



HEWLETT-PACKARD, AV, IS, NS  
SERVIC, ME, MI, OS, YD

NOMINAL SIZE	.250	.3125	.375	.4375	.500	.5625	.625			
THREADS PER INCH (UNF-2A)	28	24	24	20	20	18	18			
D BODY DIAMETER	MAX .250 MIN .245	MAX .3125 MIN .3065	MAX .375 MIN .369	MAX .4375 MIN .4305	MAX .500 MIN .493	MAX .5625 MIN .5545	MAX .625 MIN .617			
F WIDTH ACROSS FLATS	MAX .4375 MIN .4280	MAX .500 MIN .489	MAX .5625 MIN .5510	MAX .625 MIN .612	MAX .750 MIN .736	MAX .8125 MIN .7980	MAX .9375 MIN .9220			
G WIDTH ACROSS CORNERS	MAX .505 MIN .488	MAX .577 MIN .557	MAX .650 MIN .628	MAX .722 MIN .698	MAX .866 MIN .840	MAX .938 MIN .910	MAX 1.083 MIN 1.051			
H HEAD HEIGHT	MAX .163 MIN .150	MAX .211 MIN .195	MAX .243 MIN .226	MAX .291 MIN .272	MAX .323 MIN .302	MAX .371 MIN .348	MAX .403 MIN .378			
R RADIUS	MAX .025 MIN .015	MAX .025 MIN .015	MAX .025 MIN .015	MAX .025 MIN .015	MAX .025 MIN .015	MAX .045 MIN .020	MAX .045 MIN .020			
TENSILE STRENGTH (LBS-MIN)	2,910	4,640	7,020	9,490	12,490	16,240	20,480			
L LENGTH	TOLERANCE			DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.	
	SIZE .375 AND UNDER	SIZES .4375 AND .500	SIZES .5625 AND .625							
.375				1	27	53				
.438				2	28	54				
.500				3	29	55		104		
.562	+ .000	+ .000	+ .000	4	30	56		105	130	
.625	- .030	- .030	- .030	5	31	57		106	131	155
.750				6	32	58		107	132	156
.875				7	33	59		108	133	157
1.000				8	34	60		109	134	158
1.125				9	35	61		110	135	159
1.250				10	36	62		111	136	160
1.375				11	37	63		112	137	161
1.500	+ .000	+ .000	+ .000	12	38	64		113	138	162
1.750	- .040	- .060	- .080	13	39	65		114	139	163
2.000				14	40	66		115	140	164
2.250				15	41	67		116	141	165
2.500				16	42	68		117	142	166
2.750				17	43	69		118	143	167
3.000				18	44	70		119	144	168
3.250	+ .000	+ .000	+ .000	19	45	71		120	145	169
3.500	- .060	- .080	- .100	20	46	72		121	146	170
3.750				21	47	73		122	147	171
4.000				22	48	74		123	148	172
4.250				23	49	75		124	149	173
4.500				24	50	76		125	150	174
4.750	+ .000	+ .000	+ .000	25	51	77		126	151	175
5.000	- .100	- .100	- .100	26	52	78		127	152	176
5.500								128	153	177
6.000								129	154	178

This military standard is mandatory 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.

(A) INACTIVE FOR NEW DESIGN AFTER 15 FEB 1973.

(A) For changes see sheets 1 and 2.

P.A. WC Other Cust SH 82	TITLE SCREW, CAP, HEXAGON HEAD - NICKEL-COPPER ALLOY, PLAIN FINISH, UNF-2A	MILITARY STANDARD MS 35312
PROCUREMENT SPECIFICATION FF-S-85	SUPERSEDES:	SHEET 1 OF 2

APPROVED 4 MAR 1954 REVISED (A) 15 FEB 1973

NOMINAL SIZE		.750	.875	1.000	1.125	1.250		
THREADS PER INCH (UNF-2A)		16	14	12	12	12		
D BODY DIAMETER	MAX	.750	.875	1.000	1.125	1.250		
	MIN	.741	.866	.990	1.114	1.239		
F WIDTH ACROSS FLATS	MAX	1.125	1.3125	1.500	1.6875	1.875		
	MIN	1.100	1.2850	1.469	1.6310	1.812		
G WIDTH ACROSS CORNERS	MAX	1.299	1.516	1.732	1.949	2.165		
	MIN	1.234	1.465	1.675	1.859	2.066		
H HEAD HEIGHT	MAX	.483	.563	.627	.718	.813		
	MIN	.455	.531	.591	.658	.749		
R RADIUS	MAX	.045	.065	.095	.095	.095		
	MIN	.020	.040	.060	.060	.060		
TENSILE STRENGTH (LBS.-MIN)		29,840	40,720	53,040	68,480	85,800		
L LENGTH	TOLERANCE			DASH NO.	DASH NO.	DASH NO.	DASH NO.	DASH NO.
	SIZE .750	SIZES .875 AND 1.000	SIZES 1.125 AND 1.250					
.750	+.000 -.030	+.000 -.040	-----	179	202	224	245	265
.875				180				
1.000				181				
1.125	+.000 -.080	+.000 -.100	+.000 -.120	182	204	225	246	266
1.250				183	205	226	247	267
1.375				184	206	227	248	268
1.500				185	207	228	249	269
1.750				186	208	229	250	270
2.000				187	209	230	251	271
2.250				188	210	231	252	
2.500	189	211	232	252				
2.750	+.000 -.100	+.000 -.140	+.000 -.160	190	212	233	253	272
3.000				191	213	234	254	273
3.250				192	214	235	255	274
3.500				193	215	236	256	275
3.750				194	216	237	257	276
4.000	195	217	238	258	277			
4.250	+.000 -.100	+.000 -.160	+.000 -.180	196	218	239	259	278
4.500				197	219	240	260	279
4.750				198	220	241	261	280
5.000				199	221	242	262	281
5.500				200	222	243	263	282
6.000				201	223	244	264	283

NOTES:

- MATERIAL:** Nickel-Copper alloy in accordance with QQ-N-281, Class A, having a minimum ultimate tensile strength of 80,000 PSI.
- PROTECTIVE COATING:** None.
- THREADS:** The threads shall be in accordance with Screw-Thread Standards for Federal Services, Handbook H28.
- DIMENSIONS:** All dimensions are in inches, unless otherwise specified.
- THREAD LENGTH:** Minimum thread length shall be twice the diameter plus 0.250 inch. The tolerance shall be plus 0.188 inch or 2-1/2 threads, whichever is greater. On screws that are too short for minimum thread lengths, the distance from the head bearing surface to the first complete thread shall not exceed the length of 2-1/2 threads for sizes thru 1.000 and 3-1/2 threads for sizes over 1.000.
- PART NUMBER:** The MS part number consists of the MS number, plus the dash number.  
Example: MS35312-1.
- Referenced documents shall be of the issue in effect on date of invitations for bid.
- For design feature purposes, this standard takes precedence over procurement documents referenced herein.

**(A) INACTIVE FOR NEW DESIGN AFTER 15 FEB 1973.**

This military standard is mandatory 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.

REVIEWER: AT, AV, IS, NS  
[SER: MC, ME, MI, OS, YD]

APPROVED 4 MAR 1954 REVISED (A) FOR CHANGES SEE SHEETS 1 AND 2.

P. A. WC	TITLE	MILITARY STANDARD
Other Cost SH 82	SCREW, CAP, HEXAGON HEAD - NICKEL-COPPER ALLOY, PLAIN FINISH, UNF-2A	MS 35312
PROCUREMENT SPECIFICATION FF-S-85	SUPERSEDES:	SHEET 2 OF 2