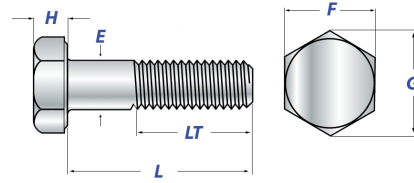




Hex Head Cap Screws Dimensions & Specifications



Hex Cap Screws: Head & Thread Dimensions													
Nominal or Basic Product Diameter		Body Diameter (E)		Width Across Flats (F)			Width Across Corners (G)		Head Height (H)			Thread Length (LT)	
		Max	Min	Basic	Max	Min	Max	Min	Basic	Max	Min	<or=6"	>6"
1/4	.2500	.2500	.2450	7/16	.438	.428	.505	.488	5/32	.163	.150	.750	1.000
5/16	.3125	.3125	.3065	1/2	.500	.489	.577	.557	13/64	.211	.195	.875	1.125
3/8	.3750	.3750	.3690	9/16	.562	.551	.650	.628	15/64	.243	.226	1.000	1.250
7/16	.4375	.4375	.4305	5/8	.625	.612	.722	.698	9/32	.291	.272	1.125	1.375
1/2	.5000	.5000	.4930	3/4	.750	.736	.866	.840	5/16	.323	.302	1.250	1.500
9/16	.5625	.5625	.5545	13/16	.812	.798	.938	.910	23/64	.371	.348	1.375	1.625
5/8	.6250	.6250	.6170	15/16	.938	.922	1.083	1.051	25/64	.403	.378	1.500	1.750
3/4	.7500	.7500	.7410	1-1/8	1.125	1.100	1.299	1.254	15/32	.483	.455	1.750	2.000
7/8	.8750	.8750	.8660	1-5/16	1.312	1.285	1.516	1.465	35/64	.563	.531	2.000	2.250
1	1.0000	1.0000	.9900	1-1/2	1.500	1.469	1.732	1.675	39/64	.627	.591	2.250	2.500
1-1/8	1.1250	1.1250	1.1140	1-11/16	1.688	1.631	1.949	1.859	11/16	.718	.658	2.500	2.750
1-1/4	1.2500	1.2500	1.2390	1-7/8	1.875	1.812	2.162	2.066	25/32	.813	.749	2.750	3.000
1-1/2	1.5000	1.5000	1.4880	2-1/4	2.250	2.175	2.598	2.480	1-5/16	.974	.902	3.250	3.500

Hex Cap Screws : Tolerance on Length					
Nominal Screw Size	Nominal Screw Length				
	Up to 1"	Over 1" - 2-1/2"	Over 2-1/2" - 4"	Over 4" - 6"	Longer than 6"
1/4 - 3/8	-.03	-.04	-.06	-.10	-.18
7/16 & 1/2	-.03	-.06	-.08	-.10	-.18
9/16 - 3/4	-.03	-.08	-.10	-.10	-.18
7/8 and 1	-	-.10	-.14	-.16	-.20
1-1/8 - 1-1/2	-	-.12	-.16	-.18	-.22

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Hex Cap Screws : Performance & Mechanical Stats					
	Grade 2	Grade 5	Grade 8	Stainless Steel 18-8	Stainless Steel 316
					
Applications	Non-critical applications, economical	Greater tensile strength than Grade 2. Yield to tensile ratio is the lowest of all heat treated steels.	High stress applications	General corrosion resistance such as chemical or food-processing equipment	Greater corrosion resistance, strength and temperature
Material	Low or medium carbon steel. AISI - 1006-1050	Medium carbon steel (or alloy), heat treated	Medium carbon alloy steel, heat treated	Austenitic alloys: 303, 303Se, 304, XM7 (chromium 17-19% and nickel content 8-10%)	316 Stainless Steel (Molybdenum content 2-3% and nickel content 10-14%)
Heat Treatment	N/A	Heat treated, oil or water quenched, tempered at 800 Deg (F) min.	Heat treated, oil quenched, tempered at 800 Deg (F) min.		
Hardness	1/4"-3/4" D, Up to 6" L: Rockwell B80-B100 1/4"-3/4" D, Over 6" L: Rockwell B70-B100 7/8"-1-1/2" D, all lengths: Rockwell B70-B100	See below	See below	1/4"-5/8" D: Rockwell B95-C32 3/4"-1" D: Rockwell B80-C32	1/4"-5/8" D: Rockwell B95-C323 3/4"-1" D: Rockwell B80-C32
Core Hardness	See above	1/4"-1" D, all lengths: Rockwell C25-C34 1-1/8"-1-1/2" D, all lengths: Rockwell C19-C30	1/4"-1-1/2", all lengths: Rockwell C33-C39	See above	See above
Surface Hardness	See above	1/4"-1" D, all lengths: Rockwell 30N54 max 1-1/8"-1-1/2" D, all lengths: Rockwell 30N50 max	1/4"-1-1/2" D, all lengths: Rockwell 30N58.6 max	See above	See above
Proof Load	1/4"-3/4" D, Up to 6" L: 55,000 psi 1/4"-3/4" D, Over 6" L: 33,000 psi 7/8"-1-1/2" D, all lengths: 33,000 psi	1/4"-1" D, all lengths: 85,000 psi 1-1/8"-1-1/2" D, all lengths: 74,000 psi	1/4"-1-1/2" D, all lengths: 120,000 psi		
Yield Strength	1/4"-3/4" D, Up to 6" L: 57,000 psi min. 1/4"-3/4" D, Over 6" L: 36,000 psi min 7/8"-1-1/2" D, all lengths: 36,000 psi min	1/4"-1" D, all lengths: 92,000 psi min 1-1/8"-1-1/2" D, all lengths: 81,000 psi min	1/4"-1-1/2" D, all lengths: 130,000 psi min	1/4"-5/8" D, 2.25 D and longer: 65,000 psi min 3/4" (2.25D and longer) & 7/8"-1" D (3D and longer): 45,000 psi min	1/4"-5/8" D, 2.25 D and longer: 65,000 psi min 3/4" (2.25D and longer) & 7/8"-1" D (3D and longer): 45,000 psi min
Tensile Strength	1/4"-3/4" D, Up to 6" L: 74,000 psi min. 1/4"-3/4" D, Over 6" L: 60,000 psi min 7/8"-1-1/2" D, all lengths: 60,000 psi min	1/4"-1" D, all lengths: 120,000 psi min 1-1/8"-1-1/2" D, all lengths: 105,000 psi min	1/4"-1-1/2" D, all lengths: 150,000 psi min	1/4"-5/8" D, 2.25 D and longer: 100,000-150,000 psi 3/4" (2.25D and longer) & 7/8"-1" D (3D and longer): 85,000-140,000 psi	1/4"-5/8" D, 2.25 D and longer: 100,000-150,000 psi 3/4" (2.25D and longer) & 7/8"-1" D (3D and longer): 85,000-140,000 psi
Elongation	18% min	14% min	12% min	4D - 1/4"-5/8" D: 20% min, 3/4"-1" D: 25% min	4D - 1/4"-5/8" D: 20% min, 3/4"-1" D: 25% min
Reduction of Area	35% min	35% min	35% min		