
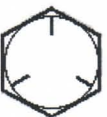
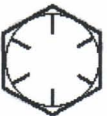



# MECHANICAL REQUIREMENTS FOR STEEL BOLTS

Grade & Head Marking	Nom. Bolt Size Diam., In.	Coarse Thread		Fine Thread		Hardness	Material Strength in P.S.I.
		Proof Load, Lb.	Tensile Strength Min., Lb.	Proof Load, Lb.	Tensile Strength Min., Lb.	Rockwell	
<b>SAE GRADE 2</b>  	1/4	1,750	2,350	2,000	2,700	80-100B	Low Carbon Steel. Up to 3/4 inch Proof Load 55,000 psi, Tensile Strength Minimum 74,000 psi. Over 3/4 inch to 1 1/2 inch Proof Load 33,000 psi, Tensile Strength Minimum 60,000 psi.
	5/16	2,900	3,900	3,200	4,300		
	3/8	4,250	5,750	4,800	6,500		
	7/16	5,850	7,850	6,550	8,800		
	1/2	7,800	10,500	8,800	11,800		
	9/16	10,000	13,500	11,200	15,000		
	5/8	12,400	16,700	14,100	18,900	70-100B	
	3/4	18,400	24,700	20,500	27,600		
	7/8	15,200	27,700	16,800	30,500		
	1	20,000	36,400	21,900	39,800		
	1 1/8	25,200	45,800	28,200	51,400		
	1 1/4	32,000	58,100	35,400	64,400		
	1 3/8	38,100	69,300	43,400	78,900		
	1 1/2	46,400	84,300	52,200	94,900		
<b>SAE GRADE 5 OR ASTM A-325</b>  	1/4	2,700	3,800	3,100	4,350	25-34C	Medium Carbon Steel. Quenched and Tempered. Up to 1 inch Proof Load 85,000 psi. Over 1 inch to 1 1/2 inch Proof Load 74,000 psi. Tensile Strength Minimum 105,000 psi.
	5/16	4,450	6,300	4,900	6,950		
	3/8	6,600	9,300	7,450	10,550		
	7/16	9,050	12,800	10,100	14,400		
	1/2	12,100	17,000	13,600	19,200		
	9/16	15,500	21,800	17,300	24,400		
	5/8	19,200	27,100	21,800	30,700	19-30C	
	3/4	28,400	40,100	31,700	44,800		
	7/8	39,300	55,400	43,300	61,100		
	1	51,500	72,700	56,400	79,600		
	1 1/8	56,500	80,100	63,350	89,900		
	1 1/4	71,700	101,700	79,400	112,700		
	1 3/8	85,500	121,300	97,300	138,100		
	1 1/2	104,000	147,500	117,000	166,000		
<b>SAE GRADE 8 OR ASTM A-354 GRADE BD ASTM-A490</b>  	1/4	3,800	4,750	4,350	5,450	32-38C	Medium Carbon Alloy* Steel, Quenched and Tempered. Up to 1 1/2 inch Proof Load 120,000 psi. Tensile Strength Minimum 150,000 psi.
	5/16	6,300	7,850	6,950	8,700		
	3/8	9,300	11,600	10,500	13,200		
	7/16	12,800	15,900	14,200	17,800		
	1/2	17,000	21,300	19,200	24,000		
	9/16	21,800	27,300	24,400	30,400		
	5/8	27,100	33,900	30,700	38,400	39-43C	
	3/4	40,100	50,100	44,800	56,000		
	7/8	55,400	69,300	61,100	76,400		
	1	72,700	90,900	79,600	99,400		
	1 1/8	91,600	114,400	102,700	128,400		
	1 1/4	116,300	145,400	128,800	161,000		
	1 3/8	138,600	173,200	157,800	197,200		
	1 1/2	168,600	210,800	189,700	237,200		
<b>LAMALLOY L'</b>  	1/4	4,600	5,700	5,280	6,550	39-43C	Medium Carbon Alloy Steel. Quenched and Tempered. Up to 1 1/2 inch Proof Load 145,000 psi. Tensile Strength Minimum 180,000 psi.
	5/16	7,600	9,450	8,410	10,450		
	3/8	11,250	13,950	12,730	15,800		
	7/16	15,400	19,150	17,200	21,350		
	1/2	20,600	25,550	23,200	28,800		
	9/16	26,400	32,750	29,450	36,550		
	5/8	32,750	40,700	37,100	46,100	39-43C	
	3/4	48,500	60,100	54,100	67,150		
	7/8	67,000	83,150	73,800	91,600		
	1	87,900	109,100	96,200	119,350		
	1 1/8	110,700	137,350	124,100	154,100		
	1 1/4	140,500	174,400	155,600	193,150		
	1 3/8	167,500	207,900	190,700	236,700		
	1 1/2	203,700	252,900	229,200	284,600		

\*Carbon steel may be used by agreement between producer and consumer in size 1/4 thru 3/4 inch. SAE 1541 (1041) steel oil quenched and tempered, may be used at the option of the producer for sizes 7/16 inch and smaller.