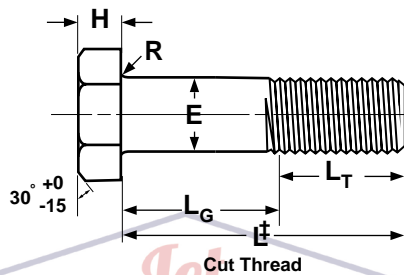


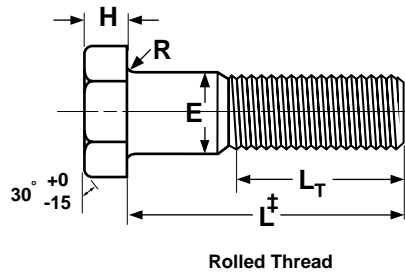
Cap Screws & Bolts

Hot Dip Galvanized

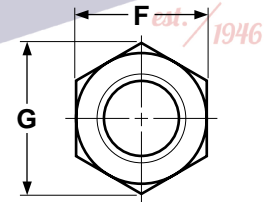
Hex Machine Bolts



Cut Thread



Rolled Thread



UNDERSIDE OF HEAD

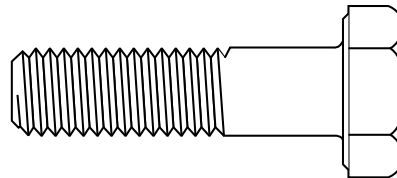
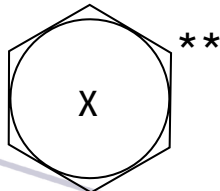
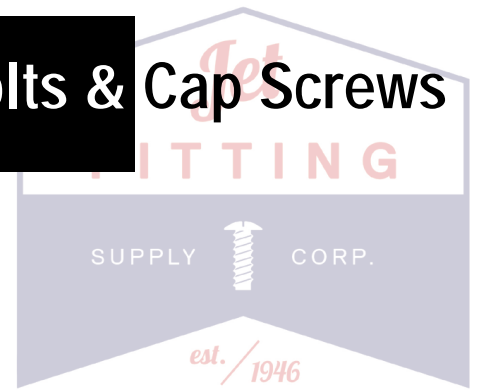
‡Length of a machine bolt is measured from the underhead bearing surface to the extreme end of the bolt.

HEX MACHINE BOLTS														ASME B18.2.1-1996	
Nominal Size Or Basic Diameter	E		F				G		H			R		L _T	
	Body Diameter		Width Across Flats				Width Across Corners		Head Height			Radius of Fillet		Thread Length For Bolt Lengths	
	Max.	Min.	Basic	Max.	Min.	Max.	Min.	Basic	Max.	Min.	Max.	Min.	Basic	Basic	
1/4 0.2500	0.260	0.237	7/16	0.438	0.425	0.505	0.484	11/64	0.188	0.150	0.03	0.01	0.750	1.000	
5/16 0.3125	0.324	0.298	1/2	0.500	0.484	0.577	0.552	7/32	0.235	0.195	0.03	0.01	0.875	1.125	
3/8 0.3750	0.388	0.360	9/16	0.562	0.544	0.650	0.620	1/4	0.268	0.226	0.03	0.01	1.000	1.250	
1/2 0.5000	0.515	0.482	3/4	0.750	0.725	0.866	0.826	11/32	0.364	0.302	0.03	0.01	1.250	1.500	
5/8 0.6250	0.642	0.605	15/16	0.938	0.906	1.083	1.033	27/64	0.444	0.378	0.06	0.02	1.500	1.750	
3/4 0.7500	0.768	0.729	1-1/8	1.125	1.088	1.299	1.240	1/2	0.524	0.455	0.06	0.02	1.750	2.000	
7/8 0.8750	0.895	0.852	1-5/16	1.312	1.269	1.516	1.447	37/64	0.604	0.531	0.06	0.02	2.000	2.250	
1 1.0000	1.022	0.976	1-1/2	1.500	1.450	1.732	1.653	43/64	0.700	0.591	0.09	0.03	2.250	2.500	

Tolerance on Length	Nominal Screw Size	Nominal Screw Length				
		Up to 1 in., incl.	Over 1 in. to 2-1/2 in., incl.	Over 2-1/2 in. to 4 in., incl.	Over 4 in. to 6 in., incl.	Longer than 6 in.
	1/4 to 3/8	+0.02, -0.03	+0.02, -0.04	+0.04, -0.06	+0.06, -0.10	+0.10, -0.18
	7/16 and 1/2	+0.02, -0.03	+0.04, -0.06	+0.06, -0.08	+0.08, -0.10	+0.12, -0.18
	9/16 to 3/4	+0.02, -0.03	+0.06, -0.08	+0.08, -0.10	+0.10, -0.10	+0.14, -0.18
	7/8 and 1	...	+0.08, -0.10	+0.10, -0.14	+0.12, -0.16	+0.16, -0.20

Hex Machine
Bolts

Hot Dip Galvanized Bolts & Cap Screws



Description	A low or medium carbon steel, externally threaded mechanical device, 1/4 inch in diameter or larger, with a trimmed hex head and a hot-dip galvanized coating. A hex bolt does not have a washer face on its bearing surface as does a hex cap screw, nor does it have a machined point. Its body tolerances are not as close as those of a cap screw.
Applications/ Advantages	Designed to be used in highly corrosive environments (ie. coastal locales and heavily polluted atmospheres). May be inserted into an oversized hole and should be assembled with a nut.
Material	Machine bolts shall be manufactured from steel which conforms to the following chemical composition requirements: <i>Phosphorus: 0.06% maximum; Sulfur: 0.15% maximum.</i>
Hardness	Bolts of a length < 3X nominal diameter: Rockwell B69 - B100. Bolts of a length => 3X nominal diameter: Rockwell B100 maximum.
Tensile Strength	60,000 psi. minimum.
Elongation*	18% minimum (all diameters)
Plating	See Appendix-A for plating information.



*These properties are tested only on machined specimens when the testing machine cannot provide for full testing of the parts.

**Product standards require the manufacturer's head marking to appear on the top of all bolts 1/4" diameter and larger. "X" represents one location such a marking may appear.