D-15.05

ANSI/ASME B18.1.3M-1983
9 April 1984

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Title of Document:	Rivet, Solid, Small-Metric
Document No.:	ANSI/ASME B18.1.3M-1983
Date of Specific Issue Adopted:	8 September 1983
Releasing Industry Group:	The American Society of Mechanical Engineers

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(Project 5320-0504)

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ERRATA

to

ANSI/ASME B18.1.3M-1983
METRIC SMALL SOLID RIVETS

Page 4, Table 3 – *Under* Main dimension 12.0 *for* Ds Min, *correct* 12.80 *to read* 11.80

Page 5, Table 4 –

(1) *Under* Main dimension 12.0 *for* Ds Min, *correct* 12.80 *to read* 11.80

(2) *Under* Main dimension 4.0 *for* Head (DK) Basic (K) Min, *correct* 2.35 *to read* 2.25

OCTOBER 1985

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D-15-05

AN AMERICAN NATIONAL STANDARD

Metric Small Solid Rivets

ANSI/ASME B18.1.3M - 1983

12 mm Nominal Diameter and Smaller

Government Key Words:
Rivet, Solid, Small — Metric

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FOREWORD

(This Foreword is not a part of ANSI/ASME B18.1.3M-1983, Metric Small Solid Rivets.)

American National Standards Committee B18 for the standardization of bolts, screws, nuts, rivets, and similar fasteners was organized in March 1922 as Sectional Committee B18 under the aegis of the American Engineering Standards Committee (later the American Standards Association, then 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 1 was subsequently established and charged with the responsibility for technical content of standards covering solid rivets.

At its meeting on December 4, 1974, Committee B18 authorized preparation of a series of standards for metric fasteners. Subcommittee 1 was assigned responsibility for developing standards for metric solid rivets.

In February 1978, Committee B18 established a cooperative program with the Department of Defense to draft American National Standards for metric fasteners in such a way that they could be used directly by the Government for procurement purposes. The Department of Defense requested that each product be covered in separate standards, and Subcommittee 1 accepted this approach.

This Standard was approved by letter ballot of Committee B18 on February 4, 1983, and was subsequently approved by the sponsor and submitted to the American National Standards Institute for designation as an American National Standard. This was granted on September 8, 1983.

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AN AMERICAN NATIONAL STANDARD

METRIC SMALL SOLID RIVETS
12 mm Nominal Diameter and Smaller

1 INTRODUCTORY NOTES

1.1 Scope

1.1.1 This Standard covers complete general and dimensional data for those types of metric small solid rivets recognized as American National Standard. Included is an appendix covering formulas on which dimensional data are based. It should be understood, however, that where questions arise concerning acceptance of a product, the dimensions in the tables shall govern over recalculation by formula.

1.1.2 The inclusion of dimensional data in this Standard is not intended to imply that all of the products described are stock production sizes. Consumers should consult with manufacturers concerning the availability of products. For recommended diameter–length combinations, refer to Table 7.

1.1.3 Metric small solid rivets purchased for Government use shall conform to this Standard and additionally to the requirements of Appendix II.

1.2 Comparison With ISO Standards

Except for the inclusion of the 9 mm and 11 mm diameters as nonpreferred sizes and the relegating of the 1 mm and 1.2 mm to the secondary series, the basic rivet diameters shown in this Standard are in conformance with the ISO Recommendation, Rivet Shank Diameters, ISO R1051-1969E for sizes up to and including 12 mm. At present, there are no ISO Standards for commercial small solid rivets nor are any contemplated at this time.

1.3 Rivet Diameters

The nominal sizes of metric small rivets from 1 mm through 12 mm are given in Table 1 and shall be considered American National Standard. This, however, does not preclude the manufacture or use of rivets having other diameters which shall be considered special.

1.4 Rivet Head Styles

This Standard covers specifications for flat head rivets as given in Table 3, round head rivets as given in Table 4, and flat 90° countersunk head rivets as shown in Table 5.

The proportions for heads of rivets indicated in the respective tables shall be standard; other proportions shall be considered special. Where nonstandard diameter rivets are required for special applications, the proportions of heads and points, if pointed, should preferably be based on the formulations given in Appendix I.

1.5 Dimensions

All dimensions in this Standard are given in millimeters (mm) unless otherwise stated. Symbols specifying geometric characteristics are in accordance with American National Standard, Dimensioning and Tolerancing, ANSI Y14.5.

1.6 Terminology

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

1.7 Related Standards

It should be noted that Standards for large rivets, tubular and split rivets, and other related fasteners are published under separate cover.

1.8 Referenced Standards

Copies of referenced ASTM Standards may be obtained from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

Copies of referenced SAE Standards may be obtained from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, Pennsylvania 15096.

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Copies of referenced ISO Standards may be obtained from the American National Standards Institute, 1430 Broadway, New York, New York 10018.

1.9 Designation

Metric small solid rivets shall be designated by the following data in the sequence shown: nominal size; nominal length; product name, including head style; pointed (where other than plain point is desired); material; and protective finish, if required. See examples below:

(*a*) 6 × 50 Plated Metric Flat Head Rivet, Solid, Steel, Zinc

(*b*) 8 × 25 Pointed, Brass Metric Round Head Rivet, Solid

1.10 Part Numbering System

The Government Part Numbering System for metric small solid rivets is given in Appendix II. This system may be used by any user needing a definitive part numbering system.

TABLE 1 RIVET DIAMETERS, mm

Nominal Diameter	
Main Series	Secondary Series
	(1.0)
	(1.2)
	(1.4)
1.6	
2.0	
2.5	
3.0	
	(3.5)
4.0	
5.0	
6.0	
	(7.0)
8.0	
	(9.0)
10.0	
	(11.0)
12.0	

GENERAL NOTE:
Sizes in parentheses ( ) are nonpreferred.

2 GENERAL DATA

2.1 Head Information

2.1.1 Head Dimensions. The head dimensions tabulated in the respective dimensional tables are applicable to rivets produced by the normal cold heading process. Tolerances applicable to rivets made by the hot heading or forging process shall be as agreed upon between the manufacturer and purchaser. On countersunk heads, the junction of the conical bearing surface with the nominal rivet diameter may not be the same as the actual junction of head with shank, so the head height delineating the conical bearing surface is a reference dimension.

2.1.2 Head True Position. The axis of the head shall be located at true position relative to the axis of the rivet shank within a tolerance zone having a diameter equivalent to 6% of the specified maximum head diameter.

2.1.3 Bearing Surface. The bearing surface on round and flat head rivets shall be perpendicular to the axis of the rivet shank within 2°.

2.2 Underhead Fillets

Rivets shall be furnished with a definite fillet (R) under the head. Except for 1, 1.2, and 1.4 mm sizes, the radius of the fillet shall not exceed 10% of the maximum shank diameter or 0.80 mm, whichever is smaller. Fillet limits are shown on product dimensional tables.

2.3 Length

2.3.1 Measurement. The length of rivet shall be measured, parallel to the axis of the rivet, from the extreme end to the plane of the bearing surface for rivets having flat bearing surface type heads, and to

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TABLE 2 TOLERANCE ON LENGTH, mm

Nominal Rivet Diameter	Nominal Rivet Diameter	Tolerance on Length Plus
1 to 3	to 25 incl.	0.50
	over 25	0.75
3.5 to 5	to 25 incl.	0.50
	from 25 to 50 incl.	0.75
	over 50	0.90
6 to 10	to 25 incl.	0.70
	from 25 to 75 incl.	0.80
	over 75	1.00
11 to 12	to 75 incl.	0.80
	from 75 to 150 incl.	1.00
	over 150	1.20

the top of the head for rivets having countersunk type heads.

2.3.2 Tolerance on Length. The tolerance on the length of rivets shall be as shown in Table 2.

2.3.3 Standard Lengths. The standard rivet diameter–length combinations shall be as depicted in Table 7.

2.4 Straightness

Straightness: the shank of the rivet shall be straight within a maximum camber of 0.006 mm/mm of rivet length.

2.5 Points

Unless otherwise specified, rivets shall have plain sheared ends. The end shall be perpendicular within 2° to the axis of the rivet and reasonably flat, sufficient for the purposes of driving that end satisfactorily. Where so specified by the user, rivets having standard header points as shown in Table 6 shall be furnished.

2.6 Materials and Mechanical Properties

2.6.1 Steel. Suitable material for solid steel rivets is covered by the American Society for Testing and Materials, ASTM Standard A 31, Grade A; or SAE Recommended Practice, Mechanical and Chemical Requirements for Nonthreaded Fasteners, SAE J430, Grade 0.

2.6.2 Other Materials. Where so specified, rivets may also be made from corrosion resistant steel, brass, aluminum, or other materials having properties as agreed upon between the manufacturer and purchaser.

2.6.3 Hardness Testing. When hardness tests are required for rivets larger than 4 mm nominal diameter, they shall be made at the midradius of a cross section of the rivet body, one diameter from the end of the rivet.

When hardness tests are required for rivets with nominal diameters of 4 mm or less, they shall be tested in the core at a distance of one diameter from the end of the rivet and using an appropriate hardness test method with hardness readings which will convert to the equivalent hardness scale or reading of the reference standard.

2.7 Finish

Unless otherwise specified, rivets shall be supplied with a natural (as annealed processed) finish, unplated or uncoated.

2.8 Workmanship

The finished rivets shall be free from defects affecting their serviceability. Bursts or shear bursts at the periphery of the head shall be acceptable, provided that if two or more bursts are present, then only one may have a width greater than 0.040D, and this one burst shall not have a width exceeding 0.080D, where D is the actual part diameter. A definition of bursts and shear bursts may be found in SAE Recommended Practice J-1061a (or latest issue).

2.9 Marking Practice

Unless specified on the inquiry or order, the heads of rivets produced to this Standard are not required to be identified as being metric series product. Manufacturer's identification symbol and location are at producer's option. Markings may be raised or depressed and shall not be considered part of the head height.

2.10 Hole Sizes

Due to the many variables in the application of rivets, such as materials, grip length, sandwich elements, etc., this Standard does not offer a table of recommended hole sizes and tolerances. However, as a guide, the hole size should be from 105% to 108% of the nominal rivet diameter, using the lower end of the range for short grip lengths and the upper end of the range for long grip lengths.

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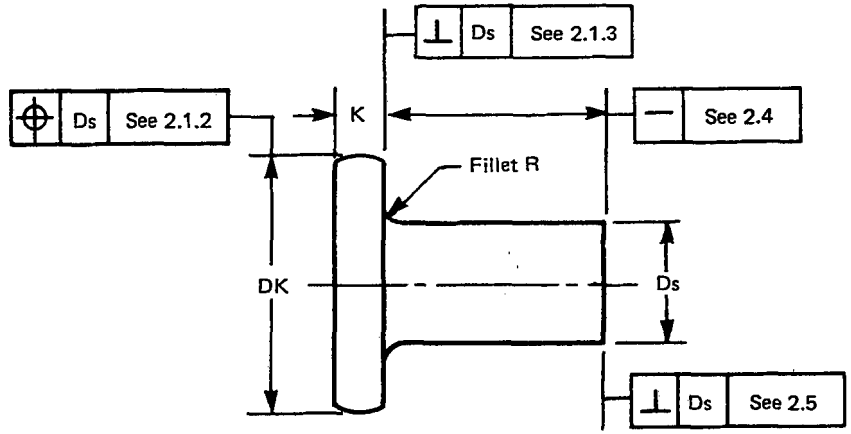


TABLE 3 DIMENSIONS OF FLAT HEAD RIVETS, mm

Main				1.6	2.0	2.5	3.0		4.0	5.0	6.0		8.0		10.0		12.0
Secondary	(1.0)	(1.2)	(1.4)					(3.5)				(7.0)		(9.0)		(11.0)	
Ds																	
Max	1.05	1.25	1.45	1.65	2.05	2.55	3.06	3.56	4.06	5.08	6.08	7.10	8.10	9.10	10.12	11.12	12.12
Min	0.95	1.15	1.35	1.52	1.92	2.42	2.90	3.40	3.90	4.88	5.88	6.85	7.85	8.85	9.80	10.80	12.80
Head (DK)																	
Basic	2.00	2.40	2.80	3.20	4.00	5.00	6.00	7.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
Max	2.20	2.60	3.00	3.40	4.20	5.20	6.25	7.25	8.25	10.25	12.35	14.35	16.40	18.40	20.40	22.45	24.45
Min	1.80	2.20	2.60	3.00	3.80	4.80	5.75	6.75	7.75	9.75	11.65	13.65	15.60	17.60	19.60	21.55	23.55
Basic (K)	0.33	0.40	0.46	0.53	0.66	0.83	0.99	1.16	1.32	1.65	1.98	2.31	2.64	2.97	3.30	3.63	3.96
Max	0.45	0.52	0.48	0.68	0.81	0.98	1.14	1.31	1.50	1.83	2.18	2.51	2.89	3.22	3.55	3.88	4.24
Min	0.21	0.28	0.34	0.38	0.51	0.68	0.84	1.01	1.14	1.47	1.78	2.11	2.39	2.72	3.05	3.38	3.68
Fillet (R)																	
Max	0.15	0.15	0.15	0.15	0.20	0.25	0.30	0.35	0.40	0.50	0.60	0.70	0.80	0.80	0.80	0.80	0.80
Min	0.05	0.05	0.05	0.05	0.10	0.15	0.15	0.15	0.20	0.25	0.30	0.40	0.40	0.40	0.40	0.45	0.50

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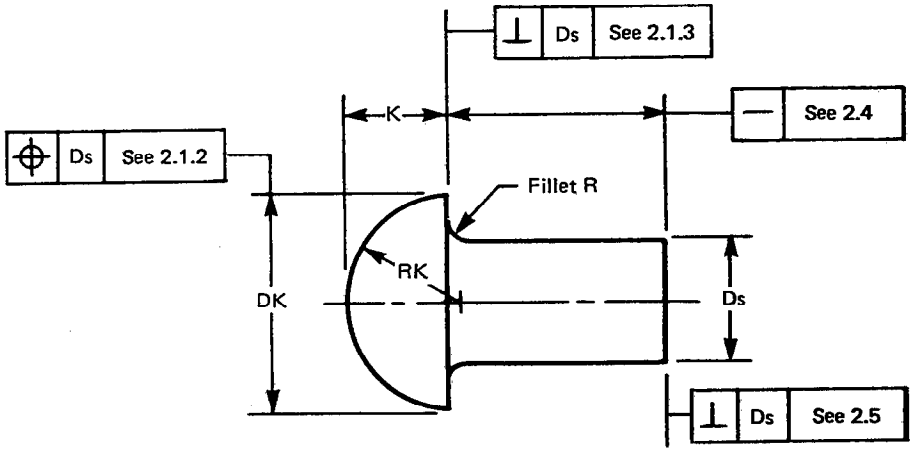


TABLE 4 DIMENSIONS OF ROUND HEAD RIVETS, mm

Main				1.6	2.0	2.5	3.0		4.0	5.0	6.0		8.0		10.0		12.0
Secondary	(1.0)	(1.2)	(1.4)					(3.5)				(7.0)		(9.0)		(11.0)	
Ds																	
Max	1.05	1.25	1.45	1.65	2.05	2.55	3.06	3.56	4.06	5.08	6.08	7.10	8.10	9.10	10.12	11.12	12.12
Min	0.95	1.15	1.35	1.55	1.92	2.42	2.90	3.40	3.90	4.88	5.88	6.85	7.85	8.85	9.80	10.80	12.80
Head (DK)																	
Basic	1.75	2.10	2.45	2.80	3.50	4.38	5.25	6.13	7.00	8.75	10.50	12.25	14.00	15.75	17.50	19.25	21.00
Max	1.95	2.30	2.65	3.05	3.75	4.63	5.50	6.38	7.28	9.03	10.80	12.55	14.40	16.15	17.95	19.70	21.50
Min	1.55	1.90	2.25	2.55	3.25	4.13	5.00	5.88	6.72	8.47	10.20	11.95	13.60	15.35	17.05	18.80	20.50
Basic (K)	0.60	0.72	0.84	0.96	1.20	1.50	1.80	2.10	2.40	3.00	3.60	4.20	4.80	5.40	6.00	6.60	7.20
Max	0.72	0.84	0.96	1.08	1.32	1.62	1.92	2.25	2.55	3.15	3.75	4.38	4.98	5.58	6.20	6.80	7.40
Min	0.48	0.60	0.72	0.84	1.08	1.38	1.68	1.95	2.35	2.85	3.45	4.02	4.62	5.22	5.80	6.40	7.00
RK Approx.	0.94	1.13	1.31	1.50	1.88	2.35	2.81	3.29	3.75	4.69	5.63	6.57	7.50	8.44	9.38	10.32	11.26
Fillet (R)																	
Max	0.15	0.15	0.15	0.20	0.20	0.25	0.30	0.35	0.40	0.50	0.60	0.70	0.80	0.80	0.80	0.80	0.80
Min	0.05	0.05	0.05	0.10	0.10	0.15	0.15	0.15	0.20	0.25	0.30	0.40	0.40	0.40	0.40	0.45	0.50

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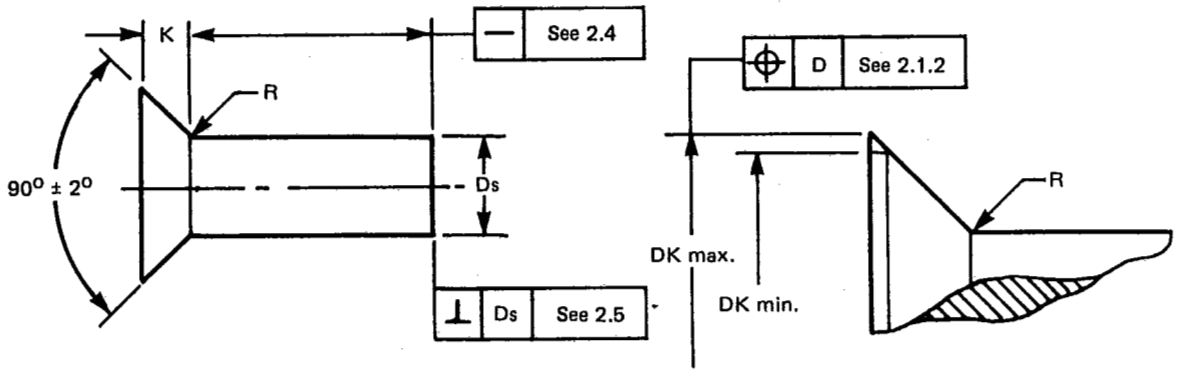


TABLE 5 DIMENSIONS OF FLAT COUNTERSUNK HEAD RIVETS, mm

D		Ds		DK		K	R	
Body Diameter		Shank Diameter		Head Diameter		Head Height	Underhead Fillet Radius	
Main Series	Secondary Series	Max	Min	Max (2)	Min (3)	Ref (1)	Max	Min
	(1.0)	1.05	0.95	1.93	1.68	0.43	0.15	0.05
	(1.2)	1.25	1.15	2.31	2.03	0.51	0.15	0.05
	(1.4)	1.45	1.35	2.68	2.38	0.60	0.15	0.05
1.6		1.65	1.52	3.06	2.72	0.68	0.15	0.05
2.0		2.05	1.92	3.81	3.38	0.85	0.20	0.10
2.5		2.55	2.42	4.75	4.25	1.06	0.25	0.15
3.0		3.06	2.90	5.70	5.09	1.28	0.30	0.15
	(3.5)	3.56	3.40	6.64	5.96	1.49	0.35	0.15
4.0		4.06	3.90	7.58	6.82	1.70	0.40	0.20
5.0		5.08	4.88	9.48	8.53	2.13	0.50	0.25
6.0		6.08	5.88	11.36	10.27	2.55	0.60	0.30
	(7.0)	7.10	6.85	13.26	11.97	2.98	0.70	0.40
8.0		8.10	7.85	15.14	13.70	3.40	0.80	0.50
	(9.0)	9.10	8.85	17.02	15.43	3.83	0.80	0.50
10.0		10.12	9.80	18.92	17.11	4.25	0.80	0.50
	(11.0)	11.12	10.80	20.80	18.84	4.68	0.80	0.50
12.0		12.12	11.80	22.68	20.57	5.10	0.80	0.50

GENERAL NOTES:
(a) Sizes in parentheses ( ) are nonpreferred.
(b) For additional requirements refer to Section 2, General Data

NOTES:
(1) Head height (K) is given for reference purposes only. Variations in this dimension are controlled by the head and shank diameters and the included angle of the head.
(2) Sharp edged head. Tabulated maximum values calculated on nominal head height, maximum shank diameter, and 92° included angle extended to a sharp edge.
(3) Rounded or flat edged irregularly shaped head. Tabulated values calculated from nominal head height, minimum shank diameter, and 88° included angle.

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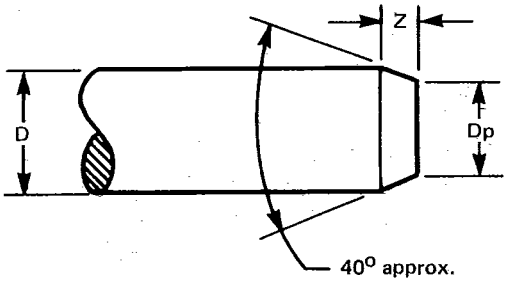


TABLE 6 DIMENSIONS OF STANDARD HEADER POINTS FOR METRIC SMALL SOLID RIVETS, mm

D Nominal	Pt. Length Z Approx.	Pt. Dia Dp Approx.	Nom. Rivet Length (1)
(1.0)	0.25	0.80	6
(1.2)	0.30	1.00	7
(1.4)	0.35	1.15	9
1.6	0.40	1.30	10
2.0	0.50	1.65	10
2.5	0.65	2.05	15
3.0	0.75	2.45	20
(3.5)	0.90	2.85	20
4.0	1.0	3.25	25
5.0	1.25	4.10	30
6.0	1.50	4.90	40
(7.0)	1.75	5.70	40
8.0	2.00	6.55	40
(9.0)	2.25	7.35	50
10.0	2.50	8.20	50
(11.0)	2.75	9.00	60
12.0	3.00	9.80	75

GENERAL NOTES:
(a) Sizes in parentheses ( ) are nonpreferred.
(b) No standard tolerances for point dimensions are contemplated.

NOTE:
(1) Header points normally apply to these nominal shank lengths or shorter. The pointing of longer shank lengths may require machining to the dimensions specified.

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TABLE 7 RECOMMENDED RIVET LENGTHS, mm

Nominal Rivet Length	Nominal Rivet Size																
	(1.0)	(1.2)	(1.4)	1.6	2.0	2.5	3.0	(3.5)	4.0	5.0	6.0	(7.0)	8.0	(9.0)	10.0	(11.0)	12.0
2	FR	FR															
3	A	A	FR	FR	FR												
4	A	A	A	A	A	FR	FR										
5	A	A	A	A	A	A	A	FR	FR								
6	A	A	A	A	A	A	A	A	A	FR							
8	A	A	A	A	A	A	A	A	A	A	A	FR	FR				
10		A	A	A	A	A	A	A	A	A	A	A	A	FR	FR		
12			A	A	A	A	A	A	A	A	A	A	A	A	A	FR	FR
15				A	A	A	A	A	A	A	A	A	A	A	A	A	A
18					A	A	A	A	A	A	A	A	A	A	A	A	A
20					A	A	A	A	A	A	A	A	A	A	A	A	A
22						A	A	A	A	A	A	A	A	A	A	A	A
25						A	A	A	A	A	A	A	A	A	A	A	A
28							A	A	A	A	A	A	A	A	A	A	A
30							A	A	A	A	A	A	A	A	A	A	A
32								A	A	A	A	A	A	A	A	A	A
35								A	A	A	A	A	A	A	A	A	A
38									A	A	A	A	A	A	A	A	A
40									A	A	A	A	A	A	A	A	A
45										A	A	A	A	A	A	A	A
50										A	A	A	A	A	A	A	A
55											A	A	A	A	A	A	A
60											A	A	A	A	A	A	A
65												A	A	A	A	A	A
70												A	A	A	A	A	A
75													A	A	A	A	A
80													A	A	A	A	A
85														A	A	A	A
90														A	A	A	A
95															A	A	A
100															A	A	A
110																A	A
120																	A

GENERAL NOTE:
Lengths between heavy lines are recommended for the applicable rivet size and head style where A denotes all head styles, F denotes flat head style, and R denotes round head style.

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APPENDIX I

TABLES AND FORMULAS FOR RIVET DIMENSIONS

SHANK DIAMETER, mm

D = nominal diameter of rivet shank

Nominal Diameter (D)		Shank Diameter (Ds)			
		Tolerances		Diameter	
Main Series	Secondary Series	Plus	Minus	Max.	Min.
	(1.0)	0.05	0.05	1.05	0.95
	(1.2)	0.05	0.05	1.25	1.15
	(1.4)	0.05	0.05	1.45	1.35
1.6		0.05	0.08	1.65	1.52
2.0		0.05	0.08	2.05	1.92
2.5		0.05	0.08	2.55	2.42
3.0		0.06	0.10	3.06	2.90
	(3.5)	0.06	0.10	3.56	3.40
4.0		0.06	0.10	4.06	3.90
5.0		0.08	0.12	5.08	4.88
6.0		0.08	0.12	6.08	5.88
	(7.0)	0.10	0.15	7.10	6.85
8.0		0.10	0.15	8.10	7.85
	(9.0)	0.10	0.15	9.10	8.85
10.0		0.12	0.20	10.12	9.80
	(11.0)	0.12	0.20	11.12	10.80
12.0		0.12	0.20	12.12	11.80

GENERAL NOTE:
Sizes in parentheses ( ) are nonpreferred.

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FLAT HEAD RIVET, mm
D = nominal diameter of rivet shank

Nominal Rivet Size	Head Diameter (DK)			Head Height (K)		
		Tolerance			Tolerance	
	Basic	Plus	Minus		Plus	Minus
(1.0)	DK = 2.00D	0.20	0.20	K = 0.33D	0.12	0.12
(1.2)	↓	0.20	0.20	↓	0.12	0.12
(1.4)		0.20	0.20		0.12	0.12
1.6		0.20	0.20		0.15	0.15
2.0		0.20	0.20		0.15	0.15
2.5		0.20	0.20		0.15	0.15
3.0		0.25	0.25		0.15	0.15
(3.5)		0.25	0.25		0.15	0.15
4.0		0.25	0.25		0.18	0.18
5.0		0.25	0.25		0.18	0.18
6.0		0.35	0.35		0.20	0.20
(7.0)		0.35	0.35		0.20	0.20
8.0		0.40	0.40		0.25	0.25
(9.0)		0.40	0.40		0.25	0.25
10.0		0.40	0.40		0.25	0.25
(11.0)		0.45	0.45		0.25	0.25
12.0		0.45	0.45		0.28	0.28

GENERAL NOTE:
Sizes in parentheses ( ) are nonpreferred.

ROUND HEAD RIVET, mm
D = nominal diameter of rivet shank

Nominal Rivet Size	Head Diameter (DK)			Head Height (K)			Head Radius (Rk) Basic Approx.
		Tolerance			Tolerance		
	Basic	Plus	Minus		Plus	Minus	
(1.0)	DK = 1.75D	0.20	0.20	K = 0.60 D	0.12	0.12	RK = 0.938 D
(1.2)	↓	0.20	0.20	↓	0.12	0.12	↓
(1.4)		0.20	0.20		0.12	0.12	
1.6		0.25	0.25		0.12	0.12	
2.0		0.25	0.25		0.12	0.12	
2.5		0.25	0.25		0.12	0.12	
3.0		0.25	0.25		0.12	0.12	
(3.5)		0.25	0.25		0.15	0.15	
4.0		0.28	0.28		0.15	0.15	
5.0		0.28	0.28		0.15	0.15	
6.0		0.30	0.30		0.15	0.15	
(7.0)		0.30	0.30		0.18	0.18	
8.0		0.40	0.40		0.18	0.18	
(9.0)		0.40	0.40		0.18	0.18	
10.0		0.45	0.45		0.20	0.20	
(11.0)		0.45	0.45		0.20	0.20	
12.0		0.50	0.50		0.20	0.20	

GENERAL NOTE:
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FLAT COUNTERSUNK HEAD RIVET, mm
D = nominal diameter of rivet shank

Nominal Rivet Size	Head Diameter (DK)			Head Height (K)
		Tolerance		
	Basic	Plus	Minus	Basic (Ref)
(1.0)	DK = 1.85D	0.08	0.17	K = 0.425D
(1.2)		0.09	0.19	
(1.4)		0.09	0.21	
1.6		0.10	0.24	
2.0		0.11	0.32	
2.5		0.12	0.38	
3.0		0.15	0.46	
(3.5)		0.16	0.52	
4.0		0.18	0.58	
5.0		0.23	0.72	
6.0		0.26	0.83	
(7.0)		0.31	0.98	
8.0		0.34	1.10	
(9.0)		0.37	1.22	
10.0		0.48	1.51	
(11.0)		0.58	1.63	
12.0				

GENERAL NOTE:
Sizes in parentheses ( ) are nonpreferred.

STANDARD HEADER POINTS
D = nominal diameter of rivet

Nominal Rivet Size	Point Diameter	Point Length
	Basic (Approx.)	Basic (Approx.)
All Sizes	Dp = 0.818D	Z = 0.250D

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APPENDIX II
GOVERNMENT STANDARD ITEMS AND PART NUMBERING SYSTEM

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

This Appendix 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.

The following variations are standard:

(*a*) Nominal Size and Length Combinations—as specified on the last page of this Appendix.

(*b*) Head Type — as coded in Part Numbering System.

(*c*) Material — Carbon Steel — as coded in Part Numbering System.

(*d*) Finish — Plain Finish or Tin Coated — as coded in Part Numbering System.

The part number shall consist of the following element codes in the order shown:

(*a*) Document Identifier — ANSI Standard Number less decimal points.

(*b*) Material and Finish

(*c*) Head type

(*d*) Nominal size

(*e*) Nominal length

NOTE: The Part Numbering System may also be used for nonstandard size and length combinations.

Quality Assurance Provisions: Quality assurance provisions shall be in accordance with FF-R-556, Rivet, Solid, Small; Rivet, Tubular, Small; Flat Washer (Burr); Cap, Rivet; General Purpose.

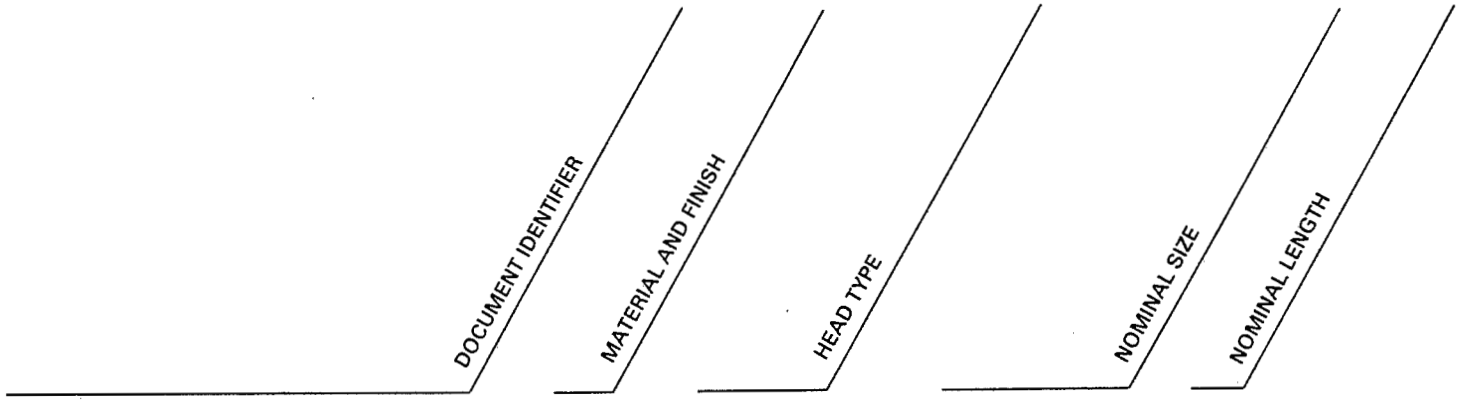
Packaging: Packaging shall be in accordance with PPP-H-1581, Hardware (Fasteners and Related Items), Packaging of.

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PART NUMBERING SYSTEM COVERING STANDARD ITEMS FOR GOVERNMENT USE

NOTE: THE GOVERNMENT ENCOURAGES THE GENERAL USE OF THIS SYSTEM TO ACHIEVE MAXIMUM PARTS STANDARDIZATION.



MATERIAL AND FINISH CODE

A — Steel, Composition C1006 thru C1012 (UNS G10060 thru G10120)

B — Steel, Composition C1006 thru C1012 (UNS G10060 thru G10120) and tin plated per ASTM B545, Tin, Electro-deposited Coatings of, SC3, 15 μm minimum average thickness

HEAD TYPE CODE

F — Flat Head
R — Round Head
C — Flat, Countersunk Head

EXAMPLE: B1813AC060035 indicates a Rivet, Solid, Small — Metric made of steel, Composition C1006 through C1012, flat, countersunk head, 6 mm nominal size and 35 mm in length.

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METRIC SMALL SOLID RIVETS — STANDARD SIZES FOR GOVERNMENT USE

Table 7 in this Standard is to be used for selection of standard sizes for Government use. *Nominal rivet sizes in parentheses are not to be considered as standard sizes for Government use.*

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

Small Solid Rivets ..... B18.1.1—1972 (R1983)
Large Rivets ..... B18.1.2—1972 (R1983)
Metric Small Solid Rivets ..... B18.1.3M—1983
Square And Hex Bolts and Screws ..... B18.2.1—1981
Square And Hex Nuts ..... B18.2.2—1983
Metric Hex Cap Screws ..... B18.2.3.1M—1979
Metric Formed Hex Screws ..... B18.2.3.2M—1979
Metric Heavy Hex Screws ..... B18.2.3.3M—1979
Metric Hex Flange Screws ..... B18.2.3.4M—1979
Metric Hex Bolts ..... B18.2.3.5M—1979
Metric Heavy Hex Bolts ..... B18.2.3.6M—1979
Metric Heavy Hex Structural Bolts ..... B18.2.3.7M—1979
Metric Hex Lag Screws ..... B18.2.3.8M—1981
Metric Hex Nuts, Style 1 ..... B18.2.4.1M—1979
Metric Hex Nuts, Style 2 ..... B18.2.4.2M—1979
Metric Slotted Hex Nuts ..... B18.2.4.3M—1979
Metric Hex Flange Nuts ..... B18.2.4.4M—1982
Metric Hex Jam Nuts ..... B18.2.4.5M—1979
Metric Heavy Hex Nuts ..... B18.2.4.6M—1979
Socket Cap, Shoulder And Set Screws—Inch Series ..... B18.3—1982
Socket Head Cap Screws (Metric Series) ..... B18.3.1M—1982
Metric Series Hexagon Keys And Bits ..... B18.3.2M—1979
Hexagon Socket Head Shoulder Screws: Metric Series ..... B18.3.3M—1979
Hexagon Socket Button Head Cap Screws: Metric Series ..... B18.3.4M—1979
Hexagon Socket Flat Countersunk Head Cap Screws (Metric Series) ..... B18.3.5M—1983
Metric Series Hexagon Socket Set Screws ..... B18.3.6M—1979
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
Wood Screws ..... 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 (M-4) ..... B18.6.3—1972 (R1983)
Thread Forming And Thread Cutting Tapping Screws And Metallic Drive Screws (Inch Series) ..... B18.6.4—1981
General Purpose Semi-Tubular Rivets, Full Tubular Rivets, Split Rivets And Rivet Caps ..... B18.7—1972 (R1980)
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
Plow Bolts ..... B18.9—1958 (R1977)
Track Bolts And Nuts ..... B18.10—1982
Miniature Screws ..... B18.11—1961 (R1983)
Glossary Of Terms For Mechanical Fasteners ..... B18.12—1961 (R1981)
Screw And Washer Assemblies—Sems ..... B18.13—1961 (R1983)
Forged Eyebolts ..... B18.15—1969
Mechanical And Performance Requirements For Prevailing-Torque Type Steel Metric Hex Nuts And Hex Flange Nuts ..... B18.16.1M—1979
Torque-Tension Test Requirements For Prevailing-Torque Type Steel Metric Hex Nuts And Hex Flange Nuts ..... B18.16.2M—1979
Dimensional Requirements For Prevailing-Torque Type Steel Metric Hex Nuts And Hex Flange Nuts ..... B18.16.3M—1982
Wing Nuts, Thumb Screws And Wing Screws ..... B18.17—1968 (R1983)
Lock Washers ..... B18.21.1—1983
Plain Washers ..... B18.22.1—1965 (R1981)
Metric Plain Washers ..... B18.22M—1981
Beveled Washers ..... B18.23.1—1967 (R1975)
Inspection and Quality Assurance for General Purpose Metric Fasteners ..... B18.18.1M—1982
Inspection and Quality Assurance for High-Volume Machine Assembly Metric Fasteners ..... B18.18.2M—1982
Inspection and Quality Assurance for Special Purpose Metric Fasteners ..... B18.18.3M—1982
Inspection and Quality Assurance for Highly Specialized Engineered Applications — Metric Fasteners ..... B18.18.4M—1982

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