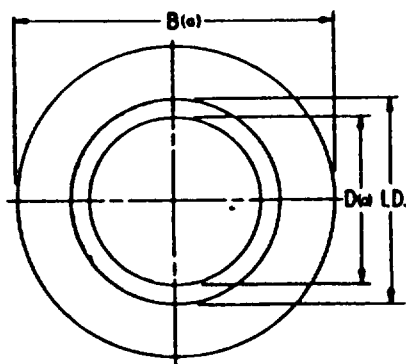


PROJECT NO. 9310-0724

FED. SUP CLASS  
9310

GNET SYMBOLS:

DEFINITION SYMBOLS:

COUNTERSUNK WASHER  
(FOR USE UNDER BOLT HEAD)PLAIN WASHER  
(FOR USE UNDER NUT)

NOMINAL SIZE	BASH NUMBER		B(a)		D(a)		I.D.		V		FLATNESS MAX	APPROX WEIGHT LB/100
	CBC	PLAIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN		
#10	C3	3	.387	.377	.195	.191	.290	.280	.069	.057	.007	.15
1/4	C4	4	.491	.481	.255	.251	.350	.340				.24
5/16	C5	5	.598	.588	.318	.314	.412	.402				.35
3/8	C6	6	.712	.702	.380	.376	.507	.497				.49
7/16	C7	7	.831	.821	.443	.439	.569	.559	.085	.071	.010	.67
1/2	C8	8	.950	.940	.505	.501	.632	.622				.89
9/16	C9	9	1.069	1.059	.568	.564	.694	.684				1.12
5/8	C10	10	1.192	1.182	.631	.627	.788	.778				1.40
3/4	C12	12	1.433	1.423	.756	.752	.913	.903	.119	.099	.015	2.07
7/8	C14	14	1.668	1.658	.881	.877	1.038	1.028				2.75
1	C16	16	1.905	1.895	1.006	1.002	1.163	1.153				3.59
1 1/8	C18	18	2.150	2.140	1.131	1.127	1.288	1.278				4.44
1 1/4	C20	20	2.391	2.381	1.256	1.252	1.443	1.433				5.64
1 3/8	C22	22	2.637	2.627	1.381	1.377	1.570	1.560				6.97
1 1/2	C24	24	2.884	2.874	1.506	1.502	1.695	1.685				8.31

(a) MINIMUM BEARING AREA BASED ON A BEARING STRESS OF 90 KSI AT THE ULTIMATE TENSILE VALUE OF 240 KSI BOLT, OR THE FLANGE DIAMETER OF MS21085 NUTS WHICHEVER IS GREATER.

MATERIAL: ALLOY STEEL, MIL-S-4788, .MIL-S-18279.

HARDNESS: ROCKWELL C 39-48.

SURFACE TEXTURE: 125/IN ACCORDANCE WITH ASA B46.1-1962 (AMST).

PLATING: CADMIUM PLATE, QQ-P-416, TYPE II, CLASS 2.

PARALLELISM: WASHER FACES SHALL BE PARALLEL WITHIN .002 INCH.

WASHER SHALL BE FREE FROM ALL HANGING BURRS AND SLIVERS WHICH MIGHT BECOME DISLODGED UNDER USAGE.

DIMENSIONS IN INCHES.

DESIGN AND USAGE INFORMATION: THESE WASHERS ARE PRIMARILY FOR USE WITH MS21085 NUTS AND MS21298 BOLTS.

FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER DOCUMENTS REFERENCED THEREIN. REFERENCE SHALL BE MADE TO THE EFFECT ON DATE OF INVITATIONS FOR BID.

EXAMPLE OF PART NUMBER: MS21299-3 WASHER, PLAIN, FOR NO. 10 SIZE, 240 KSI BOLT.  
MS21299-C3 WASHER, COUNTERSUNK, FOR NO. 10 SIZE, 240 KSI BOLT.P.A. NAVY - AB  
Other Code  
USAF-11  
ARMY-AV

TITLE

WASHER, COUNTERSUNK AND PLAIN FOR USE WITH  
BOLTS AND NUTS UP TO AND INCLUDING 240 KSI TENSILE

MILITARY STANDARD

MS21299

PROCUREMENT SPECIFICATION

SUPERSEDES

SHEET 1 OF 1

"Wherever information is current as of the date of this document, for future consideration of changes to this document, draft circulation should be based on the information in the current edition."

This military standard is mandatory for use by all Departments in support of the Department of Defense. Solicitation for all new engineering and design applications and for replacement and shall be made from this document.

APPROVED 28 JAN 1972 REVISED

DD FORM 672-1 (Continued)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

PLATE NO. 17706