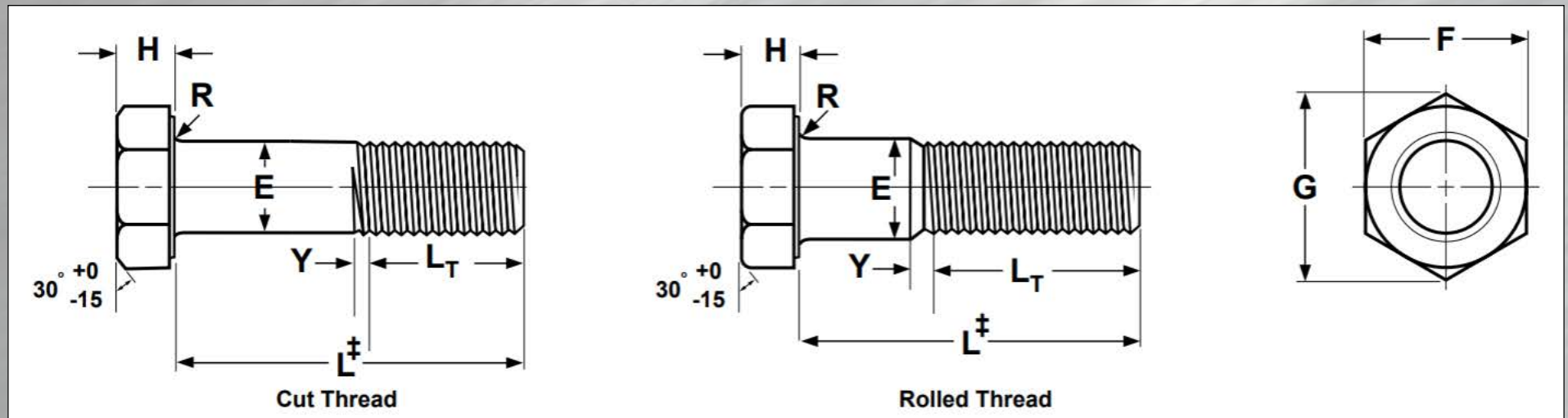


STRUCTURAL BOLTS - PLAIN FINISH

ASTM A325 & ASTM A490





545 Basket Road • Webster, NY 14580
 Toll Free • 800.691.0292 | Local • 585.265.1990 | Fax • 585.265.6678
 sales@fastenersdirect.com
 www.fastenersdirect.com

STRUCTURAL BOLTS - PLAIN FINISH

ASTM A325 & ASTM A490

Nominal Size or Basic Product Diameter	E		F		G		H		R		L	Y			
	Body Diameter		Width Across Flats		Width Across Corners		Head Height		Radius of Fillet		Thread Length	Tran- sition Thread Length			
	Max	Min	Basic	Max	Min	Max	Min	Basic	Max	Min	Max	Min	Ref	Max, Ref	
1/2	0.5000	0.515	0.482	7/8	0.875	0.850	1.010	0.969	5/16	0.323	0.302	0.031	0.009	1.00	0.19
5/8	0.6250	0.642	0.605	1-1/16	1.062	1.031	1.227	1.175	25/64	0.403	0.378	0.062	0.021	1.25	0.22
3/4	0.7500	0.768	0.729	1-1/4	1.250	1.212	1.443	1.383	15/32	0.483	0.455	0.062	0.021	1.38	0.25
7/8	0.8750	0.895	0.852	1-7/16	1.438	1.394	1.660	1.589	35/64	0.563	0.531	0.062	0.031	1.50	0.28
1	1.0000	1.022	0.976	1-5/8	1.625	1.575	1.876	1.796	39/64	0.563	0.531	0.093	0.062	1.75	0.31
1-1/8	1.1250	1.149	1.098	1-13/16	1.812	1.756	2.093	2.002	11/16	0.718	0.658	0.093	0.062	2.00	0.34
1-1/4	1.2500	1.277	1.223	2	2.000	1.938	2.309	2.209	25/32	0.813	0.749	0.093	0.062	2.00	0.38
1-3/8	1.3750	1.404	1.345	2-3/16	2.188	2.119	2.526	2.416	27/32	0.878	0.810	0.093	0.062	2.25	0.44
1-1/2	1.5000	1.531	1.470	2-3/8	2.375	2.300	2.742	2.622	15/16	0.974	0.902	0.093	0.062	2.25	0.44



545 Basket Road • Webster, NY 14580
Toll Free • 800.691.0292 | Local • 585.265.1990 | Fax • 585.265.6678
sales@fastenersdirect.com
www.fastenersdirect.com

STRUCTURAL BOLTS - PLAIN FINISH

ASTM A325 & ASTM A490

	Nominal Screw Size	Nominal Screw Length	
		Through 6 in.	Over 6 in.
Tolerance on Length	1/2	-0.12	-0.19
	5/8	-0.12	-0.25
	3/4 through 1	-0.19	-0.25
	1-1/8 through 1-1/2	-0.25	-0.25



545 Basket Road • Webster, NY 14580
Toll Free • 800.691.0292 | Local • 585.265.1990 | Fax • 585.265.6678
sales@fastenersdirect.com
www.fastenersdirect.com

STRUCTURAL BOLTS - PLAIN FINISH

ASTM A325 & ASTM A490

ASTM A325 BOLTS, TYPE 1

Description	A heavy hex bolt made from medium carbon steel. The bearing surface shall be flat and washer faced, and the point is chamfered.
Applications / Advantages	Commonly used in structural steel joins in heavy construction.
Material	Type 1 bolts shall be made from a carbon steel which conforms to the following chemical composition requirements: • Carbon: 0.25-0.58% • Manganese: 0.57% minimum • Phosphorus: 0.048% maximum • Sulfur: 0.058% maximum
Heat Treatment	Type 1 bolts shall be heat treated by quenching in a liquid medium from above the austenitizing temperature and then tempering by reheating to a temperature of at least 800* F
Hardness	1/2" through 1" diameter, inclusive: Rockwell C24 - 35 1-1/8" through 1-1/2" diameter, inclusive: Rockwell C19 - 31
Proof Load	1/2" through 1" diameter, inclusive: 85,000 psi 1-1/8" through 1-1/2" diameter, inclusive: 74,000 psi
Yield Strength	1/2" through 1" diameter, inclusive: 92,000 psi minimum 1-1/8" through 1-1/2" diameter, inclusive: 81,000 psi minimum
Tensile Strength	1/2" through 1" diameter, inclusive: 120,000 psi minimum 1-1/8" through 1-1/2" diameter, inclusive: 105,000 psi minimum



545 Basket Road • Webster, NY 14580
Toll Free • 800.691.0292 | Local • 585.265.1990 | Fax • 585.265.6678
sales@fastenersdirect.com
www.fastenersdirect.com

STRUCTURAL BOLTS - PLAIN FINISH

ASTM A325 & ASTM A490

ASTM A325 BOLTS, TYPE 1 & 3

Description	A heavy hex bolt made of alloy steel. The bearing surface shall be flat and washer faced, and the point is chamfered.
Applications / Advantages	Used in structural steel joints in heavy construction when greater yield and tensile strengths than those of an A325 bolt are required. A Type 3 bolt is approximately twice as resistant to corrosion as a Type 1 bolt.
Material	Type 1 bolts shall be made from a carbon steel which conforms to the following chemical composition requirements: • Carbon: 0.25-0.58% • Manganese: 0.57% minimum • Phosphorus: 0.048% maximum • Sulfur: 0.058% maximum Type 3 bolts shall be made from a corrosion resistant steel which conforms to the following chemical composition requirements: • Carbon: 0.19-0.55% • Manganese: 0.37% minimum • Phosphorus: 0.045% maximum • Sulfur: 0.055% maximum • Copper: 0.63% maximum • Chromium: 0.42% minimum • Nickel: 0.17% minimum • Molybdenum: 0.14% minimum
Heat Treatment	Type 1 bolts shall be heat treated by quenching in oil from above the transformation temperature. Type 3 bolts shall be quenched in a suitable liquid from above the transformation temperature. Type 1 and Type 3 bolts shall be tempered by reheating to a temperature of at least 800°F
Hardness	Rockwell C33 - 38
Proof Load	120,000 psi
Yield Strength	130,000 psi minimum
Tensile Strength	150,000 - 170,000 psi