

### 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)	.01" (0.25mm)	4,000	16,500	49" (1,254mm)	329" (8,359mm)
Wood	1-1/2" (38.1mm)	2	—	—	.006" (0.15mm)	.01" (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)	.01" (0.25mm)	4,000	16,500	49" (1,254mm)	329" (8,359mm)
Wood	3" (75mm)	2	—	—	.006" (0.15mm)	.01" (0.25mm)	12,500	14,500	150" (3,810mm)	285" (7,250mm)

Maximum RPM: 18,000

Tool No. DRB-444			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	4" (101mm)	2	19" (500mm)	78" (2000mm)	.005" (0.13mm)	.008" (0.20mm)	4,000	16,500	40" (1,016mm)	280" (7,112mm)
Wood	4" (101mm)	2	—	—	.005" (0.13mm)	.008" (0.20mm)	12,500	14,500	130" (3,302mm)	250" (6,350mm)

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

To find **Chip Load**: Feed Rate IPM / (RPM x # of flutes)

**Warning:** Must Use Ramping Down Technique