# CNC bits:

1. Purpose: cutting

Material type: plywood, Hardwood, Plywood, Laminated particle board, foam, plastics and aluminum.

Bit: spiral cutting square endmill

Types: upcut or downcut

1. Purpose: 3D carvings

Material type: any

Bit: Ballnose /contouring endmill

1. Purpose: Lettering or detailed sign making

Material:

Bit: v bit also called: v-carving bits, v-groove bits, or engraving bits

(This is the one we were using)

1. Purpose: To skim the surface and leave a smooth flat finish

Material type: any

Bit: spoil board cutter or flycutter bit

A good all-purpose bit is a 2-flute up cutting spiral bit.

* Short, stout bits will produce cleaner cuts
* The more flutes (cutting edges) that a bit has, the finer the cut.
* A single flute bit will be very aggressive and leave a rougher edge than a 4 flute bit.

Feedrate (feeds): how fast the machine moves through your material, measured in feet/minute or inches/second.

Chipload : physical size of the chips created when making a cut. Higher feeedrates produce larger chips. Higher tool rpm produces smaller chips. If your chips are large, you risk breaking your bit. If your chips are more like a fine powder, you are probably dulling your bit. IT’s a balancing act but start with the manufacturers recommended settings and adjust from there.

Source:

http://www.tinkerandfutz.com/a-guide-to-cnc-bits/