

FED SUPPLY CLASS

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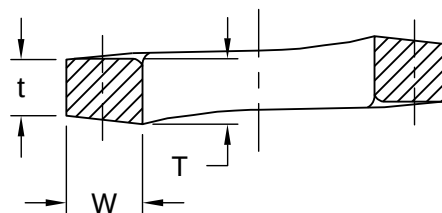
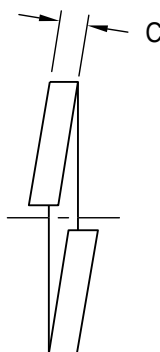
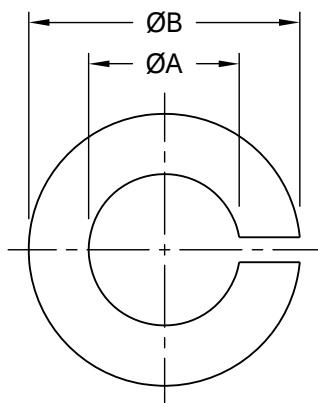


TABLE I – DASH NUMBERS AND DIMENSIONS

NOMINAL SIZE	CARBON STEEL		PH BRZ OR TIN BRS	NICKEL COPPER AL ALLOY	CRES 300 SERIES /7/	CRES 420	ØA (ID)		ØB (OD)	WASHER SECTION	
	CAD OR ZINC /7/	PHOS					W WIDTH	C THICK (T+t)/2			
	DASH NUMBERS						MIN	MAX		MAX	MIN /8/
NO.2 (.086)	39	58	96	115	134	153	.088	.094	.172	.035	.020
NO.4 (.112)	40	59	97	116	135	154	.114	.120	.209	.040	.025
NO.6 (.138)	41	60	98	117	136	155	.141	.148	.250	.047	.031
NO.8 (.164)	42	61	99	118	137	156	.167	.174	.293	.055	.040
NO.10 (.190)	43	62	100	119	138	157	.193	.200	.334	.062	.047
1/4 (.250)	44	63	101	120	139	158	.252	.260	.487	.109	.062
5/16 (.312)	45	64	102	121	140	159	.314	.322	.583	.125	.078
3/8 (.375)	46	65	103	122	141	160	.377	.385	.680	.141	.094
7/16 (.437)	47	66	104	123	142	161	.440	.450	.776	.156	.109
1/2 (.500)	48	67	105	124	143	162	.502	.512	.869	.171	.125
9/16 (.562)	49	68	106	125	144	163	.564	.574	.965	.188	.141
5/8 (.625)	50	69	107	126	145	164	.628	.641	1.073	.203	.156
3/4 (.750)	51	70	108	127	146	165	.753	.766	1.265	.234	.188
7/8 (.875)	52	71	109	128	147	166	.878	.894	1.459	.266	.219
1 (1.000)	53	72	110	129	148	167	1.003	1.024	1.656	.297	.250
1-1/8 (1.125)	54	-	111	130	149	168	1.129	1.153	1.847	.328	.281
1-1/4 (1.250)	55	-	112	131	150	169	1.254	1.280	2.036	.359	.312
1-3/8 (1.375)	56	-	113	132	151	170	1.379	1.408	2.219	.391	.344
1-1/2 (1.500)	57	-	114	133	152	171	1.504	1.534	2.419	.422	.375

③ COMPLETELY REVISED

THE INITIAL RELEASE OF THIS DOCUMENT SUPERSEDES MS35338, REVISION L. PART NUMBERS REMAIN MS35338

THIRD ANGLE PROJECTION	CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE	REVISION 3
PROCUREMENT SPECIFICATION ASME B18.21.1	TITLE WASHER, LOCK-SPRING, HELICAL, REGULAR (MEDIUM) SERIES	CLASSIFICATION PART STANDARD MSM35338



SHEET 1 OF 5
NASM35338
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MATERIAL:

STEEL, CARBON, GRADE 1060 (UNS G10600) THRU 1080 (UNS G10800), IN ACCORDANCE WITH ASTM A29/A29M.

CORROSION-RESISTANT STEEL (NON-MAGNETIC) WASHERS SHALL BE TYPE 316 (UNS S31600) THRU 1/4 (.250) AND TYPE 300 SERIES (UNS S30200 TO UNS S31600) FOR ALL OTHER SIZES, AND CORROSION-RESISTANT STEEL (MAGNETIC) WASHERS SHALL BE TYPE 420 (UNS S42000).

PHOSPHOR BRONZE, COPPER ALLOY NO 510 (UNS C51000) IN ACCORDANCE WITH ASTM B159/B159M.

TIN-BRASS, COMPOSITION 425 (UNS C42500) IN ACCORDANCE WITH ASTM B591.

NICKEL-COPPER-ALUMINUM ALLOY, FORM 2 (UNS N05500) IN ACCORDANCE WITH QQ-N-286.

HARDNESS:

CARBON STEEL WASHERS SHALL HAVE A HARDNESS OF 38-46 HRC.

CORROSION-RESISTANT STEEL WASHERS TYPE 420 (UNS S42000) SHALL HAVE A HARDNESS OF 45-53 HRC, AND TYPE 300 (UNS S3XXXX) SERIES WASHERS SHALL HAVE A HARDNESS OF 35-43 HRC.

PHOSPHOR BRONZE AND TIN-BRASS WASHERS SHALL HAVE A MINIMUM HARDNESS OF 90 HRB.

NICKEL-COPPER-ALUMINUM ALLOY WASHERS SHALL HAVE A HARDNESS OF 33-40 HRC.

FINISH:

CARBON STEEL WASHERS:

- PHOSPHATE COATING SHALL BE IN ACCORDANCE WITH MIL-DTL-16232 TYPE Z, CLASS 2.
- CADMIUM PLATING SHALL BE IN ACCORDANCE WITH AMS-QQ-P-416, TYPE II, CLASS 2, OR AMS-C-81562, TYPE II, CLASS 2 OR MECHANICALLY DEPOSITED ZINC SHALL BE IN ACCORDANCE WITH AMS-C-81562, TYPE II, CLASS 6. /7/

CORROSION-RESISTANT STEEL WASHERS:

- PASSIVATION SHALL BE IN ACCORDANCE WITH AMS2700, METHOD, CLASS 4.
- BLACK OXIDE COATING (FOR CRES 300 SERIES ONLY) SHALL BE IN ACCORDANCE WITH MIL-DTL-13924, CLASS 4 (SEE EXAMPLE OF PART NUMBER).

PHOSPHOR BRONZE AND TIN-BRASS WASHERS SHALL BE CADMIUM PLATED IN ACCORDANCE WITH AMS-QQ-P-416, TYPE II, CLASS 3. A MAGNET SHALL BE USED FOR DETECTION VERIFICATION PURPOSES TO DIFFERENTIATE BETWEEN CARBON STEEL WASHERS AND PHOSPHOR BRONZE AND TIN-BRASS WASHERS SPECIFIED HEREIN.

NICKEL-COPPER-ALUMINUM ALLOY WASHERS - UNCOATED.

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REVISION

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NAS Documents

SHEET 2



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