

USER ACTIVITIES:
NAVY-MC, SM

REVIEWER ACTIVITIES:
ARMY-ER, GL
AIR FORCE - 15, 82
DLA-15

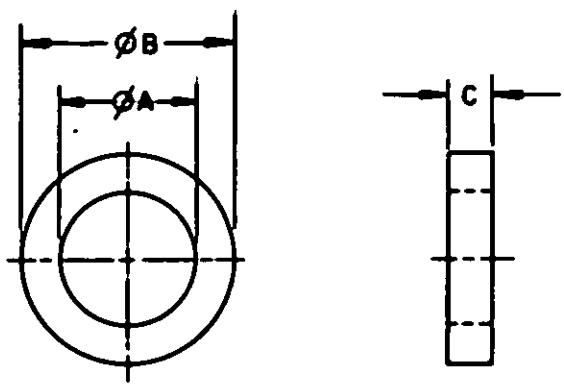


TABLE 1. DASH NUMBERS AND DIMENSIONS.

ALLOY STEEL	NICKEL ALLOY	DASH NUMBERS				NOMINAL WASHER SIZE	ØA		ØB		C	
		AL. ALY 2025, T8	AL. ALY 7075, T6	BRASS	CRCS		MAX	MIN	MAX	MIN	MAX	MIN
115	88	01	21	41	61	.060	.068	.063	.130	.120	.028	.022
116	89	02	22	42	62	.060	.068	.063	.161	.151	.019	.013
117	90	03	23	43	63	.073	.099	.089	.161	.156	.028	.022
118	91	19	29	49	69	.073	.099	.089	.140	.130	.013	.010
119	92	04	24	44	64	.099	.109	.104	.219	.214	.028	.022
200	93	05	25	45	65	.112	.125	.120	.180	.170	.032	.029
201	94	06	26	46	66	.112	.125	.120	.255	.250	.019	.013
202	95	20	30	50	70	.112	.125	.120	.180	.170	.019	.013
203	96	121 (B)	121 (B)	16 (B)	81	.112	.125	.120	.200	.180	.045	.035
204	97	07	27	47	67	.112	.125	.120	.255	.250	.036	.028
205	98	08	28	48	68	.138	.156	.146	.284	.274	.019	.013
206	99	09	29	49	69	.138	.156	.146	.284	.274	.035	.029
207	100	10	30	50	70	.164	.176	.169	.284	.278	.035	.029
208	101	11	31	51	71	.164	.199	.189	.315	.305	.032	.029
209	102	12	32	52	72	.164	.199	.189	.315	.305	.063	.060
210	103	122 (B)	122 (B)	162 (B)	82	.190	.220	.210	.400	.395	.050	.040
211	104	13	33	53	73	.190	.210	.200	.365	.355	.032	.029
212	105	14	34	54	74	.190	.210	.200	.365	.355	.063	.060
213	106	15	35	55	75	.250	.270	.260	.460	.450	.032	.029
214	107	123 (B)	123 (B)	163 (B)	83	.250	.280	.260	.375	.350	.090	.070
215	108	124 (B)	124 (B)	164 (B)	84	.251	.280	.260	.375	.350	.028	.022
216	109	16	36	56	76	.250	.270	.260	.460	.450	.063	.060
217	110	17	37	57	77	.250	.288	.278	.440	.430	.032	.029
218	111	18	38	58	78	.312	.317	.307	.525	.515	.032	.029
219	112	125 (B)	125 (B)	165 (B)	85	.375	.421	.401	.630	.620	.055	.045
220	113	126 (B)	126 (B)	166 (B)	86	.625	.656	.640	1.062	1.032	.050	.040
221	114	127 (B)	127 (B)	167 (B)	87	.750	.812	.790	1.125	1.100	.019	.013

(B) DENOTES CHANGE(S)

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P.A. ARMY-AR	INTERNATIONAL INTEREST	TITLE	MILITARY STANDARD
Other Com		WASHER, FLAT (NARROW SERIES)	MS51496
AIR FORCE-99			
PROCUREMENT SPECIFICATION	SUPPLIES DES:	PAGE	OF
FF-W-92		1	2

APPROVED 30 MAY 84 REVISED 20 MAY 86 7 OCT 86

REQUIREMENTS:

1. MATERIAL.

ALUMINUM ALLOY, 2024-T4, IN ACCORDANCE WITH QQ-A-250/5,
ALUMINUM ALLOY, 7075-T6, IN ACCORDANCE WITH QQ-A-250/12,
BRASS, COMPOSITION 11, (UNS C28000), IN ACCORDANCE WITH QQ-B-613,
CORROSION RESISTANT STEEL, TYPE 302 (UNS S30200), 304 (UNS S30400), 305 (UNS S30500), 316 (UNS S31600),
321 (UNS S32100), 347 (UNS S34700) IN ACCORDANCE WITH QQ-S-766;
NICKEL ALLOY, UNS N06600, IN ACCORDANCE WITH ASTM B168, CONDITION A, SPRING TEMPER,
ALLOY STEEL, UNS C81300, IN ACCORDANCE WITH MIL-S-6758, CONDITION (4).

2. PROTECTIVE COATING AND SURFACE FINISH.

ALUMINUM ALLOY, ANODIZE IN ACCORDANCE WITH MIL-A-8625, TYPE I OR TYPE II, CLASS 1, OR CHEMICAL SURFACE TREATMENT
IN ACCORDANCE WITH MIL-C-5541, CLASS A.
BRASS - BLACK CHEMICAL FINISH IN ACCORDANCE WITH MIL-P-495.
NICKEL PLATING IN ACCORDANCE WITH QQ-N-290, CLASS 1, GRADE F.
TIN PLATING IN ACCORDANCE WITH ASTM B545, .0001 INCH THICKNESS.
CORROSION RESISTANT STEEL - CLEANED, DESCALED AND PASSIVATED IN ACCORDANCE WITH ASTM A380.
ALLOY STEEL - CADMIUM PLATED IN ACCORDANCE WITH QQ-P-416 TYPE II, CLASS 2.

3. HARDNESS.

NICKEL ALLOY, CONDITION S, 30HRC MIN
ALUMINUM ALLOY, 2024-T4, 94-103HRF
ALUMINUM ALLOY, 7075-T6, 85-95HRB
BRASS, COMPOSITION 11, 1/2 HARD, 57-77HRB
CORROSION RESISTANT STEEL, 20HRC MIN.
ALLOY STEEL, 38HRC MIN

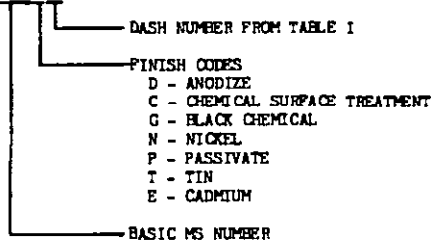
4. MAGNETIC PERMEABILITY. CORROSION RESISTANT STEEL WASHERS SHALL HAVE A MAGNETIC PERMEABILITY OF 2.0
MAXIMUM (AIR = 1.0) FOR A FIELD STRENGTH OF H = .200 OERSTEDS USING A MAGNETIC INDICATOR PER MIL-I-17214.

5. FLATNESS. WASHERS SHALL BE FLAT TO WITHIN .007 INCH.

6. PARALLELISM. WASHERS SHALL BE PARALLEL TO WITHIN .002 INCH.

7. PART NUMBER. THE PART NUMBER CONSISTS OF THE BASIC MS NUMBER, FOLLOWED BY A FINISH CODE LETTER, FOLLOWED
BY A DASH NUMBER FROM TABLE I.

EXAMPLE: MS51496CD1



MS51496CD1 - INDICATES, WASHER, FLAT-NARROW SERIES, CHEMICAL SURFACE TREATMENT, ALUMINUM
ALLOY 2024-T4, .068 ID, .130 OD, .028 THICK.

NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. REMOVE ALL BURRS AND SHARP EDGES BEFORE FINISH.
3. IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS STANDARD AND THE REFERENCES CITED HEREIN, THE TEXT OF THIS STANDARD SHALL TAKE PRECEDENCE.
4. REFERENCED GOVERNMENT (OR NONGOVERNMENT) DOCUMENTS OF THE ISSUE LISTED IN THAT ISSUE OF THE DEPARTMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DoDISS) SPECIFIED IN THE SOLICITATION FORM A PART OF THIS STANDARD TO THE EXTENT SPECIFIED HEREIN.

USER ACTIVITIES:
NAVY-MC, SH

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DLA - IS

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APPROVED 30 MAY 84 REVISED (B) FOR CHANGE(S) SEE PAGE(S) 1

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			MS51496
PROCUREMENT SPECIFICATION FF-W-92	SUPERSEDED	PAGE 2 OF 2	