

## Table of UNC/UNF inch threads

“United National Coarse” and “United National Fine” are the names of American unified standards for threads measured in inches. “UNC” refers to common ratio threads, and “UNF” refers to fine ratio threads.

The following table shows the parameters of inch threads according to UNC and UNF standards.

External thread	Nominal size, TPI, series	Class	Tolerance (inches)	Min. major (inches)	Max. major (inches)	Min. (inches)	Min. pitch (inches)	Max. pitch (inches)	UNR minor diameter (inches)
				Min. minor (inches)	Max. minor (inches)				Min. major diameter (inches)
External	0-80 UNF	2A	0.0005	0.0563	0.0595	-	0.0496	0.0514	0.0446
Internal		2B		0.0465	0.0514	0.0600			
External	0-80 UNF	3A	0.0000	0.0568	0.0600	-	0.0506	0.0519	0.0451
Internal		3B		0.0465	0.0514	0.0600			
External	1-64 UNC	2A	0.0006	0.0686	0.0724	-	0.0603	0.0623	0.0538
Internal		2B		0.0561	0.0623	0.0730			
External	1-64 UNC	3A	0.0000	0.0692	0.0730	-	0.0614	0.0629	0.0544
Internal		3B		0.0561	0.0623	0.0730			
External	1-72 UNF	2A	0.0006	0.0689	0.0724	-	0.0615	0.0634	0.0559
Internal		2B		0.0580	0.0635	0.0730			

External	1-72 UNF	3A	0.0000	0.0695	0.0730	-	0.0626	0.0640	0.0565
Internal		3B		0.0580	0.0635		0.0640	0.0659	0.0730
External	2-56 UNC	2A	0.0006	0.0813	0.0854	-	0.0717	0.0738	0.0642
Internal		2B		0.0667	0.0737		0.0744	0.0772	0.0860
External	2-56 UNC	3A	0.0000	0.0819	0.0860	-	0.0728	0.0744	0.0648
Internal		3B		0.0667	0.0737		0.0744	0.0765	0.0860
External	2-64 UNF	2A	0.0006	0.0816	0.0854	-	0.0733	0.0753	0.0668
Internal		2B		0.0691	0.0753		0.0759	0.0786	0.0860
External	2-64 UNF	3A	0.0000	0.0822	0.0860	-	0.0744	0.0759	0.0674
Internal		3B		0.0691	0.0753		0.0759	0.0779	0.0860
External	3-48 UNC	2A	0.0007	0.0938	0.0983	-	0.0825	0.0848	0.0734
Internal		2B		0.0764	0.0845		0.0855	0.0885	0.0990
External	3-48 UNC	3A	0.0000	0.0945	0.0990	-	0.0838	0.0855	0.0741
Internal		3B		0.0764	0.0845		0.0855	0.0877	0.0990
External	3-56 UNF	2A	0.0007	0.0942	0.0983	-	0.0845	0.0867	0.0771
Internal		2B		0.0797	0.0865		0.0874	0.0902	0.0990
External	3-56 UNF	3A	0.0000	0.0949	0.0990	-	0.0858	0.0874	0.0778
Internal		3B		0.0797	0.0865		0.0874	0.0895	0.0990
External	4-40 UNC	2A	0.0008	0.1061	0.1112	-	0.0925	0.0950	0.0814
Internal		2B		0.0849	0.0939		0.0958	0.0991	0.1120
External	4-40 UNC	3A	0.0000	0.1069	0.1120	-	0.0939	0.0958	0.0822
Internal		3B		0.0849	0.0939		0.0958	0.0982	0.1120
External	4-48 UNF	2A	0.0007	0.1068	0.1113	-	0.0954	0.0978	0.0864

Internal		2B		0.0894	0.0968		0.0985	0.1016	0.1120
External	4-48 UNF	3A	0.0000	0.1075	0.1120	-	0.0967	0.0985	0.0871
Internal		3B		0.0894	0.0968		0.0985	0.1008	0.1120
External	5-40 UNC	2A	0.0008	0.1191	0.1242	-	0.1054	0.1080	0.0944
Internal		2B		0.0979	0.1062		0.1088	0.1121	0.1250
External	5-40 UNC	3A	0.0000	0.1199	0.1250	-	0.1069	0.1088	0.0952
Internal		3B		0.0979	0.1062		0.1088	0.1113	0.1250
External	5-44 UNF	2A	0.0007	0.1195	0.1243	-	0.1070	0.1095	0.0972
Internal		2B		0.1004	0.1079		0.1102	0.1134	0.1250
External	5-44 UNF	3A	0.0000	0.1202	0.1250	-	0.1083	0.1102	0.0979
Internal		3B		0.1004	0.1079		0.1102	0.1126	0.1250
External	6-32 UNC	2A	0.0008	0.1312	0.1372	-	0.1141	0.1169	0.1000
Internal		2B		0.1040	0.1140		0.1177	0.1214	0.1380
External	6-32 UNC	3A	0.0000	0.1320	0.1380	-	0.1156	0.1177	0.1008
Internal		3B		0.1040	0.1140		0.1177	0.1204	0.1380
External	6-40 UNF	2A	0.0008	0.1321	0.1372	-	0.1184	0.1210	0.1074
Internal		2B		0.1110	0.1190		0.1218	0.1252	0.1380
External	6-40 UNF	3A	0.0000	0.1329	0.1380	-	0.1198	0.1218	0.1082
Internal		3B		0.1110	0.1186		0.1218	0.1243	0.1380
External	8-32 UNC	2A	0.0009	0.1571	0.1631	-	0.1399	0.1428	0.1259
Internal		2B		0.1300	0.1390		0.1437	0.1475	0.1640
External	8-32 UNC	3A	0.0000	0.1580	0.1640	-	0.1415	0.1437	0.1268
Internal		3B		0.1300	0.1389		0.1437	0.1465	0.1640

External	8-36 UNF	2A	0.0008	0.1577	0.1632	-	0.1424	0.1452	0.1301
Internal		2B		0.1340	0.1420		0.1460	0.1496	0.1640
External	8-36 UNF	3A	0.0000	0.1585	0.1640	-	0.1439	0.1460	0.1309
Internal		3B		0.1340	0.1416		0.1460	0.1487	0.1640
External	10-24 UNC	2A	0.0010	0.1818	0.1890	-	0.1586	0.1619	0.1394
Internal		2B		0.1450	0.1560		0.1629	0.1672	0.1900
External	10-24 UNC	3A	0.0000	0.1828	0.1900	-	0.1604	0.1629	0.1404
Internal		3B		0.1450	0.1555		0.1629	0.1661	0.1900
External	10-28 UNS	2A	0.0010	0.1825	0.1890	-	0.1625	0.1658	0.1464
Internal		2B		0.1510	0.1600		0.1668	0.1711	0.1900
External	10-32 UNF	2A	0.0009	0.1831	0.1891	-	0.1658	0.1688	0.1519
Internal		2B		0.1560	0.1640		0.1697	0.1736	0.1900
External	10-32 UNF	3A	0.0000	0.1840	0.1900	-	0.1674	0.1697	0.1528
Internal		3B		0.1560	0.1641		0.1697	0.1726	0.1900
External	10-36 UNS	2A	0.0009	0.1836	0.1891	-	0.1681	0.1711	0.1560
Internal		2B		0.1600	0.1660		0.1720	0.1759	0.1900
External	10-40 UNS	2A	0.0009	0.1840	0.1891	-	0.1700	0.1729	0.1592
Internal		2B		0.1630	0.1690		0.1738	0.1775	0.1900
External	10-48 UNS	2A	0.0008	0.1847	0.1892	-	0.1731	0.1757	0.1644
Internal		2B		0.1670	0.1720		0.1765	0.1799	0.1900
External	10-56 UNS	2A	0.0007	0.1852	0.1893	-	0.1752	0.1777	0.1681
Internal		2B		0.1710	0.1750		0.1784	0.1816	0.1900
External	12-24 UNC	2A	0.0010	0.2078	0.2150	-	0.1845	0.1879	0.1654

Internal		2B		0.1710	0.1810		0.1889	0.1933	0.2160
External	12-24 UNC	3A	0.0000	0.2088	0.2160	-	0.1863	0.1889	0.1664
Internal		3B		0.1710	0.1807		0.1889	0.1922	0.2160
External	12-28 UNF	2A	0.0010	0.2085	0.2150	-	0.1886	0.1918	0.1724
Internal		2B		0.1770	0.1860		0.1928	0.1970	0.2160
External	12-28 UNF	3A	0.0000	0.2095	0.2160	-	0.1904	0.1928	0.1734
Internal		3B		0.1770	0.1857		0.1928	0.1959	0.2160
External	12-32 UNEF	2A	0.0009	0.2091	0.2151	-	0.1917	0.1948	0.1779
Internal		2B		0.1820	0.1900		0.1957	0.1998	0.2160
External	12-32 UNEF	3A	0.0000	0.2100	0.2160	-	0.1933	0.1957	0.1788
Internal		3B		0.1820	0.1895		0.1957	0.1988	0.2160
External	12-36 UNS	2A	0.0009	0.2096	0.2151	-	0.1941	0.1971	0.1821
Internal		2B		0.1860	0.1920		0.1980	0.2019	0.2160
External	12-40 UNS	2A	0.0009	0.2100	0.2151	-	0.1960	0.1989	0.1835
Internal		2B		0.1890	0.1950		0.1998	0.2035	0.2160
External	12-48 UNS	2A	0.0008	0.2107	0.2152	-	0.1991	0.2017	0.1904
Internal		2B		0.1930	0.1980		0.2025	0.2059	0.2160
External	12-56 UNS	2A	0.0007	0.2112	0.2153	-	0.2012	0.2037	0.1941
Internal		2B		0.1970	0.2010		0.2044	0.2076	0.2160
External	1/4-20 UNC	1A	0.0011	0.2367	0.2489	-	0.2108	0.2164	0.1894
Internal		1B		0.1960	0.2070		0.2175	0.2248	0.2500
External	1/4-20 UNC	2A	0.0011	0.2408	0.2489	0.2367	0.2127	0.2164	0.1894
Internal		2B		0.1960	0.2070		0.2175	0.2224	0.2500

External	1/4-20 UNC	3A	0.0000	0.2419	0.2500	-	0.2147	0.2175	0.1905
Internal		3B		0.1960	0.2067		0.2175	0.2211	0.2500
External	1/4-24 UNS	2A	0.0011	0.2417	0.2489	-	0.2181	0.2218	0.1993
Internal		2B		0.2050	0.2150		0.2229	0.2277	0.2500
External	1/4-27 UNS	2A	0.0010	0.2423	0.2490	-	0.2214	0.2249	0.2049
Internal		2B		0.2100	0.2190		0.2259	0.2304	0.2500
External	1/4-28 UNF	1A	0.0010	0.2392	0.2490	-	0.2208	0.2258	0.2064
Internal		1B		0.2110	0.2200		0.2268	0.2333	0.2500
External	1/4-28 UNF	2A	0.0010	0.2425	0.2490	-	0.2225	0.2258	0.2064
Internal		2B		0.2110	0.2200		0.2268	0.2311	0.2500
External	1/4-28 UNF	3A	0.0000	0.2435	0.2500	-	0.2243	0.2268	0.2074
Internal		3B		0.2110	0.2190		0.2268	0.2300	0.2500
External	1/4-32 UNEF	2A	0.0010	0.2430	0.2490	-	0.2255	0.2287	0.2118
Internal		2B		0.2160	0.2240		0.2297	0.2339	0.2500
External	1/4-32 UNEF	3A	0.0000	0.2440	0.2500	-	0.2273	0.2297	0.2128
Internal		3B		0.2160	0.2229		0.2297	0.2328	0.2500
External	1/4-36 UNS	2A	0.0009	0.2436	0.2491	-	0.2280	0.2311	0.2161
Internal		2B		0.2200	0.2260		0.2320	0.2360	0.2500
External	1/4-40 UNS	2A	0.0009	0.2440	0.2491	-	0.2300	0.2329	0.2193
Internal		2B		0.2230	0.2290		0.2338	0.2376	0.2500
External	1/4-48 UNS	2A	0.0008	0.2447	0.2492	-	0.2330	0.2357	0.2243
Internal		2B		0.2270	0.2320		0.2365	0.2401	0.2500
External	1/4-56 UNS	2A	0.0008	0.2451	0.2492	-	0.2350	0.2376	0.2280

Internal		2B		0.2310	0.2350		0.2384	0.2417	0.2500
External	5/16-18 UNC	1A	0.0012	0.3113	0.2982	-	0.2752	0.2691	0.2452
Internal		1B		0.2650	0.2520		0.2843	0.2764	0.3125
External	5/16-18 UNC	2A	0.0012	0.3113	0.3026	0.2982	0.2752	0.2712	0.2452
Internal		2B		0.2650	0.2520		0.2817	0.2764	0.3125
External	5/16-18 UNC	3A	0.0000	0.3125	0.3038	-	0.2764	0.2734	0.2464
Internal		3B		0.2630	0.2520		0.2803	0.2764	0.3125
External	5/16-20 UN	2A	0.0012	0.3113	0.3032	-	0.2788	0.2748	0.2518
Internal		2B		0.2700	0.2580		0.2852	0.2800	0.3125
External	5/16-20 UN	3A	0.0000	0.3125	0.3044	-	0.2800	0.2770	0.2530
Internal		3B		0.2680	0.2580		0.2839	0.2800	0.3125
External	5/16-24 UNF	1A	0.0011	0.3114	0.3006	-	0.2843	0.2788	0.2618
Internal		1B		0.2770	0.2670		0.2925	0.2854	0.3125
External	5/16-24 UNF	2A	0.0011	0.3114	0.3042	-	0.2843	0.2806	0.2618
Internal		2B		0.2770	0.2670		0.2902	0.2854	0.3125
External	5/16-24 UNF	3A	0.0000	0.3125	0.3053	-	0.2854	0.2827	0.2629
Internal		3B		0.2754	0.2670		0.2890	0.2854	0.3125
External	5/16-27 UNS	2A	0.0010	0.3115	0.3048	-	0.2874	0.2839	0.2674
Internal		2B		0.2810	0.2720		0.2929	0.2884	0.3125
External	5/16-28 UN	2A	0.0010	0.3115	0.3050	-	0.2883	0.2849	0.2689
Internal		2B		0.2820	0.2740		0.2937	0.2893	0.3125
External	5/16-28 UN	3A	0.0000	0.3125	0.3060	-	0.2893	0.2867	0.2699
Internal		3B		0.2807	0.2740		0.2926	0.2893	0.3125

External	5/16-32 UNEF	2A	0.0010	0.3115	0.3055	-	0.2912	0.2880	0.2743
Internal		2B		0.2860	0.2790		0.2964	0.2922	0.3125
External	5/16-32 UNEF	3A	0.0000	0.3125	0.3065	-	0.2922	0.2898	0.2753
Internal		3B		0.2847	0.2790		0.2953	0.2922	0.3125
External	5/16-36 UNS	2A	0.0009	0.3116	0.3061	-	0.2936	0.2905	0.2785
Internal		2B		0.2890	0.2820		0.2985	0.2945	0.3125
External	5/16-40 UNS	2A	0.0009	0.3116	0.3065	-	0.2954	0.2925	0.2818
Internal		2B		0.2910	0.2850		0.3001	0.2963	0.3125
External	5/16-48 UNS	2A	0.0008	0.3117	0.3072	-	0.2982	0.2955	0.2869
Internal		2B		0.2950	0.2900		0.3026	0.2990	0.3125
External	3/8-16 UNC	1A	0.0013	0.3737	0.3595	-	0.3331	0.3266	0.2992
Internal		1B		0.3210	0.3070		0.3429	0.3344	0.3750
External	3/8-16 UNC	2A	0.0013	0.3737	0.3643	0.3595	0.3331	0.3287	0.2992
Internal		2B		0.3210	0.3070		0.3401	0.3344	0.3750
External	3/8-16 UNC	3A	0.0000	0.3750	0.3656	-	0.3344	0.3311	0.3005
Internal		3B		0.3182	0.3070		0.3387	0.3344	0.3750
External	3/8-18 UNS	2A	0.0013	0.3737	0.3650	-	0.3376	0.3333	0.3076
Internal		2B		0.3280	0.3150		0.3445	0.3389	0.3750
External	3/8-20 UN	2A	0.0012	0.3738	0.3657	-	0.3413	0.3372	0.3143
Internal		2B		0.3320	0.3210		0.3479	0.3425	0.3750
External	3/8-20 UN	3A	0.0000	0.3750	0.3669	-	0.3425	0.3394	0.3155
Internal		3B		0.3297	0.3210		0.3465	0.3425	0.3750



External	3/8-24 UNF	1A	0.0011	0.3739	0.3631	-	0.3468	0.3411	0.3243
Internal		1B		0.3400	0.3300		0.3553	0.3479	0.3750
External	3/8-24 UNF	2A	0.0011	0.3739	0.3667	-	0.3468	0.3430	0.3243
Internal		2B		0.3400	0.3300		0.3528	0.3479	0.3750
External	3/8-24 UNF	3A	0.0000	0.3750	0.3678	-	0.3479	0.3450	0.3254
Internal		3B		0.3372	0.3300		0.3516	0.3479	0.3750
External	3/8-27 UNS	2A	0.0011	0.3739	0.3672	-	0.3498	0.3462	0.3298
Internal		2B		0.3440	0.3350		0.3556	0.3509	0.3750
External	3/8-28 UN	2A	0.0011	0.3739	0.3674	-	0.3507	0.3471	0.3313
Internal		2B		0.3450	0.3360		0.3564	0.3518	0.3750
External	3/8-28 UN	3A	0.0000	0.3750	0.3685	-	0.3518	0.3491	0.3324
Internal		3B		0.3426	0.3360		0.3553	0.3518	0.3750
External	3/8-32 UNEF	2A	0.0010	0.3740	0.3680	-	0.3537	0.3503	0.3368
Internal		2B		0.3490	0.3410		0.3591	0.3547	0.3750
External	3/8-32 UNEF	3A	0.0000	0.3750	0.3690	-	0.3547	0.3522	0.3378
Internal		3B		0.3469	0.3410		0.3580	0.3547	0.3750
External	3/8-36 UNS	2A	0.0010	0.3740	0.3685	-	0.3560	0.3528	0.3409
Internal		2B		0.3520	0.3450		0.3612	0.3570	0.3750
External	3/8-40 UNS	2A	0.0009	0.3741	0.3690	-	0.3579	0.3548	0.3443
Internal		2B		0.3540	0.3480		0.3628	0.3588	0.3750
External	0.390-27 UNS	2A	0.0011	0.3889	0.3822	-	0.3648	0.3612	0.3448
Internal		2B		0.3590	0.3500		0.3706	0.3659	0.3900
External	7/16-14 UNC	1A	0.0014	0.4361	0.4206	-	0.3897	0.3826	0.3511

Internal		1B		0.3760	0.3600		0.4003	0.3911	0.4375
External	7/16-14 UNC	2A	0.0014	0.4361	0.4258	0.4206	0.3897	0.3850	0.3511
Internal		2B		0.3760	0.3600		0.3972	0.3911	0.4375
External	7/16-14 UNC	3A	0.0000	0.4375	0.4272	-	0.3911	0.3876	0.3525
Internal		3B		0.3717	0.3600		0.3957	0.3911	0.4375
External	7/16-16 UN	2A	0.0014	0.4361	0.4267	-	0.3955	0.3909	0.3616
Internal		2B		0.3840	0.3700		0.4028	0.3969	0.4375
External	7/16-16 UN	3A	0.0000	0.4375	0.4281	-	0.3969	0.3935	0.3630
Internal		3B		0.3800	0.3700		0.4014	0.3969	0.4375
External	7/16-18 UNS	2A	0.0013	0.4362	0.4275	-	0.4001	0.3958	0.3701
Internal		2B		0.3900	0.3770		0.4070	0.4014	0.4375
External	7/16-20 UNF	1A	0.0013	0.4362	0.4240	-	0.4037	0.3975	0.3767
Internal		1B		0.3950	0.3830		0.4131	0.4050	0.4375
External	7/16-20 UNF	2A	0.0013	0.4362	0.4281	-	0.4037	0.3995	0.3767
Internal		2B		0.3950	0.3830		0.4104	0.4050	0.4375
External	7/16-20 UNF	3A	0.0000	0.4375	0.4294	-	0.4050	0.4019	0.3780
Internal		3B		0.3916	0.3830		0.4091	0.4050	0.4375
External	7/16-24 UNS	2A	0.0011	0.4364	0.4292	-	0.4093	0.4055	0.3868
Internal		2B		0.4020	0.3920		0.4153	0.4104	0.4375
External	7/16-27 UNS	2A	0.0011	0.4364	0.4297	-	0.4123	0.4087	0.3923
Internal		2B		0.4060	0.3970		0.4181	0.4134	0.4375
External	7/16-28 UNEF	2A	0.0011	0.4364	0.4299	-	0.4132	0.4096	0.3838

Internal		2B		0.4070	0.3990		0.4189	0.4134	0.4375
External	7/16-28 UNEF	3A	0.0000	0.4375	0.4310	-	0.4143	0.4116	0.3949
Internal		3B		0.4051	0.3990		0.4178	0.4134	0.4375
External	7/16-32 UN	2A	0.0010	0.4365	0.4305	-	0.4162	0.4128	0.3993
Internal		2B		0.4110	0.4040		0.4216	0.4172	0.4375
External	7/16-32 UN	3A	0.0000	0.4375	0.4315	-	0.4172	0.4147	0.4003
Internal		3B		0.4094	0.4040		0.4205	0.4172	0.4375
External	1/2-12 UNS	2A	0.0016	0.4984	0.4870	-	0.4443	0.4389	0.3992
Internal		2B		0.4280	0.4100		0.4529	0.4459	0.5000
External	1/2-12 UNS	3A	0.0000	0.5000	0.4886	-	0.4459	0.4419	0.4008
Internal		3B		0.4223	0.4100		0.4511	0.4459	0.5000
External	1/2-13 UNC	1A	0.0015	0.4985	0.4822	-	0.4485	0.4411	0.4069
Internal		1B		0.4340	0.4170		0.4597	0.4500	0.5000
External	1/2-13 UNC	2A	0.0015	0.4985	0.4876	0.4822	0.4485	0.4435	0.4069
Internal		2B		0.4340	0.4170		0.4565	0.4500	0.5000
External	1/2-13 UNC	3A	0.0000	0.5000	0.4891	-	0.4500	0.4463	0.4084
Internal		3B		0.4284	0.4170		0.4548	0.4500	0.5000
External	1/2-14 UNS	2A	0.0015	0.4985	0.4882	-	0.4521	0.4471	0.4135
Internal		2B		0.4380	0.4230		0.4601	0.4536	0.5000
External	1/2-16 UN	2A	0.0000	0.4986	0.4892	-	0.4580	0.4533	0.4241
Internal		2B		0.4460	0.4320		0.4655	0.4594	0.5000
External	1/2-16 UN	3A	0.0000	0.5000	0.4906	-	0.4594	0.4559	0.4255

Internal		3B		0.4419	0.4320		0.4640	0.4594	0.5000
External	1/2-18 UNS	2A	0.0013	0.4987	0.4900	-	0.4626	0.4582	0.4326
Internal		2B		0.4530	0.4400		0.4697	0.4639	0.5000
External	1/2-20 UNF	1A	0.0013	0.4987	0.4865	-	0.4662	0.4392	0.4392
Internal		1B		0.4570	0.4460		0.4759	0.4675	0.5000
External	1/2-20 UNF	2A	0.0013	0.4987	0.4906	-	0.4662	0.4619	0.4392
Internal		2B		0.4570	0.4460		0.4731	0.4675	0.5000
External	1/2-20 UNF	3A	0.0000	0.5000	0.4919	-	0.4675	0.4643	0.4405
Internal		3B		0.4537	0.4460		0.4717	0.4675	0.5000
External	1/2-24 UNS	2A	0.0012	0.4988	0.4916	-	0.4717	0.4678	0.4492
Internal		2B		0.4650	0.4550		0.4780	0.4729	0.5000
External	1/2-27 UNS	2A	0.0011	0.4989	0.4922	-	0.4748	0.4711	0.4548
Internal		2B		0.4690	0.4600		0.4807	0.4759	0.5000
External	1/2-28 UNEF	2A	0.0011	0.4989	0.4924	-	0.4757	0.4720	0.4563
Internal		2B		0.4700	0.4610		0.4816	0.4768	0.5000
External	1/2-28 UNEF	3A	0.0000	0.5000	0.4935	-	0.4768	0.4740	0.4574
Internal		3B		0.4676	0.4610		0.4804	0.4768	0.5000
External	1/2-32 UN	2A	0.0010	0.4990	0.4930	-	0.4787	0.4752	0.4618
Internal		2B		0.4740	0.4660		0.4842	0.4797	0.5000
External	1/2-32 UN	3A	0.0000	0.5000	0.4940	-	0.4797	0.4771	0.4628
Internal		3B		0.4719	0.4660	0.4797	0.4831		0.5000
External	9/16-12 UNC	1A	0.0016	0.5609	0.5437	-	0.5068	0.4990	0.4617
Internal		1B		0.4900	0.4720		0.5186	0.5084	0.5625

External	9/16-12 UNC	2A	0.0016	0.5609	0.5495	0.5437	0.5068	0.5016	0.4617
Internal		2B		0.4900	0.4720		0.5152	0.5084	0.5625
External	9/16-12 UNC	3A	0.0000	0.5625	0.5511	-	0.5084	0.5045	0.4633
Internal		3B		0.4843	0.4720		0.5135	0.5084	0.5625
External	9/16-14 UNS	2A	0.0015	0.5610	0.5507	-	0.5146	0.5096	0.4760
Internal		2B		0.5010	0.4850		0.5226	0.5161	0.5625
External	9/16-16 UN	2A	0.0014	0.5611	0.5517	-	0.5205	0.5158	0.4866
Internal		2B		0.5090	0.4950		0.5280	0.5219	0.5625
External	9/16-16 UN	3A	0.0000	0.5625	0.5531	-	0.5219	0.5184	0.4880
Internal		3B		0.5040	0.4950		0.5265	0.5219	0.5625
External	9/16-18 UNF	1A	0.0014	0.5611	0.5480	-	0.5250	0.5182	0.4950
Internal		1B		0.5150	0.5020		0.5353	0.5264	0.5625
External	9/16-18 UNF	2A	0.0014	0.5611	0.5524	-	0.5250	0.5205	0.4950
Internal		2B		0.5150	0.5020		0.5323	0.5264	0.5625
External	9/16-18 UNF	3A	0.0000	0.5625	0.5538	-	0.5264	0.5230	0.4964
Internal		3B		0.5106	0.5020		0.5308	0.5264	0.5625
External	9/16-20 UN	2A	0.0013	0.5612	0.5531	-	0.5287	0.5245	0.5017
Internal		2B		0.5200	0.5080		0.5355	0.5300	0.5625
External	9/16-20 UN	3A	0.0000	0.5625	0.5544	-	0.5300	0.5268	0.5030
Internal		3B		0.5162	0.5080		0.5341	0.5300	0.5625
External	9/16-24 UNEF	2A	0.0012	0.5613	0.5541	-	0.5342	0.5303	0.5117
Internal		2B		0.5270	0.5170		0.5405	0.5354	0.5625
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External	UNEF	3A	0.0000	0.5625	0.5553	-	0.5354	0.5325	0.5129
Internal		3B		0.5244	0.5170		0.5392	0.5354	0.5625
External	9/16-27 UNS	2A	0.0011	0.5614	0.5547	-	0.5373	0.5336	0.5173
Internal		2B		0.5310	0.5220		0.5432	0.5384	0.5625
External	9/16-28 UN	2A	0.0011	0.5614	0.5549	-	0.5382	0.5345	0.5188
Internal		2B		0.5320	0.5240		0.5441	0.5393	0.5625
External	9/16-28 UN	3A	0.0000	0.5625	0.5560	-	0.5393	0.5365	0.5199
Internal		3B		0.5301	0.5240		0.5429	0.5393	0.5625
External	9/16-32 UN	2A	0.0010	0.5615	0.5555	-	0.5412	0.5377	0.5243
Internal		2B		0.5360	0.5290		0.5467	0.5422	0.5625
External	9/16-32 UN	3A	0.0000	0.5625	0.5565	-	0.5422	0.5396	0.5253
Internal		3B		0.5344	0.5290		0.5456	0.5422	0.5625
External	5/8-11 UNC	1A	0.0016	0.6234	0.6052	-	0.5644	0.5561	0.5152
Internal		1B		0.5460	0.5270		0.5767	0.5660	0.6250
External	5/8-11 UNC	2A	0.0016	0.6234	0.6113	0.6052	0.5644	0.5589	0.5152
Internal		2B		0.5460	0.5270		0.5732	0.5660	0.6250
External	5/8-11 UNC	3A	0.0000	0.6250	0.6129	-	0.5660	0.5619	0.5168
Internal		3B		0.5391	0.5270		0.5714	0.5660	0.6250
External	5/8-12 UN	2A	0.0016	0.6234	0.6120	-	0.5693	0.5639	0.5242
Internal		2B		0.5530	0.5350		0.5780	0.5709	0.6250
External	5/8-12 UN	3A	0.0000	0.6250	0.6136	-	0.5709	0.5668	0.5258
Internal		3B		0.5463	0.5350		0.5762	0.5709	0.6250
External	5/8-14 UNS	2A	0.0015	0.6235	0.6132	-	0.5771	0.5720	0.5385

Internal		2B		0.5640	0.5480		0.5852	0.5786	0.6250
External	5/8-16 UN	2A	0.0014	0.6236	0.6142	-	0.5830	0.5782	0.5491
Internal		2B		0.5710	0.5570		0.5906	0.5844	0.6250
External	5/8-16 UN	3A	0.0000	0.6250	0.6156	-	0.5844	0.5808	0.5505
Internal		3B		0.5662	0.5570		0.5890	0.5844	0.6250
External	5/8-18 UNF	1A	0.0014	0.6236	0.6105	-	0.5875	0.5805	0.5575
Internal		1B		0.5780	0.5650		0.5980	0.5889	0.6250
External	5/8-18 UNF	2A	0.0014	0.6236	0.6149	-	0.5875	0.5828	0.5575
Internal		2B		0.5780	0.5650		0.5949	0.5889	0.6250
External	5/8-18 UNF	3A	0.0000	0.6250	0.6163	-	0.5889	0.5854	0.5589
Internal		3B		0.5730	0.5650		0.5934	0.5889	0.6250
External	5/8-18 UNF	3A	0.0000	0.6250	0.6163	-	0.5889	0.5854	0.5589
Internal		3B		0.5730	0.5650		0.5934	0.5889	0.6250
External	5/8-20 UN	2A	0.0013	0.6237	0.6156	-	0.5912	0.5869	0.5642
Internal		2B		0.5820	0.5710		0.5981	0.5925	0.6250
External	5/8-20 UN	3A	0.0000	0.6250	0.6169	-	0.5925	0.5893	0.5655
Internal		3B		0.5787	0.5710		0.5967	0.5925	0.6250
External	5/8-24 UNEF	2A	0.0012	0.6238	0.6166	-	0.5967	0.5927	0.5742
Internal		2B		0.5900	0.5800		0.6031	0.5979	0.6250
External	5/8-24 UNEF	3A	0.0000	0.6250	0.6178	-	0.5979	0.5949	0.5754
Internal		3B		0.5869	0.5800		0.6018	0.5979	0.6250
External	5/8-27 UNS	2A	0.0011	0.6239	0.6172	-	0.5998	0.5960	0.5798
Internal		2B		0.5940	0.5850		0.6059	0.6009	0.6250

External	5/8-28 UN	2A	0.0011	0.6239	0.6174	-	0.6007	0.5969	0.5813
Internal		2B		0.5950	0.5860		0.6067	0.6018	0.6250
External	5/8-28 UN	3A	0.0000	0.6250	0.6185	-	0.6018	0.5990	0.5824
Internal		3B		0.5926	0.5860		0.6055	0.6018	0.6250
External	5/8-32 UN	2A	0.0011	0.6239	0.6179	-	0.6036	0.6000	0.5867
Internal		2B		0.5990	0.5910		0.6093	0.6047	0.6250
External	5/8-32 UN	3A	0.0000	0.6250	0.6190	-	0.6047	0.6020	0.5878
Internal		3B		0.5969	0.5910		0.6082	0.6047	0.6250
External	11/16-12 UN	2A	0.0016	0.6859	0.6745	-	0.6318	0.6264	0.5867
Internal		2B		0.6150	0.5970		0.6405	0.6334	0.6875
External	11/16-12 UN	3A	0.0000	0.6875	0.6761	-	0.6334	0.6293	0.5883
Internal		3B		0.6085	0.5970		0.6387	0.6334	0.6875
External	11/16-16 UN	2A	0.0014	0.6861	0.6767	-	0.6455	0.6407	0.6116
Internal		2B		0.6340	0.6200		0.6531	0.6469	0.6875
External	11/16-16 UN	3A	0.0000	0.6875	0.6781	-	0.6469	0.6433	0.6130
Internal		3B		0.6284	0.6200		0.6515	0.6469	0.6875
External	11/16-20 UN	2A	0.0013	0.6862	0.6781	-	0.6537	0.6494	0.6267
Internal		2B		0.6450	0.6330		0.6606	0.6550	0.6875
External	11/16-20 UN	3A	0.0000	0.6875	0.6794	-	0.6550	0.6518	0.6280
Internal		3B		0.6412	0.6330		0.6592	0.6550	0.6875
External	11/16-24 UNEF	2A	0.0012	0.6863	0.6791	-	0.6592	0.6552	0.6367
Internal		2B		0.6520	0.6420		0.6656	0.6604	0.6875
	11/16-24								



External	UNEF	3A	0.0000	0.6875	0.6803	-	0.6604	0.6574	0.6379
Internal		3B		0.6494	0.6420		0.6643	0.6604	0.6875
External	11/16-28 UN	2A	0.0011	0.6864	0.6799	-	0.6632	0.6594	0.6438
Internal		2B		0.6570	0.6490		0.6692	0.6643	0.6875
External	11/16-28 UN	3A	0.0000	0.6875	0.6810	-	0.6643	0.6615	0.6449
Internal		3B		0.6551	0.6490		0.6680	0.6643	0.6875
External	11/16-32 UN	2A	0.0011	0.6864	0.6804	-	0.6661	0.6625	0.6492
Internal		2B		0.6610	0.6540		0.6718	0.6672	0.6875
External	11/16-32 UN	3A	0.0000	0.6875	0.6815	-	0.6672	0.6645	0.6503
Internal		3B		0.6594	0.6540		0.6707	0.6672	0.6875
External	3/4-10 UNC	1A	0.0018	0.7482	0.7288	-	0.6832	0.6744	0.6291
Internal		1B		0.6630	0.6420		0.6965	0.6850	0.7500
External	3/4-10 UNC	2A	0.0018	0.7482	0.7353	0.7288	0.6832	0.6773	0.6291
Internal		2B		0.6630	0.6420		0.6927	0.6850	0.7500
External	3/4-10 UNC	3A	0.0000	0.7500	0.7371	-	0.6850	0.6806	0.6309
Internal		3B		0.6545	0.6420		0.6907	0.6850	0.7500
External	3/4-12 UN	2A	0.0017	0.7483	0.7369	-	0.6942	0.6887	0.6491
Internal		2B		0.6780	0.6600		0.7031	0.6959	0.7500
External	3/4-12 UN	3A	0.0000	0.7500	0.7386	-	0.6959	0.6918	0.6508
Internal		3B		0.6707	0.6600		0.7103	0.6959	0.7500
External	3/4-14 UNS	2A	0.0015	0.7485	0.7382	-	0.7021	0.6970	0.6635
Internal		2B		0.6880	0.6730		0.7103	0.7036	0.7500
External	3/4-16 UNF	1A	0.0015	0.7485	0.7343	-	0.7079	0.7004	0.6740

Internal		1B		0.6960	0.6820		0.7192	0.7094	0.7500
External	3/4-16 UNF	2A	0.0015	0.7485	0.7391	-	0.7079	0.7029	0.6740
Internal		2B		0.6960	0.6820		0.7159	0.7094	0.7500
External	3/4-16 UNF	3A	0.0000	0.7500	0.7406	-	0.7094	0.7056	0.6755
Internal		3B		0.6908	0.6820		0.7143	0.7094	0.7500
External	3/4-18 UNS	2A	0.0014	0.7486	0.7399	-	0.7125	0.7079	0.6825
Internal		2B		0.7030	0.6900		0.7199	0.7139	0.7500
External	3/4-20 UNEF	2A	0.0013	0.7487	0.7406	-	0.7162	0.7118	0.6892
Internal		2B		0.7070	0.6960		0.7232	0.7175	0.7500
External	3/4-20 UNEF	3A	0.0000	0.7500	0.7419	-	0.7175	0.7142	0.6905
Internal		3B		0.7037	0.6960		0.7218	0.7175	0.7500
External	3/4-24 UNS	2A	0.0012	0.7488	0.7416	-	0.7217	0.7176	0.6992
Internal		2B		0.7150	0.7050		0.7282	0.7229	0.7500
External	3/4-27 UNS	2A	0.0012	0.7488	0.7421	-	0.7247	0.7208	0.7047
Internal		2B		0.7190	0.7100		0.7310	0.7259	0.7500
External	3/4-28 UN	2A	0.0012	0.7488	0.7423	-	0.7256	0.7218	0.7062
Internal		2B		0.7200	0.7110		0.7318	0.7268	0.7500
External	3/4-28 UN	3A	0.0000	0.7500	0.7435	-	0.7268	0.7239	0.7074
Internal		3B		0.7176	0.7110		0.7305	0.7268	0.7500
External	3/4-32 UN	2A	0.0011	0.7489	0.7429	-	0.7286	0.7250	0.7114
Internal		2B		0.7240	0.7160		0.7344	0.7297	0.7500
External	3/4-32 UN	3A	0.0000	0.7500	0.7440	-	0.7297	0.7270	0.7128
Internal		3B		0.7219	0.7160		0.7333	0.7297	0.7500

External	13/16-12 UN	2A	0.0017	0.8108	0.7994	-	0.7567	0.7512	0.7116
Internal		2B		0.7400	0.7220		0.7656	0.7584	0.8125
External	13/16-12 UN	3A	0.0000	0.8125	0.8011	-	0.7584	0.7543	0.7133
Internal		3B		0.7329	0.7220		0.7638	0.7584	0.8125
External	13/16-16 UN	2A	0.0015	0.8110	0.8016	-	0.7704	0.7655	0.7365
Internal		2B		0.7590	0.7450		0.7782	0.7719	0.8125
External	13/16-16 UN	3A	0.0000	0.8125	0.8031	-	0.7719	0.7683	0.7380
Internal		3B		0.7533	0.7450		0.7766	0.7719	0.8125
External	13/16-20 UNEF	2A	0.0013	0.8112	0.8031	-	0.7787	0.7743	0.7517
Internal		2B		0.7700	0.7580		0.7857	0.7800	0.8125
External	13/16-20 UNEF	3A	0.0000	0.8125	0.8044	-	0.7800	0.7767	0.7530
Internal		3B		0.7662	0.7580		0.7843	0.7800	0.8125
External	13/16-28 UN	2A	0.0012	0.8113	0.8048	-	0.7881	0.7843	0.7687
Internal		2B		0.7820	0.7740		0.7943	0.7893	0.8125
External	13/16-28 UN	3A	0.0000	0.8125	0.8060	-	0.7893	0.7864	0.7699
Internal		3B		0.7801	0.7740		0.7930	0.7893	0.8125
External	13/16-32 UN	2A	0.0011	0.8114	0.8054	-	0.7911	0.7875	0.7742
Internal		2B		0.7860	0.7790		0.7969	0.7922	0.8125
External	13/16-32 UN	3A	0.0000	0.8125	0.8065	-	0.7922	0.7895	0.7753
Internal		3B		0.7844	0.7790		0.7958	0.7922	0.8125
External	7/8-9 UNC	1A	0.0019	0.8731	0.8523	-	0.8009	0.7914	0.7408
Internal		1B		0.7780	0.7550		0.8151	0.8028	0.8750

External	7/8-9 UNC	2A	0.0019	0.8731	0.8592	0.8523	0.8009	0.7946	0.7408
Internal		2B		0.7780	0.7550		0.8110	0.8028	0.8750
External	7/8-9 UNC	3A	0.0000	0.8750	0.8611	-	0.8028	0.7981	0.7427
Internal		3B		0.7681	0.7550		0.8089	0.8028	0.8750
External	7/8-10 UNS	2A	0.0018	0.8732	0.8603	-	0.8082	0.8022	0.7542
Internal		2B		0.7880	0.7670		0.8178	0.8100	0.8750
External	7/8-12 UN	2A	0.0017	0.8733	0.8619	-	0.8192	0.8137	0.7741
Internal		2B		0.8030	0.7850		0.8281	0.8209	0.8750
External	7/8-12 UN	3A	0.0000	0.8750	0.8636	-	0.8209	0.8168	0.7758
Internal		3B		0.7948	0.7850		0.8263	0.8209	0.8750
External	7/8-14 UNF	1A	0.0016	0.8734	0.8579	-	0.8270	0.8189	0.7884
Internal		1B		0.8140	0.7980		0.8392	0.8286	0.8750
External	13/16-12 UN	2A	0.0017	0.8108	0.7994	-	0.7567	0.7512	0.7116
Internal		2B		0.7400	0.7220		0.7656	0.7584	0.8125
External	13/16-12 UN	3A	0.0000	0.8125	0.8011	-	0.7584	0.7543	0.7133
Internal		3B		0.7329	0.7220		0.7638	0.7584	0.8125
External	13/16-16 UN	2A	0.0015	0.8110	0.8016	-	0.7704	0.7655	0.7365
Internal		2B		0.7590	0.7450		0.7782	0.7719	0.8125
External	13/16-16 UN	3A	0.0000	0.8125	0.8031	-	0.7719	0.7683	0.7380
Internal		3B		0.7533	0.7450		0.7766	0.7719	0.8125
External	13/16-20 UNEF	2A	0.0013	0.8112	0.8031	-	0.7787	0.7743	0.7517
Internal		2B		0.7700	0.7580		0.7857	0.7800	0.8125

External	13/16-20 UNEF	3A	0.0000	0.8125	0.8044	-	0.7800	0.7767	0.7530
Internal		3B		0.7662	0.7580		0.7843	0.7800	0.8125
External	13/16-28 UN	2A	0.0012	0.8113	0.8048	-	0.7881	0.7843	0.7687
Internal		2B		0.7820	0.7740		0.7943	0.7893	0.8125
External	13/16-28 UN	3A	0.0000	0.8125	0.8060	-	0.7893	0.7864	0.7699
Internal		3B		0.7801	0.7740		0.7930	0.7893	0.8125
External	13/16-32 UN	2A	0.0011	0.8114	0.8054	-	0.7911	0.7875	0.7742
Internal		2B		0.7860	0.7790		0.7969	0.7922	0.8125
External	13/16-32 UN	3A	0.0000	0.8125	0.8065	-	0.7922	0.7895	0.7753
Internal		3B		0.7844	0.7790		0.7958	0.7922	0.8125
External	7/8-9 UNC	1A	0.0019	0.8731	0.8523	-	0.8009	0.7914	0.7408
Internal		1B		0.7780	0.7550		0.8151	0.8028	0.8750
External	7/8-9 UNC	2A	0.0019	0.8731	0.8592	0.8523	0.8009	0.7946	0.7408
Internal		2B		0.7780	0.7550		0.8110	0.8028	0.8750
External	7/8-9 UNC	3A	0.0000	0.8750	0.8611	-	0.8028	0.7981	0.7427
Internal		3B		0.7681	0.7550		0.8089	0.8028	0.8750
External	7/8-10 UNS	2A	0.0018	0.8732	0.8603	-	0.8082	0.8022	0.7542
Internal		2B		0.7880	0.7670		0.8178	0.8100	0.8750
External	7/8-12 UN	2A	0.0017	0.8733	0.8619	-	0.8192	0.8137	0.7741
Internal		2B		0.8030	0.7850		0.8281	0.8209	0.8750
External	7/8-12 UN	3A	0.0000	0.8750	0.8636	-	0.8209	0.8168	0.7758
Internal		3B		0.7948	0.7850		0.8263	0.8209	0.8750
External	7/8-14 UNF	1A	0.0016	0.8734	0.8579	-	0.8270	0.8189	0.7884

Internal		1B		0.8140	0.7980		0.8392	0.8286	0.8750
External	7/8-14 UNF	2A	0.0016	0.8734	0.8631	-	0.8270	0.8216	0.7884
Internal		2B		0.8140	0.7980		0.8356	0.8286	0.8750
External	7/8-14 UNF	3A	0.0000	0.8750	0.8647	-	0.8286	0.8245	0.7900
Internal		3B		0.8068	0.7980		0.8339	0.8286	0.8750
External	7/8-16 UN	2A	0.0015	0.8735	0.8641	-	0.8329	0.8280	0.7900
Internal		2B		0.8210	0.8070		0.8407	0.8344	0.8750
External	7/8-16 UN	3A	0.0000	0.8750	0.8656	-	0.8344	0.8308	0.8005
Internal		3B		0.8158	0.8070		0.8391	0.8344	0.8750
External	7/8-18 UNS	2A	0.0014	0.8736	0.8649	-	0.8375	0.8329	0.8075
Internal		2B		0.8280	0.8150		0.8449	0.8389	0.8750
External	7/8-20 UNEF	2A	0.0013	0.8737	0.8656	-	0.8412	0.8368	0.8142
Internal		2B		0.8320	0.8210		0.8482	0.8425	0.8750
External	7/8-20 UNEF	3A	0.0000	0.8750	0.8669	-	0.8425	0.8392	0.8155
Internal		3B		0.8287	0.8210		0.8468	0.8425	0.8750
External	7/8-24 UNS	2A	0.0012	0.8738	0.8666	-	0.8467	0.8426	0.8242
Internal		2B		0.8400	0.8300		0.8532	0.8479	0.8750
External	7/8-27 UNS	2A	0.0012	0.8738	0.8671	-	0.8497	0.8458	0.8297
Internal		2B		0.8440	0.8350		0.8560	0.8509	0.8750
External	7/8-28 UN	2A	0.0012	0.8738	0.8673	-	0.8506	0.8468	0.8312
Internal		2B		0.8450	0.8360		0.8568	0.8518	0.8750
External	7/8-28 UN	3A	0.0000	0.8750	0.8685	-	0.8518	0.8489	0.8324
Internal		3B		0.8426	0.8360		0.8555	0.8518	0.8750

External	7/8-32 UN	2A	0.0011	0.8739	0.8679	-	0.8536	0.8500	0.8367
Internal		2B		0.8490	0.8410		0.8594	0.8547	0.8750
External	7/8-32 UN	3A	0.0000	0.8750	0.8690	-	0.8547	0.8520	0.8378
Internal		3B		0.8469	0.8410		0.8583	0.8547	0.8750
External	15/16-12 UN	2A	0.0017	0.9358	0.9244	-	0.8817	0.8760	0.8366
Internal		2B		0.8650	0.8470		0.8908	0.8834	0.9375
External	15/16-12 UN	3A	0.0000	0.9375	0.9261	-	0.8834	0.8793	0.8383
Internal		3B		0.8575	0.8470		0.8889	0.8834	0.9375
External	15/16-16 UN	2A	0.0015	0.9360	0.9266	-	0.8954	0.8904	0.8615
Internal		2B		0.8840	0.8700		0.9034	0.8969	0.9375
External	15/16-16 UN	3A	0.0000	0.9375	0.9281	-	0.8969	0.8932	0.8630
Internal		3B		0.8783	0.8700		0.9018	0.8969	0.9375
External	15/16-20 UNEF	2A	0.0014	0.9361	0.9280	-	0.9036	0.8991	0.8766
Internal		2B		0.8950	0.8830		0.9109	0.9050	0.9375
External	15/16-20 UNEF	3A	0.0000	0.9375	0.9294	-	0.9050	0.9016	0.8780
Internal		3B		0.8912	0.8830		0.9094	0.9050	0.9375
External	15/16-28 UN	2A	0.0012	0.9363	0.9298	-	0.9131	0.9091	0.8937
Internal		2B		0.9070	0.8990		0.9195	0.9143	0.9375
External	15/16-28 UN	3A	0.0000	0.9375	0.9310	-	0.9143	0.9113	0.8949
Internal		3B		0.9051	0.8990		0.9182	0.9143	0.9375
External	15/16-32 UN	2A	0.0011	0.9364	0.9304	-	0.9161	0.9123	0.8992
Internal		2B		0.9110	0.9040		0.9221	0.9172	0.9375

External	15/16-32 UN	3A	0.0000	0.9375	0.9315	-	0.9172	0.9144	0.9003
Internal		3B		0.9094	0.9040		0.9209	0.9172	0.9375
External	1-8 UNC	1A	0.0020	0.9980	0.9755	-	0.9168	0.9067	0.8492
Internal		1B		0.8900	0.8650		0.9320	0.9188	1.0000
External	1-8 UNC	2A	0.0020	0.9980	0.9830	0.9755	0.9168	0.9100	0.8492
Internal		2B		0.8900	0.8650		0.9276	0.9188	1.0000
External	1-8 UNC	3A	0.0000	1.0000	0.9850	-	0.9188	0.9137	0.8512
Internal		3B		0.8797	0.8650		0.9254	0.9188	1.0000
External	1-10 UNS	2A	0.0018	0.9982	0.9853	-	0.9332	0.9270	0.8792
Internal		2B		0.9130	0.8920		0.9430	0.9350	1.0000
External	1-12 UNF	1A	0.0018	0.9982	0.9810	-	0.9441	0.9353	0.8990
Internal		1B		0.9280	0.9100		0.9573	0.9459	1.0000
External	1-12 UNF	2A	0.0018	0.9982	0.9868	-	0.9441	0.9382	0.8990
Internal		2B		0.9280	0.9100		0.9535	0.9459	1.0000
External	1-12 UNF	3A	0.0000	1.0000	0.9886	-	0.9459	0.9415	0.9008
Internal		3B		0.9198	0.9100		0.9516	0.9459	1.0000
External	1-14UNS	1A	0.0017	0.9983	0.9828	-	0.9519	0.9435	0.9132
Internal		1B		0.9380	0.9230		0.9645	0.9536	1.0000
External	1-14UNS	2A	0.0017	0.9983	0.9880	-	0.9519	0.9463	0.9132
Internal		2B		0.9380	0.9230		0.9609	0.9536	1.0000
External	1-14UNS	3A	0.0000	1.0000	0.9897	-	0.9536	0.9494	0.9149
Internal		3B		0.9315	0.9230		0.9590	0.9536	1.0000
External	1-16 UN	2A	0.0015	0.9985	0.9891	-	0.9579	0.9529	0.9240



Internal		2B		0.9460	0.9320		0.9659	0.9594	1.0000
External	1-16 UN	3A	0.0000	1.0000	0.9906	-	0.9594	0.9557	0.9255
Internal		3B		0.9408	0.9320		0.9643	0.9594	1.0000
External	1-18 UNS	2A	0.0014	0.9986	0.9899	-	0.9625	0.9578	0.9325
Internal		2B		0.9530	0.9400		0.9701	0.9639	1.0000
External	1-20 UNEF	2A	0.0014	0.9986	0.9905	-	0.9661	0.9616	0.9391
Internal		2B		0.9570	0.9460		0.9734	0.9675	1.0000
External	1-20 UNEF	3A	0.0000	1.0000	0.9919	-	0.9675	0.9641	0.9405
Internal		3B		0.9537	0.9460		0.9719	0.9675	1.0000
External	1-24 UNS	2A	0.0013	0.9987	0.9915	-	0.9716	0.9674	0.9491
Internal		2B		0.9650	0.9550		0.9784	0.9729	1.0000
External	1-27 UNS	2A	0.0012	0.9988	0.9921	-	0.9747	0.9707	0.9547
Internal		2B		0.9690	0.9600		0.9811	0.9759	1.0000
External	1-28 UN	2A	0.0012	0.9988	0.9923	-	0.9756	0.9716	0.9562
Internal		2B		0.9700	0.9610		0.9820	0.9768	1.0000
External	1-28 UN	3A	0.0000	1.0000	0.9935	-	0.9768	0.9738	0.9574
Internal		3B		0.9676	0.9610		0.9807	0.9768	1.0000
External	1-32 UN	2A	0.0011	0.9989	0.9929	-	0.9786	0.9748	0.9617
Internal		2B		0.9740	0.9660		0.9846	0.9797	1.0000
External	1-32 UN	3A	0.0000	1.0000	0.9940	-	0.9797	0.9769	0.9628
Internal		3B		0.9719	0.9660		0.9834	0.9797	1.0000
External	11/16-8 UN	2A	0.0020	1.0605	1.0455	-	0.9793	0.9725	0.9117
Internal		2B		0.9520	0.9270		0.9902	0.9813	1.0625

External	11/16-8 UN	3A	0.0000	1.0625	1.0475	-	0.9813	0.9762	0.9137
Internal		3B		0.9422	0.9270		0.9880	0.9813	1.0625
External	11/16-12 UN	2A	0.0017	1.0608	1.0494	-	1.0067	1.0010	0.9616
Internal		2B		0.9900	0.9720		1.0158	1.0084	1.0625
External	11/16-12 UN	3A	0.0000	1.0625	1.0511	-	1.0084	1.0042	0.9633
Internal		3B		0.9823	0.9720		1.0139	1.0084	1.0625
External	11/16-16 UN	2A	0.0015	1.0610	1.0516	-	1.0204	1.0154	0.9865
Internal		2B		1.0090	0.9950		1.0284	1.0219	1.0625
External	11/16-16 UN	3A	0.0000	1.0625	1.0531	-	1.0219	1.0182	0.9880
Internal		3B		1.0033	0.9950		1.0268	1.0264	1.0625
External	11/16-18 UNEF	2A	0.0014	1.0611	1.0524	-	1.0250	1.0203	0.9950
Internal		2B		1.0150	1.0020		1.0326	1.0264	1.0625
External	11/16-18 UNEF	3A	0.0000	1.0625	1.0538	-	1.0264	1.0228	0.9964
Internal		3B		1.0105	1.0020		1.0310	1.0264	1.0625
External	11/16-20 UN	2A	0.0014	1.0611	1.0530	-	1.0286	1.0241	1.0016
Internal		2B		1.0200	1.0080		1.0359	1.0300	1.0625
External	11/16-20 UN	3A	0.0000	1.0625	1.0544	-	1.0300	1.0266	1.0030
Internal		3B		1.0162	1.0080		1.0344	1.0300	1.0625
External	11/16-28 UN	2A	0.0012	1.0613	1.0548	-	1.0381	1.0341	1.0187
Internal		2B		1.0320	1.0240		1.0445	0.0393	1.0625
External	11/16-28 UN	3A	0.0000	1.0625	0.0560	-	1.0393	1.0363	1.0199
Internal		3B		1.0301	1.0240		1.0432	1.0393	1.0625

External	11/8-7 UNC	1A	0.0022	1.1228	1.0982	-	1.0300	1.0191	0.9527
Internal		1B		0.9980	0.9700		1.0416	1.0322	1.1250
External	11/8-7 UNC	2A	0.0022	1.1228	1.1064	1.0982	1.0300	1.0228	0.9527
Internal		2B		0.9980	0.9700		1.0393	1.0322	1.1250
External	11/8-7 UNC	3A	0.0000	1.1250	1.1086	-	1.0322	1.0268	0.9549
Internal		3B		0.9875	0.9700		0.9645	1.0322	1.1250
External	11/8-8 UN	2A	0.0021	1.1229	1.1079	1.1004	1.0417	1.0348	0.9741
Internal		2B		1.0150	0.9900		1.0528	1.0438	1.1250
External	11/8-8 UN	3A	0.0000	1.1250	1.1100	-	1.0438	1.0386	0.9762
Internal		3B		1.0047	0.9900		1.0505	1.0438	1.1250
External	11/8-10 UNS	2A	0.0018	1.1232	1.1103	-	1.0582	1.0520	1.0042
Internal		2B		1.0380	1.0170		1.0680	1.0600	1.1250
External	11/8-12 UNF	1A	0.0018	1.1232	1.1060	-	1.0691	1.0601	1.0240
Internal		1B		1.0530	1.0350		1.0826	1.0709	1.1250
External	11/8-12 UNF	2A	0.0018	1.1232	1.1118	-	1.0691	1.0631	1.0240
Internal		2B		1.0530	1.0350		1.0787	1.0709	1.1250
External	11/8-12 UNF	3A	0.0000	1.1250	1.1136	-	1.0709	1.0664	1.0258
Internal		3B		1.0448	1.0350		1.0768	1.0709	1.1250
External	11/8-14 UNS	2A	0.0016	1.1234	1.1131	-	1.0770	1.0717	1.0384
Internal		2B		1.0640	1.0480		1.0855	1.0786	1.1250
External	11/8-16 UN	2A	0.0015	1.1235	1.1141	-	1.0829	1.0779	1.0490
Internal		2B		1.0710	1.0570		1.0909	1.0844	1.1250
External	11/8-16 UN	3A	0.0000	1.1250	1.1156	-	1.0844	1.0807	1.0505

Internal		2B		1.0658	1.0570		1.0893	1.0844	1.1250
External	11/8-18 UNEF	2A	0.0014	1.1236	1.1149	-	1.0875	1.0828	1.0575
Internal		2B		1.0780	1.0650		1.0951	1.0889	1.1250
External	11/8-18 UNEF	3A	0.0000	1.1250	1.1163	-	1.0889	1.0853	1.0589
Internal		3B		1.0730	1.0650		1.0935	1.0889	1.1250
External	11/8-20 UN	2A	0.0014	1.1236	1.1155	-	1.0911	1.0866	1.0641
Internal		2B		1.0820	1.0710		1.0984	1.0925	1.1250
External	11/8-20 UN	3A	0.0000	1.1250	1.1169	-	1.0925	1.0891	1.0655
Internal		3B		1.0787	1.0710		1.0969	1.0925	1.1250
External	11/8-24 UNS	2A	0.0013	1.1237	1.1165	-	1.0966	1.0924	1.0742
Internal		2B		1.0900	1.0800		1.1034	1.0979	1.1250
External	11/8-28 UN	2A	0.0012	1.1238	1.1173	-	1.1006	1.0966	1.0812
Internal		2B		1.0950	1.0860		1.1070	1.1018	1.1250
External	11/8-28 UN	3A	0.0000	1.1250	1.1185	-	1.1018	1.0988	1.0824
Internal		3B		1.0926	1.0860		1.1057	1.1018	1.1250
External	13/16-8 UN	2A	0.0021	1.1854	1.1704	-	1.1042	1.0972	1.0366
Internal		2B		1.0770	1.0520		1.1154	1.1063	1.1875
External	13/16-8 UN	3A	0.0000	1.1875	1.1725	-	1.1063	1.1011	1.0387
Internal		3B		1.0672	1.0520		1.1131	1.1063	1.1875
External	13/16-12 UN	2A	1.0017	1.1858	1.1744	-	1.1317	1.1259	1.0866
Internal		2B		1.1150	1.0970		1.1409	1.1334	1.1875
External	13/16-12 UN	3A	0.0000	1.1872	1.1761	-	1.1334	1.1291	1.0883
Internal		3B		1.1073	1.0970		1.1390	1.1334	1.1875

External	13/16-16 UN	2A	0.0015	1.1860	1.1766	-	1.1454	1.1403	1.1115
Internal		2B		1.1340	1.1200		1.1535	1.1469	1.1875
External	13/16-16 UN	3A	0.0000	1.1875	1.1781	-	1.1469	1.1431	1.1130
Internal		3B		1.1283	1.1200		1.1519	1.1469	1.1875
External	13/16-18 UNEF	2A	0.0015	1.1860	1.1773	-	1.1499	1.1450	1.1199
Internal		2B		1.1400	1.1270		1.1577	1.1514	1.1875
External	13/16-18 UNEF	3A	0.0000	1.1875	1.1788	-	1.1514	1.1478	1.1214
Internal		3B		1.1355	1.1270		1.1561	1.1514	1.1875
External	13/16-20 UN	2A	0.0014	1.1861	1.1780	-	1.1536	1.1489	1.1266
Internal		2B		1.1450	1.1330		1.1611	1.1550	1.1875
External	13/16-20 UN	3A	0.0000	1.1875	1.1794	-	1.1550	1.1515	1.1280
Internal		3B		1.1412	1.1330		1.1595	1.1550	1.1875
External	13/16-28 UN	2A	0.0012	1.1863	1.1798	-	1.1631	1.1590	1.1437
Internal		2B		1.1570	1.1490		1.1696	1.1643	1.1875
External	13/16-28 UN	3A	0.0000	1.1875	1.1810	-	1.1643	0.1612	1.1449
Internal		3B		1.1551	1.1490		1.1683	1.1643	1.1875
External	11/4-7 UNC	1A	0.0022	1.2478	1.2232	-	1.1550	1.1439	1.0777
Internal		1B		1.1230	1.0950		1.1716	1.1572	1.2500
External	11/4-7 UNC	2A	0.0022	1.2478	1.2314	1.2232	1.1550	1.1476	1.0777
Internal		2B		1.1230	1.0950		1.1668	1.1572	1.2500
External	11/4-7 UNC	3A	0.0000	1.2500	1.2336	-	1.1572	1.1517	1.0799
Internal		3B		1.1125	1.0950		1.1644	1.1572	1.2500

External	11/4-8 UN	2A	0.0021	1.2479	1.2329	1.2254	1.1667	1.1597	1.0991
Internal		2B		1.1400	1.1150		1.1780	1.1688	1.2500
External	11/4-8 UN	3A	0.0000	1.2500	1.2350	-	1.1688	1.1635	1.1012
Internal		3B		1.1297	1.1150		1.1757	1.1688	1.2500
External	11/4-10 UNS	2A	0.0019	1.2481	1.2352	-	1.1831	1.1768	1.1291
Internal		2B		1.1630	1.1420		1.1932	1.1850	1.2500
External	11/4-12 UNF	1A	0.0018	1.2482	1.2310	-	1.1941	1.1849	1.1490
Internal		1B		1.1780	1.1600		1.2079	1.1959	1.2500
External	11/4-12 UNF	2A	0.0018	1.2482	1.2368	-	1.1941	1.1879	1.1490
Internal		2B		1.1780	1.1600		1.2039	1.1959	1.2500
External	11/4-12 UNF	3A	0.0000	1.2500	1.2386	-	1.1959	1.1913	1.1508
Internal		3B		1.1698	1.1600		1.2019	1.1959	1.2500
External	11/4-14 UNS	2A	0.0016	1.2484	1.2381	-	1.2020	1.1966	1.1634
Internal		2B		1.1880	1.1730		1.2106	1.2036	1.2500
External	11/4-16 UN	2A	0.0015	1.2485	1.2391	-	1.2079	1.2028	1.1740
Internal		2B		1.1960	1.1820		1.2160	1.2094	1.2500
External	11/4-16 UN	3A	0.0000	1.2500	1.2406	-	1.2094	1.2056	1.1755
Internal		3B		1.1908	1.1820		1.2144	1.2094	1.2500
External	11/4-18 UNEF	2A	0.0015	1.2485	1.2398	-	1.2124	1.2075	1.1824
Internal		2B		1.2030	1.1900		1.2202	1.2139	1.2500
External	11/4-18 UNEF	3A	0.0000	1.2500	1.2413	-	1.2139	1.2103	1.1839
Internal		3B		1.1980	1.1900		1.2186	1.2139	1.2500
External	11/4-20 UN	2A	0.0014	1.2486	1.2405	-	1.2161	1.2114	1.1891

Internal		2B		1.2070	1.1960		1.2236	1.2175	1.2500
External	11/4-20 UN	3A	0.0000	1.2500	1.2419	-	1.2175	1.2140	1.1905
Internal		3B		1.2037	1.1960		1.2220	1.2175	1.2500
External	11/4-24 UNS	2A	0.0013	1.2487	1.2415	-	1.2216	1.2173	1.1991
Internal		2B		1.2150	1.2050		1.2285	1.2229	1.2500
External	11/4-28 UN	2A	0.0012	1.2488	1.2423	-	1.2256	1.2215	1.2062
Internal		2B		1.2200	1.2110		1.2321	1.2268	1.2500
External	11/4-28 UN	3A	0.0000	1.2435	1.2435	-	1.2268	1.2237	1.2074
Internal		3B		1.2176	1.2110		1.2308	1.2268	1.2500
External	15/16-8 UN	2A	0.0021	1.3104	1.2954	-	1.2292	1.2221	1.1616
Internal		2B		1.2020	1.1770		1.2405	1.2313	1.3125
External	15/16-8 UN	3A	0.0000	1.3125	1.2975	-	1.2313	1.2260	1.1637
Internal		3B		1.1922	1.1770		1.2382	1.2313	1.3125
External	15/16-12 UN	2A	0.0017	1.3108	1.2994	-	1.2567	1.2509	1.2116
Internal		2B		1.2400	1.2220		1.2659	1.2584	1.3125
External	15/16-12 UN	3A	0.0000	1.3125	1.3011	-	1.2584	1.2541	1.2133
Internal		3B		1.2323	1.2220		1.2640	1.2584	1.3125
External	15/16-16 UN	2A	0.0015	1.3110	1.3016	-	1.2704	1.2653	1.2365
Internal		2B		1.2590	1.2450		1.2785	1.2719	1.3125
External	15/16-16 UN	3A	0.0000	1.3125	1.3031	-	1.2719	1.2681	1.2380
Internal		3B		1.2533	1.2450		1.2769	1.2719	1.3125
External	15/16-18 UNEF	2A	0.0015	1.3110	1.3023	-	1.2749	1.2700	1.2449

Internal		2B		1.2650	1.2520		1.2827	1.2764	1.3125
External	15/16-18 UNEF	3A	0.0000	1.3125	1.3038	-	1.2764	1.2728	1.2464
Internal		3B		1.2605	1.2520		1.2811	1.2764	1.3125
External	15/16-20 UN	2A	0.0014	1.3111	1.3030	-	1.2786	1.2739	1.2516
Internal		2B		1.2700	1.2580		1.2861	1.2800	1.3125
External	15/16-20 UN	3A	0.0000	1.3125	1.3044	-	1.2800	1.2765	1.2530
Internal		3B		1.2662	1.2580		1.2845	1.2800	1.3125
External	15/16-28 UN	2A	0.0012	1.3113	1.3048	-	1.2881	1.2840	1.2687
Internal		2B		1.2820	1.2740		1.2946	1.2893	1.3125
External	15/16-28 UN	3A	0.0000	1.3125	1.3060	-	1.2893	1.2862	1.2699
Internal		3B		1.2801	1.2740		1.2933	1.2893	1.3125
External	13/8-6 UNC	1A	0.0024	1.3726	1.3453	-	1.2643	1.2523	1.1742
Internal		1B		1.2250	1.1950		1.2822	1.2667	1.3750
External	13/8-6 UNC	2A	0.0024	1.3726	1.3544	1.3453	1.2643	1.2563	1.1742
Internal		2B		1.2250	1.1950		1.2771	1.2667	1.3750
External	13/8-6 UNC	3A	0.0000	1.3750	1.3568	-	1.2667	1.2607	1.1766
Internal		3B		1.2146	1.1950		1.2745	1.2667	1.3750
External	13/8-8 UN	2A	0.0022	1.3728	1.3578	1.3503	1.2916	1.2844	1.2240
Internal		2B		1.2650	1.2400		1.3031	1.2938	1.3750
External	13/8-8 UN	3A	0.0000	1.3750	1.3600	-	1.2938	1.2884	1.2262
Internal		3B		1.2547	1.2400		1.3008	1.2938	1.3750
External	13/8-10 UNS	2A	0.0019	1.3731	1.3602	-	1.3081	1.3018	1.2541
Internal		2B		1.2880	1.2670		1.3182	1.3100	1.3750



External	13/8-12 UNF	1A	0.0019	1.3731	1.3559	-	1.3190	1.3096	1.2739
Internal		1B		1.3030	1.2850		1.3332	1.3209	1.3750
External	13/8-12 UNF	2A	0.0019	1.3731	1.3617	-	1.3190	1.3127	1.2739
Internal		2B		1.3030	1.2850		1.3291	1.3209	1.3750
External	13/8-12 UNF	3A	0.0000	1.3750	1.3636	-	1.3209	1.3162	1.2758
Internal		3B		1.2948	1.2850		1.3270	1.3209	1.3750
External	13/8-14 UNS	2A	0.0016	1.3734	1.3631	-	1.3270	1.3216	1.2884
Internal		2B		1.3140	1.2980		1.3356	1.3286	1.3750
External	13/8-16 UN	2A	0.0015	1.3735	1.3641	-	1.3329	1.3278	1.2990
Internal		2B		1.3210	1.3070		1.3410	1.3344	1.3750
External	13/8-16 UN	3A	0.0000	1.3750	1.3656	-	1.3344	1.3306	1.3005
Internal		3B		1.3158	1.3070		1.3394	1.3344	1.3750
External	13/8-18 UNEF	2A	0.0015	1.3735	1.3648	-	1.3374	1.3325	1.3074
Internal		2B		1.3280	1.3150		1.3452	1.3389	1.3750
External	13/8-18 UNEF	3A	0.0000	1.3750	1.3663	-	1.3389	1.3353	1.3089
Internal		3B		1.3230	1.3150		1.3436	1.3389	1.3750
External	13/8-20 UN	2A	0.0014	1.3736	1.3655	-	1.3411	1.3364	1.3141
Internal		2B		1.3320	1.3210		1.3486	1.3425	1.3750
External	13/8-20 UN	3A	0.0000	1.3750	1.3669	-	1.3425	1.3390	1.3155
Internal		3B		1.3287	1.3210		1.3470	1.3425	1.3750
External	13/8-24 UNS	2A	0.0013	1.3737	1.3665	-	1.3466	1.3423	1.3241
Internal		2B		1.3400	1.3300		1.3535	1.3479	1.3750

External	13/8-28 UN	2A	0.0012	1.3738	1.3673	-	1.3506	1.3465	1.3312
Internal		2B		1.3450	1.3360		1.3571	1.3518	1.3750
External	13/8-28 UN	3A	0.0000	1.3750	1.3685	-	1.3518	1.3487	1.3324
Internal		3B		1.3426	1.3360		1.3558	1.3518	1.3750
External	17/16-6 UN	2A	0.0024	1.4351	1.4169	-	1.3268	1.3188	1.2367
Internal		2B		1.2880	1.2570		1.3396	1.3292	1.4375
External	17/16-6 UN	3A	0.0000	1.4375	1.4193	-	1.3292	1.3232	1.2391
Internal		3B		1.2771	1.2570		1.3370	1.3292	1.4375
External	17/16-8 UN	2A	0.0022	1.4353	1.4203	-	1.3541	1.3469	1.2865
Internal		2B		1.3270	1.3020		1.3657	1.3563	1.4375
External	17/16-8 UN	3A	0.0000	1.4375	1.4225	-	1.3563	1.3509	1.2887
Internal		3B		1.3172	1.3020		1.3634	1.3563	1.4375
External	17/16-12 UN	2A	0.0018	1.4357	1.4243	-	1.3816	1.3757	1.3365
Internal		2B		1.3650	1.3470		1.3910	1.3834	1.4375
External	17/16-12 UN	3A	0.0000	1.4375	1.4261	-	1.3834	1.3790	1.3383
Internal		3B		1.3573	1.3470		1.3891	1.3834	1.4375
External	17/16-16 UN	2A	0.0016	1.4359	1.4265	-	1.3953	1.3901	1.3614
Internal		2B		1.3840	1.3700		1.4037	1.3969	1.4375
External	17/16-16 UN	3A	0.0000	1.4375	1.4281	-	1.3969	1.3930	1.3630
Internal		3B		1.3783	1.3700		1.4020	1.3969	1.4375
External	17/16-18 UNEF	2A	0.0015	1.4360	1.4273	-	1.3999	1.3949	1.3699
Internal		2B		1.3900	1.3770		1.4079	1.4014	1.4375

External	17/16-18 UNEF	3A	0.0000	1.4375	1.4288	-	1.4014	1.3977	1.3714
Internal		3B		1.3855	1.3770		1.4062	1.4014	1.4375
External	17/16-20 UN	2A	0.0014	1.4361	1.4280	-	1.4036	1.3988	1.3766
Internal		2B		1.3950	1.3830		1.4112	1.4050	1.4375
External	17/16-20 UN	3A	0.0000	1.4375	1.4294	-	1.4050	1.4014	1.3780
Internal		3B		1.3912	1.3830		1.4096	1.4050	1.4375
External	17/16-28 UN	2A	0.0013	1.4362	1.4297	-	1.4130	1.4088	1.3936
Internal		2B		1.4070	1.3990		1.4198	1.4143	1.4375
External	17/16-28 UN	3A	0.0000	1.4375	1.4310	-	1.4143	1.4112	1.3949
Internal		3B		1.4051	1.3990		1.4184	1.4143	1.4375
External	11/2-6 UNC	1A	0.0024	1.4976	1.4703	-	1.3893	1.3772	1.2992
Internal		1B		1.3500	1.3200		1.4075	1.3917	1.5000
External	11/2-6 UNC	2A	0.0024	1.4976	1.4794	1.4703	1.3893	1.3812	1.2992
Internal		2B		1.3500	1.3200		1.4022	1.3917	1.5000
External	11/2-6 UNC	3A	0.0000	1.5000	1.4818	-	1.3917	1.3856	1.3016
Internal		3B		1.3396	1.3200		1.3996	1.3917	1.5000
External	11/2-8 UN	2A	0.0022	1.4978	1.4828	1.4753	1.4166	1.4093	1.3490
Internal		2B		1.3900	1.3650		1.4283	1.4188	1.5000
External	11/2-8 UN	3A	0.0000	1.5000	1.4850	-	1.4188	1.4133	1.3512
Internal		3B		1.3797	1.3650		1.4259	1.4188	1.5000
External	11/2-10 UNS	2A	0.0019	1.4981	1.4852	-	1.4331	1.4267	1.3791
Internal		2B		1.4130	1.3920		1.4433	1.4350	1.5000

External	11/2-12 UNF	1A	0.0019	1.4981	1.4809	-	1.4440	1.4344	1.3989
Internal		1B		1.4280	1.4100		1.4584	1.4459	1.5000
External	11/2-12 UNF	2A	0.0019	1.4981	1.4867	-	1.4440	1.4376	1.3989
Internal		2B		1.4280	1.4100		1.4542	1.4459	1.5000
External	11/2-12 UNF	3A	0.0000	1.5000	1.4886	-	1.4459	1.4411	1.4008
Internal		3B		1.4198	1.4100		1.4522	1.4459	1.5000
External	11/2-14 UNS	2A	0.0017	1.4983	1.4880	-	1.4519	1.4464	1.4133
Internal		2B		1.4380	1.4230		1.4608	1.4536	1.5000
External	11/2-16 UN	2A	0.0016	1.4984	1.4890	-	1.4578	1.4526	1.4239
Internal		2B		1.4460	1.4320		1.4662	1.4594	1.5000
External	11/2-16 UN	3A	0.0000	1.5000	1.4906	-	1.4594	1.4555	1.4255
Internal		3B		1.4408	1.4320		1.4645	1.4594	1.5000
External	11/2-18 UNEF	2A	0.0015	1.4985	1.4898	-	1.4624	1.4574	1.4324
Internal		2B		1.4520	1.4400		1.4704	1.4639	1.5000
External	11/2-18 UNEF	3A	0.0000	1.5000	1.4913	-	1.4639	1.4602	1.4339
Internal		3B		1.4480	1.4400		1.4687	1.4639	1.5000
External	11/2-20 UN	2A	0.0014	1.4986	1.4905	-	1.4661	1.4613	1.4391
Internal		2B		1.4570	1.4460		1.4737	1.4675	1.5000
External	11/2-20 UN	3A	0.0000	1.5000	1.4919	-	1.4675	1.4639	1.4405
Internal		3B		1.4537	1.4460		1.4721	1.4675	1.5000
External	11/2-24 UNS	2A	0.0013	1.4987	1.4915	-	1.4716	1.4672	1.4991
Internal		2B		1.4650	1.4550		1.4787	1.4729	1.5000
External	11/2-28 UN	2A	0.0013	1.4987	1.4922	-	1.4755	1.4713	1.4561

Internal		2B		1.4700	1.4610		1.4823	1.4768	1.5000
External	11/2-28 UN	3A	0.0000	1.5000	1.4935	-	1.4768	1.4737	1.4574
Internal		3B		4.4676	1.4610		1.4809	1.4768	1.5000
External	19/16-6 UN	2A	0.0024	1.5601	1.5419	-	1.4518	1.4436	1.3617
Internal		2B		1.4130	1.3820		1.4648	1.4542	1.5625
External	19/16-6 UN	3A	0.0000	1.5625	1.5443	-	1.4542	1.4481	1.3641
Internal		3B		1.4021	1.3820		1.4622	1.4542	1.5625
External	19/16-8 UN	2A	0.0022	1.5603	1.5453	-	1.4791	1.4717	1.4115
Internal		2B		1.4520	1.4270		1.4909	1.4813	1.5625
External	19/16-8 UN	3A	0.0000	1.5625	1.5475	-	1.4813	1.4758	1.4137
Internal		3B		1.4422	1.4270		1.4885	1.4813	1.5625
External	19/16-12 UN	2A	0.0018	1.5607	1.5493	-	1.5066	1.5007	1.4615
Internal		2B		1.4900	1.4720		1.5160	1.5084	1.5625
External	19/16-12 UN	3A	0.0000	1.5625	1.5511	-	1.5084	1.5040	1.4633
Internal		3B		1.4823	1.4720		1.5141	1.5084	1.5625
External	19/16-16 UN	2A	0.0016	1.5609	1.5515	-	1.5203	1.5151	1.4864
Internal		2B		1.5090	1.4950		1.5287	1.5219	1.5625
External	19/16-16 UN	3A	0.0000	1.5625	1.5531	-	1.5219	1.5180	1.4880
Internal		3B		1.5033	1.4950		1.5270	1.5219	1.5625
External	19/16-18 UNEF	2A	0.0015	1.5610	1.5523	-	1.5249	1.5199	1.4949
Internal		2B		1.5150	1.5020		1.5329	1.5264	1.5625
External	19/16-18 UNEF	3A	0.0000	1.5625	1.5538	-	1.5264	1.5227	1.4964

Internal		3B		1.5105	1.5020		1.5312	1.5264	1.5625
External	19/16-20 UN	2A	0.0014	1.5611	1.5530	-	1.5286	1.5238	1.5016
Internal		2B		1.5200	1.5080		1.5362	1.5300	1.5625
External	19/16-20 UN	3A	0.0000	1.5625	1.5544	-	1.5300	1.5264	1.5030
Internal		3B		1.5162	1.5080		1.5346	1.5300	1.5625
External	15/8-6 UN	2A	0.0025	1.6225	1.6043	-	1.5142	1.5060	1.4246
Internal		2B		1.4750	1.4450		1.5274	1.5167	1.6250
External	15/8-6 UN	3A	0.0000	1.6250	1.6068	-	1.5167	1.5105	1.4271
Internal		3B		1.4646	1.4450		1.5247	1.5167	1.6250
External	15/8-8 UN	2A	0.0022	1.6228	1.6078	1.6003	1.5416	1.5342	1.4784
Internal		2B		1.5150	1.4900		1.5535	1.5438	1.6250
External	15/8-8 UN	3A	0.0000	1.6250	1.6100	-	1.5438	1.5382	1.4806
Internal		3B		1.5047	1.4900		1.5510	1.5438	1.6250
External	15/8-10 UNS	2A	0.0019	1.6231	1.6102	-	1.5581	1.5517	1.5041
Internal		2B		1.5380	1.5170		1.5683	1.5600	1.6250
External	15/8-12 UN	2A	0.0018	1.6232	1.6118	-	1.5691	1.5632	1.5240
Internal		2B		1.5530	1.5350		1.5785	1.5709	1.6250
External	15/8-12 UN	3A	0.0000	1.6250	1.6136	-	1.5709	1.5665	1.5258
Internal		3B		1.5448	1.5350		1.5766	1.5709	1.6250
External	15/8-14 UNS	2A	0.0017	1.6233	1.6130	-	1.5769	1.5714	1.5383
Internal		2B		1.5640	1.5480		1.5858	1.5786	1.6250
External	15/8-16 UN	2A	0.0016	1.6234	1.6140	-	1.5828	1.5776	1.5489
Internal		2B		1.5710	1.5570		1.5912	1.5844	1.6250

External	15/8-16 UN	3A	0.0000	1.6250	1.6156	-	1.5844	1.5805	1.5505
Internal		3B		1.5658	1.5570		1.5895	1.5844	1.6250
External	15/8-18 UNEF	2A	0.0015	1.6235	1.6148	-	1.5874	1.5824	1.5574
Internal		2B		1.5780	1.5650		1.5954	1.5889	1.6250
External	15/8-18 UNEF	3A	0.0000	1.6250	1.6163	-	1.5889	1.5852	1.5589
Internal		3B		1.5730	1.5650		1.5937	1.5889	1.6250
External	15/8-20 UN	2A	0.0014	1.6236	1.6155	-	1.5911	1.5863	1.5641
Internal		2B		1.5820	1.5710		1.5987	1.5925	1.6250
External	15/8-20 UN	3A	0.0000	1.6250	1.6169	-	1.5925	1.5889	1.5655
Internal		3B		1.5787	1.5710		1.5971	1.5925	1.6250
External	15/8-24 UNS	2A	0.0013	1.6237	1.6165	-	1.5966	1.5922	1.5741
Internal		2B		1.5900	1.5800		1.6037	1.5979	1.6250
External	111/16-6 UN	2A	0.0025	1.6850	1.6668	-	1.5767	1.5684	1.4866
Internal		2B		1.5380	1.5070		1.5900	1.5792	1.6875
External	111/16-6 UN	3A	0.0000	1.6875	1.6693	-	1.5792	1.5730	1.4891
Internal		3B		1.5271	1.5070		1.5873	1.5792	1.6875
External	111/16-8 UN	2A	0.0022	1.6853	1.6703	-	1.6041	1.5966	1.5365
Internal		2B		1.5770	1.5520		1.6160	1.6063	1.6875
External	111/16-8 UN	3A	0.0000	1.6875	1.6725	-	1.6063	1.6007	1.5387
Internal		3B		1.5672	1.5520		1.6136	1.6063	1.6875
External	111/16-12 UN	2A	0.0018	1.6857	1.6743	-	1.6316	1.6256	1.5865
Internal		2B		1.6150	1.5970		1.6412	1.6334	1.6875

External	111/16-12 UN	3A	0.0000	1.6875	1.6761	-	1.6334	1.6289	1.5883
Internal		3B		1.6073	1.5970		1.6392	1.6334	1.6875
External	111/16-16 UN	2A	0.0016	1.6859	1.6765	-	1.6453	1.6400	1.6114
Internal		2B		1.6340	1.6200		1.6538	1.6469	1.6875
External	111/16-16 UN	3A	0.0000	1.6875	1.6781	-	1.6469	1.6429	1.6130
Internal		3B		1.6283	1.6200		1.6521	1.6469	1.6875
External	111/16-18 UNEF	2A	0.0015	1.6860	1.6773	-	1.6499	1.6448	1.6199
Internal		2B		1.6400	1.6270		1.6580	1.6514	1.6875
External	111/16-18 UNEF	3A	0.0000	1.6875	1.6788	-	1.6514	1.6476	1.6214
Internal		3B		1.6355	1.6270		1.6563	1.6514	1.6875
External	111/16-20 UN	2A	0.0015	1.6860	1.6779	-	1.6535	1.6487	1.6265
Internal		2B		1.6450	1.6330		1.6613	1.6550	1.6875
External	111/16-20 UN	3A	0.0000	1.6875	1.6794	-	1.6550	1.6514	1.6280
Internal		3B		1.6412	1.6330		1.6597	1.6550	1.6875
External	13/4-5 UNC	1A	0.0027	1.7473	1.7165	-	1.6174	1.6040	1.5092
Internal		1B		1.5680	1.5340		1.6375	1.6201	1.7500
External	13/4-5 UNC	2A	0.0027	1.7473	1.7268	1.7165	1.6174	1.6085	1.5092
Internal		2B		1.5680	1.5340		1.6317	1.6201	1.7500
External	13/4-5 UNC	3A	0.0000	1.7500	1.7295	-	1.6201	1.6134	1.5119
Internal		3B		1.5575	1.5340		1.6288	1.6201	1.7500
External	13/4-6 UN	2A	0.0025	1.7475	1.7293	-	1.6392	1.6309	1.5491
Internal		2B		1.6000	1.5700		1.6525	1.6417	1.7500



External	13/4-6 UN	3A	0.0000	1.7500	1.7318	-	1.6417	1.6354	1.5516
Internal		3B		1.5896	1.5700		1.6498	1.6417	1.7500
External	13/4-8 UN	2A	0.0023	1.7477	1.7327	1.7252	1.6665	1.6590	1.5989
Internal		2B		1.6400	1.6150		1.6786	1.6688	1.7500
External	13/4-8 UN	3A	0.0000	1.7500	1.7350	-	1.6688	1.6632	1.6012
Internal		3B		1.6297	1.6150		1.6762	1.6688	1.7500
External	13/4-10 UNS	2A	0.0019	1.7481	1.7352	-	1.6831	1.6766	1.6291
Internal		2B		1.6630	1.6420		1.6934	1.6850	1.7500
External	13/4-12 UN	2A	0.0018	1.7482	1.7368	-	1.6941	1.6881	1.6490
Internal		2B		1.6780	1.6600		1.7037	1.6959	1.7500
External	13/4-12 UN	3A	0.0000	1.7500	1.7386	-	1.6959	1.6914	1.6508
Internal		3B		1.6698	1.6600		1.7017	1.6959	1.7500
External	13/4-14 UNS	2A	0.0017	1.7483	1.7380	-	1.7019	1.6963	1.6632
Internal		2B		1.6880	1.6730		1.7109	1.7036	1.7500
External	13/4-16 UN	2A	0.0016	1.7484	1.7390	-	1.7078	1.7025	1.6739
Internal		2B		1.6960	1.6820		1.7163	1.7094	1.7500
External	13/4-16 UN	3A	0.0000	1.7500	1.7406	-	1.7094	1.7054	1.6755
Internal		3B		1.6908	1.6820		1.7146	1.7094	1.7500
External	13/4-18 UNS	2A	0.0015	1.7485	1.7398	-	1.7124	1.7073	1.6824
Internal		2B		1.7030	1.6900		1.7205	1.7139	1.7500
External	13/4-20 UN	2A	0.0015	1.7485	1.7404	-	1.7160	1.7112	1.6890
Internal		2B		1.7070	1.6960		1.7238	1.7175	1.7500
External	13/4-20 UN	3A	0.0000	1.7500	1.7419	-	1.7175	1.7139	1.6905

Internal		3B		1.7037	1.6960		1.7222	1.7175	1.7500
External	113/16-6 UN	2A	0.0025	1.8100	1.7918	-	1.7017	1.6933	1.6116
Internal		2B		1.6630	1.6320		1.7151	1.7042	1.8125
External	113/16-6 UN	3A	0.0000	1.8125	1.7943	-	1.7042	1.6979	1.6141
Internal		3B		1.6521	1.6320		1.7124	1.7042	1.8125
External	113/16-8 UN	2A	0.0023	1.8102	1.7952	-	1.7290	1.7214	1.6614
Internal		2B		1.7020	1.6770		1.7412	1.7313	1.8125
External	113/16-8 UN	3A	0.0000	1.8125	1.7975	-	1.7313	1.7256	1.6637
Internal		3B		1.6922	1.6770		1.7387	1.7313	1.8125
External	113/16-12 UN	2A	0.0018	1.8107	1.7993	-	1.7566	1.7506	1.7115
Internal		2B		1.7400	1.7220		1.7662	1.7584	1.8125
External	113/16-12 UN	3A	0.0000	1.8125	1.8011	-	1.7584	1.7539	1.7133
Internal		3B		1.7323	1.7220		1.7642	1.7584	1.8125
External	113/16-16 UN	2A	0.0016	1.8109	1.8015	-	1.7703	1.7650	1.7364
Internal		2B		1.7590	1.7450		1.7788	1.7719	1.8125
External	113/16-16 UN	3A	0.0000	1.8125	1.8031	-	1.7719	1.7679	1.7380
Internal		3B		1.7533	1.7450		1.7771	1.7719	1.8125
External	113/16-20 UN	2A	0.0015	1.8110	1.8029	-	1.7785	1.7737	1.7515
Internal		2B		1.7700	1.7580		1.7863	1.7800	1.8125
External	113/16-20 UN	3A	0.0000	1.8125	1.8044	-	1.7800	1.7764	1.7530
Internal		3B		1.7662	1.7580		1.7847	1.7800	1.8125
External	17/8-6 UN	2A	0.0025	1.8725	1.8543	-	1.7642	1.7558	1.6741
Internal		2B		1.7250	1.6950		1.7777	1.7667	1.8750

External	17/8-6 UN	3A	0.0000	1.8750	1.8568	-	1.7667	1.7604	1.6766
Internal		3B		1.7146	1.6950		1.7749	1.7667	1.8750
External	17/8-8 UN	2A	0.0023	1.8727	1.8577	1.8502	1.7915	1.7838	1.7239
Internal		2B		1.7650	1.7400		1.8038	1.7938	1.8750
External	17/8-8 UN	3A	0.0000	1.8750	1.8600	-	1.7938	1.7881	1.7262
Internal		3B		1.7547	1.7400		1.8013	1.7938	1.8750
External	17/8-10 UNS	2A	0.0019	1.8731	1.8602	-	1.8081	1.8016	1.7541
Internal		2B		1.7880	1.7670		1.8184	1.8100	1.8750
External	17/8-12 UN	2A	0.0018	1.8732	1.8618	-	1.8191	1.8131	1.7740
Internal		2B		1.8030	1.7850		1.8287	1.8209	1.8750
External	17/8-12 UN	3A	0.0000	1.8750	1.8636	-	1.8209	1.8164	1.7758
Internal		3B		1.7948	1.7850		1.8267	1.8209	1.8750
External	17/8-14 UNS	2A	0.0017	1.8733	1.8630	-	1.8269	1.8213	1.7883
Internal		2B		1.8140	1.7980		1.8359	1.8286	1.8750
External	17/8-16 UN	2A	0.0016	1.8734	1.8640	-	1.8328	1.8275	1.7989
Internal		2B		1.8210	1.8070		1.8413	1.8344	1.8750
External	17/8-16 UN	3A	0.0000	1.8750	1.8656	-	1.8344	1.8304	1.8005
Internal		3B		1.8158	1.8070		1.8396	1.8344	1.8750
External	17/8-18 UNS	2A	0.0015	1.8735	1.8648	-	1.8374	1.8323	1.8074
Internal		2B		1.8280	1.8150		1.8455	1.8389	1.8750
External	17/8-20 UN	2A	0.0015	1.8735	1.8654	-	1.8410	1.8362	1.8140
Internal		2B		1.8320	1.8210		1.8488	1.8425	1.8750
External	17/8-20 UN	3A	0.0000	1.8750	1.8669	-	1.8425	1.8389	1.8155

Internal		3B		1.8287	1.8210		1.8472	1.8425	1.8750
External	115/16-6 UN	2A	0.0026	1.9349	1.9167	-	1.8266	1.8181	1.7365
Internal		2B		1.7880	1.7570		1.8403	1.8292	1.9375
External	115/16-6 UN	3A	0.0000	1.9375	1.9193	-	1.8292	1.8228	1.7391
Internal		3B		1.7771	1.7570		1.8375	1.8292	1.9375
External	115/16-8 UN	2A	0.0023	1.9352	1.9202	-	1.8540	1.8463	1.7864
Internal		2B		1.8270	1.8020		1.8663	1.8563	1.9375
External	115/16-8 UN	3A	0.0000	1.9375	1.9225	-	1.8563	1.8505	1.7887
Internal		3B		1.8172	1.8020		1.8638	1.8563	1.9375
External	115/16-12 UN	2A	0.0018	1.9357	1.9243	-	1.8816	1.8755	1.8365
Internal		2B		1.8650	1.8470		1.8913	1.8834	1.9375
External	115/16-12 UN	3A	0.0000	1.9375	1.9261	-	1.8834	1.8789	1.8383
Internal		3B		1.8573	1.8470		1.8893	1.8834	1.9375
External	115/16-16 UN	2A	0.0016	1.9359	1.9265	-	1.8953	1.8899	1.8614
Internal		2B		1.8840	1.8700		1.9039	1.8969	1.9375
External	115/16-16 UN	3A	0.0000	1.9375	1.9281	-	1.8969	1.8929	1.8630
Internal		3B		1.8783	1.8700		1.9021	1.8969	1.9375
External	115/16-20 UN	2A	0.0015	1.9360	1.9279	-	1.9035	1.8986	1.8765
Internal		2B		1.8950	1.8830		1.9114	1.9050	1.9375
External	115/16-20 UN	3A	0.0000	1.9375	1.9294	-	1.9050	1.9013	1.8780
Internal		3B		1.8912	1.8830		1.9098	1.9050	1.9375
External	2-41/2 UNC	1A	0.0029	1.9971	1.9641	-	1.8528	1.8385	1.7324
Internal		1B		1.7950	1.7590		1.8743	1.8557	2.0000

External	2-41/2 UNC	2A	0.0029	1.9971	1.9751	1.9641	1.8528	1.8433	1.7324
Internal		2B		1.7950	1.7590		1.8681	1.8557	2.0000
External	2-41/2 UNC	3A	0.0000	2.0000	1.9780	-	1.8557	1.8486	1.7353
Internal		3B		1.7861	1.7590		1.8650	1.8557	2.0000
External	2-6 UN	2A	0.0026	1.9974	1.9792	-	1.8891	1.8805	1.7990
Internal		2B		1.8500	1.8200		1.9028	1.8917	2.0000
External	2-6 UN	3A	0.0000	2.0000	1.9818	-	1.8917	1.8853	1.8016
Internal		3B		1.8396	1.8200		1.9000	1.8917	2.0000
External	2-8 UN	2A	0.0023	1.9977	1.9827	1.9752	1.9165	1.9087	1.8489
Internal		2B		1.8900	1.8650		1.9289	1.9188	2.0000
External	2-8 UN	3A	0.0000	2.0000	1.9850	-	1.9188	1.9130	1.8512
Internal		3B		1.8797	1.8650		1.9264	1.9188	2.0000
External	2-10 UNS	2A	0.0020	1.9980	1.9851	-	1.9330	1.9265	1.8790
Internal		2B		1.9130	1.8920		1.9435	1.9350	2.0000
External	2-12 UN	2A	0.0018	1.9982	1.9868	-	1.9441	1.9380	1.8990
Internal		2B		1.9280	1.9100		1.9538	1.9459	2.0000
External	2-12 UN	3A	0.0000	2.0000	1.9886	-	1.9459	1.9414	1.9008
Internal		3B		1.9198	1.9100		1.9518	1.9459	2.0000
External	2-14 UNS	2A	0.0017	1.9983	1.9880	-	1.9519	1.9462	1.9133
Internal		2B		1.9380	1.9230		1.9610	1.9536	2.0000
External	2-16 UN	2A	0.0016	1.9984	1.9890	-	1.9578	1.9524	1.9239
Internal		2B		1.9460	1.9320		1.9664	1.9594	2.0000
External	2-16 UN	3A	0.0000	2.0000	1.9906	-	1.9594	1.9554	1.9255

Internal		3B		1.9408	1.9320		1.9646	1.9594	2.0000
External	2-18 UNS	2A	0.0015	1.9985	1.9898	-	1.9624	1.9573	1.9324
Internal		2B		1.9530	1.9400		1.9706	1.9639	2.0000
External	2-20 UN	2A	0.0015	1.9985	1.9904	-	1.9660	1.9611	1.9390
Internal		2B		1.9570	1.9460		1.9739	1.9675	2.0000
External	2-20 UN	3A	0.0000	2.0000	1.9919	-	1.9675	1.9638	1.9405
Internal		3B		1.9537	1.9460		1.9723	1.9675	2.0000
External	21/16-16 UNS	2A	0.0016	2.0609	2.0515	-	2.0203	2.0149	1.9864
Internal		2B		2.0090	1.9950		2.0289	2.0219	2.0625
External	21/16-16 UNS	3A	0.0000	2.0625	2.0531	-	2.0219	2.0179	1.9880
Internal		3B		2.0033	1.9950		2.0271	2.0219	2.0625
External	21/8-6 UN	2A	0.0026	2.1224	2.1042	-	2.0141	2.0054	1.9240
Internal		2B		1.9750	1.9450		2.0280	2.0167	2.1250
External	21/8-6 UN	3A	0.0000	2.1250	2.1068	-	2.0167	2.0102	1.9266
Internal		3B		1.9646	1.9450		2.0251	2.0167	2.1250
External	21/8-8 UN	2A	0.0024	2.1226	2.1076	2.1001	2.0414	2.0335	1.9738
Internal		2B		2.0150	1.9900		2.0540	2.0438	2.1250
External	21/8-8 UN	3A	0.0000	2.1250	2.1100	-	2.0438	2.0379	1.9762
Internal		3B		2.0047	1.9900		2.0515	2.0438	2.1250
External	21/8-12 UN	2A	0.0018	2.1232	2.1118	-	2.0691	2.0630	2.0240
Internal		2B		2.0530	2.0350		2.0788	2.0709	2.1250
External	21/8-12 UN	3A	0.0000	2.1250	2.1136	-	2.0709	2.0664	2.0258
Internal		3B		2.0448	2.0350		2.0768	2.0709	2.1250

External	21/8-16 UN	2A	0.0016	2.1234	2.1140	-	2.0828	2.0774	2.0489
Internal		2B		2.0710	2.0570		2.0914	2.0844	2.1250
External	21/8-16 UN	3A	0.0000	2.1250	2.1156	-	2.0844	2.0803	2.0505
Internal		3B		2.0658	2.0570		2.0896	2.0844	2.1250
External	21/8-20 UN	2A	0.0015	2.1235	2.1154	-	2.0910	2.0861	2.0640
Internal		2B		2.0820	2.0710		2.0989	2.0925	2.1250
External	21/8-20 UN	3A	0.0000	2.1250	2.1169	-	2.0925	2.0888	2.0655
Internal		3B		2.0787	2.0710		2.0973	2.0925	2.1250
External	23/16-16 UNS	2A	0.0016	2.1859	2.1765	-	2.1453	2.1399	2.1114
Internal		2B		2.1340	2.1200		2.1539	2.1469	2.1875
External	23/16-16 UNS	3A	0.0000	2.1875	2.1781	-	2.1469	2.1428	2.1130
Internal		3B		2.1283	2.1200		2.1521	2.1469	2.1875
External	21/4-4 1/2 UNC	1A	0.0029	2.2471	2.2141	-	2.1028	2.0882	1.9824
Internal		1B		2.0450	2.0090		2.1247	2.1057	2.2500
External	21/4-4 1/2 UNC	2A	0.0029	2.2471	2.2251	2.2141	2.1028	2.0931	1.9824
Internal		2B		2.0450	2.0090		2.1183	2.1057	2.2500
External	21/4-4 1/2 UNC	3A	0.0000	2.2500	2.2280	-	2.1057	2.0984	1.9853
Internal		3B		2.0361	2.0090		2.1152	2.1057	2.2500
External	21/4-6 UN	2A	0.0026	2.2474	2.2292	-	2.1391	2.1303	2.0490
Internal		2B		2.1000	2.0700		2.1531	2.1417	2.2500
External	21/4-6 UN	3A	0.0000	2.2500	2.2318	-	2.1417	2.1351	2.0516

Internal		3B		2.0896	2.0700		2.1502	2.1417	2.2500
External	21/4-8 UN	2A	0.0024	2.2476	2.2326	2.2251	2.1664	2.1584	2.0988
Internal		2B		2.1400	2.1150		2.1792	2.1688	2.2500
External	21/4-8 UN	3A	0.0000	2.2500	2.2350	-	2.1688	2.1628	2.1012
Internal		3B		2.1297	2.1150		2.1766	2.1688	2.2500
External	21/4-10 UNS	2A	0.0020	2.2480	2.2351	-	2.1830	2.1765	2.1290
Internal		2B		2.1630	2.1420		2.1935	2.1850	2.2500
External	21/4-12 UN	2A	0.0018	2.2482	2.2368	-	2.1941	2.1880	2.1490
Internal		2B		2.1780	2.1600		2.2038	2.1959	2.2500
External	21/4-12 UN	3A	0.0000	2.2500	2.2386	-	2.1959	2.1914	2.1508
Internal		3B		2.1698	2.1600		2.2018	2.1959	2.2500
External	21/4-14 UNS	2A	0.0017	2.2483	2.2380	-	2.2019	2.1962	2.1633
Internal		2B		2.1880	2.1730		2.2110	2.2036	2.2500
External	21/4-16 UN	2A	0.0016	2.2484	2.2390	-	2.2078	2.2024	2.1739
Internal		2B		2.1960	2.1820		2.2164	2.2094	2.2500
External	21/4-16 UN	3A	0.0000	2.2500	2.2406	-	2.2094	2.2053	2.1755
Internal		3B		2.1908	2.1820		2.2146	2.2094	2.2500
External	21/4-18 UNS	2A	0.0015	2.2485	2.2398	-	2.2124	2.2073	2.1824
Internal		2B		2.2030	2.1900		2.2206	2.2139	2.2500
External	21/4-20 UN	2A	0.0015	2.2485	2.2404	-	2.2160	2.2111	2.1890
Internal		2B		2.2070	2.1960		2.2239	2.2175	2.2500
External	21/4-20 UN	3A	0.0000	2.2500	2.2419	-	2.2175	2.2137	2.1905
Internal		3B		2.2037	2.1960		2.2223	2.2175	2.2500



External	25/16-16 UNS	2A	0.0017	2.3108	2.3014	-	2.2702	2.2647	2.2363
Internal		2B		2.2590	2.2450		2.2791	2.2719	2.3125
External	25/16-16 UNS	3A	0.0000	2.3125	2.3031	-	2.2719	2.2678	2.2380
Internal		3B		2.2533	2.2450		2.2773	2.2719	2.3125
External	23/8-6 UN	2A	0.0027	2.3723	2.3541	-	2.2640	2.2551	2.1739
Internal		2B		2.2260	2.1950		2.2782	2.2667	2.3750
External	23/8-6 UN	3A	0.0000	2.3750	2.3568	-	2.2667	2.2601	2.1766
Internal		3B		2.2146	2.1950		2.2753	2.2667	2.3750
External	23/8-8 UN	2A	0.0024	2.3726	2.3576	-	2.2914	2.2833	2.2238
Internal		2B		2.2650	2.2400		2.3043	2.2938	2.3750
External	23/8-8 UN	3A	0.0000	2.3750	2.3600	-	2.2938	2.2878	2.2262
Internal		3B		2.2547	2.2400		2.3017	2.2938	2.3750
External	23/8-12 UN	2A	0.0019	2.3731	2.3617	-	2.3190	2.3128	2.2739
Internal		2B		2.3030	2.2850		2.3290	2.3209	2.3750
External	23/8-12 UN	3A	0.0000	2.3750	2.3636	-	2.3209	2.3163	2.2758
Internal		3B		2.2948	2.2850		2.3269	2.3209	2.3750
External	23/8-16 UN	2A	0.0017	2.3733	2.3639	-	2.3327	2.3272	2.2988
Internal		2B		2.3210	2.3070		2.3416	2.3344	2.3750
External	23/8-16 UN	3A	0.0000	2.3750	2.3656	-	2.3344	2.3303	2.3005
Internal		3B		2.3158	2.3070		2.3398	2.3344	2.3750
External	23/8-20 UN	2A	0.0015	2.3735	2.3654	-	2.3410	2.3359	2.3140
Internal		2B		2.3320	2.3210		2.3491	2.3425	2.3750
External	23/8-20 UN	3A	0.0000	2.3750	2.3669	-	2.3425	2.3387	2.3155

Internal		3B		2.3287	2.3210		2.3475	2.3425	2.3750
External	27/16-16 UNS	2A	0.0017	2.4358	2.4264	-	2.3952	2.3897	2.3613
Internal		2B		2.3840	2.3700		2.4041	2.3969	2.4375
External	27/16-16 UNS	3A	0.0000	2.4375	2.4281	-	2.3969	2.3928	2.3630
Internal		3B		2.3783	2.3700		2.4023	2.3969	2.4375
External	21/2-4 UNC	1A	0.0031	2.4969	2.4612	-	2.3345	2.3190	2.1992
Internal		1B		2.2670	2.2290		2.3578	2.3376	2.5000
External	21/2-4 UNC	2A	0.0031	2.4969	2.4731	2.4612	2.3345	2.3241	2.1992
Internal		2B		2.2670	2.2290		2.3511	2.3376	2.5000
External	21/2-4 UNC	3A	0.0000	2.5000	2.4762	-	2.3376	2.3298	2.2023
Internal		3B		2.2594	2.2290		2.3477	2.3376	2.5000
External	21/2-6 UN	2A	0.0027	2.4973	2.4791	-	2.3890	2.3800	2.2989
Internal		2B		2.3500	2.3200		2.4033	2.3917	2.5000
External	21/2-6 UN	3A	0.0000	2.5000	2.4818	-	2.3917	2.3850	2.3016
Internal		3B		2.3396	2.3200		2.4004	2.3917	2.5000
External	21/2-8 UN	2A	0.0024	2.4976	2.4826	2.4751	2.4164	2.4082	2.3488
Internal		2B		2.3900	2.3650		2.4294	2.4188	2.5000
External	21/2-8 UN	3A	0.0000	2.5000	2.4850	-	2.4188	2.4127	2.3512
Internal		3B		2.3797	2.3650		2.4268	2.4188	2.5000
External	21/2-10 UNS	2A	0.0020	2.4980	2.4851	-	2.4330	2.4263	2.3790
Internal		2B		2.4130	2.3920		2.4437	2.4350	2.5000
External	21/2-12 UN	2A	0.0019	2.4981	2.4867	-	2.4440	2.4378	2.3989
Internal		2B		2.4280	2.4100		2.4540	2.4459	2.5000

External	21/2-12 UN	3A	0.0000	2.5000	2.4886	-	2.4459	2.4413	2.4008
Internal		3B		2.4198	2.4100		2.4519	2.4459	2.5000
External	21/2-14 UNS	2A	0.0017	2.4983	2.4880	-	2.4519	2.4461	2.4133
Internal		2B		2.4380	2.4230		2.4612	2.4536	2.5000
External	21/2-16 UN	2A	0.0017	2.4983	2.4889	-	2.4577	2.4522	2.4238
Internal		2B		2.4460	2.4320		2.4666	2.4594	2.5000
External	21/2-16 UN	3A	0.0000	2.5000	2.4906	-	2.4594	2.4553	2.4255
Internal		3B		2.4408	2.4320		2.4648	2.4594	2.5000
External	21/2-18 UNS	2A	0.0016	2.4984	2.4897	-	2.4623	2.4570	2.4323
Internal		2B		2.4530	2.4400		2.4708	2.4639	2.5000
External	21/2-20 UN	2A	0.0015	2.4985	2.4904	-	2.4660	2.4609	2.4390
Internal		2B		2.4570	2.4460		2.4741	2.4675	2.5000
External	21/2-20 UN	3A	0.0000	2.5000	2.4919	-	2.4675	2.4637	2.4405
Internal		3B		2.4537	2.4460		2.4725	2.4675	2.5000
External	25/8-6 UN	2A	0.0027	2.6223	2.6041	-	2.5140	2.5050	2.4239
Internal		2B		2.4750	2.4450		2.5285	2.5167	2.6250
External	25/8-6 UN	3A	0.0000	2.6250	2.6068	-	2.5167	2.5099	2.4266
Internal		3B		2.4646	2.4450		2.5255	2.5167	2.6250
External	25/8-8 UN	2A	0.0025	2.6225	2.6075	-	2.5413	2.5331	2.4737
Internal		2B		2.5150	2.4900		2.5545	2.5438	2.6250
External	25/8-8 UN	3A	0.0000	2.6250	2.6100	-	2.5438	2.5376	2.4762
Internal		3B		2.5047	2.4900		2.5518	2.5438	2.6250
External	25/8-12 UN	2A	0.0019	2.6231	2.6117	-	2.5690	2.5628	2.5239

Internal		2B		2.5530	2.5350		2.5790	2.5709	2.6250
External	25/8-12 UN	3A	0.0000	2.6250	2.6136	-	2.5709	2.5663	2.5258
Internal		3B		2.5448	2.5350		2.5769	2.5709	2.6250
External	25/8-16 UN	2A	0.0017	2.6233	2.6139	-	2.5827	2.5772	2.5488
Internal		2B		2.5710	2.5570		2.5916	2.5844	2.6250
External	25/8-16 UN	3A	0.0000	2.6250	2.6156	-	2.5844	2.5803	2.5505
Internal		3B		2.5658	2.5570		2.5898	2.5844	2.6250
External	25/8-20 UN	2A	0.0015	2.6235	2.6154	-	2.5910	2.5859	2.5640
Internal		2B		2.5820	2.5710		2.5991	2.5925	2.6250
External	25/8-20 UN	3A	0.0000	2.6250	2.6169	-	2.5925	2.5887	2.5655
Internal		3B		2.5787	2.5710		2.5975	2.5925	2.6250
External	23/4-4 UNC	1A	0.0032	2.7468	2.7111	-	2.5844	2.5686	2.4491
Internal		1B		2.5170	2.4790		2.6082	2.5876	2.7500
External	23/4-4 UNC	2A	0.0032	2.7468	2.7230	2.7111	2.5844	2.5739	2.4491
Internal		2B		2.5170	2.4790		2.6013	2.5876	2.7500
External	23/4-4 UNC	3A	0.0000	2.7500	2.7262	-	2.5876	2.5797	2.4523
Internal		3B		2.5094	2.4790		2.5979	2.5876	2.7500
External	23/4-6 UN	2A	0.0027	2.7473	2.7291	-	2.6390	2.6299	2.5489
Internal		2B		2.6000	2.5700		2.6536	2.6417	2.7500
External	23/4-6 UN	3A	0.0000	2.7500	2.7318	-	2.6417	2.6349	2.5516
Internal		3B		2.5896	2.5700		2.6506	2.6417	2.7500
External	23/4-8 UN	2A	0.0025	2.7475	2.7325	2.7250	2.6663	2.6580	2.5987
Internal		2B		2.6400	2.6150		2.6796	2.6688	2.7500

External	23/4-8 UN	3A	0.0000	2.7500	2.7350	-	2.6688	2.6625	2.6012
Internal		3B		2.6297	2.6150		2.6769	2.6688	2.7500
External	23/4-10 UNS	2A	0.0020	2.7480	2.7351	-	2.6830	2.6763	2.6290
Internal		2B		2.6630	2.6420		2.6937	2.6850	2.7500
External	23/4-12 UN	2A	0.0019	2.7481	2.7367	-	2.6940	2.6878	2.6489
Internal		2B		2.6780	2.6600		2.7040	2.6959	2.7500
External	23/4-12 UN	3A	0.0000	2.7500	2.7386	-	2.6959	2.6913	2.6508
Internal		3B		2.6698	2.6600		2.7019	2.6959	2.7500
External	23/4-14 UNS	2A	0.0017	2.7483	2.7380	-	2.7019	2.6961	2.6633
Internal		2B		2.6880	2.6730		2.7112	2.7036	2.7500
External	23/4-16 UN	2A	0.0017	2.7483	2.7389	-	2.7077	2.7022	2.6738
Internal		2B		2.6960	2.6820		2.7166	2.7094	2.7500
External	23/4-16 UN	3A	0.0000	2.7500	2.7406	-	2.7094	2.7053	2.6755
Internal		3B		2.6908	2.6820		2.7148	2.7094	2.7500
External	23/4-18 UNS	2A	0.0016	2.7484	2.7397	-	2.7123	2.7070	2.6832
Internal		2B		2.7030	2.6900		2.7208	2.7139	2.7500
External	23/4-20 UN	2A	0.0015	2.7485	2.7404	-	2.7160	2.7109	2.6890
Internal		2B		2.7070	2.6960		2.7241	2.7175	2.7500
External	23/4-20 UN	3A	0.0000	2.7500	2.7419	-	2.7175	2.7137	2.6905
Internal		3B		2.7037	2.6960		2.7225	2.7175	2.7500
External	27/8-6 UN	2A	0.0028	2.8722	2.8540	-	2.7639	2.7547	2.6738
Internal		2B		2.7250	2.6950		2.7787	2.7667	2.8750
External	27/8-6 UN	3A	0.0000	2.8750	2.8568	-	2.7667	2.7598	2.6766

Internal		3B		2.7146	2.6950		2.7757	2.7667	2.8750
External	27/8-8 UN	2A	0.0025	2.8725	2.8575	-	2.7913	2.7829	2.7237
Internal		2B		2.7650	2.7400		2.8048	2.7938	2.8750
External	27/8-8 UN	3A	0.0000	2.8750	2.8600	-	2.7938	2.7875	2.7262
Internal		3B		2.7547	2.7400		2.8020	2.7938	2.8750
External	27/8-12 UN	2A	0.0019	2.8731	2.8617	-	2.8190	2.8127	2.7739
Internal		2B		2.8030	2.7850		2.8291	2.8209	2.8750
External	27/8-12 UN	3A	0.0000	2.8750	2.8636	-	2.8209	2.8162	2.7758
Internal		3B		2.7948	2.7850		2.8271	2.8209	2.8750
External	27/8-16 UN	2A	0.0017	2.8733	2.8639	-	2.8327	2.8271	2.7988
Internal		2B		2.8210	2.8070		2.8417	2.8344	2.8750
External	27/8-16 UN	3A	0.0000	2.8750	2.8656	-	2.8344	2.8302	2.8005
Internal		3B		2.8158	2.8070		2.8399	2.8344	2.8750
External	27/8-20 UN	2A	0.0016	2.8734	2.8653	-	2.8409	2.8357	2.8139
Internal		2B		2.8320	2.8210		2.8493	2.8425	2.8750
External	27/8-20 UN	3A	0.0000	2.8750	2.8669	-	2.8425	2.8386	2.8155
Internal		3B		2.8287	2.8210		2.8476	2.8425	2.8750
External	3-4 UNC	1A	0.0032	2.9968	2.9611	-	2.8344	2.8183	2.6991
Internal		1B		2.7670	2.7290		2.8585	2.8376	3.0000
External	3-4 UNC	2A	0.0032	2.9968	2.9730	2.9611	2.8344	2.8237	2.6991
Internal		2B		2.7670	2.7290		2.8515	2.8376	3.0000
External	3-4 UNC	3A	0.0000	3.0000	2.9762	-	2.8376	2.8296	2.7023
Internal		3B		2.7594	2.7290		2.8480	2.8376	3.0000

External	3-6 UN	2A	0.0028	2.9972	2.9790	-	2.8889	2.8796	2.7988
Internal		2B		2.8500	2.8200		2.9038	2.8917	3.0000
External	3-6 UN	3A	0.0000	3.0000	2.9818	-	2.8917	2.8847	2.8016
Internal		3B		2.8396	2.8200		2.9008	2.8917	3.0000
External	3-8 UN	2A	0.0026	2.9974	2.9824	2.9749	2.9162	2.9077	2.8486
Internal		2B		2.8900	2.8650		2.9299	2.9188	3.0000
External	3-8 UN	3A	0.0000	3.0000	2.9850	-	2.9188	2.9124	2.8512
Internal		3B		2.8797	2.8650		2.9271	2.9188	3.0000
External	3-10 UNS	2A	0.0020	2.9980	2.9851	-	2.9330	2.9262	2.8790
Internal		2B		2.9130	2.8920		2.9439	2.9350	3.0000
External	3-12 UN	2A	0.0019	2.9981	2.9867	-	2.9440	2.9377	2.8989
Internal		2B		2.9280	2.9100		2.9541	2.9459	3.0000
External	3-12 UN	3A	0.0000	3.0000	2.9886	-	2.9459	2.9412	2.9008
Internal		3B		2.9198	2.9100		2.9521	2.9459	3.0000
External	3-14 UNS	2A	0.0018	2.9982	2.9879	-	2.9518	2.9459	2.9132
Internal		2B		2.9380	2.9230		2.9613	2.9536	3.0000
External	3-16 UN	2A	0.0017	2.9983	2.9889	-	2.9577	2.9521	2.9238
Internal		2B		2.9460	2.9320		2.9667	2.9594	3.0000
External	3-16 UN	3A	0.0000	3.0000	2.9906	-	2.9594	2.9552	2.9255
Internal		3B		2.9408	2.9320		2.9649	2.9594	3.0000
External	3-18 UNS	2A	0.0016	2.9984	2.9897	-	2.9623	2.9569	2.9323
Internal		2B		2.9530	2.9400		2.9709	2.9639	3.0000
External	3-20 UN	2A	0.0016	2.9984	2.9903	-	2.9659	2.9607	2.9389

Internal		2B		2.9570	2.9460		2.9743	2.9675	3.0000
External	3-20 UN	3A	0.0000	3.0000	2.9919	-	2.9675	2.9636	2.9405
Internal		3B		2.9537	2.9460		2.9726	2.9675	3.0000
External	31/8-6 UN	2A	0.0028	3.1222	3.1040	-	3.0139	3.0045	2.9238
Internal		2B		2.9750	2.9450		3.0289	3.0167	3.1250
External	31/8-6 UN	3A	0.0000	3.1250	3.1068	-	3.0167	3.0097	2.9266
Internal		3B		2.9646	2.9450		3.0259	3.0167	3.1250
External	31/8-8 UN	2A	0.0026	3.1224	3.1074	-	3.0412	3.0326	2.9736
Internal		2B		3.0150	2.9900		3.0550	3.0438	3.1250
External	31/8-8 UN	3A	0.0000	3.1250	3.1100	-	3.0438	3.0374	2.9762
Internal		3B		3.0047	2.9900		3.0522	3.0438	3.1250
External	31/8-12 UN	2A	0.0019	3.1231	3.1117	-	3.0690	3.0627	3.0239
Internal		2B		3.0530	3.0350		3.0791	3.0709	3.1250
External	31/8-12 UN	3A	0.0000	3.1250	3.1136	-	3.0709	3.0662	3.0258
Internal		3B		3.0448	3.0350		3.0771	3.0709	3.1250
External	31/8-16 UN	2A	0.0017	3.1233	3.1139	-	3.0827	3.0771	3.0488
Internal		2B		3.0710	3.0570		3.0917	3.0844	3.1250
External	31/8-16 UN	3A	0.0000	3.1250	3.1156	-	3.0844	3.0802	3.0505
Internal		3B		3.0658	3.0570		3.0899	3.0844	3.1250
External	31/4-4 UNC	1A	0.0033	3.2467	3.2110	-	3.0843	3.0680	2.9490
Internal		1B		3.0170	2.9790		3.1088	3.0876	3.2500
External	31/4-4 UNC	2A	0.0033	3.2467	3.2229	3.2110	3.0843	3.0734	2.9490
Internal		2B		3.0170	2.9790		3.1017	3.0876	3.2500



External	31/4-4 UNC	3A	0.0000	3.2500	3.2262	-	3.0876	3.0794	2.9523
Internal		3B		3.0094	2.9790		3.0982	3.0876	3.2500
External	31/4-6 UN	2A	0.0028	3.2472	3.2290	-	3.1389	3.1294	3.0488
Internal		2B		3.1000	3.0700		3.1540	3.1417	3.2500
External	31/4-6 UN	3A	0.0000	3.2500	3.2318	-	3.1417	3.1346	3.0516
Internal		3B		3.0896	3.0700		3.1509	3.1417	3.2500
External	31/4-8 UN	2A	0.0026	3.2474	3.2324	3.2249	3.1662	3.1575	3.0986
Internal		2B		3.1400	3.1150		3.1801	3.1688	3.2500
External	31/4-8 UN	3A	0.0000	3.2500	3.2350	-	3.1688	3.1623	3.1012
Internal		3B		3.1297	3.1150		3.1773	3.1688	3.2500
External	31/4-10 UNS	2A	0.0020	3.2480	3.2351	-	3.1830	3.1762	3.1290
Internal		2B		3.1630	3.1420		3.1939	3.1850	3.2500
External	31/4-12 UN	2A	0.0019	3.2481	3.2367	-	3.1940	3.1877	3.1489
Internal		2B		3.1780	3.1600		3.2041	3.1959	3.2500
External	31/4-12 UN	3A	0.0000	3.2500	3.2386	-	3.1959	3.1912	3.1508
Internal		3B		3.1698	3.1600		3.2021	3.1959	3.2500
External	31/4-14 UNS	2A	0.0018	3.2482	3.2379	-	3.2018	3.1959	3.1632
Internal		2B		3.1880	3.1730		3.2113	3.2036	3.2500
External	31/4-16 UN	2A	0.0017	3.2483	3.2389	-	3.2077	3.2021	3.1738
Internal		2B		3.1960	3.1820		3.2167	3.2094	3.2500
External	31/4-16 UN	3A	0.0000	3.2500	3.2406	-	3.2094	3.2052	3.1755
Internal		3B		3.1908	3.1820		3.2149	3.2094	3.2500
External	31/4-18 UNS	2A	0.0016	3.2484	3.2397	-	3.2123	3.2069	3.1823

Internal		2B		3.2030	3.1900		3.2209	3.2139	3.2500
External	33/8-6 UN	2A	0.0029	3.3721	3.3539	-	3.2638	3.2543	3.1737
Internal		2B		3.2250	3.1950		3.2791	3.2667	3.3750
External	33/8-6 UN	3A	0.0000	3.3750	3.3568	-	3.2667	3.2595	3.1766
Internal		3B		3.2146	3.1950		3.2760	3.2667	3.3750
External	33/8-8 UN	2A	0.0026	3.3724	3.3574	-	3.2912	3.2824	3.2236
Internal		2B		3.2650	3.2400		3.3052	3.2938	3.3750
External	33/8-8 UN	3A	0.0000	3.3750	3.3600	-	3.2938	3.2872	3.2262
Internal		3B		3.2547	3.2400		3.3023	3.2938	3.3750
External	33/8-12 UN	2A	0.0019	3.3731	3.3617	-	3.3190	3.3126	3.2739
Internal		2B		3.3030	3.2850		3.3293	3.3209	3.3750
External	33/8-12 UN	3A	0.0000	3.3750	3.3636	-	3.3209	3.3161	3.2758
Internal		3B		3.2948	3.2850		3.3272	3.3209	3.3750
External	33/8-16 UN	2A	0.0017	3.3733	3.3639	-	3.3327	3.3269	3.2988
Internal		2B		3.3210	3.3070		3.3419	3.3344	3.3750
External	33/8-16 UN	3A	0.0000	3.3750	3.3656	-	3.3344	3.3301	3.3005
Internal		3B		3.3158	3.3070		3.3400	3.3344	3.3750
External	31/2-4 UNC	1A	0.0033	3.4967	3.4610	-	3.3343	3.3177	3.1990
Internal		1B		3.2670	3.2290		3.3591	3.3376	3.5000
External	31/2-4 UNC	2A	0.0033	3.4967	3.4729	3.4610	3.3343	3.3233	3.1990
Internal		2B		3.2670	3.2290		3.3519	3.3376	3.5000
External	31/2-4 UNC	3A	0.0000	3.5000	3.4762	-	3.3376	3.3293	3.2023
Internal		3B		3.2594	3.2290		3.3484	3.3376	3.5000

External	31/2-6 UN	2A	0.0029	3.4971	3.4789	-	3.3888	3.3792	3.2987
Internal		2B		3.3500	3.3200		3.4042	3.3917	3.5000
External	31/2-6 UN	3A	0.0000	3.5000	3.4818	-	3.3917	3.3845	3.3016
Internal		3B		3.3396	3.3200		3.4011	3.3917	3.5000
External	31/2-8 UN	2A	0.0026	3.4974	3.4824	3.4749	3.4162	3.4074	3.3486
Internal		2B		3.3900	3.3650		3.4303	3.4188	3.5000
External	31/2-8 UN	3A	0.0000	3.5000	3.4850	-	3.4188	3.4122	3.3512
Internal		3B		3.3797	3.3650		3.4274	3.4188	3.5000
External	31/2-10 UNS	2A	0.0021	3.4979	3.4850	-	3.4329	3.4260	3.3789
Internal		2B		3.4130	3.3920		3.4440	3.4350	3.5000
External	31/2-12 UN	2A	0.0019	3.4981	3.4867	-	3.4440	3.4376	3.3989
Internal		2B		3.4280	3.4100		3.4543	3.4459	3.5000
External	31/2-12 UN	3A	0.0000	3.5000	3.4886	-	3.4459	3.4411	3.4008
Internal		3B		3.4198	3.4100		3.4522	3.4459	3.5000
External	31/2-14 UNS	2A	0.0018	3.4982	3.4879	-	3.4518	3.4132	3.4132
Internal		2B		3.4380	3.4230		3.4615	3.4536	3.5000
External	31/2-16 UN	2A	0.0017	3.4983	3.4889	-	3.4577	3.4519	3.4238
Internal		2B		3.4460	3.4320		3.4669	3.4594	3.5000
External	31/2-16 UN	3A	0.0000	3.5000	3.4906	-	3.4594	3.4551	3.4255
Internal		3B		3.4408	3.4320		3.4650	3.4594	3.5000
External	31/2-18 UNS	2A	0.0017	3.4983	3.4896	-	3.4622	3.4322	3.4322
Internal		2B		3.4530	3.4400		3.4711	3.4639	3.5000
External	35/8-6 UN	2A	0.0029	3.6221	3.6039	-	3.5138	3.5041	3.4237

Internal		2B		3.4750	3.4450		3.5293	3.5167	3.6250
External	35/8-6 UN	3A	0.0000	3.6250	3.6068	-	3.5167	3.5094	3.4266
Internal		3B		3.4646	3.4450		3.5262	3.5167	3.6250
External	35/8-8 UN	2A	0.0027	3.6223	3.6073	-	3.5411	3.5322	3.4735
Internal		2B		3.5150	3.4900		3.5554	3.5438	3.6250
External	35/8-8 UN	3A	0.0000	3.6250	3.6100	-	3.5438	3.5371	3.4762
Internal		3B		3.5047	3.4900		3.5525	3.5438	3.6250
External	35/8-12 UN	2A	0.0019	3.6231	3.6117	-	3.5690	3.5626	3.5239
Internal		2B		3.5530	3.5350		3.5793	3.5709	3.6250
External	35/8-12 UN	3A	0.0000	3.6250	3.6136	-	3.5709	3.5661	3.5258
Internal		3B		3.5448	3.5350		3.5772	3.5709	3.6250
External	35/8-16 UN	2A	0.0017	3.6233	3.6139	-	3.5827	3.5769	3.5488
Internal		2B		3.5710	3.5570		3.5919	3.5844	3.6250
External	35/8-16 UN	3A	0.0000	3.6250	3.6156	-	3.5844	3.5801	3.5505
Internal		3B		3.5658	3.5570		3.5900	3.5844	3.6250
External	33/4-4 UNC	1A	0.0034	3.7466	3.7109	-	3.5842	3.5674	3.4489
Internal		1B		3.5170	3.4790		3.6094	3.5876	3.7500
External	33/4-4 UNC	2A	0.0034	3.7466	3.7228	3.7109	3.5842	3.5730	3.4489
Internal		2B		3.5170	3.4790		3.6021	3.5876	3.7500
External	33/4-4 UNC	3A	0.0000	3.7500	3.7262	-	3.5876	3.5792	3.4523
Internal		3B		3.5094	3.4790		3.5985	3.5876	3.7500
External	33/4-6 UN	2A	0.0029	3.7471	3.7289	-	3.6388	3.6290	3.5487
Internal		2B		3.6000	3.5700		3.6544	3.6417	3.7500

External	33/4-6 UN	3A	0.0000	3.7500	3.7318	-	3.6417	3.6344	3.5516
Internal		3B		3.5896	3.5700		3.6512	3.6417	3.7500
External	33/4-8 UN	2A	0.0027	3.7473	3.7323	3.7248	3.6661	3.6571	3.5985
Internal		2B		3.6400	3.6150		3.6805	3.6688	3.7500
External	33/4-8 UN	3A	0.0000	3.7500	3.7350	-	3.6688	3.6621	3.6012
Internal		3B		3.6297	3.6150		3.6776	3.6688	3.7500
External	33/4-10 UNS	2A	0.0021	3.7479	3.7350	-	3.6829	3.6289	3.6289
Internal		2B		3.6630	3.6420		3.6940	3.6850	3.7500
External	33/4-12 UN	2A	0.0019	3.7481	3.7367	-	3.6940	3.6876	3.6489
Internal		2B		3.6780	3.6600		3.7043	3.6959	3.7500
External	33/4-12 UN	3A	0.0000	3.7500	3.7386	-	3.6959	3.6911	3.6508
Internal		3B		3.6698	3.6600		3.7022	3.6959	3.7500
External	33/4-14 UNS	2A	0.0018	3.7482	3.7379	-	3.7018	3.6632	3.6632
Internal		2B		3.6880	3.6730		3.7115	3.7036	3.7500
External	33/4-16 UN	2A	0.0017	3.7483	3.7389	-	3.7077	3.7019	3.6738
Internal		2B		3.6960	3.6820		3.7169	3.7094	3.7500
External	33/4-16 UN	3A	0.0000	3.7500	3.7406	-	3.7094	3.7051	3.6755
Internal		3B		3.6908	3.6820		3.7150	3.7094	3.7500
External	33/4-18 UNS	2A	0.0017	3.7483	3.7396	-	3.7122	3.6822	3.6822
Internal		2B		3.7030	3.6900		3.7211	3.7139	3.7500
External	37/8-6 UN	2A	0.0030	3.8720	3.8538	-	3.7637	3.7538	3.6736
Internal		2B		3.7250	3.6950		3.7795	3.7667	3.8750
External	37/8-6 UN	3A	0.0000	3.8750	3.8568	-	3.7667	3.7593	3.6766

Internal		3B		3.7146	3.6950		3.7763	3.7667	3.8750
External	37/8-8 UN	2A	0.0027	3.8723	3.8573	-	3.7911	3.7820	3.7235
Internal		2B		3.7650	3.7400		3.8056	3.7938	3.8750
External	37/8-8 UN	3A	0.0000	3.8750	3.8600	-	3.7938	3.7870	3.7262
Internal		3B		3.7547	3.7400		3.8026	3.7938	3.8750
External	37/8-12 UN	2A	0.0020	3.8730	3.8616	-	3.8189	3.8124	3.7738
Internal		2B		3.8030	3.7850		3.8294	3.8209	3.8750
External	37/8-12 UN	3A	0.0000	3.8750	3.8636	-	3.8209	3.8160	3.7758
Internal		3B		3.7948	3.7850		3.8273	3.8209	3.8750
External	37/8-16 UN	2A	0.0018	3.8732	3.8638	-	3.8326	3.8267	3.7987
Internal		2B		3.8210	3.8070		3.8420	3.8344	3.8750
External	37/8-16 UN	3A	0.0000	3.8750	3.8656	-	3.8344	3.8300	3.8005
Internal		3B		3.8158	3.8070		3.8401	3.8344	3.8750
External	4-4 UNC	1A	0.0034	3.9966	3.9609	-	3.8342	3.8172	3.6989
Internal		1B		3.7670	3.7290		3.8597	3.8376	4.0000
External	4-4 UNC	2A	0.0034	3.9966	3.9728	-	3.8342	3.8229	3.6989
Internal		2B		3.7670	3.7290		3.8523	3.8376	4.0000
External	4-4 UNC	3A	0.0000	4.0000	3.9762	-	3.8376	3.8291	3.7023
Internal		3B		3.7594	3.7290		3.8487	3.8376	4.0000
External	4-6 UN	2A	0.0030	3.9970	3.9788	-	3.8887	3.8788	3.7986
Internal		2B		3.8500	3.8200		3.9046	3.8917	4.0000
External	4-6 UN	3A	0.0000	4.0000	3.9818	-	3.8917	3.8843	3.8016
Internal		3B		3.8396	3.8200		3.9014	3.8917	4.0000

External	4-8 UN	2A	0.0027	3.9973	3.9823	3.9748	3.9161	3.9070	3.8485
Internal		2B		3.8900	3.8650		3.9307	3.9188	4.0000
External	4-8 UN	3A	0.0000	4.0000	3.9850	-	3.9188	3.9120	3.8512
Internal		3B		3.8797	3.8650		3.9277	3.9188	4.0000
External	4-10 UNS	2A	0.0021	3.9979	3.9850	-	3.9329	3.9259	3.8768
Internal		2B		3.9130	3.8920		3.9441	3.9350	4.0000
External	4-12 UN	2A	0.0020	3.9980	3.9866	-	3.9439	3.9374	3.8988
Internal		2B		3.9280	3.9100		3.9544	3.9459	4.0000
External	4-12 UN	3A	0.0000	4.0000	3.9886	-	3.9459	3.9410	3.9008
Internal		3B		3.9198	3.9100		3.9523	3.9459	4.0000
External	4-14 UNS	2A	0.0018	3.9982	3.9879	-	3.9518	3.9456	3.9132
Internal		2B		3.9380	3.9230		3.9616	3.9536	4.0000
External	4-16 UN	2A	0.0018	3.9982	3.9888	-	3.9576	3.9517	3.9237
Internal		2B		3.9460	3.9320		3.9670	3.9594	4.0000
External	4-16 UN	3A	0.0000	4.0000	3.9906	-	3.9594	3.9550	3.9255
Internal		3B		3.9408	3.9320		3.9651	3.9594	4.0000



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