

# THREADING TABLE

## Taper Pipe Threads

| Whitworth Pipe Thread<br>ISO 7-1, DIN 2999, BSPT<br>External thread taper 1:16<br>Flank angle 55° |                              |        |
|---|------------------------------|--------|
| Nominal Size<br>R<br>BSPT   | Outside Ø<br>of thread<br>mm | T.P.I. |
| 1/16  | 7.723                        | 28     |
| 1/8   | 9.728                        | 28     |
| 1/4   | 13.157                       | 19     |
| 3/8   | 16.662                       | 19     |
| 1/2   | 20.955                       | 14     |
| 3/4   | 26.441                       | 14     |
| 1   | 33.249                       | 11     |
| 1 1/4   | 41.910                       | 11     |
| 1 1/2   | 47.803                       | 11     |
| 2   | 59.614                       | 11     |
| 2 1/2   | 75.184                       | 11     |
| 3   | 87.884                       | 11     |
| 4   | 113.030                      | 11     |

| Standard Taper Pipe Thread<br>NPT, ASME B 1.20.1<br>External thread taper 1:16<br>Flank angle 60° |                              |        |
|---|------------------------------|--------|
| Nominal Size<br>NPT   | Outside Ø<br>of thread<br>mm | T.P.I. |
| 1/16  | 7.938                        | 27     |
| 1/8   | 10.287                       | 27     |
| 1/4   | 13.716                       | 18     |
| 3/8   | 17.145                       | 18     |
| 1/2   | 21.336                       | 14     |
| 3/4   | 26.670                       | 14     |
| 1   | 33.401                       | 11.5   |
| 1 1/4   | 42.164                       | 11.5   |
| 1 1/2   | 48.260                       | 11.5   |
| 2   | 60.325                       | 11.5   |
| 2 1/2   | 73.025                       | 8      |
| 3   | 88.900                       | 8      |
| 3 1/2   | 101.600                      | 8      |
| 4   | 114.300                      | 8      |

| Whitworth Pipe Thread<br>ISO 228-1, DIN 259, BSPP<br>External thread parallel<br>Flank angle 55° |                              |        |
|--|------------------------------|--------|
| Nominal Size<br>G<br>BSPP  | Outside Ø<br>of thread<br>mm | T.P.I. |
| 1/16   | 7.723                        | 28     |
| 1/8  | 9.728                        | 28     |
| 1/4  | 13.157                       | 19     |
| 3/8  | 16.662                       | 19     |
| 1/2  | 20.955                       | 14     |
| 3/4  | 26.441                       | 14     |
| 1  | 33.249                       | 11     |
| 1 1/4  | 41.910                       | 11     |
| 1 1/2  | 47.803                       | 11     |
| 2  | 59.614                       | 11     |
| 2 1/2  | 75.184                       | 11     |
| 3  | 87.884                       | 11     |
| 3 1/2  | 100.330                      | 11     |
| 4  | 113.030                      | 11     |

| Straight Pipe Thread for Fixtures<br>NPSM, ASME B 1.20.1<br>External thread parallel<br>Flank angle 60° |                              |        |
|---|------------------------------|--------|
| Nominal Size<br>NPSM  | Outside Ø<br>of thread<br>mm | T.P.I. |
| 1/8   | 10.083                       | 27     |
| 1/4   | 13.360                       | 18     |
| 3/8   | 16.815                       | 18     |
| 1/2   | 20.904                       | 14     |
| 3/4   | 26.264                       | 14     |
| 1   | 32.842                       | 11.5   |
| 1 1/4   | 41.605                       | 11.5   |
| 1 1/2   | 47.676                       | 11.5   |
| 2   | 59.715                       | 11.5   |
| 2 1/2   | 72.161                       | 8      |
| 3   | 88.062                       | 8      |
| 3 1/2   | 100.787                      | 8      |
| 4   | 113.436                      | 8      |

## Metric Bolt Thread

| Metric ISO Thread<br>ISO 261, DIN 13<br>External thread<br>Flank angle 60° |                              |             |
|--|------------------------------|-------------|
| Nominal Size<br>M  | Outside Ø<br>of thread<br>mm | Pitch<br>mm |
| 6  | 5.974                        | 1           |
| 8  | 7.972                        | 1.25        |
| 10   | 9.968                        | 1.5         |
| 12   | 11.966                       | 1.75        |
| 14   | 13.962                       | 2           |
| 16   | 15.962                       | 2           |
| 18   | 17.958                       | 2.5         |
| 20   | 19.958                       | 2.5         |
| 22   | 21.958                       | 2.5         |
| 24   | 23.952                       | 3           |
| 27   | 26.952                       | 3           |
| 30   | 29.947                       | 3.5         |
| 33   | 32.947                       | 3.5         |
| 36   | 35.940                       | 4           |
| 39   | 38.940                       | 4           |
| 42   | 41.937                       | 4.5         |
| 45   | 44.937                       | 4.5         |
| 48   | 47.929                       | 5           |
| 52   | 51.929                       | 5           |
| 56   | 55.925                       | 5.5         |
| 60   | 59.925                       | 5.5         |
| 64   | 63.920                       | 6           |
| 68   | 67.920                       | 6           |
| 72   | 71.920                       | 6           |

## American and British Bolt Threads

| Unified Inch Screw Thread<br>UNC, ASME B 1.1<br>External thread<br>Flank angle 60° |                              |        |
|--|------------------------------|--------|
| Nominal Size<br>UNC  | Outside Ø<br>of thread<br>mm | T.P.I. |
| 1/4  | 6.322                        | 20     |
| 5/16   | 7.907                        | 18     |
| 3/8  | 9.491                        | 16     |
| 7/16   | 11.076                       | 14     |
| 1/2  | 12.661                       | 13     |
| 9/16   | 14.246                       | 12     |
| 5/8  | 15.834                       | 11     |
| 3/4  | 19.004                       | 10     |
| 7/8  | 22.176                       | 9      |
| 1  | 25.349                       | 8      |
| 1 1/8  | 28.519                       | 7      |
| 1 1/4  | 31.694                       | 7      |
| 1 3/8  | 34.864                       | 6      |
| 1 1/2  | 38.039                       | 6      |
| 1 3/4  | 44.381                       | 5      |
| 2  | 50.726                       | 4.5    |
| 2 1/4  | 57.076                       | 4.5    |
| 2 1/2  | 63.421                       | 4      |
| 2 3/4  | 69.768                       | 4      |

| British Standard Parallel Screw<br>Thread of Whitworth Form B.S.W.<br>BS 84 (obsolete): External thread<br>Flank angle 55° |                              |        |
|--|------------------------------|--------|
| Nominal Size<br>BSW  | Outside Ø<br>of thread<br>mm | T.P.I. |
| 1/4  | 6.350                        | 20     |
| 5/16   | 7.937                        | 18     |
| 3/8  | 9.525                        | 16     |
| 7/16   | 11.112                       | 14     |
| 1/2  | 12.700                       | 12     |
| 5/8  | 15.875                       | 11     |
| 3/4  | 19.050                       | 10     |
| 7/8  | 22.225                       | 9      |
| 1  | 25.400                       | 8      |
| 1 1/8  | 28.575                       | 7      |
| 1 1/4  | 31.750                       | 7      |
| 1 1/2  | 38.100                       | 6      |
| 1 3/4  | 44.450                       | 5      |
| 2  | 50.800                       | 4.5    |
| 2 1/4  | 57.150                       | 4      |
| 2 1/2  | 63.500                       | 4      |
| 2 3/4  | 69.850                       | 3.5    |

## Threads for Electric Conduit

| Conduit Thread<br>DIN 40 430<br>External thread parallel<br>Flank angle 80° |                              |        |
|---|------------------------------|--------|
| Nominal Size<br>Pg  | Outside Ø<br>of thread<br>mm | T.P.I. |
| 7   | 12.5                         | 20     |
| 9   | 15.2                         | 18     |
| 11  | 18.6                         | 18     |
| 13.5  | 20.4                         | 18     |
| 16  | 22.5                         | 18     |
| 21  | 28.3                         | 16     |
| 29  | 37                           | 16     |
| 36  | 47                           | 16     |
| 42  | 54                           | 16     |
| 48  | 59.3                         | 16     |

  

| Conduit Thread<br>DIN EN 60423<br>External thread parallel<br>Flank angle 60° |                              |             |
|---|------------------------------|-------------|
| Nominal Size<br>M   | Outside Ø<br>of thread<br>mm | Pitch<br>mm |
| 16  | 15.968                       | 1.5         |
| 20  | 19.968                       | 1.5         |
| 25  | 24.968                       | 1.5         |
| 32  | 31.968                       | 1.5         |
| 40  | 39.968                       | 1.5         |
| 50  | 49.968                       | 1.5         |
| 63  | 62.968                       | 1.5         |

Outside diameter of thread is always the maximum diameter, for taper pipe threads this is measured at the scale line.

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