

| American National Standard Flange<br>SPECIFICATIONS |               |            |                 | Torque Chart For ASTM A193 Grade B7 Studs In Ft./Lbs At <b>70% Of Yield</b> |                        |                        |                        |                       |                   |
|---|---------------|------------|-----------------|---|------------------------|------------------------|------------------------|-----------------------|-------------------|
| 1500 lb   |               |            |                 |   |                        |                        |                        |                       |                   |
| PIPE SIZE   | BOLT DIA.     | # OF BOLTS | HEAVY HEX A/F   | Moly Lube<br>u=0.085  | Nickel Lube<br>u=0.110 | Copper Lube<br>u=0.100 | Machine Oil<br>u=0.160 | Dry Torque<br>u=0.400 | Tool Model        |
| 1/2"  | 3/4"          | 4          | 1-1/4"          | 154   | 230                    | 215                    | 307                    | 676                   | Stealth-2         |
| <b>3/4"</b>   | <b>3/4"</b>   | <b>4</b>   | <b>1-1/4"</b>   | <b>154</b>  | <b>230</b>             | <b>215</b>             | <b>307</b>             | <b>676</b>            | <b>Stealth-2</b>  |
| 1"  | 7/8"          | 4          | 1-7/16"         | 247   | 371                    | 346                    | 495                    | 1088                  | Stealth-2         |
| <b>1-1/4"</b>                                       | <b>7/8"</b>   | <b>4</b>   | <b>1-7/16"</b>  | <b>247</b>  | <b>371</b>             | <b>346</b>             | <b>495</b>             | <b>1088</b>           | <b>Stealth-2</b>  |
| 1-1/2"  | 1"            | 4          | 1-5/8"          | 371   | 556                    | 519                    | 742                    | 1632                  | Stealth-2         |
| <b>2"</b>   | <b>7/8"</b>   | <b>8</b>   | <b>1-7/16"</b>  | <b>231</b>  | <b>380</b>             | <b>350</b>             | <b>501</b>             | <b>1250</b>           | <b>Stealth-2</b>  |
| 2-1/2"  | 1"            | 8          | 1-5/8"          | 371   | 556                    | 519                    | 742                    | 1632                  | Stealth-2         |
| <b>3"</b>   | <b>1-1/8"</b> | <b>8</b>   | <b>1-13/16"</b> | <b>544</b>  | <b>817</b>             | <b>762</b>             | <b>1089</b>            | <b>2395</b>           | <b>Stealth-2</b>  |
| N/A   | N/A           | N/A        | N/A             |   |                        |                        |                        |                       |                   |
| <b>4"</b>   | <b>1-1/4"</b> | <b>8</b>   | <b>2"</b>       | <b>765</b>  | <b>1148</b>            | <b>1530</b>            | <b>1530</b>            | <b>3366</b>           | <b>Stealth-2</b>  |
| 5"  | 1-1/2"        | 8          | 2-3/8"          | 1370  | 2055                   | 1918                   | 2740                   | 6028                  | Stealth-4         |
| <b>6"</b>   | <b>1-3/8"</b> | <b>12</b>  | <b>2-3/16"</b>  | <b>901</b>  | <b>1526</b>            | <b>1400</b>            | <b>2025</b>            | <b>5149</b>           | <b>Stealth-4</b>  |
| 8"  | 1-5/8"        | 12         | 2-9/16"         | 1766  | 2648                   | 2472                   | 3531                   | 7768                  | Stealth-4         |
| <b>10"</b>  | <b>1-7/8"</b> | <b>12</b>  | <b>2-15/16"</b> | <b>2771</b>   | <b>4157</b>            | <b>3879</b>            | <b>5542</b>            | <b>12193</b>          | <b>Stealth-8</b>  |
| 12"   | 2"            | 16         | 3-1/8"          | 3392  | 5088                   | 4749                   | 6785                   | 14926                 | Stealth-8         |
| <b>14"</b>  | <b>2-1/4"</b> | <b>16</b>  | <b>3-1/2"</b>   | <b>4900</b>   | <b>6150</b>            | <b>5740</b>            | <b>8200</b>            | <b>18040</b>          | <b>Stealth-14</b> |
| 16"   | 2-1/2"        | 16         | 3-7/8"          | 6151  | 9227                   | 8612                   | 12302                  | 27065                 | Stealth-14        |
| <b>18"</b>  | <b>2-3/4"</b> | <b>16</b>  | <b>4-1/4"</b>   | <b>8263</b>   | <b>12395</b>           | <b>11569</b>           | <b>16527</b>           | <b>36359</b>          | <b>Stealth-22</b> |
| 20"   | 3"            | 16         | 4-5/8"          | 10811   | 16217                  | 15136                  | 21623                  | 45570                 | Stealth-36        |
| <b>24"</b>  | <b>3-1/2"</b> | <b>16</b>  | <b>5-3/8"</b>   | <b>17376</b>  | <b>26064</b>           | <b>24327</b>           | <b>34752</b>           | <b>76455</b>          | <b>Stealth-36</b> |