

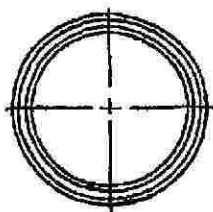
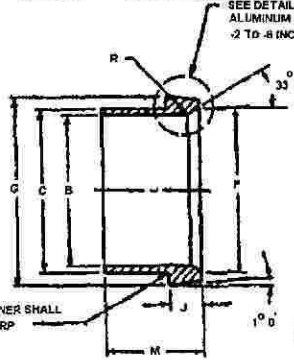
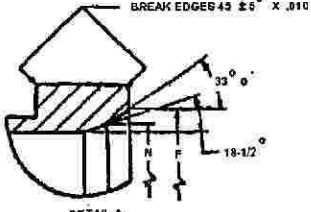
User activities:
Army - MS-AV 21, MIL
Navy - AS
Air Force - 99
DLA - CS

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Rev.

This standard is approved 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 when applicable.

FED. SUP. CLASS
4730

(a) CONCENTRICITY: B, C, F, AND G SHALL BE CONCENTRIC TO EACH OTHER WITHIN .005 TOTAL INDICATOR READING FOR TUBE SIZES UP TO AND INCLUDING 3/4 INCH, AND .010 TOTAL INDICATOR READING FOR SIZES 1 INCH AND ABOVE.

(b) OPTIONAL METHOD OF MANUFACTURE: STEEL SLEEVES MAY BE FABRICATED FROM MIL-T-5066 (G1025) SEAMLESS STEEL TUBING. THE 1° ANGLE ON THE SHOULDER OF THE SLEEVE IS NOT REQUIRED WHEN FABRICATED FROM SEAMLESS STEEL TUBING. WARPING OF SLEEVES FROM ANY CAUSE SHALL NOT BE CAUSE FOR REJECTION IF THEY FIT THE MINIMUM DIMENSIONS OF THE AN818 NUT WHEN ASSEMBLED ON A LENGTH OF TUBING.

(c) MATERIAL: STEEL, MIL-S-6758 (A130), MIL-S-5626 (A140), QQ-S-637 (G1137, G1141); CORROSION RESISTANT STEEL (GRES), QQ-S-769, CLASS 304 OR 316; ALUMINUM ALLOY, QQ-A-225/4 (2014), QQ-A-225/6 (2024), BRASS, QQ-B-626, COMPOSITION 21 OR 22. SEE PROCUREMENT SPECIFICATION.

FINISH: STEEL, CADMIUM PLATE (QQ-P-416, TYPE II, CLASS 2, BLACK). GRES, PASSIVATE (MIL-S-5002). ALUMINUM ALLOY, ANODIUM TREATMENT (MIL-A-8625, TYPE II).

BREAK ALL SHARP EDGES AND REMOVE ALL HANGING BURRS AND SILVERS.

DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: DECIMALS $\pm .005$, ANGLES $\pm 1/2^\circ$.

NO CODE LETTER IN PART NUMBER FOR STEEL. ADD B AFTER DASH NUMBER FOR BRASS. ADD D AFTER DASH NUMBER FOR ALUMINUM ALLOY. ADD J AFTER DASH NUMBER FOR GRES, TYPE 304. ADD K AFTER DASH NUMBER NUMBER FOR GRES, TYPE 316.

(d) ITEMS CODED C ON PREVIOUS ISSUES OF THIS STANDARD ARE NO LONGER TO BE FURNISHED. PROCURING ACTIVITIES MUST SPECIFY APPLICABLE GRES MATERIAL CODE AS PART OF THE STANDARD PART NUMBER.

EXAMPLE OF PART NUMBERS:

MS20819-5 - SLEEVE, 5/16 TUBING OD, STEEL. MS20819-5B - SLEEVE, 5/16 TUBING OD, BRASS.
 MS20819-8D - SLEEVE, 1/2 TUBING OD, ALUMINUM ALLOY. MS20819-8J - SLEEVE, 1/2 TUBING OD, GRES (304).
 MS20819-8K - SLEEVE, 1/2 TUBING OD, GRES (316).

FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

ALUMINUM ALLOY SLEEVES (CODE D) ARE INACTIVE FOR BOTH NEW DESIGN AND REPLACEMENT PARTS. FOR REPLACEMENT SLEEVES SUBSTITUTE CADMIUM PLATED STEEL (NO CODE) OR GRES (CODE J OR K).

DASH NO.	TUBING OD	(a) B		(a) G		(a) F		(a) G		J	H	N	R $\pm .016$ RAD		WEIGHT MAX (LBS.)			
		+ .003 - .000 DIA	+ .000 - .003 DIA	+ .000 - .003 DIA	+ .000 - .003 DIA	+ .016 - .016 DIA	+ .016 - .016 DIA	DIA AL ALLOY	STEEL				AL ALLOY	STEEL	AL ALLOY	GRES	BRASS	
2	1/8	.130	.172	.205	.267	.125	.344	.178										
4	3/16	.193	.234	.267	.329	.141	.406	.240										
5	1/4	.255	.297	.315	.383			.288										
6	5/16	.318	.365	.375	.445	.156	.438	.348										
8	3/8	.380	.432	.441	.502	.172	.500	.414										
10	1/2	.405	.462	.489	.582	.219	.562											
12	5/8	.471	.530	.557	.652	.234	.656											
16	3/4	.576	.646	.680	.797	.266	.688											
20	1	1.006	1.081	1.130	1.222	.281	.781											
24	1-1/4	1.280	1.339	1.412	1.534	.312	.906											
28	1-1/2	1.510	1.609	1.630	1.784	.344												
32	1-3/4	1.762	1.882	1.945	2.159	.375												
40	2	2.014	2.159	2.195	2.409	.406	1.188											
48	2-1/2	2.516	2.659	2.695	2.911	.459	1.312											
48	3	3.016	3.172	3.195	3.411	.531	1.375											

(c) REDRAWN (d) denotes changes

P.A. Air Force-99	Interchangeable Interface	TITLE SLEEVE, FLARED TUBE FITTING	MILITARY STANDARD
Other Cust Navy - AS			MS20819
Procurement Specification MIL-P-5509	SUPERSEDES: AN819		PAGE 1 OF 1

DD FORM 672 (Coordinated) PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

REVISED 21 MAR 75
APPROVED 26 AUG 57