

Starter ShopBot CNC Settings for 2D Cuts

MDF, Particle Board, Plywood up to 1.5 inches thick

Tool Type:	End Mill (compression)
Tool Diameter:	.25 inches
Pass Depth:	.26 inches
Stepover:	Variable
Spindle Speed:	18,000 r.p.m.
Feed Rate:	2.5 to 3.2 inches per second
Plunge Rate:	1 inch per second

MDF, Masonite, Plywood up to .25 inches thick

Tool Type:	End Mill (upcut)
Tool Diameter:	.125 inches
Pass Depth:	.135 inches
Stepover:	Variable
Spindle Speed:	18,000 r.p.m.
Feed Rate:	2.5 to 3.2 inches per second
Plunge Rate:	1 inch per second

Hardwood up to 1.5 inches thick

Tool Type:	End Mill (upcut)
Tool Diameter:	.25 inches
Pass Depth:	.125 inches
Stepover:	Variable
Spindle Speed:	18,000 r.p.m.
Feed Rate:	1.2 inch per second
Plunge Rate:	.5 inches per second

Acrylic, Polycarbonate, ABS, HDPE & other plastics up to .25 inches thick

Tool Type:	End Mill (upcut)
Tool Diameter:	.125 inches
Pass Depth:	.135 inches
Stepover:	Variable
Spindle Speed:	18,000 r.p.m.
Feed Rate:	1 to 2 inches per second
Plunge Rate:	.5 inches per second

Acrylic, Polycarbonate, ABS, HDPE & other plastics up to 1.5 inches thick

Tool Type:	End Mill (upcut)
Tool Diameter:	.25 inches
Pass Depth:	.26 inches
Stepover:	Variable
Spindle Speed:	18,000 r.p.m
Feed Rate:	1.5 to 2.5 inches per second
Plunge Rate:	.5 inches per second

Foam up to 5 inches thick

Tool Type:	End Mill (upcut)
Tool Diameter:	.3125 inches
Pass Depth:	3 inches
Stepover:	Variable
Spindle Speed:	15,000 r.p.m.
Feed Rate:	4 inches per second
Plunge Rate:	4 inches per second

Drawing with Plotter Pen Bit

Tool Type:	End Mill
Tool Diameter:	.015 inches
Pass Depth:	.05 inches
Stepover:	Variable
Spindle Speed:	0 r.p.m.
Feed Rate:	2 inches per second
Plunge Rate:	1 inch per second

Keep in mind that individual projects and materials may call for different settings, but the preceding is a good start.