

# HEAVY HEX BOLTS

ANSI/ASME  
B18.2.1  
1981

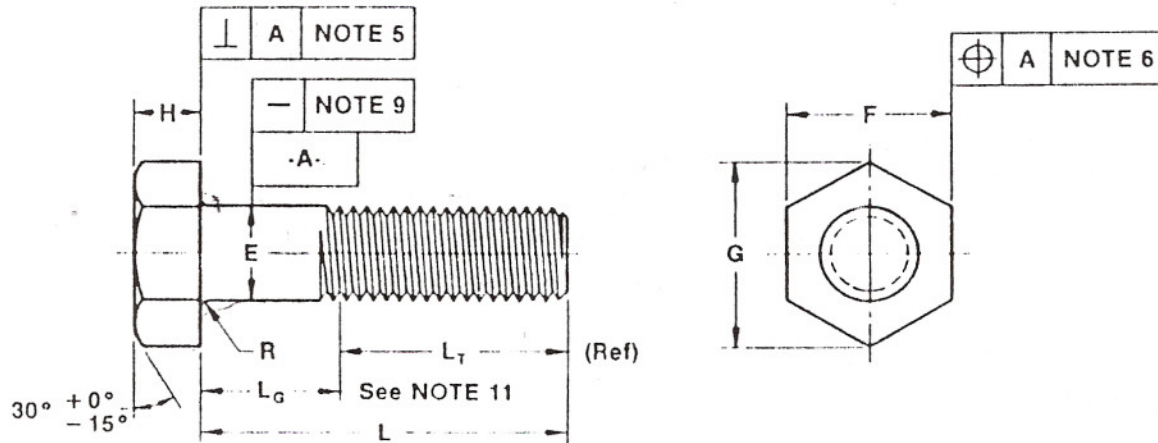


Table 3 Dimensions of Heavy Hex Bolts

Nominal Size or Basic Product Dia	E Body Dia	F Width Across Flats				G Width Across Corners		H Height			R Radius of Fillet		Lt Thread Length For Bolt Lengths		
		Max	Basic	Max	Min	Max	Min	Basic	Max	Min	Max	Min	6 in. and shorter	over 6 in.	
													Basic	Basic	
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	
<b>1</b>	<b>1.0000</b>	<b>1.022</b>	<b>1-5/8</b>	<b>1.625</b>	<b>1.575</b>	<b>1.876</b>	<b>1.796</b>	<b>43/64</b>	<b>0.700</b>	<b>0.591</b>	<b>0.09</b>	<b>0.03</b>	<b>2.250</b>	<b>2.500</b>	
1-1/8	1.1250	1.149	1-13/16	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	1-11/32	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	1-21/32	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	1-13/16	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	
See Notes	1, 17, 18	7, 14	4						15					11	

Notes to Table 3:

- Unification.** Bold type indicates products unified dimensionally with British and Canadian standards.
- Surface Condition.** Bolts need not be finished on any surface except threads.
- Top of Head.** Top of head shall be full form and chamfered or rounded with the diameter of chamfer circle or start of rounding being equal to the maximum width across flats, within a tolerance of minus 15 percent.

- Head Taper.** Maximum width across flats shall not be exceeded. No transverse section through the head between 25 and 75 percent of actual head height as measured from the bearing surface shall be less than the minimum width across flats.
- Bearing Surface.** A die seam across the bearing surface is permissible. Bearing surface shall be perpendicular to the body within a tolerance of 3 deg for 1 in. size and smaller, and 2 deg for sizes larger than 1 in.