

# Thread Identification

## Thread Identification and Drill Chart

### Metric

| DIAMETER IN INCHES | THREAD SIZE MM | ISO COARSE |        |       | OTHER | ISO FINE |          |       | BA    |       |     |     |  |
|--------------------|----------------|------------|--------|-------|-------|----------|----------|-------|-------|-------|-----|-----|--|
|                    |                | DRILL SIZE |        |       |       | SIZE     | DIAMETER |       |       |       |     |     |  |
|                    |                | PITCH      | INCH   | MM    |       |          | MM       | INCH  | PITCH | DRILL |     |     |  |
| .079               | 2              | .4         |        | 2.1   |       |          |          | 0     | 6.0   | .236  | 1   | 6.2 |  |
| .087               | 2.2            | .45        | No. 42 | 2.3   |       |          |          | 2     | 4.7   | .185  | .8  | 4.9 |  |
| .098               | 2.5            | .45        | No. 37 | 2.6   |       |          |          | 4     | 3.6   | .142  | .66 | 3.8 |  |
| .118               | 3              | .5         | 1/8    | 3.2   |       |          |          | 6     | 2.8   | .110  | .53 | 2.9 |  |
| .138               | 3.5            | .6         | No. 27 | 3.7   |       |          |          | 8     | 2.2   | .860  | .43 | 2.3 |  |
| .157               | 4              | .7         | 11/64  | 4.2   |       |          |          | 10    | 1.7   | .670  | .35 | 1.7 |  |
| .197               | 5              | .8         | 13/64  | 5.2   |       |          |          |       |       |       |     |     |  |
| .236               | 6              | 1          | 1/4    | 6.3   |       |          |          |       |       |       |     |     |  |
| .276               | 7              | 1          | 9/32   | 7.3   |       |          |          |       |       |       |     |     |  |
| .315               | 8              | 1.25       | 21/64  | 8.3   |       | 1        | 21/64    | 8.3   |       |       |     |     |  |
| .354               | 9              | 1.25       |        | 9.4   |       | 1        |          | 9.3   |       |       |     |     |  |
| .394               | 10             | 1.5        | 13/32  | 10.4  | 1*    | 1.25     | 13/32    | 10.25 |       |       |     |     |  |
| .433               | 11             | 1.5        |        | 11.5  | 1     | 1.25     |          | 11.25 |       |       |     |     |  |
| .472               | 12             | 1.75       | 31/64  | 12.5  | 1.25  | 1.5      | 31/64    | 12.25 |       |       |     |     |  |
| .512               | 13             |            |        | 13.5  |       | 1.5      |          | 13.25 |       |       |     |     |  |
| .551               | 14             | 2          | 37/64  | 14.5  | 1.25* | 1.5      | 9/16     | 14.25 |       |       |     |     |  |
| .630               | 16             | 2          | 21/32  | 16.5  |       | 1.5      | 21/32    | 16.5  |       |       |     |     |  |
| .709               | 18             | 2.5        | 47/64  | 18.75 | 1.5*  | 2        | 23/32    | 18.5  |       |       |     |     |  |
| .787               | 20             | 2.5        | 13/16  | 20.75 | 1.5   | 2        | 13/16    | 20.5  |       |       |     |     |  |
| .866               | 22             | 2.5        |        | 22.75 | 1.5   | 2        |          | 22.5  |       |       |     |     |  |
| .945               | 24             | 3          |        | 24.75 | 1.5   | 2        |          | 24.5  |       |       |     |     |  |

\*M10 X 1, M12 X 1.25, M14 X 1.25, M18 X 1.5 - popular spark plug sizes sizes above M24 available on request.

# Thread Identification

## Thread Identification and Drill Chart

### Inch

| DIAMETER |       | THREAD SIZE | THREADS PER INCH |     |         |     |      |        | DRILL SIZE |       |               |       |        |      |
|----------|-------|-------------|------------------|-----|---------|-----|------|--------|------------|-------|---------------|-------|--------|------|
| INCHES   | MM    |             | UNC              | BSW | UNF     | BSF | BSF* | NPT*   | UNC        | BSW   | UNF, SAE, BSF |       | BSP    | NPT  |
|          |       |             |                  |     | (SAE)   |     |      |        | INCH       | MM    | INCH          | MM    | INCH   | MM   |
| .86      | 2.18  | #2          | 56               |     | 64      |     |      |        | 3/32       | 2.3   | No. 37        | 2.3   |        |      |
| .990     | 2.51  | #3          | 48               |     | 56      |     |      |        | No.36      | 2.7   |               | 2.7   |        |      |
| .112     | 2.84  | #4          | 40               |     | 48      |     |      |        | No.31      | 3.0   | No.31         | 3.0   |        |      |
| .125     | 3.17  | #5 (1/8)    | 40               | 40  | 44      |     | 28   | 27     | N0.29      | 3.4   |               | 3.3   | 3/8    | 9.9  |
| .138     | 3.50  | #6          | 32               |     | 40      |     |      |        | N0.25      | 3.7   | N0.26         | 3.7   |        |      |
| .164     | 4.16  | #8          | 32               |     | 36      |     |      |        | 11/64      | 4.4   | 11/64         | 4.4   |        |      |
| .190     | 4.82  | #10 (3/16)  | 24               |     | 32      |     |      |        | 13/64      | 5.1   | 13/64         | 5.1   |        |      |
| .187     | 4.76  | 3/16        |                  | 24  | 32      |     |      |        | 13/64      | 5.0   | 13/64         | 5.0   |        |      |
| .216     | 5.49  | #12 (7/32)  | 24               | 24  |         |     |      |        | 15/64      | 5.6   |               |       |        |      |
| .250     | 6.35  | 1/4         | 20               | 20  | 28      | 26  | 19   | 18     | 17/64      | 6.7   | 17/64         | 6.6   | 33/64  | 13.5 |
| .312     | 7.93  | 5/16        | 18               | 18  | 24      | 22  |      |        | 21/64      | 8.3   | 21/64         | 8.2   |        |      |
| .375     | 9.52  | 3/8         | 16               | 16  | 24      | 20  | 19   | 18     | 25/64      | 9.9   | 25/64         | 9.8   | 21/32  | 17.0 |
| .437     | 11.11 | 7/16        | 14               | 14  | 20      | 18  |      |        | 29/64      | 11.5  | 29/64         | 11.5  |        |      |
| .500     | 12.70 | 1/2         | 13               | 12  | 20      | 16  | 14   | 14     | 17/32      | 13.0  | 33/64         | 13.0  | 13/16  | 21.5 |
| .562     | 14.28 | 9/16        | 12               | 12  | 18      | 16  |      |        | 19/32      | 14.5  | 37/64         | 14.5  |        |      |
| .625     | 15.87 | 5/8         | 11               | 11  | 18      | 14  |      |        | 21/32      | 16.5  | 41/64         | 16.25 |        |      |
| .750     | 19.05 | 3/4         | 10               | 10  | 16      | 12  | 14   | 14     | 25/32      | 19.75 | 49/64         | 19.5  | 1 1/64 | 27.0 |
| .875     | 22.22 | 7/8         | 9                | 9   | 14      | 11  |      |        | 29/32      | 23.0  | 57/64         | 22.5  |        |      |
| 1.000    | 25.40 | 1"          | 8                | 8   | 12 (14) | 10  | 11   | 11 1/2 | 1 1/32     | 26.0  | 1 1/64        | 26.0  | 1 9/32 | 33.5 |
| 1.125    | 28.57 | 1 1/8"      | 7                | 7   | 12      | 9   | 11   |        | 1 5/32     | 29.5  | 1 5/32        | 29.5  |        |      |
| 1.250    | 31.75 | 1 1/4"      | 7                | 7   | 12      | 9   | 11   |        | 1 9/32     | 33.0  | 1 9/32        | 32.5  |        |      |
| 1.375    | 34.92 | 1 3/8"      | 6                | 6   | 12      | 8   | 11   |        | 1 13/32    | 36.0  | 1 13/32       | 36.0  |        |      |
| 1.500    | 38.10 | 1 1/2"      | 6                | 6   | 12      | 8   | 11   |        | 1 17/32    | 39.0  | 1 17/32       | 39.0  |        |      |

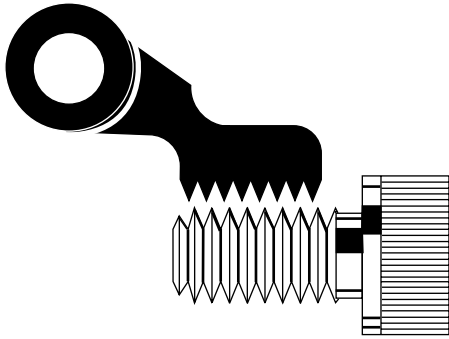
\*Nominal diameters for BSP and NPT are not thread diameters but relate to the inside diameter of the pipe.

# Thread Identification

## Screw Pitch Gauge

It is critical that inserts match the tapped hole exactly as some inch and metric are very close but only one is exactly right. A screw pitch gauge is the perfect tool to identify exact TPI or pitch. The bolt diameter should be measured and matched to the closest size over, relating to the TPI or pitch of the thread.

In general, major diameter of bolt or male thread will always be slightly less than the exact diameter listed in the thread identification and drill chart.



## Drill Sizes

Drill sizes are recommended only. The nearest standard size drill above or below is generally quite suitable for repairs and in many instances, drilling is not necessary for stripped holes. For precision tolerances, the thread identification and drill chart is an accurate guide, but final size depends on material and machining conditions.

In practice BSW interchanges with UNC except at 3/16" and 1/2", SAE interchanges with UNF, except 1" UNF - 12 TPI, SAE - 14 TPI.

## Thread Features

