



DASH NUMBERS		PIPE SIZE NPTF NOM.	A THREAD LENGTH		B SIZE OF SOCKET		HEAD STYLE
ALUMINUM	IRON OR STEEL (SEE NOTE 9)		MIN	MAX	MIN	MAX	
1	2	1/8-27	.290	.310	.188	.193	HEXAGON SOCKET
3	4	1/4-18	.445	.475	.250	.255	HEXAGON SOCKET
5	6	3/8-18	.445	.475	.313	.318	HEXAGON SOCKET
7	8	1/2-14	.590	.630	.375	.380	HEXAGON SOCKET
9	10	3/4-14	.600	.640	.563	.568	HEXAGON SOCKET
11	12	1 -11-1/2	.750	.790	.625	.630	HEXAGON SOCKET
13	14	1-1/4-11-1/2	.800	----	.759	.780	SQUARE SOCKET
	16	1-1/2-11-1/2	.830	----	.759	.780	SQUARE SOCKET
	18	2 -11-1/2	.880	----	.884	.900	SQUARE SOCKET
	20	2-1/2-8	1.070	----	1.137	1.160	SQUARE SOCKET
	22	3 -8	1.130	----	1.391	1.410	SQUARE SOCKET
	(C) 23	(C) *3-1/2-8	(C) 1.180	----	(C) 1.518	(C) 1.536	(C) SQUARE SOCKET
	24	*4 -8	1.220	----	2.022	2.040	(C) SQUARE SOCKET

\* NPT only.

## NOTES:

- (C) 1. **MATERIAL:** Aluminum, or iron or steel in accordance with procurement specification.
- (C) 2. **PROTECTIVE COATING:** Aluminum - Anodized or uncoated in accordance with procurement specification.  
Iron or steel - Uncoated, cadmium plated or zinc coated in accordance with procurement specification.
- (C) 3. **THREADS:** Threads shall be NPTF up to and including the 3 inch size and NPT for the 3-1/2 inch size and larger in accordance with Screw-Thread Standards for Federal Services, Handbook H28.
4. **DIMENSIONS AND TOLERANCES:** Dimensions and tolerances not shown shall be in accordance with SAE Handbook for Automotive Pipe, Filler, and Drain Plugs (SAE J531) for sizes 1 inch and smaller and in accordance with American National Standard ANSI B16.14 for larger sizes.
5. The illustration is for identification purpose only and is not intended to restrict designs or shapes not dimensioned.
- (C) 6. **PART NUMBER:** The MS part number consists of the MS number, plus the dash number.  
A. For anodized fitting use the MS number, plus the dash number.  
Example: MS49005-1.  
B. For uncoated aluminum fitting add (U) to the dash number.  
Example: MS49005-1U.  
C. For uncoated iron or steel fitting use the MS number, plus the dash number.  
Example: MS49005-2.  
D. For cadmium plated fitting add (C) to the dash number. Example: MS49005-2C.  
E. For zinc coated fitting add (Z) to the dash number. Example: MS49005-2Z.
7. For design feature purposes, this standard takes precedence over procurement documents referenced herein.
8. Referenced documents shall be of the issue in effect on the date of invitations for bid.
9. Preferred.

**(D) CANCELLED****For procurement use WW-P-471**CANCELLATION NOTE

This standard supersedes MS21336 and MS21337 which are cancelled after 25 April 1962. MS49005 parts are interchangeable with MS21336 and MS21337 parts of the same nominal size and material. The cancelled parts should be used until existing stock is depleted.

P.A. WC Other Cust YD 82	TITLE <b>PLUGS, PIPE-HEADLESS; ALUMINUM, IRON OR STEEL</b>	<b>MILITARY STANDARD</b>
		<b>MS49005</b>
PROCUREMENT SPECIFICATION WW-P-471	SUPERSEDES: MS21336 and MS21337	SHEET 1 OF 1

REVIEWER: AS, AT, AV, CS, GL, ME, MU, OS  
USER: MC, MI

This military standard is mandatory for use by all Departments and Agencies of the Department of Defense. Selection for all new engineering and design applications and for repetitive use shall be made from this document.

APPROVED 25 APR 62 REVISED (A) 15 APR 71 (B) 21 APR 72 (C) 28 SEPT 73 (D) 2 DEC 81