

American National Standard Flange SPECIFICATIONS				Torque Chart for ASTM A193 Grade B7 Studs In Ft./Lbs At <b>50% 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"	137	165	154	219	483	Versa-1
2"	5/8"	4	1-1/16"						
2-1/2"	3/4"	4	1-1/4"	137	165	154	219	483	Versa-1
3"	3/4"	4	1-1/4"	<b>137</b>	<b>165</b>	<b>154</b>	<b>219</b>	<b>483</b>	<b>Versa-1</b>
3-1/2"	3/4"	8	1-1/4"	137	165	154	219	483	Versa-1
4"	3/4"	8	1-1/4"	<b>137</b>	<b>165</b>	<b>154</b>	<b>219</b>	<b>483</b>	<b>Versa-1</b>
5"	3/4"	8	1-1/4"	137	165	154	219	483	Versa-1
6"	3/4"	8	1-1/4"	<b>137</b>	<b>165</b>	<b>154</b>	<b>219</b>	<b>483</b>	<b>Versa-1</b>
8"	7/8"	8	1-7/16"	221	265	247	353	777	Versa-1
10"	1"	12	1-5/8"	<b>331</b>	<b>397</b>	<b>371</b>	<b>530</b>	<b>1165</b>	<b>Versa-1</b>
12"	1-1/8"	12	1-13/16"	486	583	544	778	1711	Stealth-2
14"	1-1/8"	12	1-13/16"	<b>486</b>	<b>583</b>	<b>544</b>	<b>778</b>	<b>1711</b>	<b>Stealth-2</b>
16"	1-1/4"	16	2"	683	765	820	1093	2404	Stealth-2
18"	1-1/4"	16	2"	<b>683</b>	<b>765</b>	<b>820</b>	<b>1093</b>	<b>2404</b>	<b>Stealth-2</b>
20"	1-1/4"	20	2"	683	765	820	1093	2404	Stealth-2
24"	1-1/2"	20	2-3/8"	<b>1223</b>	<b>1468</b>	<b>1370</b>	<b>1957</b>	<b>4306</b>	<b>Stealth-4</b>
26"	1-5/8"	24	2-9/16"	1576	1766	1892	2522	5549	Stealth-4
28"	1-5/8"	28	2-9/16"	<b>1576</b>	<b>1766</b>	<b>1892</b>	<b>2522</b>	<b>5549</b>	<b>Stealth-4</b>
30"	1-3/4"	28	2-3/4"	1992	2390	2231	3187	7011	Stealth-4
32"	1-7/8"	28	2-15/16"	<b>2474</b>	<b>2969</b>	<b>2771</b>	<b>3959</b>	<b>8709</b>	<b>Stealth-8</b>
34"	1-7/8"	32	2-15/16"	2474	2969	2771	3959	8709	Stealth-8
36"	2"	32	3-1/8"	<b>3029</b>	<b>3635</b>	<b>3392</b>	<b>4846</b>	<b>10662</b>	<b>Stealth-8</b>
38"	1-1/2"	32	2-3/8"	1223	1468	1370	1957	4306	Stealth-4

<b>40"</b>	<b>1-5/8"</b>	<b>32</b>	<b>2-9/16"</b>	<b>1576</b>	<b>1892</b>	<b>1766</b>	<b>2522</b>	<b>5549</b>	<b>Stealth-4</b>
42"	1-5/8"	32	2-9/16"	1576	1892	1766	2522	5549	Stealth-4
<b>44"</b>	<b>1-3/4"</b>	<b>32</b>	<b>2-3/4"</b>	<b>1992</b>	<b>2390</b>	<b>2231</b>	<b>3187</b>	<b>7011</b>	<b>Stealth-4</b>
46"	1-7/8"	28	2-15/16"	2474	2969	2771	3959	8709	Stealth-8
<b>48"</b>	<b>1-7/8"</b>	<b>32</b>	<b>2-15/16"</b>	<b>2474</b>	<b>2969</b>	<b>2771</b>	<b>3959</b>	<b>8709</b>	<b>Stealth-8</b>
50"	2"	32	3-1/8"	3029	3635	3392	4846	10662	Stealth-8
<b>52"</b>	<b>2"</b>	<b>32</b>	<b>3-1/8"</b>	<b>3029</b>	<b>3635</b>	<b>3392</b>	<b>4846</b>	<b>10662</b>	<b>Stealth-8</b>
54"	2-1/4"	28	3-1/2"	4375	5250	4900	7000	15400	Stealth-14
<b>56"</b>	<b>2-1/4"</b>	<b>28</b>	<b>3-1/2"</b>	<b>4375</b>	<b>5250</b>	<b>4900</b>	<b>7000</b>	<b>15400</b>	<b>Stealth-14</b>
58"	2-1/4"	32	3-1/2"	4375	5250	4900	7000	15400	Stealth-14
<b>60"</b>	<b>2-1/4"</b>	<b>32</b>	<b>3-1/2"</b>	<b>4375</b>	<b>5250</b>	<b>4900</b>	<b>7000</b>	<b>15400</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.**