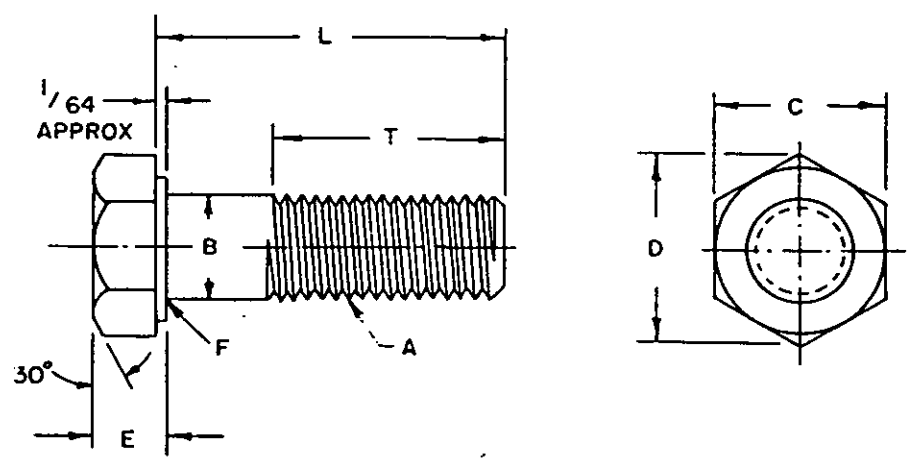


This standard has been approved by the Naval Ship Engineering Center, Department of the Navy, and is mandatory for use by that activity. All other military activities are required to employ this standard where suitable.



(Project 5306-N010Sh) (A) For changes see sheets 1 through 5

APPROVED 8 MAY 1957 REVISED (A) 19 AUGUST 1966

CUSTODIANS Ships	OTHER INT.	MILITARY STANDARD	MS 16205 (SHIPS)
	A - N - AF -		
Procurement Specification (A) MIL-B-857		CON BRONZE), UNC-2A, NON-MAGNETIC	SHEET 1 OF 5

This standard has been approved by the Naval Ship Engineering Center, Department of the Navy, and is mandatory for use by that activity. All other military activities are required to employ this standard where suitable.

FED. SUP. CLASS
5306

Nominal size A Threads per inch B Body diameter C Width across flats D Width across corners E Head height F Radius	1/4 UNC-2A		5/16 UNC-2A		3/8 UNC-2A		7/16 UNC-2A	
	MS part No.	FIIN	MS part No.	FIIN	MS part No.	FIIN	MS part No.	FIIN
L Length	1/4	Size 1/4 - 3/8	5/16	Size 5/16 - 1-1/4	3/8	Size 3/8 - 1-1/4	7/16	Size 7/16 - 1-1/4
1	1-1/4		1-1/2		1-1/2		1-1/2	
2	1-1/2		1-3/4		1-3/4		1-3/4	
3	1-3/4		2		2		2	
4	2		2-1/4		2-1/4		2-1/4	
5	2-1/4		2-1/2		2-1/2		2-1/2	
6	2-1/2		2-3/4		2-3/4		2-3/4	
7	2-3/4		3		3		3	
8	3		3-1/4		3-1/4		3-1/4	
9	3-1/4		3-1/2		3-1/2		3-1/2	
10	3-1/2		3-3/4		3-3/4		3-3/4	
11	3-3/4		4		4		4	
12	4		4-1/4		4-1/4		4-1/4	
13	4-1/4		4-1/2		4-1/2		4-1/2	
14	4-1/2		4-3/4		4-3/4		4-3/4	
15	4-3/4		5		5		5	
16	5		5-1/2		5-1/2		5-1/2	
17	5-1/2		6		6		6	
18	6		6-1/2		6-1/2		6-1/2	
19	6-1/2		7		7		7	
20	7		7-1/2		7-1/2		7-1/2	
	7-1/2		8		8		8	
	8		10		10		10	
	10		11		11		11	
	11		12		12		12	
	12		13		13		13	
	13		14		14		14	
	14		15		15		15	
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	18		19		19		19	
	19		20		20		20	

CUSTODIANS Ships	OTHER INT. A N A F	MILITARY STANDARD		MS16205
		BOLTS, MACHINE, REGULAR SEMI-FINISHED HEXAGON HEAD, COPPER-SILICON ALLOY (SILICON BRONZE), UNC-2A, NON-MAGNETIC		
PROCUREMENT SPECIFICATION MIL-B-857			SUPERSEDES:	SHEET 2 OF 5

APPROVED 8 MAY 1957 REVISED A For changes see sheets 1 through 5

This standard has been approved by the Naval Ship Engineering Center, Department of the Navy, and is mandatory for use by that activity. All other military activities are required to employ this standard where suitable.

FED. SHIP CLASS
5306

L Length	Size 1/4 - 3/8	Tolerance Size 7/16 - 1/2	Size 5/8 - 1-1/4	1/2		5/8		3/4		7/8	
				MS part No.	FINI	MS part No.	FINI	MS part No.	FINI	MS part No.	FINI
1/4				88							
3/8				97							
1/2				99							
5/8				100							
3/4				101							
7/8				102							
1-1/4				103							
1-1/2				104							
1-3/4				105							
2-1/4				106							
2-1/2				107							
2-3/4				108							
3				109							
3-1/4				110							
3-1/2				111							
3-3/4				112							
4				113							
4-1/4				114							
4-1/2				115							
4-3/4				116							
5				117							
5-1/2				118							
6				119							
6-1/2				120							
7				121							
7-1/2				122							
8				123							
9				124							
10				125							
11				126							
12				127							
13				128							
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CUSTODIANS Shps	OTHER INT. AF	MILITARY STANDARD		MS16205 (SHPS)
		BOLTS, MACHINE, REGULAR SEMI-FINISHED HEXAGON HEAD.		
PROFORM SPECIFICATION MIL-B-857		COPPER-SILICON ALLOY (SILICON BRONZE), UNC-2A, NON-MAGNETIC		SHEET 3 OF 5
		SUPERSEDES:		

NO FORM 672-1
1 OCT 52

APPROVED 8 MAY 1957 REVISED A For changes see sheets 1 through 5

This standard has been approved by the Naval Ship Engineering Center, Department of the Navy, and is mandatory for use by that activity. All other military activities are required to employ this standard where suitable.

FED. SUP. CLASS
5306

Nominal size	1-1/4		1-3/8		1-1/2		
	7-UNC2A	7-UNC2A	6-UNC2A	6-UNC2A	6-UNC2A	6-UNC2A	
A Threads per inch	11.5	11.5	11.5	11.5	11.5	11.5	
B Body diameter	1.314	1.314	1.314	1.314	1.314	1.314	
C Width across flats	1.453	1.453	1.453	1.453	1.453	1.453	
D Width across corners	1.553	1.553	1.553	1.553	1.553	1.553	
E Head height	0.691	0.691	0.691	0.691	0.691	0.691	
F Radius	0.062	0.062	0.062	0.062	0.062	0.062	
L Length	Tolerance	1-1/4		1-3/8		1-1/2	
		Size	5/32	Size	5/32	Size	5/32
1	±1/32	±1/16	±1/8	±1/16	±1/8	±1/16	±1/8
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APPROVED 8 MAY 1957 REVISED (A) For changes see sheets 1 through 5

CUSTODIANS Ships	OTHER INT. A B C D E F	MILITARY STANDARD		MS16205
		BOLTS, MACHINE, REGULAR SEMI-FINISHED HEXAGON HEAD, COPPER-SILICON ALLOY (SILICON BRONZE), UNC-2A, NON-MAGNETIC		
PROVIDENT SPECIFICATION MIL-B-857	SUPERSEDES:			SHEET 4 OF 5

This standard has been approved by the Naval Ship Engineering Center, Department of the Navy, and is mandatory for use by that activity. All other military activities are required to employ this standard where suitable.

FED. SUP. CLASS
5306

(A) Material: Copper silicon alloy (silicon bronze) shall be in accordance with copper alloy 651 of QQ-C-591.
 Protective coating: None.
 Threads: UNC-2A shall be in accordance with Handbook H-28.
 Thread length: Minimum thread length shall be twice the nominal size (diameter) plus 1/4 inch for bolt lengths 6 inches and less, and twice the nominal size plus 1/2 inch for bolt lengths over 6 inches. Bolts too short for minimum thread length shall be threaded as close to the head as practicable.
 Minimum breaking strength: The minimum breaking strength, in tension, of the bolts shall be as follows:

Sizes to 1/2 inclusive - 80,000 p. s. i.
 Sizes 5/8 to 7/8 inclusive - 70,000 p. s. i.
 Sizes 1 to 1-1/2 inclusive - 50,000 p. s. i.

(A) Minimum elongation - 10 percent in 2 inches.

Dimensions: All dimensions are in inches, unless otherwise specified.

- Notes:
1. In case of conflict with any document referenced herein, this standard shall govern.
 2. Referenced documents shall be the issue in effect on date of invitation for bids.

APPROVED 8 MAY 1957 REVISED (A) For changes see sheets 1 through 5

CUSTODIANS Ships	OTHER INT.	MILITARY STANDARD	MS 16205 (SHIPS)
	A - N - AF -		
Procurement Specification (A) MIL-B-857		CON BRONZE), UNC-2A, NON-MAGNETIC	SHEET 5 OF 5