



Hobson Class 4.6 M10 Hex Set Screws

Hot dip galvanised, fully threaded - 25, 30, 40 and 50 mm lengths

Product	Specification	Finish	Thread
Hex set screw	AS 1111.2 / Property Class 4.6	Hot dip galvanised	M10 x 1.50, fully threaded

Range identification

Hobson stock code	QFind	Nominal size	Length	Standard pack	Barcode
BS46GCM100025	SMC610025G	M10	25 mm	150	9350629030522
BS46GCM100030	SMC610030G	M10	30 mm	150	9350629030539
BS46GCM100040	SMC610040G	M10	40 mm	150	9314818678070
BS46GCM100050	SMC610050G	M10	50 mm	75	9314818309790

Pack quantity is the practical standard pack shown by Hobson. The M10 x 50 product page also lists an outer carton of 225 (3 x 75).

Common dimensional and mechanical data

Parameter	Value	Practical meaning
Thread pitch	1.50 mm	Standard M10 coarse metric thread
Thread form	Fully threaded	Set screw; Hobson notes thread length on older stock may vary
Spanner size	16 mm	Across-flats tool size for M10 to AS 1111
Tensile stress area	58.0 mm ²	Used for axial strength calculations
Core area	52.3 mm ²	Used by Hobson for the listed shear load
Minimum tensile stress	400 MPa	Property Class 4.6
Tensile load	23.2 kN	Hobson Class 4.6 M10 technical value
Proof load	13.1 kN	Hobson Class 4.6 M10 technical value
Shear load	12.6 kN	Hobson Class 4.6 M10 technical value

Coating and service suitability

HDG coating: Hobson specifies hot dip galvanising to AS/NZS 1214, with a typical listed coating thickness of 50 µm and high corrosion resistance. Hobson recommends HDG products for long-term outdoor applications.

Installation guidance and limitations

Recommended HDG tightening torque	Important qualification
35.6 N·m for M10 Class 4.6	Guide only. Hobson uses $k = 0.42$ for HDG and states the value is based on the first tightening of a single assembly in isolation. Friction, lubrication, mating finish, bearing surfaces and joint design can materially change the required torque.

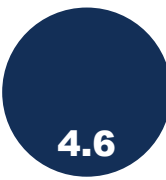
- Use compatible nuts and washers suitable for the joint design and coating system.
- Do not substitute Property Class 4.6 where a higher-strength structural fastener is specified.
- Confirm grip, engagement, hole size, edge distance, load path and environmental exposure with the responsible designer.
- Set screws are fully threaded; they are not automatically interchangeable with partly threaded bolts in shear or fatigue-critical joints.

Source documents

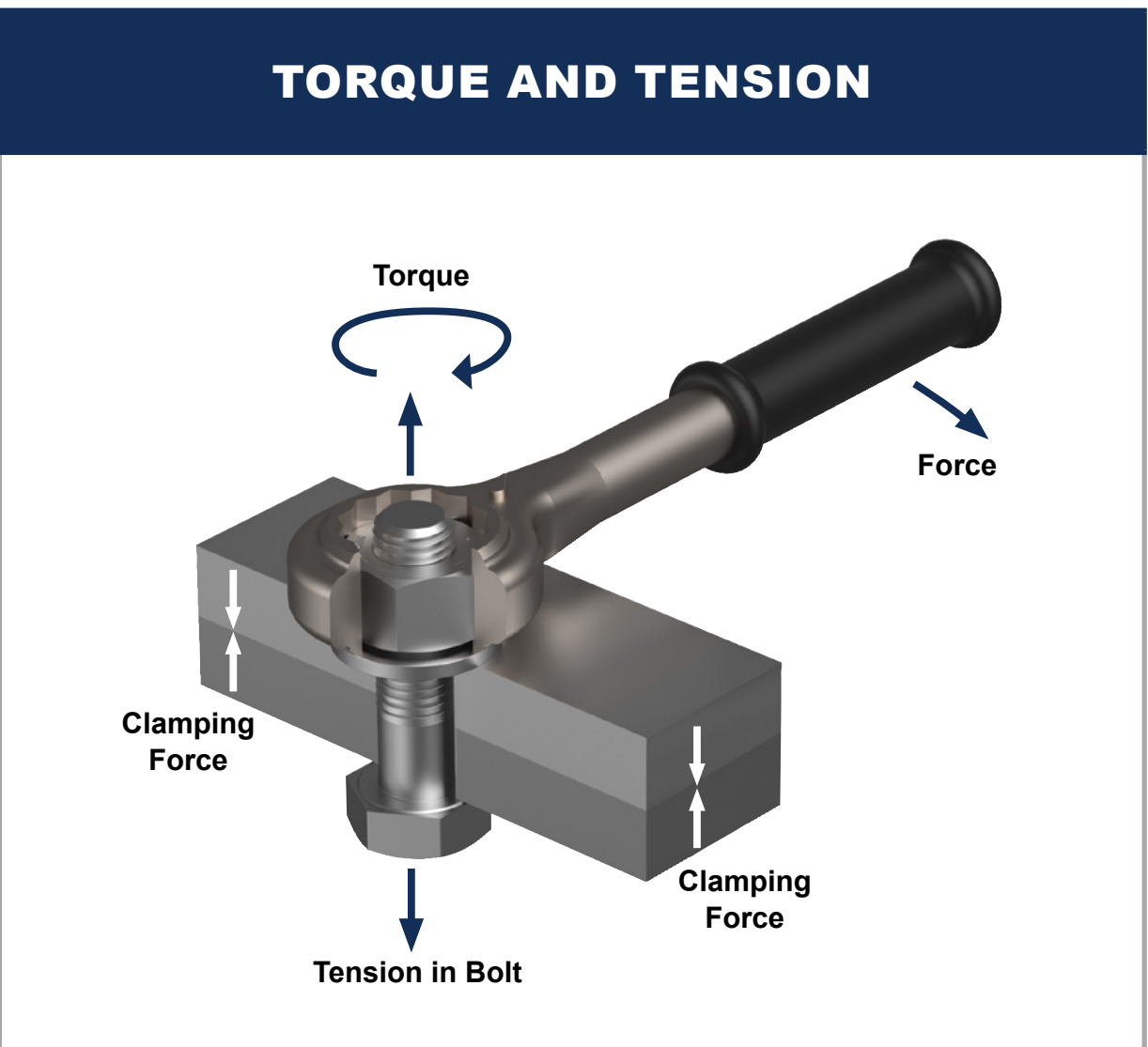
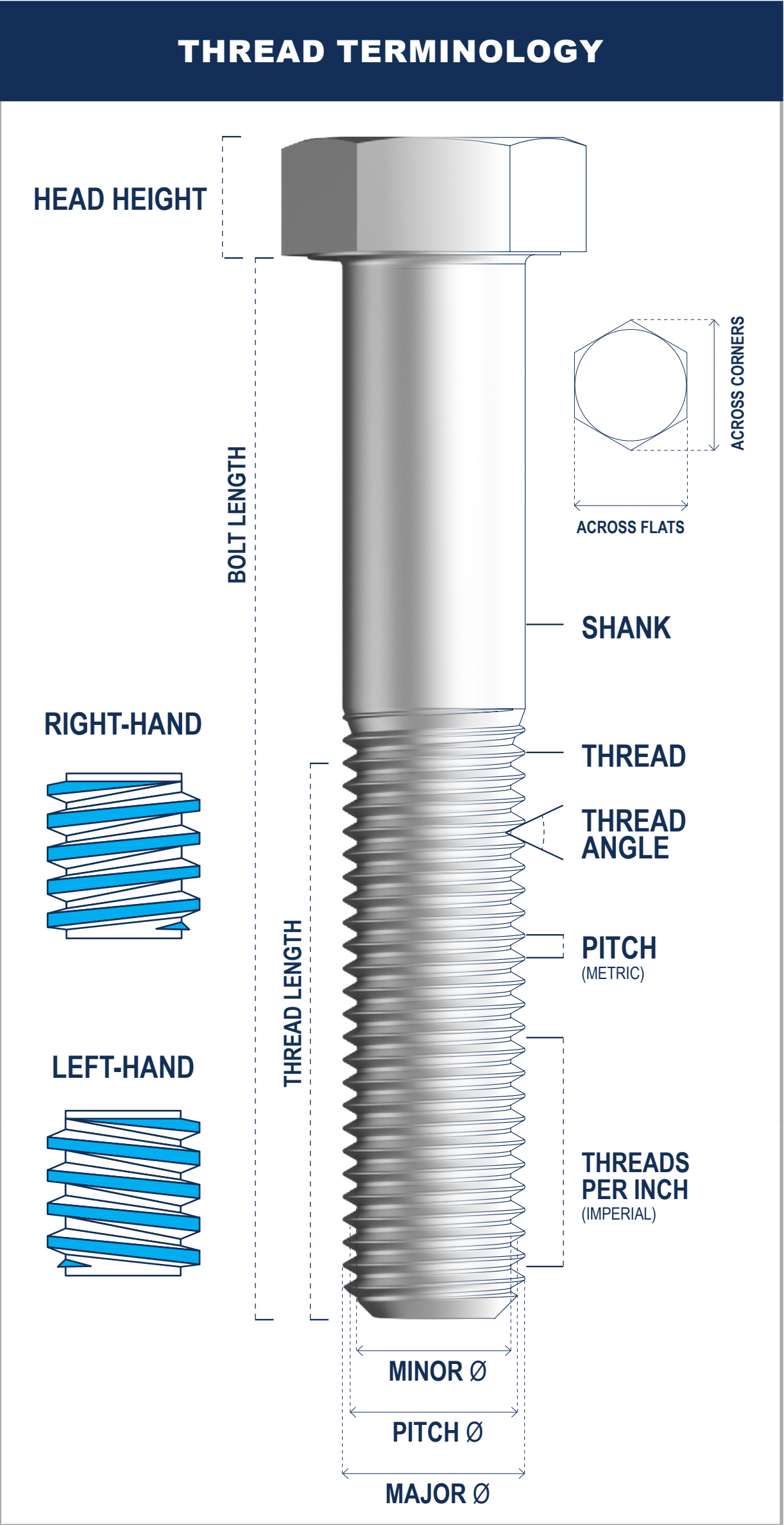
- Hobson product pages: hobson.com.au/part/BS46GCM100025, [/100030](http://hobson.com.au/part/BS46GCM100030), [/100040](http://hobson.com.au/part/BS46GCM100040) and [/100050](http://hobson.com.au/part/BS46GCM100050)
- Hobson Class 4.6 Hex Set Screw range sheet: content.hobson.com.au/announcements/20170723_did-you-know_hex-set-screw-hdg_pdf.pdf
- Hobson Class 4.6 tightening torque: cdn.hobson.com.au/documents/2306081d_hex-bolts-tightening-torque-class46.pdf
- Hobson coating comparison: content.hobson.com.au/documents/product-finish-comparison-2109151.pdf
- Hobson metric spanner selection: content.hobson.com.au/documents/hsd-spanner-selection-metric-extended.pdf

Bolt Technical Specifications

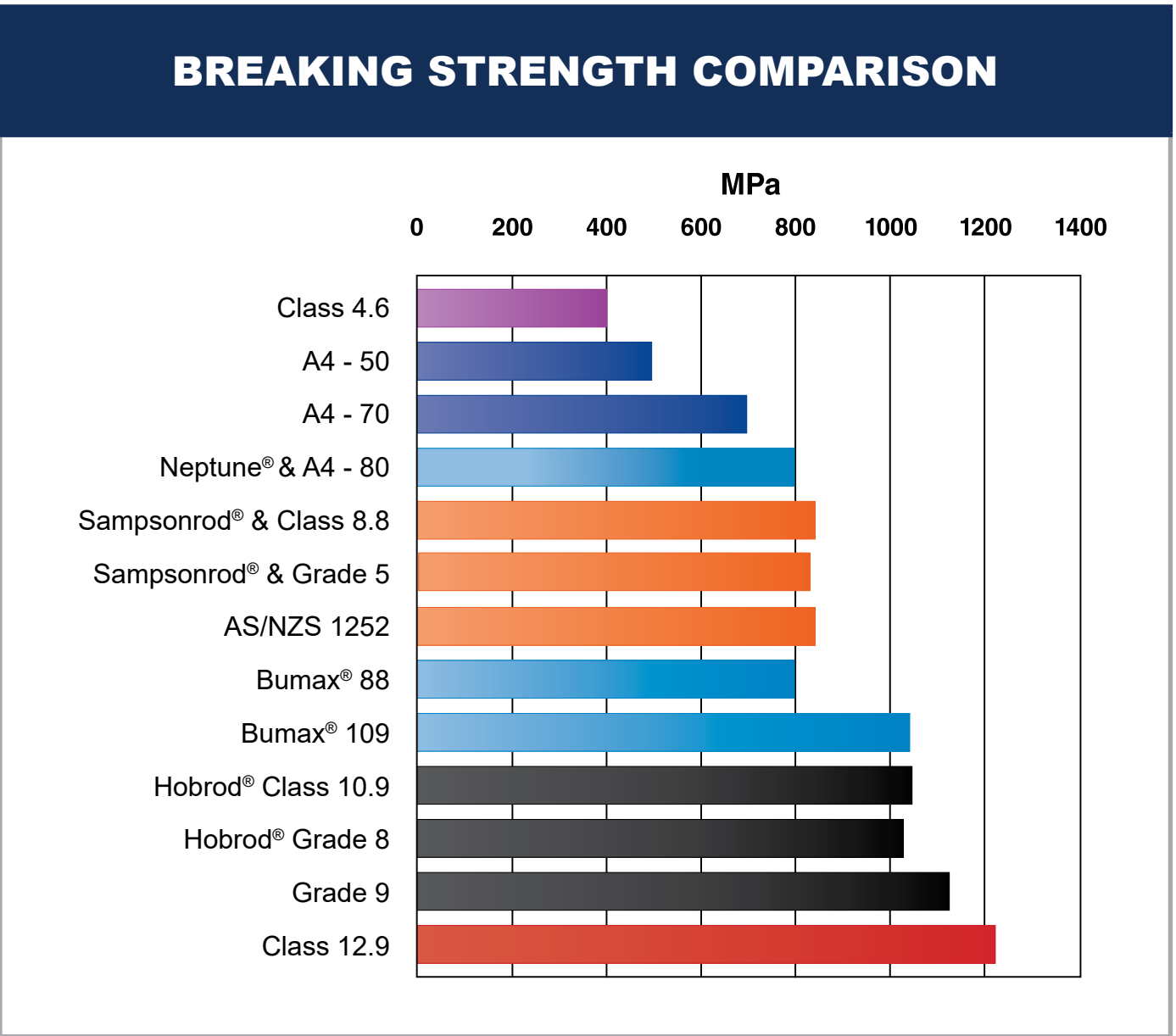


BOLT HEAD MARKINGS				
Head Marking		Strength and Material	Bolt Type	Standard
METRIC		CLASS 4.6 Low or medium Carbon Steel	CUP HEAD SQUARE NECK	AS/NZS 1390
		CLASS 4.6 Low or medium Carbon Steel	HEX HEAD	AS 1111.1 / 2
			HEX HEAD COACH SCREWS	AS/NZS 1393
		CLASS 8.8 Medium Carbon Steel, quenched and tempered	HEX HEAD	AS/NZS 1252:2016 K0
		CLASS 8.8 Medium Carbon Steel, quenched and tempered	HEX HEAD	AS 1110.1
		CLASS 10.9 Alloy Steel, quenched and tempered	HEX HEAD	AS 1110.1
			HEX HEAD	EN 14399-3 K2
		CLASS 12.9 Alloy Steel, quenched and tempered	HEX HEAD	AS 4291.1
		CLASS 50 304 Stainless Steel	HEX HEAD	DIN 931 DIN 933
		CLASS 70 304 Stainless Steel	HEX HEAD	
		CLASS 50 316 Stainless Steel	HEX HEAD	
		CLASS 70 316 Stainless Steel	HEX HEAD	
	CLASS 80 316 Stainless Steel 	HEX HEAD		
IMPERIAL		GRADE 2 Low or medium Carbon Steel	BSW HEX HEAD	AS/NZS 2451
		GRADE 5 Medium Carbon Steel, quenched and tempered	UNC/UNF HEX HEAD	AS/NZS 2465
		GRADE 8 Medium Carbon Alloy, quenched and tempered	UNC/UNF HEX HEAD	
BUMAX®		Class 8.8 High Molybdenum – G316L		
		Class 10.9 High Molybdenum – G316L		

SPANNER / SOCKET SIZE					
Bolt Size	AS1110/1 - ISO 4014	AS1252.1	DIN931/3/4	DIN6921	JIS B1189
M1.6	3.2	-	3.2	-	-
M2	4	-	4	-	-
M2.5	5	-	5	-	-
M3	5.5	-	5.5	-	-
M4	7	-	7	-	-
M5	8	-	8	8	7
M6	10	-	10	10	8
M7	11	-	11	11	-
M8	13	-	13	13	10
M10	16	-	17	15	13
M12	18	21	19	16	15
M14	21	-	22	18	18
M16	24	27	24	21	21
M18	27	-	27	-	-
M20	30	32	30	27	-
M22	34	36	32	-	-
M24	36	41	36	-	-
M27	41	46	41	-	-
M30	46	50	46	-	-
M33	50	-	50	-	-
M36	55	60	55	-	-
M39	60	-	60	-	-
M42	65	-	65	-	-
M45	70	-	70	-	-
M48	75	-	75	-	-
M52	80	-	80	-	-
M56	85	-	85	-	-
M60	90	-	90	-	-
M64	95	-	95	-	-
M68	100	-	100	-	-
M72	105	-	105	-	-
M76	110	-	110	-	-
M80	115	-	115	-	-
M85	120	-	120	-	-
M90	130	-	130	-	-
M95	135	-	135	-	-
M100	145	-	145	-	-
M105	150	-	150	-	-
M110	155	-	155	-	-
Bolt Size	AS2465 - ANSIB18.2.1				
1/4	7/16				
5/16	1/2				
3/8	9/16				
7/16	5/8				
1/2	3/4				
9/16	13/16				
5/8	15/16				
3/4	1 - 1/8				
7/8	1 - 5/16				
1	1 - 1/2				
1 - 1/8	1 - 11/16				
1 - 1/4	1 - 7/8				
1 - 3/8	2 - 1/16				
1 - 1/2	2 - 1/4				
1 - 3/4	2 - 5/8				
1 - 7/8	2 - 13/16				
2	3				
2 - 1/4	3 - 3/8				
2 - 1/2	3 - 3/4				
2 - 3/4	4 - 1/8				
3	4 - 1 2				
3 - 1/2	5 - 1/4				
3 - 3/4	5 - 5/8				
4	6				



PITCH AND THREAD											
Size			Pitch (mm)			Threads Per Inch					
M	"	#	Coarse	Fine	Extra Fine	UNC	UN8	UNF	BSW	BSF	
M1.6	-	#0	0.35	-	-	-	-	80	-	-	
M2	-	#1	0.4	-	-	-	-	72	-	-	
-	-	#2	-	-	-	56	-	64	-	-	
M2.5	-	#3	0.45	-	-	48	-	56	-	-	
-	-	#4	-	-	-	40	-	48	-	-	
M3	1/8	#5	0.5	-	-	40	-	44	40	-	
M3.5	-	#6	0.6	-	-	32	-	40	-	-	
M4	5/32	#8	0.7	-	-	32	-	36	32	-	
M5	3/16	#10	0.8	-	-	24	-	32	24	32	
-	-	#12	-	-	-	24	-	28	-	-	
M6	1/4	-	1	-	-	20	-	28	20	26	
M8	5/16	-	1.25	1	-	18	-	24	18	22	
M10	3/8	-	1.5	1.25	1	16	-	24	16	20	
-	7/16	-	-	-	-	14	-	20	14	18	
M12	1/2	-	1.75	1.5	1.25	13	-	20	12	16	
M14	9/16	-	2	1.5	-	12	-	18	12	16	
M16	5/8	-	2	1.5	-	11	-	18	11	14	
M18	-	-	2.5	1.5	-	-	-	-	-	-	
M20	3/4	-	2.5	1.5	-	10	-	16	10	12	
M22	7/8	-	2.5	1.5	-	9	-	14	9	11	
M24	1	-	3	2	1.5	8	8	12 (14)	8	10	
M27	1 1/8	-	3	2	1.5	7	8	12	7	9	
M30	1 1/4	-	3.5	2	1.5	7	8	12	7	9	
M33	1 3/8	-	3.5	2	-	6	8	12	6	8	
M36	1 1/2	-	4	3	2	6	8	12	6	8	
M39	1 5/8	-	4	3	-	-	8	-	5	8	
M42	-	-	4.5	3	-	-	-	-	-	-	
M45	1 3/4	-	4.5	3	-	5	8	12	5	7	
M48	1 7/8	-	5	3	-	-	8	-	-	-	
			METRIC			IMPERIAL					



WASHER GAUGE CONVERTER												
gauge	8	9	10	12	14	16	18	19	20	21	22	30
mm	3.99	3.55	3.18	2.52	1.99	1.59	1.26	1.07	0.89	0.81	0.74	0.31
inch	0.1570"	0.1398"	0.1250"	0.0991"	0.0785"	0.0625"	0.0495"	0.0420"	0.0350"	0.0320"	0.0290"	0.0123"



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