

Tap-Drill Selector

| *DRILL SIZES FOR Free Cutting Metals Steel, Aluminum Copper and Copper Alloys | | Tap Size | | | **DRILL SIZES FOR Hard or Tough Metals Carbon & Alloy Steel, Heat Treated Steels, Stnls Steels | | |
|---|---------|----------|------------------|-----|--|------------|---------|
| | | Diameter | Threads Per Inch | | | | |
| Drill Size | Decimal | | | UNC | UNF | Drill Size | Decimal |
| 56 | 00000 | 0 | | 80 | | 3/64 | 00000 |
| 53 | 00000 | 1 | 64 | | | 53 | 00000 |
| 53 | 00000 | | | | 72 | | 53 |
| 51 | 00000 | 2 | 56 | | | 50 | 00000 |
| 50 | 00000 | | | | 64 | | 49 |
| 48 | 00000 | 3 | 48 | | | 46 | 00000 |
| 46 | 00000 | | | | 56 | | 45 |
| 44 | 00000 | 4 | 40 | | | 43 | 00000 |
| 43 | 00000 | | | | 48 | | 42 |
| 39 | 00000 | 5 | 40 | | | 38 | 00000 |
| 38 | 00000 | | | | 44 | | 37 |
| 36 | 00000 | 6 | 32 | | | 7/64 | 00000 |
| 33 | 00000 | | | | 40 | | 32 |
| 29 | 00000 | 8 | 32 | | | 29 | 00000 |
| 29 | 00000 | | | | 36 | | 28 |
| 26 | 00000 | 10 | 24 | | | 24 | 00000 |
| 5/32 | 00000 | | | | 32 | | 21 |
| 11/64 | 00000 | 12 | 24 | | | 16 | 00000 |
| 15 | 00000 | | | | 28 | | 14 |
| 8 | 00000 | 1/4 | 20 | | | 6 | 00000 |
| 3 | 00000 | | | | 28 | | 7/32 |
| F | 00000 | 5/16 | 18 | | | 14/64 | 00000 |
| I | 00000 | | | | 24 | | J |
| 5/16 | 00000 | 3/8 | 16 | | | P | 00000 |
| Q | 00000 | | | | 24 | | R |
| U | 00000 | 7/16 | 14 | | | 3/8 | 00000 |
| W | 00000 | | | | 20 | | 25/64 |
| 27/64 | 00000 | 1/2 | 13 | | | 7/16 | 00000 |
| 29/64 | 00000 | | | | 20 | | 29/64 |
| 31/64 | 00000 | 9/16 | 12 | | | 1/2 | 00000 |
| 1/2 | 0001 | | | | 18 | | 33/64 |
| 17/32 | 0001 | 5/8 | 11 | | | 35/64 | 0001 |
| 9/16 | 0001 | | | | 18 | | 37/64 |
| 21/32 | 0001 | 3/4 | 10 | | | 43/64 | 0001 |
| 11/16 | 0001 | | | | 16 | | 45/364 |
| 49/64 | 0001 | 7/8 | 9 | | | 25/32 | 0001 |
| 51/64 | 0001 | | | | 14 | | 13/16 |
| 7/8 | 0001 | 1 | 8 | | | 57/64 | 0001 |
| 59/64 | 0001 | | | | 12 | | 15/16 |

*Drill sizes recommended for "Free Cutting Materials" produces 65-75% of thread.

**For "Hard or Rough Materials", 60-70% of thread.

TAPPING TIPS

Strength of tapped holes: Strength tests show that any increase over 60% of thread for the tapped holes does not increase static strength of fastening. Bolts break at 55% of engagement. Tapping blind holes: Drill hole deep enough to accommodate chips. Tap breakage: If difficulty or breakage occurs, check drill size in view of material hardness and make sure tap is sharp. Breaking small drills: Small drills (1/8" and under) break easily when they are not run at high speeds. Difficulty in drilling: If starting drill is difficult, thinning web of drill at the point solves this problem. Class of fit: Most commercial bolts and screws are made to fit 2A external thread standards, which fit with 2B tapped threads.