

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					
150 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"	1/2"	4	7/8"						
1"	1/2"	4	7/8"						
1-1/4"	1/2"	4	7/8"						
1-1/2"	1/2"	4	7/8"						
2"	5/8"	4	1-1/16"						
2-1/2"	5/8"	4	1-1/16"						
3"	5/8"	4	1-1/16"						
3-1/2"	5/8"	8	1-1/16"						
4"	5/8"	8	1-1/16"						
5"	3/4"	8	1-1/4"	137	165	154	219	486	Versa-1
6"	3/4"	8	1-1/4"	137	165	154	219	486	Versa-1
8"	3/4"	8	1-1/4"	137	165	154	219	486	Versa-1
10"	7/8"	12	1-7/16"	221	265	247	353	777	Versa-1
12"	7/8"	12	1-7/16"	221	265	247	353	777	Versa-1
14"	1"	12	1-5/8"	331	397	371	530	1165	Versa-1
16"	1"	16	1-5/8"	331	397	371	530	1165	Versa-1
18"	1-1/8"	16	1-13/16"	486	583	544	778	1711	Stealth-2
20"	1-1/8"	20	1-13/16"	486	583	544	778	1711	Stealth-2
24"	1-1/4"	20	2"	683	820	765	1093	2404	Stealth-2
26"	1-1/4"	24	2"	683	820	765	1093	2404	Stealth-2
28"	1-1/4"	28	2"	683	820	765	1093	2404	Stealth-2
30"	1-1/4"	28	2"	683	820	765	1093	2404	Stealth-2
32"	1-1/2"	28	2-3/8"	1223	1468	1370	1957	4306	Stealth-4
34"	1-1/2"	32	2-3/8"	1223	1468	1370	1957	4306	Stealth-4
36"	1-1/2"	32	2-3/8"	1223	1468	1370	1957	4306	Stealth-4
38"	1-1/2"	32	2-3/8"	1223	1468	1370	1957	4306	Stealth-4

<b>40"</b>	<b>1-1/2"</b>	<b>36</b>	<b>2-3/8"</b>	<b>1223</b>	<b>1468</b>	<b>1370</b>	<b>1957</b>	<b>4306</b>	<b>Stealth-4</b>
42"	1-1/2"	36	2-3/8"	1223	1468	1370	1957	4306	Stealth-4
<b>44"</b>	<b>1-1/2"</b>	<b>40</b>	<b>2-3/8"</b>	<b>1223</b>	<b>1468</b>	<b>1370</b>	<b>1957</b>	<b>4306</b>	<b>Stealth-4</b>
46"	1-1/2"	40	2-3/8"	1223	1468	1370	1957	4306	Stealth-4
<b>48"</b>	<b>1-1/2"</b>	<b>44</b>	<b>2-3/8"</b>	<b>1223</b>	<b>1468</b>	<b>1370</b>	<b>1957</b>	<b>4306</b>	<b>Stealth-4</b>
50"	1-3/4"	44	2-3/4"	1992	2390	2231	3187	7011	Stealth-4
<b>52"</b>	<b>1-3/4"</b>	<b>44</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>
54"	1-3/4"	44	2-3/4"	1992	2390	2231	3187	7011	Stealth-4
<b>56"</b>	<b>1-3/4"</b>	<b>48</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>
58"	1-3/4"	48	2-3/4"	1992	2390	2231	3187	7011	Stealth-4
<b>60"</b>	<b>1-3/4"</b>	<b>52</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>

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