

Polycrystalline Diamond (PCD) CNC Spoilboard Router Bit Speed and Feed Chart

| Tool No. DRB-440 | | | Surface Cutting Speed | | Chip Load Per Tooth | | RPM | | Feed Rate | |
|--------------------------|---------------------|-----------|-----------------------|---------------------|-----------------------|---------------------|--------|--------|-----------------------|---------------------|
| Material | Diameter Inch/mm | No. Teeth | From Inch (mm)/min | To Inch (mm)/min | From Inch (mm)/min | To Inch (mm)/min | From | To | From Inch (mm)/min | To Inch (mm)/min |
| Aluminum, Bronze, Copper | 1-1/2" (38.1mm) | 2 | 19" (500mm) | 78" (2000mm) | .006" (0.15mm) | .001" (0.25mm) | 4,000 | 16,500 | 49" (1,254mm) | 329" (8,359mm) |
| Wood | 1-1/2" (38.1mm) | 2 | — | — | .006" (0.15mm) | .001" (0.25mm) | 12,500 | 14,500 | 150" (3,810mm) | 285" (7,250mm) |

Maximum RPM: 14,500

| Tool No. DRB-442 | | | Surface Cutting Speed | | Chip Load Per Tooth | | RPM | | Feed Rate | |
|--------------------------|---------------------|-----------|-----------------------|---------------------|-----------------------|---------------------|--------|--------|-----------------------|---------------------|
| Material | Diameter Inch/mm | No. Teeth | From Inch (mm)/min | To Inch (mm)/min | From Inch (mm)/min | To Inch (mm)/min | From | To | From Inch (mm)/min | To Inch (mm)/min |
| Aluminum, Bronze, Copper | 3" (75mm) | 2 | 19" (500mm) | 78" (2000mm) | .006" (0.15mm) | .001" (0.25mm) | 4,000 | 16,500 | 49" (1,254mm) | 329" (8,359mm) |
| Wood | 3" (75mm) | 2 | — | — | .006" (0.15mm) | .001" (0.25mm) | 12,500 | 14,500 | 150" (3,810mm) | 285" (7,250mm) |

Maximum RPM: 18,000

Correction factor for chip load:

0.8 = MDF with or without Coating

1.1 = Chipboard with or without Coating

0.7 = Veneer across grain

Simple Machining Calculations:

To find **RPM:** SFM x 3.82 / diameter of tool

To find **SFM:** 0.262 x diameter of tool x RPM

To find **Feed Rate:** RPM x # of flutes x chip load

Warning: Must Use Ramping Down Technique