

American National Standard Flange SPECIFICATIONS				Torque Chart for ASTM A193 Grade B7 Studs In Ft./Lbs At <b>60% Of Yield</b> Add .04 to the u to = K factor					
300 lb				Moly Lube u=0.085 K=0.125	Nickel Lube u=0.110 K=0.150	Copper Lube u=0.100 K=0.140	Machine Oil u=0.160 K=.200	Dry Torque u=0.400 K=0.440	Tool Model
PIPE SIZE	BOLT DIA.	# OF BOLTS	HEAVY HEX A/F						
1/2"	1/2"	4	7/8"						
3/4"	5/8"	4	1-1/16"						
1"	5/8"	4	1-1/16"						
1-1/4"	5/8"	4	1-1/16"						
1-1/2"	3/4"	4	1-1/4"	165	197	184	263	579	Versa-1
2"	5/8"	4	1-1/16"						
2-1/2"	3/4"	4	1-1/4"	165	197	184	263	579	Versa-1
3"	3/4"	4	1-1/4"	165	197	184	263	579	Versa-1
3-1/2"	3/4"	8	1-1/4"	165	197	184	263	579	Versa-1
4"	3/4"	8	1-1/4"	165	197	184	263	579	Versa-1
5"	3/4"	8	1-1/4"	165	197	184	263	579	Versa-1
6"	3/4"	8	1-1/4"	165	197	184	263	579	Versa-1
8"	7/8"	8	1-7/16"	265	318	297	424	933	Versa-1
10"	1"	12	1-5/8"	397	477	445	636	1399	Versa-1
12"	1-1/8"	12	1-13/16"	543	700	653	933	2053	Stealth-2
14"	1-1/8"	12	1-13/16"	543	700	653	933	2053	Stealth-2
16"	1-1/4"	16	2"	820	984	918	1311	2885	Stealth-2
18"	1-1/4"	16	2"	820	984	918	1311	2885	Stealth-2
20"	1-1/4"	20	2"	820	984	918	1311	2885	Stealth-2
24"	1-1/2"	20	2-3/8"	1468	1761	1644	2348	5167	Stealth-4
26"	1-5/8"	24	2-9/16"	1892	2270	2119	3027	6658	Stealth-4
28"	1-5/8"	28	2-9/16"	1892	2270	2119	3027	6658	Stealth-4
30"	1-3/4"	28	2-3/4"	2390	2868	2677	3824	8413	Stealth-4
32"	1-7/8"	28	2-15/16"	2969	3563	3325	4750	10451	Stealth-8
34"	1-7/8"	32	2-15/16"	2969	3563	3325	4750	10451	Stealth-8
36"	2"	32	3-1/8"	3635	4362	4071	5815	12794	Stealth-8
38"	1-1/2"	32	2-3/8"	1468	1761	1644	2348	5167	Stealth-4

<b>40"</b>	<b>1-5/8"</b>	<b>32</b>	<b>2-9/16"</b>	<b>1892</b>	<b>2270</b>	<b>2119</b>	<b>3027</b>	<b>6658</b>	<b>Stealth-4</b>
42"	1-5/8"	32	2-9/16"	1892	2270	2119	3027	6658	Stealth-4
<b>44"</b>	<b>1-3/4"</b>	<b>32</b>	<b>2-3/4"</b>	<b>2390</b>	<b>2868</b>	<b>2677</b>	<b>3824</b>	<b>8413</b>	<b>Stealth-4</b>
46"	1-7/8"	28	2-15/16"	2939	3563	3325	4750	10451	Stealth-8
<b>48"</b>	<b>1-7/8"</b>	<b>32</b>	<b>2-15/16"</b>	<b>2939</b>	<b>3563</b>	<b>3325</b>	<b>4750</b>	<b>10451</b>	<b>Stealth-8</b>
50"	2"	32	3-1/8"	3635	4362	4071	5815	12794	Stealth-8
<b>52"</b>	<b>2"</b>	<b>32</b>	<b>3-1/8"</b>	<b>3635</b>	<b>4362</b>	<b>4071</b>	<b>5815</b>	<b>12794</b>	<b>Stealth-8</b>
54"	2-1/4"	28	3-1/2"	5250	6300	5880	8400	18480	Stealth-14
<b>56"</b>	<b>2-1/4"</b>	<b>28</b>	<b>3-1/2"</b>	<b>5250</b>	<b>6300</b>	<b>5880</b>	<b>8400</b>	<b>18480</b>	<b>Stealth-14</b>
58"	2-1/4"	32	3-1/2"	5250	6300	5880	8400	18480	Stealth-14
<b>60"</b>	<b>2-1/4"</b>	<b>32</b>	<b>3-1/2"</b>	<b>5250</b>	<b>6300</b>	<b>5880</b>	<b>8400</b>	<b>18480</b>	<b>Stealth-14</b>

**This spread sheet is to be used as a guide. all results should be analyzed against actual field results to establish their validity.**