

# CARBON STEEL UNC/UNF THREADED RODS

| UNC Threaded Rods |     |                                   |                                     |         |         |
|-------------------|-----|-----------------------------------|-------------------------------------|---------|---------|
| DIAMETER          | TPI | STRESS AREA<br>(mm <sup>2</sup> ) | MINIMUM ULTIMATE TENSILE LOAD (lbf) |         |         |
|                   |     |                                   | GRADE 2                             | GRADE 5 | GRADE 8 |
| 1/4               | 20  | 0.0318                            | 2350                                | 3800    | 4750    |
| 5/16              | 18  | 0.0524                            | 3900                                | 6300    | 7850    |
| 3/8               | 16  | 0.0775                            | 5750                                | 9300    | 11600   |
| 7/16              | 14  | 0.1063                            | 7850                                | 12800   | 15900   |
| 1/2               | 13  | 0.1419                            | 10500                               | 17000   | 21300   |
| 9/16              | 12  | 0.182                             | 13500                               | 21800   | 27300   |
| 5/8               | 11  | 0.226                             | 16700                               | 27100   | 33900   |
| 3/4               | 10  | 0.334                             | 24700                               | 40100   | 50100   |
| 7/8               | 9   | 0.462                             | 27700                               | 55400   | 69300   |
| 1                 | 8   | 0.606                             | 36400                               | 72700   | 90900   |
| 1-1/8             | 7   | 0.763                             | 45800                               | 80100   | 114400  |
| 1-1/4             | 7   | 0.969                             | 58100                               | 101700  | 145400  |
| 1-3/8             | 6   | 1.155                             | 69300                               | 121300  | 173200  |
| 1-1/2             | 6   | 1.405                             | 84300                               | 147500  | 210800  |

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| UNF Threaded Rods |     |                                   |                                     |         |         |
|-------------------|-----|-----------------------------------|-------------------------------------|---------|---------|
| DIAMETER          | TPI | STRESS AREA<br>(mm <sup>2</sup> ) | MINIMUM ULTIMATE TENSILE LOAD (lbf) |         |         |
|                   |     |                                   | GRADE 2                             | GRADE 5 | GRADE 8 |
| 1/4               | 28  | 0.0364                            | 2700                                | 4350    | 5450    |
| 5/16              | 24  | 0.058                             | 4300                                | 6950    | 8700    |
| 3/8               | 24  | 0.0878                            | 6500                                | 10500   | 13200   |
| 7/16              | 20  | 0.1187                            | 8800                                | 14200   | 17800   |
| 1/2               | 20  | 0.1599                            | 11800                               | 19200   | 24000   |
| 9/16              | 18  | 0.203                             | 15000                               | 24400   | 30400   |
| 5/8               | 18  | 0.256                             | 18900                               | 30700   | 38400   |
| 3/4               | 16  | 0.373                             | 27600                               | 44800   | 56000   |
| 7/8               | 14  | 0.509                             | 30500                               | 61100   | 76400   |
| 1                 | 12  | 0.663                             | 39800                               | 79600   | 99400   |
| 1-1/8             | 12  | 0.856                             | 51400                               | 89900   | 128400  |
| 1-1/4             | 12  | 1.073                             | 64400                               | 112700  | 161000  |
| 1-3/8             | 12  | 1.315                             | 78900                               | 138100  | 197200  |
| 1-1/2             | 12  | 1.581                             | 94900                               | 166000  | 237200  |

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CARBON STEEL  
UNC/UNF THREADED RODS

| UNC Threaded Rods (Full-Size Test) |     |                      |                                    |         |         |
|------------------------------------|-----|----------------------|------------------------------------|---------|---------|
| DIAMETER                           | TPI | STRESS AREA<br>(mm²) | MINIMUM TENSILE STRENGTH (lbf/in²) |         |         |
|                                    |     |                      | GRADE 2                            | GRADE 5 | GRADE 8 |
| 1/4                                | 20  | 0.0318               | 74000                              | 120000  | 150000  |
| 5/16                               | 18  | 0.0524               | 74000                              | 120000  | 150000  |
| 3/8                                | 16  | 0.0775               | 74000                              | 120000  | 150000  |
| 7/16                               | 14  | 0.1063               | 74000                              | 120000  | 150000  |
| 1/2                                | 13  | 0.1419               | 74000                              | 120000  | 150000  |
| 9/16                               | 12  | 0.182                | 74000                              | 120000  | 150000  |
| 5/8                                | 11  | 0.226                | 74000                              | 120000  | 150000  |
| 3/4                                | 10  | 0.334                | 74000                              | 120000  | 150000  |
| 7/8                                | 9   | 0.462                | 60000                              | 120000  | 150000  |
| 1                                  | 8   | 0.606                | 60000                              | 120000  | 150000  |
| 1-1/8                              | 7   | 0.763                | 60000                              | 105000  | 150000  |
| 1-1/4                              | 7   | 0.969                | 60000                              | 105000  | 150000  |
| 1-3/8                              | 6   | 1.155                | 60000                              | 105000  | 150000  |
| 1-1/2                              | 6   | 1.405                | 60000                              | 105000  | 150000  |

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| UNF Threaded Rods (Full-Size Test) |     |                      |                                    |         |         |
|------------------------------------|-----|----------------------|------------------------------------|---------|---------|
| DIAMETER                           | TPI | STRESS AREA<br>(mm²) | MINIMUM TENSILE STRENGTH (lbf/in²) |         |         |
|                                    |     |                      | GRADE 2                            | GRADE 5 | GRADE 8 |
| 1/4                                | 28  | 0.0364               | 74000                              | 120000  | 150000  |
| 5/16                               | 24  | 0.058                | 74000                              | 120000  | 150000  |
| 3/8                                | 24  | 0.0878               | 74000                              | 120000  | 150000  |
| 7/16                               | 20  | 0.1187               | 74000                              | 120000  | 150000  |
| 1/2                                | 20  | 0.1599               | 74000                              | 120000  | 150000  |
| 9/16                               | 18  | 0.203                | 74000                              | 120000  | 150000  |
| 5/8                                | 18  | 0.256                | 74000                              | 120000  | 150000  |
| 3/4                                | 16  | 0.373                | 74000                              | 120000  | 150000  |
| 7/8                                | 14  | 0.509                | 60000                              | 120000  | 150000  |
| 1                                  | 12  | 0.663                | 60000                              | 120000  | 150000  |
| 1-1/8                              | 12  | 0.856                | 60000                              | 105000  | 150000  |
| 1-1/4                              | 12  | 1.073                | 60000                              | 105000  | 150000  |
| 1-3/8                              | 12  | 1.315                | 60000                              | 105000  | 150000  |
| 1-1/2                              | 12  | 1.581                | 60000                              | 105000  | 150000  |

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UNC/UNF THREADED RODS

| UNC Threaded Rods |     |                      |                          |         |         |
|-------------------|-----|----------------------|--------------------------|---------|---------|
| DIAMETER          | TPI | STRESS AREA<br>(mm²) | MINIMUM PROOF LOAD (lbf) |         |         |
|                   |     |                      | GRADE 2                  | GRADE 5 | GRADE 8 |
| 1/4               | 20  | 0.0318               | 1750                     | 2700    | 3800    |
| 5/16              | 18  | 0.0524               | 2900                     | 4450    | 6300    |
| 3/8               | 16  | 0.0775               | 4250                     | 6600    | 9300    |
| 7/16              | 14  | 0.1063               | 5850                     | 9050    | 12800   |
| 1/2               | 13  | 0.1419               | 7800                     | 12100   | 17000   |
| 9/16              | 12  | 0.182                | 10000                    | 15500   | 21800   |
| 5/8               | 11  | 0.226                | 12400                    | 19200   | 27100   |
| 3/4               | 10  | 0.334                | 18400                    | 28400   | 40100   |
| 7/8               | 9   | 0.462                | 15200                    | 39300   | 55400   |
| 1                 | 8   | 0.606                | 20000                    | 51500   | 72700   |
| 1-1/8             | 7   | 0.763                | 25200                    | 56500   | 91600   |
| 1-1/4             | 7   | 0.969                | 32000                    | 71700   | 116300  |
| 1-3/8             | 6   | 1.155                | 38100                    | 85500   | 138600  |
| 1-1/2             | 6   | 1.405                | 46400                    | 104000  | 168600  |

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| UNF Threaded Rods |     |                      |                          |         |         |
|-------------------|-----|----------------------|--------------------------|---------|---------|
| DIAMETER          | TPI | STRESS AREA<br>(mm²) | MINIMUM PROOF LOAD (lbf) |         |         |
|                   |     |                      | GRADE 2                  | GRADE 5 | GRADE 8 |
| 1/4               | 28  | 0.0364               | 2000                     | 3100    | 4350    |
| 5/16              | 24  | 0.058                | 3200                     | 4900    | 6950    |
| 3/8               | 24  | 0.0878               | 4800                     | 7450    | 10500   |
| 7/16              | 20  | 0.1187               | 6550                     | 10100   | 14200   |
| 1/2               | 20  | 0.1599               | 8800                     | 13600   | 19200   |
| 9/16              | 18  | 0.203                | 11200                    | 17300   | 24400   |
| 5/8               | 18  | 0.256                | 14100                    | 21800   | 30700   |
| 3/4               | 16  | 0.373                | 20500                    | 31700   | 44800   |
| 7/8               | 14  | 0.509                | 16800                    | 43300   | 61100   |
| 1                 | 12  | 0.663                | 21900                    | 56400   | 79600   |
| 1-1/8             | 12  | 0.856                | 28200                    | 63300   | 102700  |
| 1-1/4             | 12  | 1.073                | 35400                    | 79400   | 128800  |
| 1-3/8             | 12  | 1.315                | 43400                    | 97300   | 157800  |
| 1-1/2             | 12  | 1.581                | 52200                    | 117000  | 189700  |

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UNC/UNF THREADED RODS

| UNC Threaded Rods (Full-Size Test) |     |                      |                                           |         |         |
|------------------------------------|-----|----------------------|-------------------------------------------|---------|---------|
| DIAMETER                           | TPI | STRESS AREA<br>(mm²) | NOMINAL STRESS UNDER PROOF LOAD (lbf/in²) |         |         |
|                                    |     |                      | GRADE 2                                   | GRADE 5 | GRADE 8 |
| 1/4                                | 20  | 0.0318               | 55000                                     | 85000   | 120000  |
| 5/16                               | 18  | 0.0524               | 55000                                     | 85000   | 120000  |
| 3/8                                | 16  | 0.0775               | 55000                                     | 85000   | 120000  |
| 7/16                               | 14  | 0.1063               | 55000                                     | 85000   | 120000  |
| 1/2                                | 13  | 0.1419               | 55000                                     | 85000   | 120000  |
| 9/16                               | 12  | 0.182                | 55000                                     | 85000   | 120000  |
| 5/8                                | 11  | 0.226                | 55000                                     | 85000   | 120000  |
| 3/4                                | 10  | 0.334                | 55000                                     | 85000   | 120000  |
| 7/8                                | 9   | 0.462                | 33000                                     | 85000   | 120000  |
| 1                                  | 8   | 0.606                | 33000                                     | 85000   | 120000  |
| 1-1/8                              | 7   | 0.763                | 33000                                     | 74000   | 120000  |
| 1-1/4                              | 7   | 0.969                | 33000                                     | 74000   | 120000  |
| 1-3/8                              | 6   | 1.155                | 33000                                     | 74000   | 120000  |
| 1-1/2                              | 6   | 1.405                | 33000                                     | 74000   | 120000  |

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| UNF Threaded Rods (Full-Size Tes) |     |                      |                                           |         |         |
|-----------------------------------|-----|----------------------|-------------------------------------------|---------|---------|
| DIAMETER                          | TPI | STRESS AREA<br>(mm²) | NOMINAL STRESS UNDER PROOF LOAD (lbf/in²) |         |         |
|                                   |     |                      | GRADE 2                                   | GRADE 5 | GRADE 8 |
| 1/4                               | 28  | 0.0364               | 55000                                     | 85000   | 120000  |
| 5/16                              | 24  | 0.058                | 55000                                     | 85000   | 120000  |
| 3/8                               | 24  | 0.0878               | 55000                                     | 85000   | 120000  |
| 7/16                              | 20  | 0.1187               | 55000                                     | 85000   | 120000  |
| 1/2                               | 20  | 0.1599               | 55000                                     | 85000   | 120000  |
| 9/16                              | 18  | 0.203                | 55000                                     | 85000   | 120000  |
| 5/8                               | 18  | 0.256                | 55000                                     | 85000   | 120000  |
| 3/4                               | 16  | 0.373                | 55000                                     | 85000   | 120000  |
| 7/8                               | 14  | 0.509                | 33000                                     | 85000   | 120000  |
| 1                                 | 12  | 0.663                | 33000                                     | 85000   | 120000  |
| 1-1/8                             | 12  | 0.856                | 33000                                     | 74000   | 120000  |
| 1-1/4                             | 12  | 1.073                | 33000                                     | 74000   | 120000  |
| 1-3/8                             | 12  | 1.315                | 33000                                     | 74000   | 120000  |
| 1-1/2                             | 12  | 1.581                | 33000                                     | 74000   | 120000  |

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