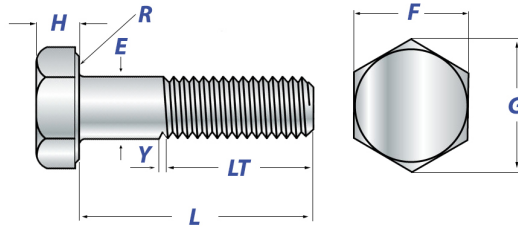


A325 & A490 Bolts: Dimensions & Specifications



Structural Bolts, A325 & A490: Head & Thread Dimensions (ASME 18.2.6-1996)															
Nominal * or Basic Product Diameter		Body Diameter (E)		Width Across Flats (F)			Width Across Corners (G)		Head Height (H)			Radius of Fillet (R)		Thread Length (LT)	Transition Thread Length (Y)
		Max	Min	Basic	Max	Min	Max	Min	Basic	Max	Min	Max	Min	Ref	Max Ref
1/2	.5000	.515	.482	7/8	.875	.850	1.010	.969	5/16	.323	.302	.031	.009	1.00	.19
5/8	.6250	.642	.605	1-1/16	1.062	1.031	1.227	1.175	25/64	.403	.378	.062	.021	1.25	.22
3/4	.7500	.768	.729	1-1/4	1.250	1.212	1.443	1.383	15/32	.483	.455	.062	.021	1.38	.25
7/8	.8750	.895	.852	1-7/16	1.438	1.394	1.660	1.589	35/64	.563	.531	.062	.031	1.50	.28
1	1.0000	1.022	.976	1-5/8	1.625	1.575	1.876	1.796	39/64	.627	.591	.093	.062	1.75	.31
1-1/8	1.1250	1.149	1.098	1-13/16	1.812	1.756	2.093	2.002	11/16	.718	.658	.093	.062	2.00	.34
1-1/4	1.2500	1.277	1.223	2	2.000	1.938	2.309	2.209	25/32	.813	.749	.093	.062	2.00	.38
1-3/8	1.3750	1.404	1.345	2-3/16	2.188	2.119	2.526	2.416	27/32	.878	.810	.093	.062	2.25	.44
1-1/2	1.5000	1.531	1.470	2-3/8	2.375	2.300	2.742	2.622	15/16	.974	.902	.093	.062	2.25	.44

Structural Bolts, A325 & A490: Tolerance on Length			
Nominal Screw Size	Nominal Screw Length		
	Up to 6"		Longer than 6"
1/2	-.12		-.19
5/8	-.12		-.25
3/4 - 1	-.19		-.25
1-1/8 - 1	-.25		-.25

Structural Bolts, A325 & A490 : Performance & Mechanical Stats			
	ASTM A325, Type 1	ASTM A490, Type 1	ASTM A490, Type 3
Description	A heavy hex bolt made of medium carbon steel. The bearing surface shall be flat and washer faced, and the point is chamfered.	A heavy hex bolt made of alloy steel. The bearing surface shall be flat and washer faced, and the point is chamfered.	
Applications	Commonly used in structural steel joints in heavy construction.	Used in structural steel joints in heavy construction when greater yield strengths than those of an A325 bolt are required.	Used in structural steel joints in heavy construction when greater yield strengths than those of an A325 bolt are required. A Type 3 bolt is approx. twice as resistant to corrosion as Type 1 bolt.
Material	Carbon steel	Alloy Steel	Corrosion-Resistant Steel
Heat Treatment	Heat treated, quenched in a liquid medium from above the austenitizing temperature and then tempering by reheating to a temperature of at least 800 Degrees (F)	Heat treated, quenched in oil from above the transformation temperature and then tempered by reheating to a temperature of at least 800 Degrees (F).	Heat treated, quenched in a suitable liquid from above the transformation temperature then tempered by reheating to a temperature of at least 800 Degrees (F).
Hardness	1/2"- 1" D: Rockwell C24-35 1-1/8"- 1-1/2" D: Rockwell C19-31	Rockwell C33-38	
Proof Load	1/2"- 1" D: 85,000 psi 1-1/8"- 1-1/2" D: 74,000 psi	120,000 psi	
Yield Strength	1/2"- 1" D: 92,000 psi min 1-1/8"- 1-1/2" D: 81,000 psi min	130,000 psi min	
Tensile Strength	1/2"- 1" D: 120,000 psi min 1-1/8"- 1-1/2" D: 105,000 psi min	150,000 - 170,000 psi	