

# Pillar Drill Speed Chart

Recommended Drilling Speeds (RPM)							
Drill Type	Softwood	Hardwood	Acrylic	Brass	Aluminium	Steel	Notes
<b>Twist Drills</b>							
1 mm - 5 mm	3000	3000	2500	3000	3000	3000	Lubricate drill with cutting oil when drilling steel 3mm or thicker. Use centre punch on all holes to prevent drill from wandering.
6 mm - 10 mm	3000	1500	2000	1200	2500	1000	
11 mm - 15 mm	1500	750	1500	750	1500	600	
16 mm - 25 mm	750	500	N/R	400	1000	350	
<b>Brad Point Drills</b>							
3 mm	1800	1200	1500	N/R	N/R	N/R	Raise 6 mm and smaller bits often to clear shavings and prevent heat build up.
6 mm	1800	1000	1500	N/R	N/R	N/R	
10 mm	1800	750	1500	N/R	N/R	N/R	
12 mm	1800	750	1000	N/R	N/R	N/R	
15 mm	1800	500	750	N/R	N/R	N/R	
19 mm	1400	250	750	N/R	N/R	N/R	
22 mm	1200	250	500	N/R	N/R	N/R	
25 mm	1000	250	250	N/R	N/R	N/R	
<b>Forstner Bits</b>							
6 mm - 10 mm	2400	700	N/R	N/R	N/R	N/R	Raise 6 mm - 10mm bits often to clear shavings and prevent heat build up. Make several shallow passes with larger bits; allow bit to cool between passes.
13 mm - 16 mm	2400	500	250	N/R	N/R	N/R	
19 mm - 25 mm	1500	500	250	N/R	N/R	N/R	
28 mm - 32 mm	1000	250	250	N/R	N/R	N/R	
35 mm - 50 mm	500	250	N/R	N/R	N/R	N/R	
<b>Hole Saws</b>							
25 mm - 38 mm	500	350	N/R	250	250	N/R	Do not use with brass or aluminium thicker than 1.5 mm. Avoid dense hardwoods.
40 mm - 50 mm	500	250	N/R	150	250	N/R	
53 mm - 64 mm	250-500	N/R	N/R	150	250	N/R	
<b>Flat Bits</b>							
6 mm - 13 mm	2000	1500	N/R	N/R	N/R	N/R	Clamp to work table to improve quality of hole.
15 mm - 25 mm	1750	1500	N/R	N/R	N/R	N/R	
28 mm - 38 mm	1500	1000	N/R	N/R	N/R	N/R	
<b>Tank Cutter</b>							
6 mm - 13 mm	500	250	250	N/R	N/R	N/R	Drill one side, flip material, place centre bit in its hole and resume.
15 mm - 25 mm	250	250	250	N/R	N/R	N/R	
<b>Countersinks</b>							
2 flute	1400	1400	N/R	N/R	N/R	N/R	Raise and lower frequently for quicker cutting.
5 flute	1000	750	750	250	250	250	
<b>Countersink Screw Pilot Bits</b>							
All Sizes	1500	1000	500	500	N/R	N/R	Clear twist drill often.
<b>Plug Cutters</b>							
All Sizes	1000	500	N/R	N/R	N/R	N/R	Cut to full depth so bit chamfers plug
<b>NR - Not Recommended</b>							
<ul style="list-style-type: none"> <li>Recommendations are based on visual and tactile tests under workshop conditions. Drilling faster than recommended can cause overheating. Speeds slower than recommended may cause poor quality holes.</li> <li>All wood testing done on face grain. Reduce speeds when drilling end grain.</li> <li>Speeds based on new bits.</li> </ul>							

