95	8.40	8.04
M12	1.75	12.70	11.30	18.0	17.57	7.95	7.05	10.80	10.37
M16	2.0	16.70	15.30	24.0	23.16	10.75	9.25	14.80	14.10
M20	2.5	20.84	19.16	30.0	29.16	13.40	11.60	18.00	16.90
M24	3.0	24.84	23.16	36.0	35.00	15.90	14.10	21.50	20.20
M30	3.5	30.84	29.16	46.0	45.00	19.75	17.65	25.60	24.30
M36	4.0	37.00	35.00	55.0	53.80	23.55	21.45	31.00	29.40

THREAD LENGTH b.

Nominal Length of Bolt l	Min. Length of Thread b
Up to and including 125 mm	$2D + 6 \text{ mm}$
Over 125 mm up to and including 200 mm	$2D + 12 \text{ mm}$
Over 200 mm	$2D + 25 \text{ mm}$

Where D = Nominal Diameter in millimetres

Hexagon Head Screws are threaded to within $2\frac{1}{2}$ Pitches of the underside of the head

2) MECHANICAL PROPERTIES.

PROPERTY CLASS 4.6

Tensile Strength
400 MPa (N/mm²) min.
58,000 lbf/in² min.
25.9 tonf/in² min.

Proof Load Stress
225 MPa (N/mm²) min.
32,800 lbf/in² min.
14.6 tonf/in² min.

Continued over.



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3. BREAKING AND PROOF LOADS

The following tables list tensile breaking and proof loads of Ajax Spurway bolts calculated from tensile or proof load stress and "Stress Area" of the thread.

Nominal Diameter	Area of Root of Thread mm ²	Tensile Stress Area of Thread mm ²	Bolt and Screw Proof load Minimum	Bolt and Screw Breaking Load Minimum
			kN PC 4.6	kN PC 4.6
M6	17.9	20.1	4.54	8.04
M8	32.8	36.6	8.27	14.60
M10	52.3	58.0	13.10	23.20
M12	76.2	84.3	19.10	33.70
M16	144.0	157.0	35.50	62.80
M20	225.0	245.0	55.40	98.00
M24	324.0	353.0	79.80	141.00
M30	519.0	561.0	127.00	224.00
M36	759.0	817.0	185.00	327.00

4. RECOMMENDED ASSEMBLY TORQUE.

Nominal Diameter mm	Induced Bolt Preload or Tension Corresponding to 65% of Proof Load	Recommended Assembly Torque to Give Induced Preload Equal to 65% of Proof Load
	kN PC 4.6	Nm PC 4.6
M6	2.95	3.54
M8	5.38	8.61
M10	8.52	17.00
M12	12.40	29.80
M16	23.40	73.90
M20	36.00	144.00
M24	51.90	249.00
M30	82.60	496.00
M36	120.00	864.00

Surface Condition	Factor
Galvanised - Degreased	2.1
- Lightly oiled	1.1
Zinc Plated - Degreased	1.9
- Lightly oiled	0.9
Cadmium Plated - Degreased	1.0
- Lightly oiled	0.7
Phosphated & oiled	0.7
Standard finish plus heavy grease	0.7

The torque figures quoted are approximate and are applicable to fasteners in the self-colour (uncoated) condition only. They do not take into account the effect of plated finishes, special lubricants or the effect of hard and smooth mating surfaces such as hardened washers etc.

Correct pre-loading of the bolt resists the effect of fatigue. Providing that the bolt pre-load is greater than the applied load, the fatigue life of the bolt will be infinite.

ALWAYS REMEMBER THAT THE BEST METHOD FOR RETAINING A NUT ON A BOLT IS BY PROPER TIGHTENING.

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