

Suggested Bit Feed and Speed

(Adapted from information provided by Legacy Woodworking Machinery)

Exceptions to these suggestions include:

- Surfacing bits – This depends on the hardness of the material that you will be working with.
- Specialty bits such as fret cutters, glass etching, Donek drag knife etc...

This information provided as a starting point; adjustments may be necessary depending on your material being machined.

Bit Speeds:

0 - 0.25 Dia bits 22,000 - 24,000rpm

0.25 - 0.5 Dia bits 18,000 - 22,000rpm

0.5 - 1.0 Dia bits 17,000 - 20,000rpm

1.0 – 1.5 Dia Bits 16,000 -18,000rpm

Anything larger than 1.5 Dia 15,000rpm

Drill Bits 3,000rpm

Feed Rates based on Process:

Pockets, Profiles, 3D machining, Texturing and Flutes

0 - 0.25 Dia bits 100 - 130ipm

0.25 - 0.5 Dia bits 80 - 120ipm

0.5 - 1.0 Dia bits 60 - 100ipm

1.0 – 1.5 Dia Bits 50 - 70ipm

Anything larger than 1.5 Dia 60-80ipm

V-Carve, Engraving Prism and Inlay

0 - 0.25 Dia bits 100 -110ipm

0.25 - 0.5 Dia bits 80 -100ipm

0.5 - 1.0 Dia bits 60 - 80ipm

Drilling Plunge Rate

0 - 0.25 Dia bits 30 - 50ipm

0.25 - 0.5 Dia bits 20 - 35ipm

Step Over

Step over is the percentage of the bit that is shifted over to cut new material each horizontal pass. Step over on all cutters should be at the maximum 40% of the bits' diameter. Step over on 3D carving bits should range between 8% and 10% depending upon your personal preference and time allotted for the project. Step over on large diameter bits can be adjusted to a percentage smaller than 40 based upon your needs.