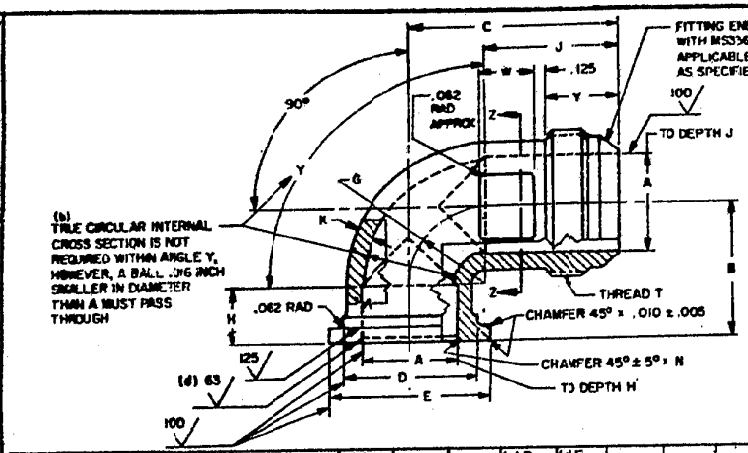
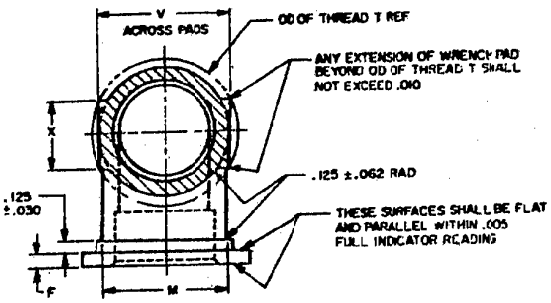
This military standard is approved for the Department of Defense and is mandatory for all new engineering and design applications and for guidance use. Suggestions for improvements to this document should be made from this document.

Review activities: NAVY-AS
USAF-82

User activities:





DASH NO. STEEL	DASH NO. AL. ALLOY	TUBING OD	THREAD T REF	(c) A ±.013 DIA	B +.047 -.000	C +.047 -.000	(c) D +.000 -.015 DIA	(d) E +.000 -.005 DIA	F +.000 -.005	G RAD REF	H +.047 -.000	J +.047 -.000	K MIN	K MAX	M ±.015 DIA	N DIA	V ±.015	W APPROX	K APPROX	Y ±.015	WEIGHT MAX AL ALLOY	WEIGHT MAX STEEL
-12	-012	.750	1-1/16-12UN-3A	.609	1.156	1.938	.938	1.250	.156	.594	.562	1.344	.125	.164	.922	.669	.891	.500	.562	.724	.12	.34
-12-16	-012-16					2.000		1.500		.719		1.406	.141	.176	1.172	.904	1.156	.562	.625	.771	.6	42
-16	-016	1.000	1-5/16-12UN-3A	.814	1.201	2.125	1.188														.18	50
-20	-020	1.250	1-5/8-12N-3A	1.018	1.500	2.375	1.500	1.844		.875	.625	1.500	.156	.221	1.484	1.138	1.438	.625	.750	.818	.32	90
-20-24	-020-24				1.562	2.562		2.125			.688	1.688								.943	.36	1.00
-24	-024	1.500	1-7/8-12N-3A	1.32	1.688	2.688	1.750		.188	1.000			.172	.234	1.734	1.372	1.718	.688			.45	1.26
-32	-032	2.000	2-1/2-12UN-3A	1.76	2.062	3.375	2.375	2.750		1.312	.750	2.062	.203	.322	2.359	1.841	2.250	.750	.938	1.193	1.02	2.86
(a)-40	-040	2.500	3-12UN-3A	2.26	2.375	3.500	2.875	3.281		1.562	.812	1.938	.234	.333	2.859	2.341	2.812	.875	1.000	.969	1.37	3.84
(a)-48	-048	3.000	3-1/2-12UN-3A	2.76	2.625	3.875	3.375	3.781		1.812		2.062	.250	.344	3.359	2.841	3.344	1.000		1.047	1.82	5.10

(a) NOT TO BE USED UNLESS APPROVED BY PROCURING ACTIVITY.
(b) INTERNAL FLOW PASSAGE AROUND BEND SHALL BE SMOOTH AND FREE FROM PROJECTIONS.
(c) DIAMETERS A, D, AND E SHALL BE CONCENTRIC WITH EACH OTHER WITHIN .010 FULL INDICATOR READING.
(d) ANNULAR TOOL MARKS UP TO 63 RHR MAXIMUM WILL BE ALLOWED.
REDUCTION BY FORGING DRAFT ANGLE OF 7° MAXIMUM IS PERMISSIBLE.
POROSITY TEST: FINISHED CASTINGS SHALL NOT LEAK WHEN SUBJECTED TO [illegible] PSI AIR PRESSURE AND SUBMERGED IN WATER FOR 3 MINUTES MINIMUM.
FOR TUBE SIZES THRU 1 INCH: MAXIMUM OPERATING TEMPERATURE 275° F, MAXIMUM PRESSURE 1500 PSI.
FOR TUBE SIZES EXCEEDING 1 INCH: MAXIMUM OPERATING TEMPERATURE 275° F, MAXIMUM PRESSURE 500 PSI.
MATERIAL: ALUMINUM-ALLOY FORGING, QQ-A-367 (2014), CLASS 5 OR 1. OPTIONAL MATERIAL: PERMANENT MOLD ALUMINUM ALLOY CASTING, QQ-A-596 OR ALUMINUM ALLOY BAR STOCK, QQ-A-225/6 (2024)
STEEL FORGING, QQ-S-637 (1137) OR (b4).
UNLESS OTHERWISE SPECIFIED, SURFACE ROUGHNESS SHALL NOT EXCEED 100 MICROINCHES RHR. SEE USASI B 46.1
FINISH: ALUMINUM-ALLOY, ANODIZE, MIL-A-8625, TYPE 2, DYE LIGHT BLUE.
STEEL, CADMIUM PLATE, QQ-P-416, TYPE 2, CLASS 3, DYE BLACK.
FITTINGS SHALL BE PERMANENTLY MARKED WITH MS PART NO. ON AN UNFINISHED SURFACE.
FOR NOMINAL USE ON FUEL AND OIL SYSTEMS.
BREAK ALL SHARP EDGES AND REMOVE ALL HANGING BURRS AND SLIVERS WHICH MIGHT BECOME DISLODGED UNDER USAGE.
DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: DECIMALS ±.005; ANGLES ± 1/2°.
THIS STANDARD TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN. REFERENCED DOCUMENTS SHALL BE OFF THE ISSUE IN EFFECT ON DATE OF [illegible]

ENTIRE STANDARD REVISED

APPROVED 9 Aug 57 REVISED (A) 11 DEC 70

PROCUREMENT SPECIFICATION NONE

P.A. 82
Other Cust
Navy - AS
USAF - 82

SUPERSEDES AN762

TITLE
ELBOW, FLARED TUBE, FLANGED, SWIVEL, 90°

MILITARY STANDARD

MS20762

SHEET 1 OF 1

DD FORM (REV 1) 673-1 (coordination)