

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					
600 lb				Moly Lube u=0.085 K=.0125	Nickel Lube u=0.110 K=.150	Copper Lube u=0.100 K=.140	Machine Oil u=0.160 K=.200	Dry Torque u=0.400 K=.440	Tool Model
PIPE SIZE	BOLT DIA.	# OF BOLTS	HEAVY HEX A/F						
1/2"	1/2"	4	7/8"						
<b>3/4"</b>	<b>5/8"</b>	<b>4</b>	<b>1-1/16"</b>						
1"	5/8"	4	1-1/16"						
<b>1-1/4"</b>	<b>5/8"</b>	<b>4</b>	<b>1-1/16"</b>						
1-1/2"	3/4"	4	1-1/4"	137	165	154	219	483	Versa-1
<b>2"</b>	<b>5/8"</b>	<b>8</b>	<b>1-1/16"</b>						
2-1/2"	3/4"	8	1-1/4"	137	165	154	219	483	Versa-1
<b>3"</b>	<b>3/4"</b>	<b>8</b>	<b>1-1/4"</b>	<b>137</b>	<b>165</b>	<b>154</b>	<b>219</b>	<b>483</b>	<b>Versa-1</b>
3-1/2"	N/A	N/A	N/A						
<b>4"</b>	<b>7/8"</b>	<b>8</b>	<b>1-7/16"</b>	<b>221</b>	<b>265</b>	<b>247</b>	<b>353</b>	<b>777</b>	<b>Versa-1</b>
5"	1"	8	1-5/8"	331	397	371	530	1165	Versa-1
<b>6"</b>	<b>1"</b>	<b>12</b>	<b>1-5/8"</b>	<b>331</b>	<b>397</b>	<b>371</b>	<b>530</b>	<b>1165</b>	<b>Versa-1</b>
8"	1-1/8"	12	1-13/16"	486	583	544	778	1711	Stealth-2
<b>10"</b>	<b>1-1/4"</b>	<b>16</b>	<b>2"</b>	<b>683</b>	<b>820</b>	<b>765</b>	<b>1093</b>	<b>2404</b>	<b>Stealth-2</b>
12"	1-1/4"	20	2"	683	820	765	1093	2404	Stealth-2
<b>14"</b>	<b>1-3/8"</b>	<b>20</b>	<b>2-3/16"</b>	<b>927</b>	<b>1112</b>	<b>1038</b>	<b>1483</b>	<b>3263</b>	<b>Stealth-4</b>
16"	1-1/2"	20	2-3/8"	1223	1468	1370	1957	4306	Stealth-4
<b>18"</b>	<b>1-5/8"</b>	<b>20</b>	<b>2-9/16"</b>	<b>1586</b>	<b>1892</b>	<b>1766</b>	<b>2522</b>	<b>5549</b>	<b>Stealth-4</b>
20"	1-5/8"	24	2-9/16"	1586	1892	1766	2522	5549	Stealth-4
<b>24"</b>	<b>1-5/8"</b>	<b>24</b>	<b>2-9/16"</b>	<b>1586</b>	<b>1893</b>	<b>1766</b>	<b>2522</b>	<b>5549</b>	<b>Stealth-4</b>
26"	1-7/8"	28	2-15/16"	2474	2969	2771	3959	8709	Stealth-8
<b>28"</b>	<b>1-7/8"</b>	<b>28</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>
30"	2"	28	3-1/8"	3029	3635	3392	4846	10662	Stealth-14
<b>32"</b>	<b>2"</b>	<b>28</b>	<b>3-1/8"</b>	<b>3029</b>	<b>3635</b>	<b>3392</b>	<b>4846</b>	<b>10662</b>	<b>Stealth-14</b>
34"	2-1/4"	28	3-1/2"	4375	5250	4900	7000	15400	Stealth-14
<b>36"</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>
38"	2-1/4"	28	3-1/2"	4375	5250	4900	7000	15400	Stealth-14

<b>40"</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>
42"	2-1/2"	28	3-7/8"	5492	6590	6151	8787	19332	Stealth-14
<b>44"</b>	<b>2-1/2"</b>	<b>32</b>	<b>3-7/8"</b>	<b>5492</b>	<b>6590</b>	<b>6151</b>	<b>8787</b>	<b>19332</b>	<b>Stealth-14</b>
46"	2-1/2"	32	3-7/8"	5492	6590	6151	8787	19332	Stealth-14
<b>48"</b>	<b>2-3/4"</b>	<b>32</b>	<b>4-1/4"</b>	<b>7378</b>	<b>8854</b>	<b>8263</b>	<b>11805</b>	<b>25971</b>	<b>Stealth-22</b>
50"	3"	28	4-5/8"	9653	11584	10811	15445	33978	Stealth-36
<b>52"</b>	<b>3"</b>	<b>32</b>	<b>4-5/8"</b>	<b>9653</b>	<b>11584</b>	<b>10811</b>	<b>15445</b>	<b>33978</b>	<b>Stealth-36</b>
54"	3"	32	4-5/8"	9653	11584	10811	15445	33978	Stealth-36
<b>56"</b>	<b>3-1/4"</b>	<b>32</b>	<b>5"</b>	<b>12353</b>	<b>14823</b>	<b>13835</b>	<b>19765</b>	<b>43482</b>	<b>Stealth-36</b>
58"	3-1/4"	32	5"	12353	14823	13835	19765	43482	Stealth-36
<b>60"</b>	<b>3-1/2"</b>	<b>28</b>	<b>5-3/8"</b>	<b>15514</b>	<b>18617</b>	<b>17376</b>	<b>24823</b>	<b>54611</b>	<b>Stealth-36</b>

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