

Torque Wrench Chart: Bolt Tension Settings Made Simple

Getting bolt tension right is key for safety and preventing stripped threads. This chart gives you common torque specifications for a range of metric and imperial bolt sizes and grades. It's built for dry, unlubricated threads, which is the standard assumption unless you hear otherwise.

| BOLT SIZE (DIAMETER X PITCH) ↑↓ | PROPERTY CLASS / GRADE ↑↓ | APPROX. TENSILE STRENGTH ↑↓ | RECOMMENDED DRY TORQUE (FT-LB) ↑↓ | RECOMMENDED DRY TORQUE (NM) ↑↓ |
|---------------------------------|---------------------------|-----------------------------|-----------------------------------|--------------------------------|
| M6 x 1.0                        | Class 8.8                 | 800 MPa                     | 7                                 | 9.5                            |
| M8 x 1.25                       | Class 8.8                 | 800 MPa                     | 17                                | 23                             |
| M10 x 1.5                       | Class 8.8                 | 800 MPa                     | 34                                | 46                             |
| M12 x 1.75                      | Class 8.8                 | 800 MPa                     | 59                                | 80                             |
| M14 x 2.0                       | Class 8.8                 | 800 MPa                     | 94                                | 127                            |
| M16 x 2.0                       | Class 8.8                 | 800 MPa                     | 140                               | 190                            |
| M6 x 1.0                        | Class 10.9                | 1000 MPa                    | 10                                | 14                             |
| M8 x 1.25                       | Class 10.9                | 1000 MPa                    | 24                                | 33                             |
| M10 x 1.5                       | Class 10.9                | 1000 MPa                    | 48                                | 65                             |
| M12 x 1.75                      | Class 10.9                | 1000 MPa                    | 83                                | 113                            |
| M14 x 2.0                       | Class 10.9                | 1000 MPa                    | 133                               | 180                            |
| M16 x 2.0                       | Class 10.9                | 1000 MPa                    | 198                               | 268                            |
| 1/4"-20 UNC                     | SAE Grade 5               | 120,000 psi                 | 9                                 | 12                             |
| 5/16"-18 UNC                    | SAE Grade 5               | 120,000 psi                 | 19                                | 26                             |
| 3/8"-16 UNC                     | SAE Grade 5               | 120,000 psi                 | 33                                | 45                             |
| 7/16"-14 UNC                    | SAE Grade 5               | 120,000 psi                 | 53                                | 72                             |
| 1/2"-13 UNC                     | SAE Grade 5               | 120,000 psi                 | 75                                | 102                            |
| 5/8"-11 UNC                     | SAE Grade 5               | 120,000 psi                 | 150                               | 203                            |
| 1/4"-20 UNC                     | SAE Grade 8               | 150,000 psi                 | 13                                | 18                             |
| 5/16"-18 UNC                    | SAE Grade 8               | 150,000 psi                 | 28                                | 38                             |
| 3/8"-16 UNC                     | SAE Grade 8               | 150,000 psi                 | 47                                | 64                             |
| 7/16"-14 UNC                    | SAE Grade 8               | 150,000 psi                 | 75                                | 102                            |
| 1/2"-13 UNC                     | SAE Grade 8               | 150,000 psi                 | 106                               | 144                            |
| 5/8"-11 UNC                     | SAE Grade 8               | 150,000 psi                 | 212                               | 287                            |

24 rows