

This Australian Standard was prepared by Committee ME/29, Fasteners. It was approved on behalf of the Council of Standards Australia on 21 April 2000 and published on 23 June 2000.

The following interests are represented on Committee ME/29:

Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Industry Group
Bureau of Steel Manufacturers of Australia
Electricity Supply Association of Australia
Federal Chamber of Automotive Industries
Institute of Materials Engineering Australasia
Metal Building Products Manufacturers Association

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.com.au, or write to the Chief Executive, Standards Australia International Ltd, PO Box 1055, Strathfield, NSW 2135.

This Standard was issued in draft form for comment as DR 00038.

Australian Standard TM

**ISO metric hexagon bolts and screws—
Product grade C**

Part 1: Bolts

Originated as AS 1111—1972.
Previous edition AS/NZS 1111:1996.
Revised and redesignated, in part, as AS 1111.1—2000.

COPYRIGHT

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd
PO Box 1055, Strathfield, NSW 2135, Australia

ISBN 0 7337 3401 4

PREFACE

This Standard was prepared by the Standards Australia Committee ME/29, Fasteners to supersede AS/NZS 1111:1996, *ISO metric hexagon commercial bolts and screws*, in part.

The objective of this Standard is to provide manufacturers, suppliers and users with the dimensions, tolerances and material requirements for hexagon head bolts ISO product grade C with ISO metric coarse threads.

This Standard is Part 1 of a two-part series on ISO metric hexagon bolts and screws. Part 2 gives the dimensions for screws.

This edition has been technically revised and introduces the designation of product grade C in place of the term 'commercial' which has been used in previous editions.

NOTE: The product grade refers to the quality of the product and to the size of the tolerances where grade A is the most precise and grade C is the least precise.

This Standard is identical with and has been reproduced from ISO 4016:1999, *Hexagon head bolts—Product grade C*.

Statements expressed in mandatory terms in notes to tables and figures are deemed to be requirements of this Standard.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (b) In the source text 'this International Standard' should read 'this Australian Standard'.
- (c) A full point should be substituted for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to equivalent Australian Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian Standard</i>	
ISO		AS	
225	Fasteners—Bolts, screws, studs and nuts—Symbols and designations of dimensions	—	
724	ISO general-purpose metric screw threads—Basic dimensions	—	
888	Bolts, screws and threads—Nominal lengths, and thread lengths for general purpose bolts	—	
898	Mechanical properties of fasteners made of carbon steel and alloy steel	4291	Mechanical properties of fasteners made of carbon steel and alloy steel
898-1	Part 1: Bolts, screws and studs	4291.1	Part 1: Bolts, screws and studs
965	ISO general purpose metric screw threads—Tolerances	—	
965-1	Part 1: Principles and basic data	—	
3269	Fasteners—Acceptance inspection	—	
4018	Hexagon head screws—Product grade C	1111	ISO metric hexagon bolts and screws—Product grade C
		1111.1	Part 2: Screws
4042	Fasteners—Electroplated coatings	—	
4759	Tolerances for fasteners	—	

ISO		AS
4759-1	Part 1: Bolts, screws, studs and nuts— Product grades A, B and C	—
8992	Fasteners—General requirements for bolts, screws, studs and nuts	—
10683	Fasteners—Non-electrolytically applied zinc flake coatings	—

CONTENTS

	Page
Introduction.....v	
1 Scope.....	1
2 Normative references	1
3 Dimensions.....	2
4 Specifications and reference standards.....	7
5 Designation	7
Bibliography.....	8

INTRODUCTION

This International Standard is part of the complete ISO product standard series on external hexagon drive fasteners. The series comprises:

- a) hexagon head bolts (ISO 4014 to ISO 4016 and ISO 8765);
- b) hexagon head screws (ISO 4017, ISO 4018 and ISO 8676);
- c) hexagon nuts (ISO 4032 to ISO 4036, ISO 8673 to ISO 8675);
- d) hexagon bolts with flange (ISO 4162 and ISO 15071);
- e) hexagon nuts with flange (ISO 4161 and ISO 10663);
- f) structural bolts and nuts (ISO 4775, ISO 7411 to ISO 7414 and ISO 7417).

NOTES

AUSTRALIAN STANDARD

ISO metric hexagon bolts and screws—Product grade C**Part 1:
Bolts****1 Scope**

This International Standard specifies the characteristics of hexagon head bolts with threads from M5 up to and including M64 of product grade C.

If, in special cases, specifications other than those listed in this International Standard are required, they should be selected from existing International Standards, for example ISO 724, ISO 888, ISO 898-1, ISO 965-1 and ISO 4759-1.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 225:1983, *Fasteners — Bolts, screws, studs and nuts — Symbols and designations of dimensions.*

ISO 724:1993, *ISO general-purpose metric screw threads — Basic dimensions.*

ISO 888:1976, *Bolts, screws and studs — Nominal lengths, and thread lengths for general purpose bolts.*

ISO 898-1:1999, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 1: Bolts, screws and studs.*

ISO 965-1:1998, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data.*

ISO 3269:—¹⁾, *Fasteners — Acceptance inspection.*

ISO 4018:1999, *Hexagon head screws — Product grade C.*

ISO 4042:1999, *Fasteners — Electroplated coatings.*

ISO 4759-1:—²⁾, *Tolerances for fasteners — Part 1: Bolts, screws, studs and nuts — Product grades A, B and C.*

ISO 8992:1986, *Fasteners — General requirements for bolts, screws, studs and nuts.*

ISO 10683:—³⁾, *Fasteners — Non-electrolytically applied zinc flake coatings.*

¹⁾ To be published. (Revision of ISO 3269:1988)

²⁾ To be published. (Revision of ISO 4759-1:1978)

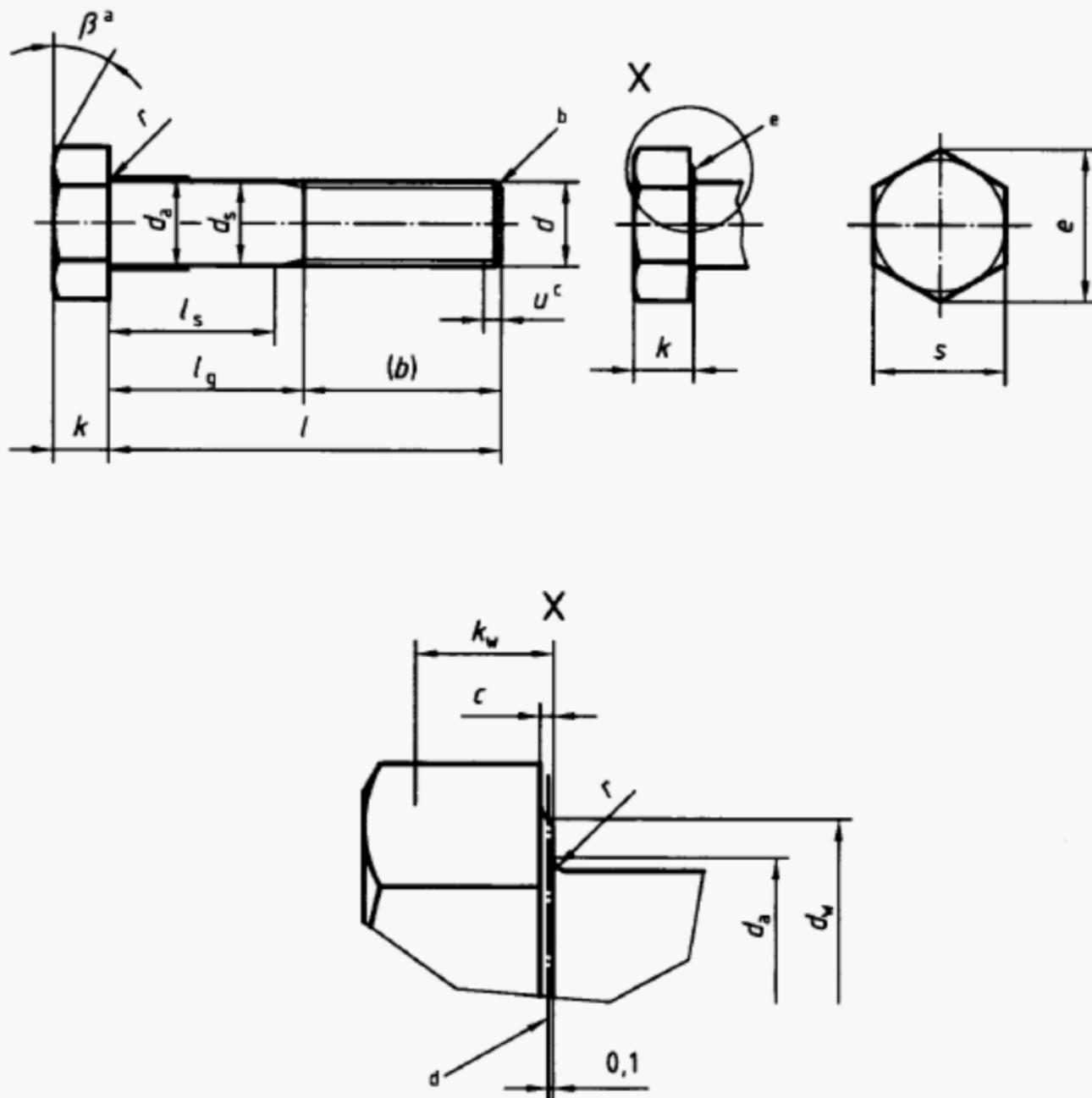
³⁾ To be published.

3 Dimensions

See Figure 1 and Tables 1 and 2.

Symbols and designations of dimensions are defined in ISO 225.

Dimensions in millimetres



- a $\beta = 15^\circ$ to 30°
- b End without special requirements
- c Incomplete thread $u \leq 2P$
- d Reference datum for d_w
- e Washer face permissible

Figure 1

Table 1 — Preferred threads

Dimensions in millimetres

Thread (<i>d</i>)		M5	M6	M8	M10	M12	M16	M20									
p^a		0,8	1	1,25	1,5	1,75	2	2,5									
<i>b</i> ref.	<i>b</i>	16	18	22	26	30	38	46									
	<i>c</i>	22	24	28	32	36	44	52									
	<i>d</i>	35	37	41	45	49	57	65									
<i>c</i>	max.	0,5	0,5	0,6	0,6	0,6	0,8	0,8									
d_a	max.	6	7,2	10,2	12,2	14,7	18,7	24,4									
d_s	max.	5,48	6,48	8,58	10,58	12,7	16,7	20,84									
	min.	4,52	5,52	7,42	9,42	11,3	15,3	19,16									
d_w	min.	6,74	8,74	11,47	14,47	16,47	22	27,7									
<i>e</i>	min.	8,63	10,89	14,2	17,59	19,85	26,17	32,95									
	nom.	3,5	4	5,3	6,4	7,5	10	12,5									
<i>k</i>	max.	3,875	4,375	5,675	6,85	7,95	10,75	13,4									
	min.	3,125	3,625	4,925	5,95	7,05	9,25	11,6									
	k_w^e	min.	2,19	2,54	3,45	4,17	4,94	6,48	8,12								
<i>r</i>	min.	0,2	0,25	0,4	0,4	0,6	0,6	0,8									
<i>s</i>	nom. = max.	8,00	10,00	13,00	16,00	18,00	24,00	30,00									
	min.	7,64	9,64	12,57	15,57	17,57	23,16	29,16									
<i>l</i>		l_s and l_g^{fg}															
nom.	min.	max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	
25	23,95	26,05	5	9													
30	28,95	31,05	10	14	7	12	For sizes above the solid, boldface stepped line, ISO 4018 is recommended										
35	33,75	36,25	15	19	12	17											
40	38,75	41,25	20	24	17	22	11,75	18									
45	43,75	46,25	25	29	22	27	16,75	23	11,5	19							
50	48,75	51,25	30	34	27	32	21,75	28	16,5	24							
55	53,5	56,5			32	37	26,75	33	21,5	29	16,25	25					
60	58,5	61,5			37	42	31,75	38	26,5	34	21,25	30					
65	63,5	66,5					36,75	43	31,5	39	26,25	35	17	27			
70	68,5	71,5					41,75	48	36,5	44	31,25	40	22	32			
80	78,5	81,5					51,75	58	46,5	54	41,25	50	32	42	21,5	34	
90	88,25	91,75							56,5	64	51,25	60	42	52	31,5	44	
100	98,25	101,75							66,5	74	61,25	70	52	62	41,5	54	
110	108,25	111,75									71,25	80	62	72	51,5	64	
120	118,25	121,75									81,25	90	72	82	61,5	74	
130	128	132											76	86	65,5	78	
140	138	142											86	96	75,5	88	
150	148	152											96	106	85,5	98	
160	156	164											106	116	95,5	108	
180	176	184													115,5	128	
200	195,4	204,6													135,5	148	
220	215,4	224,6															
240	235,4	244,6															
260	254,8	265,2															
280	274,8	285,2															
300	294,8	305,2															
320	314,3	325,7															
340	334,3	345,7															
360	354,3	365,7															
380	374,3	385,7															
400	394,3	405,7															
420	413,7	426,3															
440	433,7	446,3															
460	453,7	466,3															
480	473,7	486,3															
500	493,7	506,3															

Table 1 (continued)

Thread (d)		M24	M30	M36	M42	M48	M56	M64							
p^a		3	3,5	4	4,5	5	5,5	6							
b ref.	b	54	66	—	—	—	—	—							
	c	60	72	84	96	108	—	—							
	d	73	85	97	109	121	137	153							
c	max.	0,8	0,8	0,8	1	1	1	1							
d_a	max.	28,4	35,4	42,4	48,6	56,6	67	75							
d_s	max.	24,84	30,84	37	43	49	57,2	65,2							
	min.	23,16	29,16	35	41	47	54,8	62,8							
d_w	min.	33,25	42,75	51,11	59,95	69,45	78,66	88,16							
e	min.	39,55	50,85	60,79	71,3	82,6	93,56	104,86							
k	nom.	15	18,7	22,5	26	30	35	40							
	max.	15,9	19,75	23,55	27,05	31,05	36,25	41,25							
	min.	14,1	17,65	21,45	24,95	28,95	33,75	38,75							
k_w^e	min.	9,87	12,36	15,02	17,47	20,27	23,63	27,13							
r	min.	0,8	1	1	1,2	1,6	2	2							
s	nom. = max.	36	46	55,0	65,0	75,0	85,0	95,0							
	min.	35	45	53,8	63,1	73,1	82,8	92,8							
l		l_s and l_g^f													
		l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.
nom.	min.	max.													
25	23,95	26,05													
30	28,95	31,05													
35	33,75	36,25													
40	38,75	41,25													
45	43,75	46,25													
50	48,75	51,25													
55	53,5	56,5													
60	58,5	61,5													
65	63,5	66,5													
70	68,5	71,5													
80	78,5	81,5													
90	88,25	91,75													
100	98,25	101,75	31	46											
110	108,25	111,75	41	56											
120	118,25	121,75	51	66	36,5	54									
130	128	132	55	70	40,5	58									
140	138	142	65	80	50,5	68	36	56							
150	148	152	75	90	60,5	78	46	66							
160	156	164	85	100	70,5	88	56	76							
180	176	184	105	120	90,5	108	76	96	61,5	84					
200	195,4	204,6	125	140	110,5	128	96	116	81,5	104	67	92			
220	215,4	224,6	132	147	117,5	135	103	123	88,5	111	74	99			
240	235,4	244,6	152	167	137,5	155	123	143	108,5	131	94	119	75,5	103	
260	254,8	265,2			157,5	175	143	163	128,5	151	114	139	95,5	123	77
280	274,8	285,2			177,5	195	163	183	148,5	171	134	159	115,5	143	97
300	294,8	305,2			197,5	215	183	203	168,5	191	154	179	135,5	163	117
320	314,3	325,7					203	223	188,5	211	174	199	155,5	183	137
340	334,3	345,7					223	243	208,5	231	194	219	175,5	203	157
360	354,3	365,7					243	263	228,5	251	214	239	195,5	223	177
380	374,3	385,7							248,5	271	234	259	215,5	243	197
400	394,3	405,7							268,5	291	254	279	235,5	263	217
420	413,7	426,3							288,5	311	274	299	255,5	283	237
440	433,7	446,3									294	319	275,5	303	257
460	453,7	466,3									314	339	295,5	323	277
480	473,7	486,3									334	359	315,5	343	297
500	493,7	506,3											335,5	363	317

For sizes above the solid, boldface stepped line, ISO 4018 is recommended

NOTE popular lengths are defined in terms of l_s and l_g ^a p is the pitch of the thread.^b For lengths $l_{nom} \leq 125$ mm.^c For lengths $125 \text{ mm} < l_{nom} \leq 200$ mm.^d For lengths $l_{nom} > 200$ mm.^e $k_w, \min = 0,7 k_{\min}$ ^f $l_{g, \max} = l_{nom} - b$ $l_{s, \min} = l_{g, \max} - 5p$ ^g l_g is the minimum grip length.

Table 2 — Non-preferred threads

Dimensions in millimetres

Thread (<i>d</i>)		M14	M18	M22	M27	M33						
p^a		2	2,5	2,5	3	3,5						
b ref.	b	34	42	50	60	—						
	c	40	48	56	66	78						
	d	53	61	69	79	91						
c	max.	0,6	0,8	0,8	0,8	0,8						
d_a	max.	16,7	21,2	26,4	32,4	38,4						
d_s	max.	14,7	18,7	22,84	27,84	34						
	min.	13,3	17,3	21,16	26,16	32						
d_w	min.	19,15	24,85	31,35	38	46,55						
e	min.	22,78	29,56	37,29	45,2	55,37						
k	nom.	8,8	11,5	14	17	21						
	max.	9,25	12,4	14,9	17,9	22,05						
	min.	8,35	10,6	13,1	16,1	19,95						
k_w^e	min.	5,85	7,42	9,17	11,27	13,97						
r	min.	0,6	0,6	0,8	1	1						
s	nom. = max.	21,00	27,00	34	41	50						
	min.	20,16	26,16	33	40	49						
l			l_s and $l_g^{f,g}$									
			l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.
nom.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
60	58,5	61,5	16	26	For sizes above the solid, boldface stepped line ISO 4018 is recommended							
65	63,5	66,5	21	31								
70	68,5	71,5	26	36								
80	78,5	81,5	36	46	25,5	38						
90	88,25	91,75	46	56	35,5	48	27,5	40				
100	98,25	101,75	56	66	45,5	58	37,5	50				
110	108,25	111,75	66	76	55,5	68	47,5	60	35	50		
120	118,25	121,75	76	86	65,5	78	57,5	70	45	60		
130	128	132	80	90	69,5	82	61,5	74	49	64	34,5	52
140	138	142	90	100	79,5	92	71,5	84	59	74	44,5	62
150	148	152			89,5	102	81,5	94	69	84	54,5	72
160	156	164			99,5	112	91,5	104	79	94	64,5	82
180	176	184			119,5	132	111,5	124	99	114	84,5	102
200	195,4	204,6					131,5	144	119	134	104,5	122
220	215,4	224,6					138,5	151	126	141	111,5	129
240	235,4	244,6							146	161	131,5	149
260	254,8	265,2							166	181	151,5	167
280	274,8	285,2									171,5	189
300	294,8	305,2									191,5	209
320	314,3	325,7									211,5	229
340	334,3	345,7										
360	354,3	365,7										
380	374,3	385,7										
400	394,3	405,7										
420	413,7	426,3										
440	433,7	446,3										
460	453,7	466,3										
480	473,7	486,3										
500	493,7	506,3										

Table 2 (continued)

Thread (<i>d</i>)	M39			M45			M52			M60			
p^a	4			4,5			5			5,5			
<i>b</i> ref.	b	—			—			—			—		
	c	90			102			116			—		
	d	103			115			129			145		
<i>c</i>	max.			1			1			1			
d_a	max.			45,4			52,6			62,6			
d_s	max.			40			46			53,2			
	min.			38			44			50,8			
d_w	min.			55,86			64,7			74,2			
<i>e</i>	min.			66,44			76,95			88,25			
<i>k</i>	nom.			25			28			33			
	min.			23,95			26,95			31,75			
	max.			26,05			29,05			34,25			
k_w^e	min.			16,77			18,87			22,23			
<i>r</i>	min.			1			1,2			1,6			
<i>s</i>	nom. = max.			60,0			70,0			80,0			
	min.			58,8			68,1			78,1			
<i>l</i>			l_s and $l_g^f g$										
nom.	min.	max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.	l_s min.	l_g max.			
60	58,5	61,5											
65	63,5	66,5	For sizes above the solid, boldface stepped line ISO 4018 is recommended										
70	68,5	71,5											
80	78,5	81,5											
90	88,25	91,75											
100	98,25	101,75											
110	108,25	111,75											
120	118,25	121,75											
130	128	132											
140	138	142											
150	148	152	40	60									
160	156	164	50	70									
180	176	184	70	90	55,5	78							
200	195,4	204,6	90	110	75,5	98	59	84					
220	215,4	224,6	97	117	82,5	105	66	91					
240	235,4	244,6	117	137	102,5	125	86	111	67,5	95			
260	254,8	265,2	137	157	122,5	145	106	131	87,5	115			
280	274,8	285,2	157	177	142,5	165	126	151	107,5	135			
300	294,8	305,2	177	197	162,5	185	146	171	127,5	155			
320	314,3	325,7	197	217	182,5	205	166	191	147,5	175			
340	334,3	345,7	217	237	202,5	225	186	211	167,5	195			
360	354,3	365,7	237	257	222,5	245	206	231	187,5	215			
380	374,3	385,7	257	277	242,5	265	226	251	207,5	235			
400	394,3	405,7	277	297	262,5	285	246	271	227,5	255			
420	413,7	426,3			282,5	305	266	291	247,5	275			
440	433,7	446,3			302,5	325	286	311	267,5	295			
460	453,7	466,3					306	331	287,5	315			
480	473,7	486,3					326	351	307,5	335			
500	493,7	506,3					346	371	327,5	355			
NOTE popular lengths are defined in terms of l_s and l_g													
^a <i>P</i> is the pitch of the thread.						^e $k_w, \min = 0,7 k_{\min}$							
^b For lengths $l_{\text{nom}} \leq 125$ mm.						^f $l_g, \max = l_{\text{nom}} - b$							
^c For lengths $125 \text{ mm} < l_{\text{nom}} \leq 200$ mm.						$l_s, \min = l_g, \max - 5P$							
^d For lengths $l_{\text{nom}} > 200$ mm.						^g l_g is the minimum grip length.							

4 Specifications and reference standards

See Table 3.

Table 3 — Specifications and reference standards

Material		Steel
General requirements	International Standard	ISO 8992
Thread	Tolerance	8g
	International Standards	ISO 724, ISO 965-1
Mechanical properties	Property class ^a	$d \leq 39$ mm: 3.6, 4.6, 4.8 $d > 39$ mm: as agreed
	International Standard	$d \leq 39$ mm: ISO 898-1 $d > 39$ mm: as agreed
Tolerances	Product grade	C
	International Standard	ISO 4759-1
Finish and/or coating		As processed Requirements for electroplating are covered in ISO 4042. Requirements for non-electrolytically applied zinc flake coatings are covered in ISO 10683. If different electroplating requirements are desired or if requirements are needed for other finishes, they should be agreed between customer and supplier.
Acceptability		For acceptance procedure, see ISO 3269.
^a For other property classes see ISO 898-1.		

5 Designation

EXAMPLE

A hexagon head bolt, product grade C, with thread M12, nominal length $l = 80$ mm and property class 4.6 is designated as follows:

Hexagon head bolt ISO 4016 - M12 × 80 - 4.6

Bibliography

- [1] ISO 4014:1999, *Hexagon head bolts — Product grades A and B.*
- [2] ISO 4015:1979, *Hexagon head bolts — Product grade B — Reduced shank (shank diameter approximately equal to pitch diameter).*
- [3] ISO 4017:1999, *Hexagon head screws — Product grades A and B.*
- [4] ISO 4018:1999, *Hexagon head screws — Product grade C.*
- [5] ISO 4032:1999, *Hexagon nuts, style 1 — Product grades A and B.*
- [6] ISO 4033:1999, *Hexagon nuts, style 2 — Product grades A and B.*
- [7] ISO 4034:1999, *Hexagon nuts — Product grade C.*
- [8] ISO 4035:1999, *Hexagon thin nuts (chamfered) — Product grades A and B.*
- [9] ISO 4036:1999, *Hexagon thin nuts (unchamfered) — Product grade B.*
- [10] ISO 4161:1999, *Hexagon nuts with flange — Coarse thread.*
- [11] ISO 4162:—⁴⁾, *Hexagon bolts with flange — Small series — Product grade combination A/B.*
- [12] ISO 4775:1984, *Hexagon nuts for high-strength structural bolting with large width across flats — Product grade B — Property classes 8 and 10.*
- [13] ISO 7411:1984, *Hexagon bolts for high-strength structural bolting with large width across flats (thread lengths according to ISO 888) — Product grade C — Property classes 8.8 and 10.9.*
- [14] ISO 7412:1984, *Hexagon bolts for high-strength structural bolting with large width across flats (short thread length) — Product grade C — Property classes 8.8 and 10.9.*
- [15] ISO 7413:1984, *Hexagon nuts for structural bolting, style 1, hot-dip galvanize (oversize tapped) — Product grades A and B — Property classes 5, 6 and 8.*
- [16] ISO 7414:1984, *Hexagon nuts for structural bolting with large width across flats, style 1 — Product grade B — Property class 10.*
- [17] ISO 7417:1984, *Hexagon nuts for structural bolting, style 2, hot-dip galvanize (oversize tapped) — Product grade A — Property class 9.*
- [18] ISO 8673:1999, *Hexagon nuts, style 1, with metric fine pitch thread — Product grades A and B.*
- [19] ISO 8674:1999, *Hexagon nuts, style 2, with metric fine pitch thread — Product grades A and B.*
- [20] ISO 8675:1999, *Hexagon thin nuts (chamfered) with metric fine pitch thread — Product grades A and B.*
- [21] ISO 8676:1999, *Hexagon head screws with metric fine pitch thread — Product grades A and B.*
- [22] ISO 8765:1999, *Hexagon head bolts with metric fine pitch thread — Product grades A and B.*

⁴⁾ To be published. (Revision of ISO 4162:1990)

- [23] ISO 10663:1999, *Hexagon nuts with flange — Fine pitch thread.*
- [24] ISO 15071:1999, *Hexagon bolts with flange — Small series — Product grade A.*

Standards Australia

Standards Australia is an independent company, limited by guarantee, which prepares and publishes most of the voluntary technical and commercial standards used in Australia. These standards are developed through an open process of consultation and consensus, in which all interested parties are invited to participate. Through a Memorandum of Understanding with the Commonwealth government, Standards Australia is recognized as Australia's peak national standards body.

Australian Standards

Australian Standards are prepared by committees of experts from industry, governments, consumers and other relevant sectors. The requirements or recommendations contained in published Standards are a consensus of the views of representative interests and also take account of comments received from other sources. They reflect the latest scientific and industry experience. Australian Standards are kept under continuous review after publication and are updated regularly to take account of changing technology.

International Involvement

Standards Australia is responsible for ensuring that the Australian viewpoint is considered in the formulation of international Standards and that the latest international experience is incorporated in national Standards. This role is vital in assisting local industry to compete in international markets. Standards Australia represents Australia at both ISO (The International Organization for Standardization) and the International Electrotechnical Commission (IEC).

Electronic Standards

All Australian Standards are available in electronic editions, either downloaded individually from our Web site, or via on-line and CD ROM subscription services. For more information phone 1300 65 46 46 or visit us at

www.standards.com.au



S t a n d a r d s A u s t r a l i a

PO Box 1055 Strathfield NSW 2135

Administration Phone (02) 9746 4700 Fax (02) 9746 8450 Email mail@standards.com.au

Customer Service Phone 1300 65 46 46 Fax 1300 65 49 49 Email sales@standards.com.au

Internet www.standards.com.au

This page has been left intentionally blank.