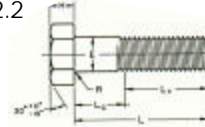


HEAVY HEX BOLTS & NUTS

Heavy Hex Bolts UNC 2A ANSI/ASME B18.2.1 • UNC 2B ANSI/ASME B18.2.2



This chart may be used for
A307 Grade B, A193 B7, B8 (304), and B8M (316) Stainless

NOMINAL SIZE OR BASIC BOLT DIA	E		F				G		H			R		I _T (REF) THREAD LENGTH	
	BODY DIA	MAX	WIDTH ACROSS FLATS		WIDTH ACROSS CORNERS		HEIGHT			RADIUS OF FILLET		FOR BOLT LENGTH ≤ 6 IN.	FOR BOLT LENGTH ≥ 6 IN.		
			BASIC	MAX	MIN	MAX	MIN	BASIC	MAX	MIN	MAX			MIN	
1/2	0.5000	0.515	7/8	0.875	0.850	1.010	0.969	11/32	0.364	0.302	0.03	0.01	1.250	1.500	
5/8	0.6250	0.642	1 1/16	1.062	1.031	1.227	1.175	27/64	0.444	0.378	0.06	0.02	1.500	1.750	
3/4	0.7500	0.768	1 1/4	1.250	1.212	1.443	1.383	1/2	0.524	0.455	0.06	0.02	1.750	2.000	
7/8	0.8750	0.895	1 7/16	1.438	1.394	1.660	1.589	37/64	0.604	0.531	0.06	0.02	2.000	2.250	
1	1.0000	1.022	1 5/8	1.625	1.575	1.876	1.796	43/64	0.700	0.591	0.09	0.03	2.250	2.500	
1 1/8	1.1250	1.149	1	1.812	1.756	2.093	2.002	3/4	0.780	0.658	0.09	0.03	2.500	2.750	
1 1/4	1.2500	1.277	2	2.000	1.938	2.309	2.209	27/32	0.876	0.749	0.09	0.03	2.750	3.000	
1 3/8	1.3750	1.404	2 3/16	2.188	2.119	2.526	2.416	29/32	0.940	0.810	0.09	0.03	3.000	3.250	
1 1/2	1.5000	1.531	2 3/8	2.375	2.300	2.742	2.622	1	1.036	0.902	0.09	0.03	3.250	3.500	
1 3/4	1.7500	1.785	2 3/4	2.750	2.662	3.175	3.035	1 5/32	1.196	1.054	0.12	0.04	3.750	4.000	
2	2.0000	2.039	3 1/8	3.125	3.025	3.608	3.449	1	1.388	1.175	0.12	0.04	4.250	4.500	
2 1/4	2.2500	2.305	3 1/2	3.500	3.388	4.041	3.862	1 1/2	1.548	1.327	0.19	0.06	4.750	5.000	
2 1/2	2.5000	2.559	3 7/8	3.875	3.750	4.474	4.275	1	1.708	1.479	0.19	0.06	5.250	5.500	
2 3/4	2.7500	2.827	4 1/4	4.250	4.112	4.907	4.688	1	1.869	1.632	0.19	0.06	5.750	6.000	
3	3.0000	3.081	4 5/8	4.625	4.475	5.340	5.102	2	2.060	1.815	0.19	0.06	6.250	6.500	



Below 6" : 2x Dia. + 1/4 = T.L.
 Above 6" : 2x Dia. + 1/2 = T.L.

Heavy Hex Nuts and Hex Jam Nuts ASTM A563 & A194 2H

NOMINAL SIZE OR BASIC BOLT DIA	F			G		H			H ₁			RUNOUT OF BEARING SURFACE-FIR		
	WIDTH ACROSS FLATS			WIDTH ACROSS CORNERS		THICKNESS HEAVY HEX NUTS			THICKNESS HEAVY HEX JAM NUTS			HEX NUTS WITH SPECIFIED PROOF LOADS LESS THAN 150,000 PSI AND ALL HEX JAM NUTS	HEX NUTS WITH SPECIFIED PROOF LOADS EQUAL TO 150,000 PSI AND GREATER	
	BASIC	MAX	MIN	MAX	MIN	BASIC	MAX	MIN	BASIC	MAX	MIN	MAX	MAX	
1/4	.2500	1/2	0.500	0.488	0.577	0.556	15/64	0.25	0.21	11/64	0.188	0.156	0.017	0.011
5/16	0.3125	9/16	0.562	0.546	0.650	0.622	19/64	0.31	0.28	13/64	0.220	0.186	0.020	0.012
3/8	0.3750	11/16	0.688	0.669	0.794	0.763	23/64	0.37	0.34	15/64	0.252	0.216	0.021	0.014
7/16	0.4375	3/4	0.750	0.728	0.866	0.830	27/64	0.44	0.40	17/64	0.285	0.247	0.022	0.015
1/2	0.5000	7/8	0.875	0.850	1.010	0.969	31/64	0.50	0.46	19/64	0.317	0.277	0.029	0.022
9/16	0.5625	15/16	0.938	0.909	1.083	1.037	35/64	0.56	0.52	21/64	0.349	0.307	0.031	0.024
5/8	0.6250	1	1.062	1.031	1.227	1.175	39/64	0.63	0.58	23/64	0.381	0.337	0.033	0.027
3/4	0.7500	1 1/4	1.250	1.212	1.443	1.382	47/64	0.75	0.71	27/64	0.446	0.398	0.035	0.030
7/8	0.8750	1	1.438	1.394	1.660	1.589	55/64	0.88	0.83	31/64	0.510	0.458	0.029	0.022
1	1.0000	1 5/8	1.625	1.575	1.876	1.796	63/64	1.01	0.95	35/64	0.575	0.519	0.031	0.024
1 1/8	1.1250	1	1.812	1.756	2.093	2.002	1	1.13	1.07	39/64	0.639	0.579	0.033	0.027
1 1/4	1.2500	2	2.000	1.938	2.309	2.209	1	1.25	1.18	23/32	0.751	0.687	0.035	0.030
1 3/8	1.3750	2	2.188	2.119	2.526	2.416	1	1.37	1.31	25/32	0.815	0.747	0.038	0.033
1 1/2	1.5000	2 3/8	2.375	2.300	2.742	2.622	1	1.50	1.43	27/32	0.880	0.808	0.041	0.036
1 5/8	1.6250	2	2.562	2.481	2.959	2.828	1	1.63	1.55	29/32	0.944	0.868	0.044	0.038
1 3/4	1.7500	2 3/4	2.750	2.662	3.175	3.035	1	1.75	1.67	31/31	1.009	0.929	0.048	0.041
1 7/8	1.8750	2	2.938	2.844	3.392	3.242	1	1.88	1.80	1	1.073	0.989	0.074	0.064
2	2.0000	3 1/8	3.125	3.025	3.608	3.449	1	2.01	1.92	1	1.138	1.050	0.081	0.070
2 1/4	2.2500	3 1/2	3.500	3.388	4.041	3.862	2	2.25	2.15	1	1.251	1.155	0.080	0.075
2 1/2	2.5000	3 7/8	3.875	3.750	4.474	4.275	2	2.50	2.40	1	1.505	1.401	0.094	0.081
2 3/4	2.7500	4 1/4	4.250	4.112	4.907	4.688	2	2.75	2.64	1	1.634	1.522	0.074	0.064
3	3.0000	4 5/8	4.625	4.475	5.340	5.102	2	3.01	2.89	1	1.763	1.643	0.081	0.070
3 1/4	3.2500	5	5.000	4.838	5.774	5.515	3	3.25	3.12	1	1.876	1.748	0.087	0.075