

Tensile Strength

Tensile Strength of Common Bolts, Cap Screws, and Threaded Rod

Size	ASTM A325 (Structural Bolts)		ASTM A490 (Structural Bolts)		ASTM A449 (Bolts/Cap Screws)		ASTM A354, Gr. BD (Bolts)		ASTM A193, Gr. B7 (B7 Thd Rod/Bolts)	
	PSI	Pounds	PSI	Pounds	PSI	Pounds	PSI	Pounds	PSI	Pounds
NC Threads										
1/4-20					120,000	3800	150,000	4750	125,000	3975
5/16-18					120,000	6300	150,000	7850	125,000	6550
3/8-16					120,000	9300	150,000	11,650	125,000	9700
7/16-14					120,000	12,750	150,000	15,950	125,000	13,300
1/2-13	120,000	17,050	150,000	21,300	120,000	17,050	150,000	21,300	125,000	17,750
9/16-12					120,000	21,850	150,000	27,300	125,000	22,750
5/8-11	120,000	27,100	150,000	33,900	120,000	27,100	150,000	33,900	125,000	28,250
3/4-10	120,000	40,100	150,000	50,100	120,000	40,100	150,000	50,100	125,000	41,750
7/8-9	120,000	55,450	150,000	69,300	120,000	55,450	150,000	69,300	125,000	57,750
1-8	120,000	72,700	150,000	90,900	120,000	72,700	150,000	90,900	125,000	75,750
1 1/8-7	105,000	80,100	150,000	114,450	105,000	80,100	150,000	114,450	125,000	95,400
1 1/4-7	105,000	101,700	150,000	145,350	105,000	101,700	150,000	145,350	125,000	121,150
1 3/8-6	105,000	121,300	150,000	173,250	105,000	121,300	150,000	173,250	125,000	144,400
1 1/2-6	105,000	147,500	150,000	210,750	105,000	147,500	150,000	210,750	125,000	175,650
1 3/4-5					90,000	171,000	150,000	285,000	125,000	237,500
2-4 1/2					90,000	225,000	150,000	375,000	125,000	312,500
NF Threads										
1/4-28					120,000	4350	150,000	5450	125,000	4550
5/16-24					120,000	6950	150,000	8700	125,000	7250
3/8-24					120,000	10,550	150,000	13,200	125,000	11,000
7/16-20					120,000	14,250	150,000	17,800	125,000	14,850
1/2-20					120,000	19,200	150,000	24,000	125,000	20,000
9/16-18					120,000	24,350	150,000	30,400	125,000	25,400
5/8-18					120,000	30,700	150,000	38,400	125,000	32,000
3/4-16					120,000	44,750	150,000	56,000	125,000	46,650
7/8-14					120,000	61,100	150,000	76,400	125,000	63,650
1-12					120,000	79,550	150,000	99,400	125,000	82,900
1-14							150,000	101,900	125,000	84,900
1 1/8-12					105,000	89,900	150,000	128,400	125,000	107,000
1 1/4-12					105,000	112,650	150,000	161,000	125,000	134,150
1 3/8-12					105,000	138,100	150,000	197,200	125,000	164,400
1 1/2-12					105,000	166,000	150,000	237,200	125,000	197,650

Ultimate Tensile Load:

*Maximum tensile-applied load or force a fastener can support prior to or coincidental with it's fracture.
Normally expressed in pounds.*

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