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Round Head Square Neck Bolts With Large Head (Metric Series)

GOVERNMENT KEY WORDS
BOLT, ROUND LARGE HEAD,
SQUARE NECK – METRIC

AN AMERICAN NATIONAL STANDARD



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Round Head Square Neck Bolts With Large Head (Metric Series)

ASME B18.5.2.3M–1990

The American Society of Mechanical Engineers

345 East 47th Street, New York, N.Y. 10017

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FOREWORD

(This Foreword is not part of ASME B18.5.2.3M-1990.)

ASME Standards Committee B18 for the Standardization of Bolts, Nuts, Rivets, Screws, Washers, and Similar Fasteners (formerly American National Standards Committee B18), was originated in March 1922 as Sectional Committee B18 under the aegis of the American Engineering Standards Committee (later the American Standards Association, the United States of America Standards Institute and, as of October 6, 1969, the American National Standards Institute, Inc.) with the Society of Automotive Engineers and the American Society of Mechanical Engineers as joint sponsors. Subcommittee 2, 5, and 6 (later redesignated Subcommittee 9) were subsequently established and charged with the responsibilities for the technical content of standards for the external drive bolts and nuts, round unslotted head bolts, and plow bolts, respectively. Subcommittee 9 was merged into Subcommittee 5 in 1977, and Subcommittee 5 was merged into Subcommittee 2 in 1987.

Subcommittee 2 recognized a need for metric square neck bolts with large heads for applications in soft wood and similar materials, and prepared this Standard based on ISO 8677-1986, "Cup Head Square Neck Bolts with Large Head – Product Grade C."

This Standard was approved by letter ballot of Committee 18 on February 3, 1989. It was subsequently approved by ASME and submitted to the American National Standards Institute for approval as an American National Standard. This was granted on October 25, 1990.

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Standardization of Bolts, Nuts, Rivets, Screws, Washers, and Similar Fasteners

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ROUND HEAD SQUARE NECK BOLTS WITH LARGE HEAD (METRIC SERIES)

1 INTRODUCTORY NOTES

1.1 Scope

1.1.1 This Standard covers the complete general and dimensional data for metric series round head square neck bolts with large head recognized as American National Standard.

1.1.2 The inclusion of dimensional data in this Standard is not intended to imply that all sizes described are stock production items. Consumers should consult with suppliers concerning lists of stock production items.

1.2 Comparison With ISO 8677-1986

Bolts produced to this Standard are functionally interchangeable with bolts which conform to ISO 8677-1986, Cup Head Square Neck Bolts with Large Head — Product Grade C. Differences between this Standard and ISO 8677 include: minor variations in tolerances, the use of thread tolerance class 6g for all property classes, the recalculation (correction) of the tabulated grip lengths, and the inclusion of materials other than steel.

1.3 Dimensions

1.3.1 All dimensions in this Standard are given in millimeters (mm), and apply before any coating, unless otherwise specified.

1.3.2 Symbols specifying geometric characteristics are in accord with ANSI Y14.5M-1982, Dimensioning and Tolerancing.

1.4 Options

Options, where specified, shall be at the discretion of the supplier unless otherwise agreed upon by the supplier and the purchaser.

1.5 Terminology

For definitions of terms relating to fasteners or component features thereof used in this Standard, refer to ANSI B18.12, Glossary of Terms for Mechanical Fasteners.

1.6 Clearance Holes

The recommended sizes of clearance holes in material to be assembled using round head square neck bolts with large heads are the normal series given in Appendix II.

1.7 Designation

Round head square neck bolts with large head conforming to this Standard are designated by the following data in the sequence shown:

(a) product name;
(b) ASME document number, followed by a dash;
(c) thread size (bolt diameter);
(d) thread pitch, preceded by X;
(e) nominal length, preceded by X;
(f) property class or other material designation;
(g) surface protection, if required.

EXAMPLE:

Round Head Square Neck Bolts with Large Head B18.5.2.3M - M10 × 1.5 × 60 — 4.8 — ASTM F871M Zinc Coated per ASTM B633 Fe/Zn 5 type II

1.7.1 The government part numbering system for metric round head square neck bolts with large head is given in Appendix III. This system may be used by any user needing a definitive part numbering system.

1.8 Referenced Standards

Referenced ASTM standards may be obtained from The American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.

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Referenced SAE standards may be obtained from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096-0001.

Referenced ISO standards may be obtained form the American National Standards Institute, 1430 Broadway, New York, NY 10018-3308.

2 GENERAL DATA

2.1 Heads

2.1.1 Top of Head. The spherical top of the head may be underfilled within a circle equal to the nominal bolt diameter *D*, concentric to the bolt axis, providing the head height *K* is maintained.

2.1.2 Edge of Head. The edge of the head may be flat or rounded, and the periphery may be somewhat irregular, providing the limits for head diameter *Dk* are maintained.

2.1.3 Bearing Surface. The bearing surface shall be reasonably flat and perpendicular within two degrees to the axis of the body. However, a 0.5 mm maximum height die seam fin across the bearing surface is permissible.

2.1.4 Underhead Fillet. The fillet radius *R* at the junction of the head and square neck shall not exceed the specified values, except for bolts of nonferrous metals or corrosion resistant steels, on which the maximum fillet shall be subject to agreement between the supplier and the purchaser.

2.2 Square Neck

2.2.1 Depth of Neck. The depth of the square neck *F* is the distance, measured parallel to the bolt axis, from the bearing surface to the plane where the corner chamfer would intersect the nominal bolt diameter *D*.

2.2.2 Width Across Corners. The corners of the square neck may be underfilled providing the minimum width across corners *E* is maintained for a total depth of the corners equal to one-half of the minimum neck depth *F*. There may be a fin or die seam on the corners of the square providing the maximum material boundary of a sharp corner square at the maximum width across flats is maintained.

2.3 Length

2.3.1 Standard Lengths. The standard nominal lengths for round head square neck bolts with large head are specified in Table 2. Standard nominal lengths over 200 mm are in increments of 20 mm.

2.3.2 Tolerance on Length. Tolerances on bolt lengths are specified in Table 3.

2.4 Body Diameter

Round head square neck bolts with large head may be furnished with either full or reduced diameter body within the limits for body diameter *Ds*, specified in Table 2. There may be a reasonable swell, fin, or die seam on the body adjacent to the square neck within the maximum body diameter *Ds*.

2.5 Screw Threads

2.5.1 Thread Series and Tolerance Class. Screw threads shall be coarse series general purpose external metric screw threads with tolerance class 6g conforming to ANSI/ASME B1.13M, Metric Screw Threads — M Profile, unless otherwise specified by the purchaser. As specified in ANSI/ASME B1.13M, for bolts with additive finish, the thread profile after plating or coating shall not exceed the maximum material limits for tolerance position *h*.

2.5.2 Thread Gaging. Unless otherwise specified, dimensional acceptability of screw threads shall be determined based on System 21, ANSI/ASME B1.3M, Screw Thread Gaging Systems for Dimensional Acceptability — Inch and Metric Screw Threads (UN, UNR, UNJ, M and MJ).

2.6 Thread Length

The length of thread on bolts is controlled by the maximum grip length *Lg* and the minimum body length *Ls*, as follows.

2.6.1 Nominal Thread Length. The nominal thread length *B*, specified in Table 4, is a reference dimension intended for calculation purposes only.

2.6.2 Grip Length. The grip length *Lg* is the distance, parallel to the bolt axis, from the bearing surface to the face of a GO thread ring gage without counterbore or countersink assembled by hand as far as the thread will permit. The maximum grip lengths *Lg* for popular bolt sizes are specified in Table 2.

2.6.2.1 Bolts Threaded to Neck. Bolts of nominal lengths shown above the solid stepped line in Table 2 are threaded to within three pitches from the maximum depth of the square neck (Lg max = F max + $3P$).

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2.6.2.2 For bolts of nominal lengths shown below the solid stepped line in Table 2, the maximum grip length *Lg* is equal to the nominal bolt length *L* minus the nominal thread length *B* (*Lg* max = *L* nom − *B*).

2.6.3 Body Length. The body length *Ls* is the distance, parallel to the bolt axis, from the bearing surface to the top of the extrusion angle or to the last scratch of the thread. For bolts which are not threaded to neck, the minimum body lengths *Ls* are specified in Table 2, and are equal to the maximum grip lengths *Lg* minus five pitches of the thread (*Ls* min = *Lg* max − 5*P*). However, bolts of diameters *D* of M12 or less and nominal lengths *L* of 75 mm or less may be threaded to neck (see para. 2.6.2.1).

2.7 Point

Bolts need not be pointed. If pointed, the length of the point or incomplete threads *U* shall not exceed two pitches of the thread. See Table 1.

2.8 Straightness

Shanks of bolts shall be straight within a maximum camber at maximum material condition of 0.006 mm/mm of bolt length for nominal bolt lengths *L* of 300 mm or shorter, and within a maximum camber of 0.008 mm/mm of bolt length for nominal bolt lengths *L* over 300 mm to 600 mm, at maximum material condition of the body. A gage and gaging procedure for checking bolt straightness are given in Appendix I.

2.9 Materials and Mechanical Properties

2.9.1 Steel. Unless otherwise specified, steel bolts shall conform to the requirements of ASTM F568, Specification for Carbon and Alloy Steel Externally Threaded Metric Fasteners, or SAE J1199, Mechanical and Material Requirements for Metric Externally Threaded Steel Fasteners.

2.9.2 Corrosion-Resistant Steels. Unless otherwise specified, bolts made of corrosion-resistant steels shall conform to the requirements of ASTM F738, Specification for Stainless Steel Metric Bolts, Screws, and Studs.

2.9.3 Nonferrous Metals. Unless otherwise specified, nonferrous bolts shall conform to the requirements of ASTM F468M, Specification for Nonferrous Bolts, Hex Cap Screws, and Studs for General Use [Metric].

2.10 Identification Symbols

Markings shall be located on the top of the head and may be raised or recessed unless otherwise specified. When raised, markings shall project not less than 0.1 mm for M12 and smaller bolts, and 0.3 mm for M16 and larger bolts above the surface of the head, and total height of head plus markings shall not exceed the specified maximum head height plus 0.1 mm for M5 and M6 bolts, 0.2 mm for M8 and M10 bolts, 0.3 mm for M12 bolts, and 0.4 mm for M16 and M20 bolts.

2.10.1 Property Class Symbols. Each bolt shall be marked in accordance with the requirements of the applicable specification for its chemistry and mechanical properties. The minimum height of property class symbols shall be 1.5 mm for M5 and M6 bolts, 2.3 mm for M8 and M10 bolts, 3.2 mm for M12 bolts, and 4 mm for M16 and M20 bolts.

2.10.2 Source Symbols. Each bolt shall be marked to identify the source accepting responsibility for the conformance of the bolt to this and other applicable specifications.

2.11 Workmanship

Bolts shall be free from surface imperfections such as burrs, seams, laps, loose scale, and other surface irregularities which could affect serviceability.

When control of surface discontinuities is required, the purchaser shall specify conformance to ASTM F788, Surface Discontinuities of Bolts, Screws, and Studs, Inch and Metric Series.

2.12 Finish

Unless otherwise specified, the finish (surface) of the bolts shall be plain:

- as processed for steel bolts not quenched and tempered.
- in general, black oxide for quenched and tempered steel bolts.
- cleaned or descaled, or both, and bright for bolts made of stainless steel or nonferrous metal.

The bolts shall be delivered in a clean condition and lightly oiled.

2.13 Inspection and Quality Assurance

Unless otherwise specified, acceptability of round head square neck bolts with large head shall be determined in accordance with ASME/ANSI B18.18.1M, Inspection and Quality Assurance for General Purpose Fasteners, with inspection level B for thread acceptability.

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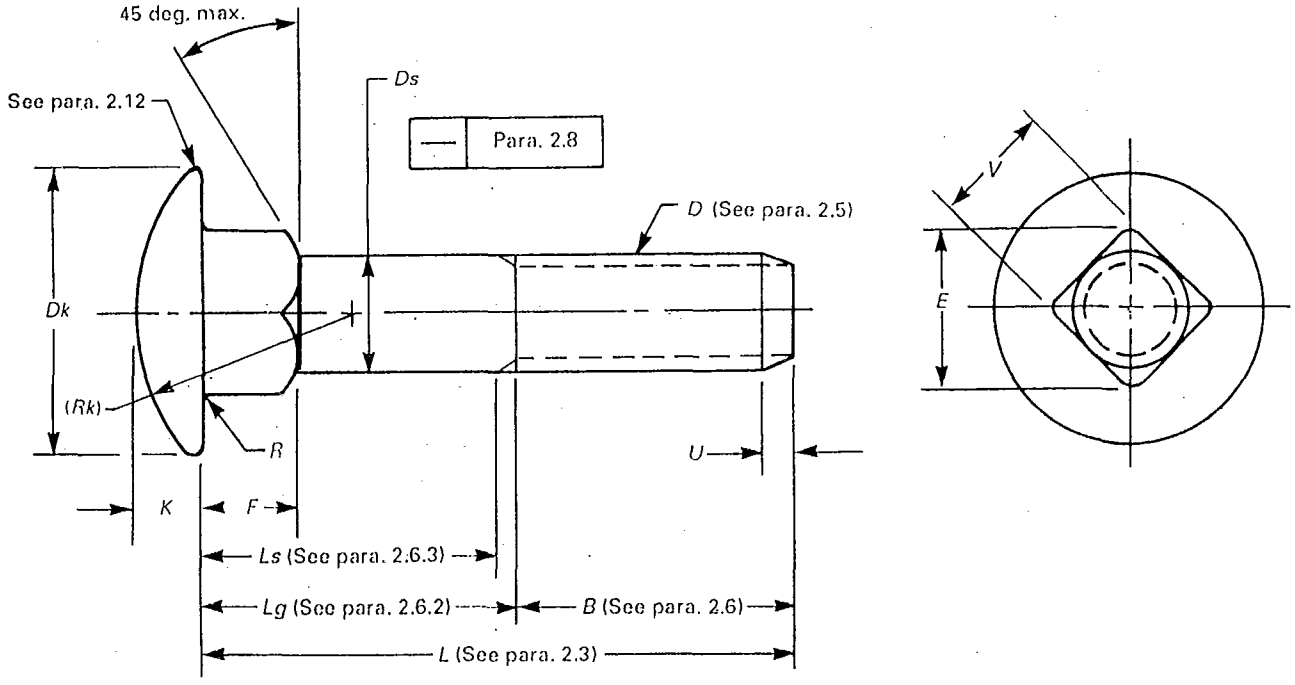


TABLE 1 DIMENSIONS OF ROUND HEAD SQUARE NECK BOLTS WITH LARGE HEAD

D	*P*	*Dk*		*Ds*		*E*	*F*		*K*		*R*	*(Rk)*	*U*	*V*	
Thread Size (Bolt Diameter)	Thread Pitch	Head Diameter		Body Diameter		Width Across Corners	Neck Depth		Head Height		Fillet Radius	Head Radius (approx)	Incomplete Thread	Width Across Flats	
		max	min	max	min	min	max	min	max	min	max	(ref)	max	max	min
M5	0.8	13.0	11.9	5.48	4.36	5.9	4.1	2.9	3.1	2.5	0.4	10.7	1.6	5.48	4.52
M6	1	16.0	14.9	6.48	5.21	7.2	4.6	3.4	3.6	3.0	0.5	12.6	2.0	6.48	5.52
M8	1.25	20.0	18.7	8.58	7.04	9.6	5.6	4.4	4.8	4.0	0.8	16.0	2.5	8.58	7.42
M10	1.5	24.0	22.7	10.58	8.86	12.2	6.6	5.4	5.8	5.0	0.8	19.2	3.0	10.58	9.42
M12	1.75	30.0	28.7	12.70	10.68	14.7	8.8	7.2	6.8	6.0	1.2	24.1	3.5	12.70	11.30
M16	2	38.0	36.4	16.70	14.50	19.9	12.9	11.1	8.9	8.0	1.2	29.3	4.0	16.70	15.30
M20	2.5	46.0	44.4	20.84	18.16	24.9	15.9	14.1	10.9	10.0	1.6	33.9	5.0	20.84	19.16
See Para.	2.5	2.1.2		2.4		2.2.2	2.2.1		2.10		2.1.4	2.1.1	2.7		

GENERAL NOTE: For additional requirements refer to Section 2.

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TABLE 2 MAXIMUM GRIP LENGTHS AND MINIMUM BODY LENGTHS

Nominal Diameter and Thread Pitch	M5 × 0.8		M6 × 1		M8 × 1.25		M10 × 1.5		M12 × 1.75		M16 × 2		M20 × 2.5	
Nominal Length[1] *L*	*Ls* min	*Lg* max	*Ls* min	*Lg* max	*Ls* min	*Lg* max	*Ls* min	*Lg* max	*Ls* min	*Lg* max	*Ls* min	*Lg* max	*Ls* min	*Lg* max
16		6.5		7.6										
20		6.5		7.6		9.35		11.1						
25	5	9		7.6		9.35		11.1						
30	10	14	7	12		9.35		11.1		14.05				
35	15	19	12	17		9.35		11.1		14.05				
40	20	24	17	22	11.75	18		11.1		14.05				
45	25	29	22	27	16.75	23	11.5	19		14.05				
50	30	34	27	32	21.75	28	16.5	24		14.05				
55	35	39	32	37	26.75	33	21.5	29	16.25	25		18.9		
60	40	44	37	42	31.75	38	26.5	34	21.25	30		18.9		
65	45	49	42	47	36.75	43	31.5	39	26.25	35	17	27		
70	50	54	47	52	41.75	48	36.5	44	31.25	40	22	32		23.4
(75)	55	59	52	57	46.75	53	41.5	49	36.25	45	27	37	16.5	29
80	60	64	57	62	51.75	58	46.5	54	41.25	50	32	42	21.5	34
90			67	72	61.75	68	56.5	64	51.25	60	42	52	31.5	44
100			77	82	71.75	78	66.5	74	61.25	70	52	62	41.5	54
110			87	92	81.75	88	76.5	84	71.25	80	62	72	51.5	64
120			97	102	91.75	98	86.5	94	81.25	90	72	82	61.5	74
130			101	106	95.75	102	90.5	98	85.25	94	76	86	65.5	78
140			111	116	105.75	112	100.5	108	95.25	104	86	96	75.5	88
150			121	126	115.75	122	110.5	118	105.25	114	96	106	85.5	98
160							120.5	128	115.25	124	106	116	95.5	108
180							140.5	148	135.25	144	126	136	115.5	128
200							160.5	168	155.25	164	146	156	135.5	148

NOTE:
(1) Nominal lengths *L* shown in parentheses are not recommended.

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TABLE 3 LENGTH TOLERANCES

Nominal Length *L*	Nominal Bolt Diameter *D*		
	M5 thru M8	M10 thru M16	M20
12 thru 16	±0.9	...	...
20 thru 30	±1.0	±1.3	...
35 thru 50	±1.3	±1.3	±2.0
55 thru 80	±1.5	±1.5	±2.5
90 thru 120	±1.7	±1.8	±3.0
130 thru 150	±2.0	±2.0	±3.5
160 thru 180	±4.0	±4.0	±4.0
200 thru 240	±4.6	±4.6	±4.6
260 thru 300	±5.2	±5.2	±5.2
320 thru 400	±5.7	±5.7	±5.7
420 thru 500	±6.3	±6.3	±6.3

TABLE 4 THREAD LENGTHS

Nominal Diameter and Thread Pitch	*(B)* Nominal Thread Length (ref)			Bolts Threaded to Neck	
	Bolt Lengths *L* ≤ 125	Bolt Lengths *L* > 125 ≤ 200	Bolt Lengths *L* > 200	Bolt Lengths *L* to and including	*Lg* Grip Length max
M5 × 0.8	16	22	35	20	6.5
M6 × 1	18	24	37	25	7.6
M8 × 1.25	22	28	41	35	9.35
M10 × 1.5	26	32	45	40	11.1
M12 × 1.75	30	36	49	50	14.05
M16 × 2	38	44	57	60	18.9
M20 × 2.5	46	52	65	70	23.4
See Para.	2.6.1			2.6.2.1	

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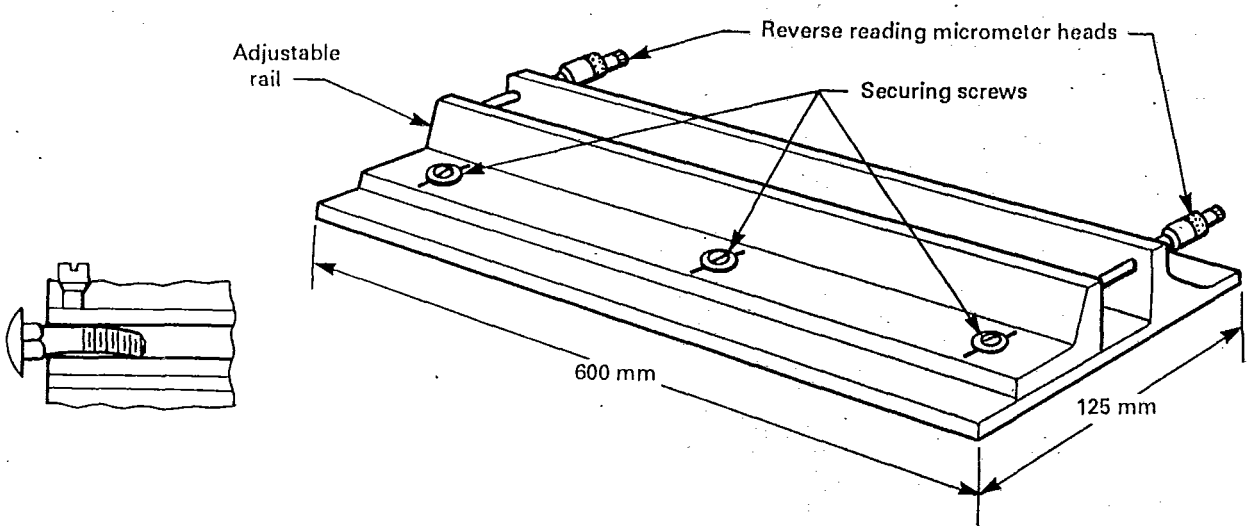
APPENDIX I
GAGE AND GAGING FOR CHECKING BOLT STRAIGHTNESS

(This Appendix is not part of ASME B18.5.2.3M-1990, and is included here for information purposes only.)

The conformance of bolts to shank straightness or camber limitations set forth in the bolt specifications may be checked by use of the typical gage illustrated below in accordance with the following procedure.

Allowable total camber on the bolt to be inspected shall be calculated by multiplying the specified permissible camber per millimeter of length by the nominal bolt length expressed as a two-place decimal. The total camber thus derived shall be added to the specified maximum body diameter and the moveable rail of the gage shall be adjacent to provide a parallel space between the rails equal to this distance by obtaining common readings on both micrometer heads. The moveable rail shall then be locked in place by tightening securing screws.

The bolt shall then be inserted between the rails, excluding from the gage the length of the square neck. The bolt shall next be rotated by hand through a full 360 deg. Any interference occurring between the bolt and the gage which is sufficient to prevent rotation shall indicate excessive camber.



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APPENDIX II
RECOMMENDED CLEARANCE HOLES FOR METRIC ROUND HEAD SQUARE NECK BOLTS

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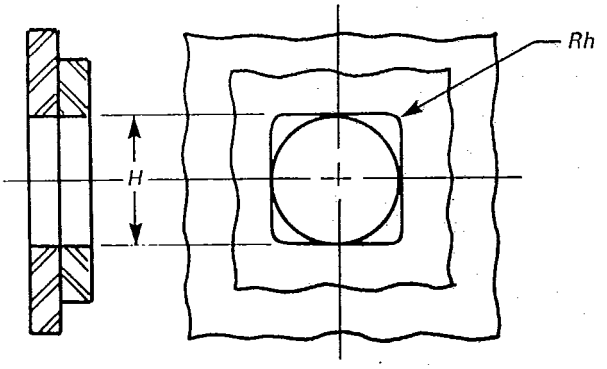


TABLE II-1 CLEARANCE HOLE SIZES

Nominal Bolt Dia. and Thread Pitch	*H* Clearance Hole Diameter or Width (Square or Slotted) Min.			*Rh* Corner Radius
	Close Clearance	Normal Clearance (Preferred)	Loose Clearance	Max.
M5 × 0.8	5.5	...	5.8	0.2
M6 × 1	6.6	...	7.0	0.3
M8 × 1.25	...	9.0	10.0	0.4
M10 × 1.5	...	11.0	12.0	0.4
M12 × 1.75	13.0	13.5	14.5	0.6
M16 × 2	17.0	17.5	18.5	0.6
M20 × 2.5	21.0	22.0	24.0	0.8

GENERAL NOTES:

Close Clearance. Close clearance hole sizes should be specified only for square holes in very thin and/or soft material, for slots, or where conditions such as critical alignment of assembled parts, wall thickness, or other limitations necessitate use of a minimal hole.

Allowable swell or fins on the bolt body and/or fins on the corners of the square neck may interfere with close clearance round and/or square holes.

Normal Clearance. Normal clearance hole sizes are preferred for general purpose applications, and should be specified unless special design considerations dictate the need for either a close or loose clearance hole.

Loose Clearance. Loose clearance hold sizes should be specified only for applications where maximum adjustment capability between components being assembled is necessary. Loose clearance square holes or slots may not prevent bolt turning during wrenching.

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APPENDIX III
GOVERNMENT STANDARD ITEMS AND PART NUMBERING SYSTEM

(This Appendix is not part of B18.5.2.3M-1990, and is included here for information purposes only.)

NOTE: The Government encourages the general use of this Appendix to achieve maximum parts standardization.

This Appendix, together with ASME B18.5.2.3M, establishes the standard items for government application, selected from the possible variations of items within the scope of the Standard, and provides a part numbering system for identification and application in engineering documents for bolts, round large head, square neck metric products.

Variations. The following variations shall be standard:

(1) document identifier — ASME standard number less decimal points;

(2) diameter/thread pitch and length combinations as specified in Table;

(3) material — steel, property class 10.9 or corrosion-resistant steel, property class A1-70 as coded in Part Numbering System;

(4) coating and finishing — cadmium, zinc, black oxide or plain as coded in Part Numbering System.

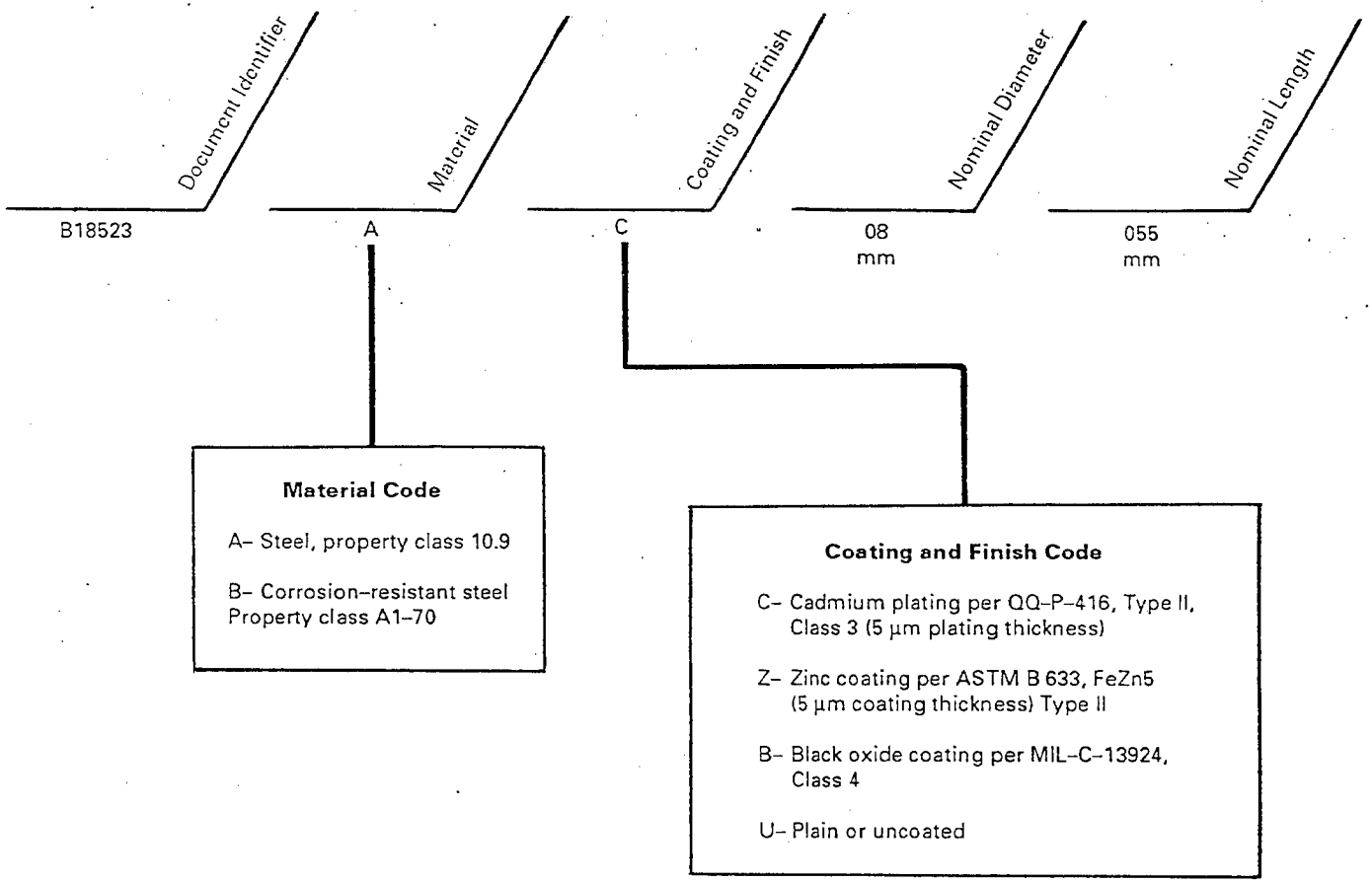
Packaging. Packaging shall be in accordance with ASTM D 3951 and cite the country of origin.

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PART NUMBERING SYSTEM COVERING STANDARD ITEMS FOR GOVERNMENT USE

NOTE: The government encourages general use of this system to achieve maximum parts standardization



EXAMPLE: B18523AC08055 indicates a bolt, round large head, square neck–metric made of steel, property class 10.9, cadmium plated, M8 x 1.25 in diameter and 55 millimeters in length.

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TABLE III-1 METRIC ROUND LARGE HEAD SQUARE NECK BOLTS — STANDARD SIZES FOR GOVERNMENT USE

Nominal Length	Nominal Diameter and Thread Pitch						
	M5 x 0.8	M6 x 1	M8 x 1.25	M10 x 1.5	M12 x 1.75	M16 x 2	M20 x 2.5
16	05016	06016					
20			08020	10020			
25							
30					12030		
35							
40							
45							
50							
55						16055	
60							
65							
70							20070
80							
85	05080						
90							
95							
100							
110							
120							
130							
140							
150		06150	08150				
160							
180							
200				10200	12200	16200	20200

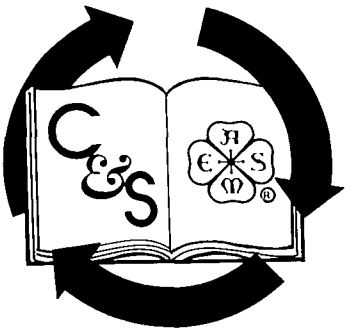
Standard Diameter and Length Combination

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AMERICAN NATIONAL STANDARDS FOR BOLTS, NUTS, RIVETS, SCREWS, WASHERS, AND SIMILAR FASTENERS

Small Solid Rivets ..... B18.1.1-1972(R1989)
Large Rivets ..... B18.1.2-1972(R1989)
Metric Small Solid Rivets ..... B18.1.3M-1983(R1989)
Square and Hex Bolts and Screws – Inch Series B18.2.1-1981
Square and Hex Nuts (Inch Series) B18.2.2-1987
Metric Hex Cap Screws ..... B18.2.3.1M-1979(R1989)
Metric Formed Hex Screws ..... B18.2.3.2M-1979(R1989)
Metric Heavy Hex Screws ..... B18.2.3.3M-1979(R1989)
Metric Hex Flange Screws B18.2.3.4M-1984
Metric Hex Bolts ..... B18.2.3.5M-1979(R1989)
Metric Heavy Hex Bolts ..... B18.2.3.6M-1979(R1989)
Metric Heavy Hex Structural Bolts ..... B18.2.3.7M-1979(R1989)
Metric Hex Lag Screws B18.2.3.8M-1981
Metric Heavy Hex Flange Screws B18.2.3.9M-1984
Metric Hex Nuts, Style 1 ..... B18.2.4.1M-1979(R1989)
Metric Hex Nuts, Style 2 ..... B18.2.4.2M-1979(R1989)
Metric Slotted Hex Nuts ..... B18.2.4.3M-1979(R1989)
Metric Hex Flange Nuts B18.2.4.4M-1982
Metric Hex Jam Nuts ..... B18.2.4.5M-1979(R1990)
Metric Heavy Hex Nuts ..... B18.2.4.6M-1979(R1990)
Socket Cap, Shoulder and Set Screws – Inch Series B18.3-1986
Socket Head Cap Screws (Metric Series) B18.3.1M-1986
Metric Series Hexagon Keys and Bits ..... B18.3.2M-1979(R1986)
Hexagon Socket Head Shoulder Screws (Metric Series) B18.3.3M-1986
Hexagon Socket Button Head Cap Screws (Metric Series) B18.3.4M-1986
Hexagon Socket Flat Countersunk Head Cap Screws (Metric Series) B18.3.5M-1986
Metric Series Socket Set Screws B18.3.6M-1986
Round Head Bolts (Inch Series) B18.5-1978
Metric Round Head Short Square Neck Bolts B18.5.2.1M-1981
Metric Round Head Square Neck Bolts B18.5.2.2M-1982
Round Head Square Neck Bolts With Large Head (Metric Series) B18.5.2.3M-1990
Wood Screws (Inch Series) B18.6.1-1981
Slotted Head Cap Screws, Square Head Set Screws, and Slotted Headless Set Screws ..... B18.6.2-1972(R1983)
Machine Screws and Machine Screw Nuts ..... B18.6.3-1972(R1983)
Thread Forming and Thread Cutting Tapping Screws and
Metallic Drive Screws (Inch Series) B18.6.4-1981
Metric Thread Forming and Thread Cutting Tapping Screws B18.6.5M-1986
Metric Machine Screws B18.6.7M-1985
General Purpose Semi-Tubular Rivets, Full Tubular Rivets, Split Rivets and Rivet Caps ..... B18.7-1972(R1980)
Metric General Purpose Semi-Tubular Rivets B18.7.1M-1984
Clevis Pins and Cotter Pins ..... B18.8.1-1972(R1983)
Taper Pins, Dowel Pins, Straight Pins, Grooved Pins, and Spring Pins (Inch Series) ..... B18.8.2-1978(R1989)
Plow Bolts ..... B18.9-1958(R1989)
Track Bolts and Nuts B18.10-1982
Miniature Screws ..... B18.11-1961(R1983)
Glossary of Terms for Mechanical Fasteners ..... B18.12-1962(R1981)
Screw and Washer Assemblies – Sems (Inch Series) B18.13-1987
Forged Eyebolts B18.15-1985
Mechanical and Performance Requirements for Prevailing-Torque Type
Steel Metric Hex Nuts and Hex Flange Nuts ..... B18.16.1M-1979(R1986)
Torque-Tension Test Requirements for Prevailing-Torque Type
Steel Metric Hex Nuts and Hex Flange Nuts ..... B18.16.2M-1979(R1986)
Dimensional Requirements for Prevailing-Torque Type Steel
Metric Hex Nuts and Hex Flange Nuts ..... B18.16.3M-1982(R1987)
Wing Nuts, Thumb Screws, and Wing Screws ..... B18.17-1968(R1983)
Inspection and Quality Assurance for General Purpose Fasteners B18.18.1M-1987
Inspection and Quality Assurance for High-Volume Machine Assembly Fasteners B18.18.2M-1987
Inspection and Quality Assurance for Special Purpose Fasteners B18.18.3M-1987
Inspection and Quality Assurance for Fasteners for Highly Specialized
Engineered Applications B18.18.4M-1987
Lock Washers (Inch Series) B18.21.1-1990
Lock Washers (Metric Series) B18.21.2M-1990
Metric Plain Washers ..... B18.22M-1981(R1990)
Plain Washers ..... B18.22.1-1965(R1990)

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