# PROPERTIES OF A193 B8 TYPE 2

| NOMINAL DIAMETER | PITCH in TPI | | | stress area in mm2 | | | BOLT, SCREW & STUD ASTM A193 B8-2 | | | | | | HEAVY HEX NUT ASTM A194 Gr. 8 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SIZE | UNC | UNF | 8UN | UNC | UNF | 8UN | Yeild Stress 8UN N/mm | Yeild Load 8UN KN | Tensile Stress N/mm | Tourque* N m | Hard-ness HRC | ELONGA-TION# % | Proof Stress N/mm | Proof Load 8UN KN | Hard-ness HRC |
| 1/4 | 20 | 28 | | 20.5 | 23.5 | | | | | | | | | | |
| 5/16 | 18 | 24 | | 33.8 | 37.5 | | | | | | | | | | |
| 3/8 | 16 | 24 | | 50.0 | 56.7 | | | | | | | | | | |
| 7/16 | 14 | 20 | | 68.6 | 76.6 | | | | | | | | | | |
| 1/2 | 13 | 20 | | 91.5 | 103 | 91.5 | 690 | 63.1 | 862 | 107.6 | -35 | 12.0 | 552 | 50.5 | 60-105 |
| 9/16 | 12 | 18 | | 117 | 131 | 117 | 690 | 80.7 | 862 | 154.8 | -35 | 12.0 | 552 | 64.6 | 60-105 |
| 5/8 | 11 | 18 | | 146 | 165 | 146 | 690 | 100.7 | 862 | 214.7 | -35 | 12.0 | 552 | 80.6 | 60-105 |
| 3/4 | 10 | 16 | | 216 | 241 | 216 | 690 | 149.0 | 862 | 381.2 | -35 | 12.0 | 552 | 119.2 | 60-105 |
| 7/8 | 9 | 14 | | 298 | 329 | 298 | 552 | 164.5 | 793 | 490.8 | -35 | 15.0 | 552 | 164.5 | 60-105 |
| 1 | 8 | 12 | 8 | 391 | 428 | 391 | 552 | 215.7 | 793 | 735.6 | -35 | 15.0 | 552 | 215.7 | 60-105 |
| 1 1/16 | | | 8 | | | 448 | 448 | 200.9 | 724 | 727.8 | -35 | 20.0 | 552 | 247.5 | 60-105 |
| 1 1/8 | 7 | 12 | 8 | 492 | 552 | 510 | 448 | 228.5 | 724 | 876.4 | -35 | 20.0 | 552 | 281.5 | 60-105 |
| 1 3/16 | | | 8 | | | 575 | 448 | 257.8 | 724 | 1,044 | -35 | 20.0 | 552 | 317.7 | 60-105 |
| 1 1/4 | 7 | 12 | 8 | 625 | 692 | 645 | 448 | 288.9 | 724 | 1,232 | -35 | 20.0 | 552 | 356.0 | 60-105 |
| 1 5/16 | | | 8 | | | 718 | 345 | 247.9 | 690 | 1,109 | -35 | 28.0 | 552 | 396.6 | 60-105 |
| 1 3/8 | 6 | 12 | 8 | 745 | 848 | 796 | 345 | 274.6 | 690 | 1,287 | -35 | 28.0 | 552 | 439.3 | 60-105 |
| 1 7/16 | | | 8 | | | 877 | 345 | 302.6 | 690 | 1,483 | -35 | 28.0 | 552 | 484.2 | 60-105 |
| 1 1/2 | 6 | 12 | 8 | 907 | 1,020 | 962 | 345 | 332.1 | 690 | 1,698 | -35 | 28.0 | 552 | 531.3 | 60-105 |
| 1 9/16 | | | 8 | | | 1,052 | | | | | | | | | |
| 1 5/8 | | | 8 | | | 1,145 | | | | | | | | | |
| 1 11/16 | | | 8 | | | 1,242 | | | | | | | | | |
| 1 3/4 | 5 | | 8 | 1,225 | | 1,343 | | | | | | | | | |
| 1 7/8 | | | 8 | | | 1,557 | | | | | | | | | |
| 2 | 4 1/2 | | 8 | 1,612 | | 1,788 | | | | | | | | | |
| 2 1/4 | 4 1/2 | | 8 | 2,095 | | 2,295 | | | | | | | | | |
| 2 1/2 | 4 | | 8 | 2,580 | | 2,866 | | | | | | | | | |
| 2 3/4 | | | 8 | | | 3,819 | | | | | | | | | |
| 3 | | | 8 | | | 4,198 | | | | | | | | | |
| 3 1/4 | | | 8 | | | 4,959 | | | | | | | | | |
| 3 1/2 | | | 8 | | | 5,783 | | | | | | | | | |
| 4 | | | 8 | | | 7,621 | | | | | | | | | |

| DIMENSION | HEAVY HEX | HEAVY HEX |
|---|---|---|
| MARKING | 'RS' B8' | 'RS' '8' |
| TEMPERING oC | | |
| Heating for 24Hours for the Nut oC | | |
| HARDNESS AFTER HEATING | | |
| CARBON | -0.06 | -0.08 |
| MANAGENESE | -2.0 | -2.0 |
| SULPHUR | -0.03 | -0.03 |
| SILICON | -1.0 | -1.0 |
| CHROMIUM | 18.0-20.0 | 18.0-20.0 |
| MOLYBDENUM | 8.0-11.0 | |
| NICKLE | | 8.0-11.0 |
| VANADIUM | | |
| PHOPHORUS | | -0.045 |
| MATERIAL | SS-304 | SS-304 |

**Notes:**

1. 8UN means less than 1" UNC thread and above 1" 8 TPI thread
2. Left hand side of '-' is minium value right hand side of '-' is maximum value

Eg. 0.5-0.7 min is 0.5 and max is 0.7
Eg. -0.8 max is 0.8 no minimam value
Eg. 2.0- min is 2.0 no maximam value

# Elongation in length of 4 times Diameter
* Torque value based on 75% of proof load and finish as recieved steel
Metric Units is followed, if not available it has been converted to metric unit for uniformity