

THESE VALUES ARE ONLY A GUIDE AND MUST NOT BE RELIED UPON IN PLACE OF LOCAL ENGINEERING DATA

TORQUE GUIDE FOR **ASTM A193 GRADE B7 AND B16** BOLTS (105,000 P.S.I. MIN. YIELD STRESS)
 BOLT TENSION BASED ON **50** PERCENT YIELD



B7					REQUIRED TORQUE (FtLbs)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLATS	STRESS AREA (IN ²)	MIN YIELD STRESS (PSI)	BOLT TENSION (LBS)	TS801MOLY DRY FILM SPRAY K=.109	MOLYBDE NUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRA PHITE K=.125	COPPER GRAPH. K=.140	NICKEL GRAPH. K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.300	CUSTOM PLUG IN K VALUE
													0.109
3/4 x 10	1-1/4"	0.334	105,000	17,550	120	110	137	154	165	172	219	329	120
7/8 x 9	1-7/16"	0.461	105,000	24,229	193	177	221	247	265	277	353	530	193
1x 8	1-5/8"	0.605	105,000	31,785	289	265	331	371	397	416	530	795	289
1-1/8 x 8	1-13/16"	0.790	105,000	41,478	424	389	486	544	583	611	778	1,167	424
1-1/4 x 8	2"	0.999	105,000	52,458	596	546	683	765	820	858	1,093	1,639	596
1-3/8 x 8	2-3/16"	1.233	105,000	64,726	808	742	927	1,038	1,112	1,164	1,483	2,225	808
1-1/2 x 8	2-3/8"	1.491	105,000	78,282	1,067	979	1,223	1,370	1,468	1,536	1,957	2,936	1,067
1-5/8 x 8	2-9/16"	1.774	105,000	93,126	1,375	1,261	1,576	1,766	1,892	1,980	2,522	3,783	1,375
1-3/4 x 8	2-3/4"	2.081	105,000	109,257	1,737	1,593	1,992	2,231	2,390	2,502	3,187	4,780	1,737
1-7/8 x 8	2-15/16"	2.413	105,000	126,677	2,157	1,979	2,474	2,771	2,969	3,108	3,959	5,938	2,157
2 x 8	3-1/8"	2.769	105,000	145,385	2,641	2,423	3,029	3,392	3,635	3,804	4,846	7,269	2,641
2-1/8 x 8	3-5/16"	3.150	105,000	165,380	3,192	2,929	3,661	4,100	4,393	4,598	5,857	8,786	3,192
2-1/4 x 8	3-1/2"	3.555	105,000	186,663	3,815	3,500	4,375	4,900	5,250	5,495	7,000	10,500	3,815
2-3/8 x 8	3-11/16"	3.985	105,000	209,234	4,514	4,141	5,176	5,798	6,212	6,502	8,282	12,423	4,514
2-1/2 x 8	3-7/8"	4.440	105,000	233,094	5,293	4,856	6,070	6,799	7,284	7,624	9,712	14,568	5,293
2-3/4 x 8	4-1/4"	5.422	95,000	257,563	6,434	5,902	7,378	8,263	8,854	9,267	11,805	17,707	6,434
3 x 8	4-5/8"	6.503	95,000	308,894	8,417	7,722	9,653	10,811	11,584	12,124	15,445	23,167	8,417
3-1/4 x 8	5"	7.682	95,000	364,885	10,772	9,882	12,353	13,835	14,823	15,515	19,765	29,647	10,772
3-1/2 x 8	5-3/8"	8.959	95,000	425,537	13,529	12,411	15,514	17,376	18,617	19,486	24,823	37,234	13,529
3-3/4 x 8	5-3/4"	10.334	95,000	490,850	16,720	15,339	19,174	21,475	23,009	24,082	30,678	46,017	16,720
4 x 8	6-1/8"	11.807	95,000	560,824	20,377	18,694	23,368	26,172	28,041	29,350	37,388	56,082	20,377
4-1/4 x 8	6-1/2"	13.378	75,000	501,678	19,367	17,768	22,210	24,875	26,652	27,895	35,536	53,303	19,367
4-1/2 x 8	6-7/8"	15.047	75,000	564,280	23,065	21,160	26,451	29,625	31,741	33,222	42,321	63,481	23,065
4-3/4 x 8	7-1/4"	16.815	75,000	630,562	27,206	24,960	31,200	34,944	37,440	39,187	49,919	74,879	27,206
5 x 8	7-5/8"	18.681	75,000	700,523	31,815	29,188	36,486	40,864	43,783	45,826	58,377	87,565	31,815
5-1/4 x 8	8"	20.644	75,000	774,164	36,918	33,870	42,337	47,418	50,805	53,175	67,739	101,609	36,918
5-1/2 x 8	8-3/8"	22.706	75,000	851,485	42,539	39,026	48,783	54,637	58,540	61,271	78,053	117,079	42,539
5-3/4 x 8	8-3/4"	24.866	75,000	932,485	48,703	44,682	55,852	62,554	67,022	70,150	89,363	134,045	48,703
6 x 8	9-1/8"	27.124	75,000	1,017,165	55,436	50,858	63,573	71,202	76,287	79,847	101,717	152,575	55,436

To use spread sheet click desired tab for B7 or B16 material
 Enter the desired percent yield in yellow field at top of form
 If 'K' factor is not listed then enter appropriate value under Custom (insert K) , in yellow field only
 as always- after entering any value, click outside the field or hit enter to update calculations.
 Reduction in minimum yield stress above 2-1/2" diameter is due to stud not hardening uniformly all the way to the center.