



Adam's Bits

2022 Catalogue





Hi, I'm Adam! As an avid CNC hobbyist, I know how hard it is to find great reliable CNC bits at a reasonable price. That's why I started Adam's Bits and have grown to be a trusted source of high quality bits at the most competitive prices in Australia.

I am all about wanting you to have success in your carving so if you have any questions, just ask! I know that selecting the best bit for the job is a bit overwhelming and hence I have provided information against each bit. If you are still unsure, get in touch.

Where to buy

Visit www.endmill.com.au for the best price as my bits are usually 5% to 15% cheaper than eBay. If you still would like to use eBay, you are more than welcome to.



www.endmill.com.au



[http://www.ebay.com.au/usr/
adams_bits](http://www.ebay.com.au/usr/adams_bits)

Postage (via www.endmill.com.au)

Items shipped usually same day or next day. Tracking on all order. Remote deliveries will extend delivery times. Delivery times stated are only estimates

Service	Est. Days	Small	Bulky
AusPost Standard	1-14	A\$3.50	\$8.00
AusPost Express	1-6	A\$11.95	
Courier VIC Metro	1-6	A\$6.95	

Got a bulk order of bits? Great! Get in touch and I'll give you the best price I can



Get in touch if you have any questions regarding what bits you need for your next carve, finishing options or just want to share something cool! I'm a user myself so I post what I can on Instagram and my website. Have a look, follow and like my page!



adam@endmill.com.au



[www.facebook.com/
adamsbits](http://www.facebook.com/adamsbits)



[www.instagram.com/
adamsbits/](http://www.instagram.com/adamsbits/)



0448 431 833



Laverton North, 3026

Adam's Bits

CNC bits come in a wide variety of shapes and sizes. It can be a bit daunting so here is a guide to which bits are the best for each material or application. Just remember, these are only suggestions and sometimes you'll need to do a bit of trial and error to achieve the result you are aiming for.

Suitable bits for

Aluminium, soft metals & plastics



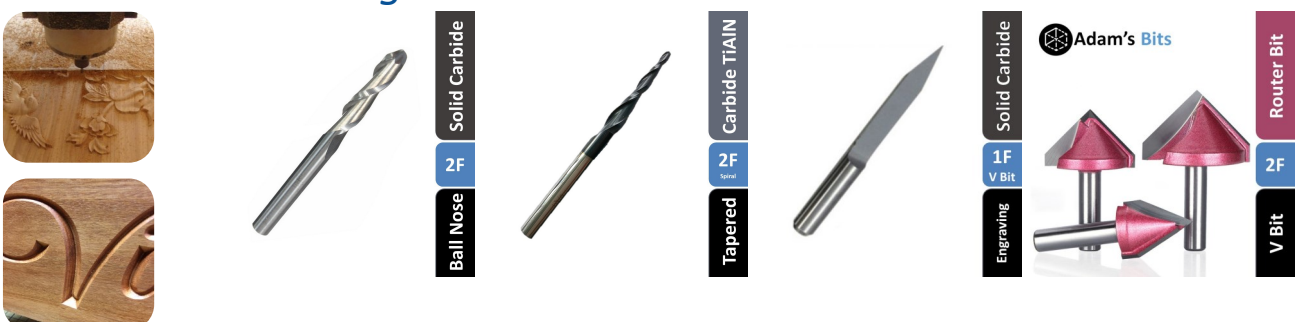
Softwood, Hardwood, Laminates & MDF



Aluminium Composite, Fibre Glass & Foam



3D and V bit carving



1 Flute Up Cut for Aluminium

When cutting soft metals like aluminium & brass, there is nothing easier to use and more suitable than a high grade 1 flute up cut. An 1 flute has the best chip ejection and heat dissipation which avoids jamming due to the gummy nature of soft materials. An 1 flute also has the capability to operate effectively with widely varied feeds and speeds as compared to 2 & 3 flute when slotting. For peripheral cutting, a 2 or 3 flute for soft metals may be more ideal for the side & bottom finishes.

Suitable for

Soft Metals (Aluminium & Brass) - **Excellent**

Plastics (ABS, acrylic, HPDE etc.) - **Great**

Aluminium Composite Materials – **Great**

Adam's Tips

You will get a different finish on the side of your material depending if you use a climb or conventional cut. Do some test cuts and check which side comes out the best and adjust your toolpath accordingly.

Resources

<https://www.endmill.com.au/blog/adams-tips-cutting-aluminium-sheet/>

Alternatives

2 flute up cut for aluminium **good alternative**—will require coolant and only suitable for up to 6mm cutting diameter for slot milling

1 flute up cut for plastics **worse** —can be used but won't last long. A sharper but brittle bit



Solid Carbide

1F
Non-Ferrous

Straight

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
1-1/8-SP-1F-3-Al	1mm x 3.175mm x 3mm 1F	\$ 9.95
1.5-1/8-SP-1F-4-Al	1.5mm x 3.175mm x 4mm 1F	\$ 9.95
2-1/8-SP-1F-6-Al	2mm x 3.175mm x 6mm 1F	\$ 9.95
1/8-1/8-SP-1F-8-Al	3.175mm x 3.175mm x 8mm 1F	\$ 9.95
1/8-1/8-SP-1F-12-Al	3.175mm x 3.175mm x 12mm 1F	\$ 9.95
1/8-1/8-SP-1F-17-Al	3.175mm x 3.175mm x 17mm 1F	\$ 10.95
4-4-SP-1F-12-Al	4mm x 4mm x 12mm 1F	\$ 11.95
4-4-SP-1F-17-Al	4mm x 4mm x 17mm 1F	\$ 11.95
4-4-SP-1F-22-Al	4mm x 4mm x 22mm 1F	\$ 12.95
6-6-SP-1F-15-Al	6mm x 6mm x 15mm 1F	\$ 21.95
6-6-SP-1F-22-Al	6mm x 6mm x 22mm 1F	\$ 22.95
6-6-SP-1F-32-Al	6mm x 6mm x 32mm 1F	\$ 34.95
8-8-SP-1F-22-Al	8mm x 8mm x 22mm 1F	\$ 24.95

1 Flute Up Cut for Aluminium DLC

Up your game with Diamond-like Carbon (DLC) coating for aluminium coating! DLC bits are phenomenal bits in that they last longer, cut quieter and cut with a mirror finish. You will not be disappointed.

When cutting soft metals like aluminium & brass, there is nothing easier to use and more suitable than a high grade 1 flute up cut. An 1 flute has the best chip ejection and heat dissipation which avoids jamming due to the gummy nature of soft materials. An 1 flute also has the capability to operate effectively with widely varied feeds and speeds as compared to 2 & 3 flute when slotting. For peripheral cutting, a 2 or 3 flute for soft metals is ideal for the side & bottom finish.

Suitable for

Soft Metals (Aluminium & Brass) - **Excellent**

Plastics (ABS, acrylic, HPDE etc.) - **Great**

Aluminium Composite Materials – **Great**

Adam's Tips

You will get a different finish on the side of your material depending if you use a climb or conventional cut. Do some test cuts and check which side comes out the best and adjust your toolpath accordingly.

Resources

<https://www.endmill.com.au/blog/adams-tips-cutting-aluminium-sheet/>



Diamond Like Carbon
Solid Carbide

1F

Up Cut

SKU	#N/A	Price
1/8-1/8-DL-1F-8-Al	3.175mm x 3.175mm x 8mm 1F	\$ 13.95
1/8-1/8-DL-1F-12-Al	3.175mm x 3.175mm x 12mm 1F	\$ 13.95
1/8-1/8-DL-1F-17-Al	3.175mm x 3.175mm x 17mm 1F	\$ 13.95
1/8-1/8-DL-1F-22-Al	3.175mm x 3.175mm x 22mm 1F	\$ 15.95
4-4-DL-1F-12-Al	4mm x 4mm x 12mm 1F	\$ 17.95
6-6-DL-1F-17-Al	6mm x 6mm x 17mm 1F	\$ 29.95
6-6-DL-1F-22-Al	6mm x 6mm x 22mm 1F	\$ 29.95

2 Flute Up Cut for Aluminium

Two & three flute square end mills for cutting soft metals such as aluminium are a high performance mill. CNC milling of aluminium can be difficult, the material can stick to the flutes and the chips can "gum" the flutes. These mills are designed for optimal swarf removal and are forgiving when using smaller format CNC machines. Achieve that cleaner side finish with this two flute mill. Want a better finish? Try the three flute cutters for soft metal. Soft / non ferrous metals include aluminium, brass and copper.

Suitable for

Soft Metals (Aluminium & Brass) - **Excellent**



Adam's Bits



Uncoated Carbide

2F

Non-Ferrous

Spiral

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
1-4-SP-2F-4-U45	1mm x 4mm x 4mm 2F	\$ 7.95
1.5-4-SP-2F-4-U45	1.5mm x 4mm x 4mm 2F	\$ 7.95
2-4-SP-2F-6-U45	2mm x 4mm x 6mm 2F	\$ 7.95
2.5-4-SP-2F-8-U45	2.5mm x 4mm x 8mm 2F	\$ 7.95
3-4-SP-2F-8-U45	3mm x 4mm x 8mm 2F	\$ 7.95
4-4-SP-2F-10-U45	4mm x 4mm x 10mm 2F	\$ 8.95
6-6-SP-2F-15-U45	6mm x 6mm x 15mm 2F	\$ 10.95
8-8-SP-2F-20-U45	8mm x 8mm x 20mm 2F	\$ 19.95
10-10-SP-2F-25-U45	10mm x 10mm x 25mm 2F	\$ 31.95
12-12-SP-2F-30-U45	12mm x 10mm x 30mm 2F	\$ 41.95

1 Flute UP CUT Carbide End Mill (for Plastics)

There is only really one bit that you would want to attempt on plastics and that is the 1 flute up cut.

Also known as a single or “O” flute, the one toothed up cutter allows for maximum chip ejection compared to any other bit and generates the least amount of heat. The combination of the two means that when cutting plastics, you avoid the nasty occurrence of “chip rewelding” where plastic upon cutting heats up to the point it solidifies behind the cutter, rather than ejecting nicely.

Suitable for

Plastics (ABS, acrylic, HPDE etc.) - **Excellent**

Wood (MDF, hardwood) - **Good**

Aluminium Composite Materials – **Great**

Wood (Ply & softwoods) - **Not suitable**

Adam's Tips

To reduce rewelding, ensure your bit doesn't heat up by driving your feed rate high and router RPM low.



Solid Carbide

1F

Up Cut

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
0.8-3.175-SP-1F-3	0.8mm x 3.175mm x 3mm 1F	\$ 5.45
1-3.175-SP-1F-4	1mm x 3.175mm x 4mm 1F	\$ 5.45
1.5-1/8-SP-1F-6	1.5mm x 3.175mm x 6mm 1F	\$ 5.45
2-1/8-SP-1F-8	2mm x 3.175mm x 8mm 1F	\$ 5.45
2-1/8-SP-1F-12	2mm x 3.175mm x 12mm 1F	\$ 5.45
1/8-1/8-SP-1F-13	3.175mm x 3.175mm x 13mm 1F	\$ 5.45
1/8-1/8-SP-1F-17	3.175mm x 3.175mm x 17mm 1F	\$ 5.45
1/8-1/8-SP-1F-22	3.175mm x 3.175mm x 22mm 1F	\$ 5.45
4-4-SP-1F-17	4mm x 4mm x 17mm 1F	\$ 11.95
4-4-SP-1F-22	4mm x 4mm x 22mm 1F	\$ 11.95
6-6-SP-1F-17	6mm x 6mm x 17mm 1F	\$ 14.95
6-6-SP-1F-22	6mm x 6mm x 22mm 1F	\$ 15.95
6-6-SP-1F-32	6mm x 6mm x 32mm 1F	\$ 19.95
6-6-SP-1F-52	6mm x 6mm x 52mm 1F	\$ 24.95
3.175-6.35-SP-1F-17	3.175mm x 6.35mm x 17mm 1F	\$ 17.95
4-6.35-SP-1F-22	4mm x 6.35mm x 22mm 1F	\$ 17.95
6.35-6.35-SP-1F-22	6.35mm x 6.35mm x 22mm 1F	\$ 17.95
8-8-SP-1F-22	8mm x 8mm x 22mm 1F	\$ 27.95
10-10-SP-1F-22	10mm x 10mm x 22mm 1F	\$ 49.95
12-12-SP-1F-32	12mm x 12mm x 32mm 1F	\$ 59.95

2 Flute Spiral Up Cut

A spiral fluted up cutter sports a number of cutting edges or “teeth” which means that for every rotation of the bit, that number of edges will be cutting your material. These bits are like a traditional drill bit in which the spirals direct chips up. These cutters are primed for high efficiency cutting on woods but do leave a slight burr on the top of your material and a clean finish on the bottom side.

Suitable for

Wood (MDF, hardwood) - **Good**

Wood (Ply & softwoods) - **OK**

Adam's Tips

Up cuts have a tendency to pull up the material you are cutting. Ensure that you are using suitable hold down methods such as double sided tape, masking tape + super glue or clamps over a small area. Also watch out for cut parts popping up if you are using a dust boot. A benefit of a spiral fluted up cut is that you can drive your bit faster in feed than a single flute. For example, with 2 flute you are able to go 2x faster than a 1 flute, 3 flutes 3x and 4 flute 4x.



Solid Carbide

2F

Up Cut

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
1-1/8-SP-2F-6	1mm x 3.175mm x 6mm 2F	\$ 5.45
1.5-1/8-SP-2F-6	1.5mm x 3.175mm x 6mm 2F	\$ 5.45
1.5-1/8-SP-2F-12	1.5mm x 3.175mm x 12mm 2F	\$ 5.45
2-1/8-SP-2F-12	2mm x 3.175mm x 12mm 2F	\$ 5.45
2-1/8-SP-2F-17	2mm x 3.175mm x 17mm 2F	\$ 5.45
1/8-1/8-SP-2F-13	3.175mm x 3.175mm x 13mm 2F	\$ 5.45
1/8-1/8-SP-2F-17	3.175mm x 3.175mm x 17mm 2F	\$ 5.45
1/8-1/8-SP-2F-22	3.175mm x 3.175mm x 22mm 2F	\$ 5.45
1/8-1/8-SP-2F-32	3.175mm x 3.175mm x 32mm 2F	\$ 6.45
4-4-SP-2F-22	4mm x 4mm x 22mm 2F	\$ 6.95
4-4-SP-2F-42	4mm x 4mm x 42mm 2F	\$ 9.95
6-6-SP-2F-22	6mm x 6mm x 22mm 2F	\$ 17.95
6-6-SP-2F-32	6mm x 6mm x 32mm 2F	\$ 18.95
6-6-SP-2F-62	6mm x 6mm x 62mm 2F	\$ 19.95
3.175-6.35-SP-2F-17	3.175mm x 6.35mm x 17mm 2F	\$ 17.95
4-6.35-SP-2F-22	4mm x 6.35mm x 22mm 2F	\$ 17.95
6.35-6.35-SP-2F-22	6.35mm x 6.35mm x 22mm 2F	\$ 17.95

2 Flute STRAIGHT Cut

A favourite of MDF & ply “decor warriors”, a straight flute sports straight blades which is great for all timber types and suitable for laminate material like ply, melamine chipboard (whiteboard) and veneers. A 2 flute straight cut has the unique ability to be not only very well priced as compared to down and compression cutters but also give a great finish to your material on both top and bottom. A little brush is all that is needed to remove residual burrs

Suitable for

Wood (MDF, hardwood) - **Great**

Wood (Ply & softwoods) - **Great**

Plastics (ABS, acrylic, HPDE etc.) - **Not suitable**

Adam's Tips

A straight flute creates a lot of dust as opposed to chips so make sure you have appropriate ventilation or dust extraction when cutting. On the plus side, the dust gets stuck and packed back into the slot you have made and keeps your cut item in place. This has the advantage of not having to use tabs or tape to hold your material down and cuts overall handling time.

Alternatives

2 flute DOWN cut **great alternative** - great for pocketing such as lettering. If used to profile cut, this cutter will leave a burred bottom surface finish

2 flute COMPRESSION up down cut **great alternative** - great for profile cutting which leaves a perfect top and bottom surface finish



Solid Carbide

2F

Straight

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
1-1/8-ST-2F-3	1mm x 3.175mm x 3mm 2F	\$ 5.45
1.5-1/8-ST-2F-8	1.5mm x 3.175mm x 8mm 2F	\$ 5.45
2-1/8-ST-2F-12	2mm x 3.175mm x 12mm 2F	\$ 5.45
2-1/8-ST-2F-17	2mm x 3.175mm x 17mm 2F	\$ 5.45
1/8-1/8-ST-2F-13	3.175mm x 3.175mm x 13mm 2F	\$ 5.45
1/8-1/8-ST-2F-17	3.175mm x 3.175mm x 17mm 2F	\$ 5.45
1/8-1/8-ST-2F-22	3.175mm x 3.175mm x 22mm 2F	\$ 5.45
1/8-1/8-ST-2F-32	3.175mm x 3.175mm x 32mm 2F	\$ 5.45
4-4-ST-2F-22	4mm x 4mm x 22mm 2F	\$ 11.95
6-6-ST-2F-22	6mm x 6mm x 22mm 2F	\$ 14.95
6-6-ST-2F-32	6mm x 6mm x 32mm 2F	\$ 16.95
6-6-ST-2F-52	6mm x 6mm x 52mm 2F	\$ 19.45

2 Flute Spiral DOWN Cut

A spiral down cut has edges which force chips down back into your material. This has benefits of providing a perfect top finish to any wood type especially plys and top finishes. Down cut bits are the a weapon of choice in anyone's arsenal. Opposite to a spiral up cut, a down cut will give you a perfect top finish but a burred bottom finish. Therefore these bits are most effective for engraving & lettering rather than cutting all the way through.

Suitable for

- Wood (MDF, hardwood) - **Great (top finish only)**
- Wood (Ply & softwoods) - **Great (top finish only)**
- Plastics (ABS, acrylic, HPDE etc.) - **Not suitable**

Adam's Tips

Dust gets stuck and packed back into the slot you have made and keeps your cut item in place. This has the advantage of not having to use tabs or tape to hold your material down and cuts overall handling time but to the detriment of sanding the bottom of your material.

Alternatives

2 flute STRAIGHT cut **great alternative** - cheaper alternation but not as clean of a cut as the down cut



Solid Carbide

2F

Down Cut

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
1-1/8-DC-2F-4	1mm x 3.175mm x 4mm 2F	\$ 12.95
1.5-1/8-DC-2F-6	1.5mm x 3.175mm x 6mm 2F	\$ 12.95
2-1/8-DC-2F-8	2mm x 3.175mm x 8mm 2F	\$ 13.45
1/8-1/8-DC-2F-17	3.175mm x 3.175mm x 17mm 2F	\$ 13.45
1/8-1/8-DC-2F-22	3.175mm x 3.175mm x 22mm 2F	\$ 13.45
4-4-DC-2F-22	4mm x 4mm x 22mm 2F	\$ 17.95
6-6-DC-2F-22	6mm x 6mm x 22mm 2F	\$ 24.95
3.175-6.35-DC-2F-17	3.175mm x 6.35mm x 17mm 2F	\$ 24.95
4-6.35-DC-2F-22	4mm x 6.35mm x 22mm 2F	\$ 24.95
6.35-6.35-DC-2F-22	6.35mm x 6.35mm x 22mm 2F	\$ 24.95
8-8-DC-2F-32	8mm x 8mm x 32mm 2F	\$ 34.95

2 Flute COMPRESSION Up Down Cut

If an upcut gives you a great bottom finish and a down cut a great top finish, why not have both with a compression cutter! A compression cutter starts with an up cut component usually the length of the diameter (e.g. 1/8" has a 1/8" up cut component and the rest to down cut) so get the full benefit of the cutter, your first plunge must go below that length (e.g. 1/8" or more).

Suitable for

Wood (MDF, hardwood) - **Excellent**

Wood (Ply & softwoods) - **Excellent**

Melamine White Board - **Excellent**

Plastics (ABS, acrylic, HPDE etc.) - **Not suitable**

Adam's Tips

Albeit compression bits are primarily used for slot cutting, you can still profile cut as long as you go past the up cut component. This will give you both a perfect bottom and top finish. Compression cutters like to run a bit faster than other wood cutting bit to get the best finish along the side of your material.



Solid Carbide

2F
Up/Down

Compression

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
3.175-CM-2F-12	3.175mm x 3.175mm x 12mm 2F	\$ 9.95
3.175-CM-2F-17	3.175mm x 3.175mm x 17mm 2F	\$ 9.95
3.175-CM-2F-22	3.175mm x 3.175mm x 22mm 2F	\$ 9.95
4-4-CM-2F-17	4mm x 4mm x 17mm 2F	\$ 12.95
4-4-CM-2F-22	4mm x 4mm x 22mm 2F	\$ 12.95
4-4-CM-2F-32	4mm x 4mm x 32mm 2F	\$ 14.95
6-6-CM-2F-17	6mm x 6mm x 17mm 2F	\$ 23.95
6-6-CM-2F-22	6mm x 6mm x 22mm 2F	\$ 24.95
6-6-CM-2F-32	6mm x 6mm x 32mm 2F	\$ 27.95
6-6-CM-2F-52	6mm x 6mm x 52mm 2F	\$ 34.95
6.35-6.35-CM-2F-22	6.35mm x 6.35mm x 22mm 2F	\$ 34.95
8-8-CM-2F-35	8mm x 8mm x 35mm 2F	\$ 39.95
9.52-9.52-CM-2F-22	9.52mm x 9.52mm x 22mm 2F	\$ 59.95
10-10-CM-2F-42	10mm x 10mm x 42mm 2F	\$ 69.95
12.7-12.7-CM-2F-22	12.7mm x 12.7mm x 22mm 2F	\$ 99.95

2 Flute COMPRESSION Up Down Cut DLC

Up your game with Diamond-like Carbon (DLC) coating! DLC bits are phenomenal bits in that they last longer, cut quieter and cut with great efficiency. You will not be disappointed.

If an upcut gives you a great bottom finish and a down cut a great top finish, why not have both with a compression cutter! A compression cutter starts with an up cut component usually the length of the diameter (e.g. 1/8" has a 1/8" up cut component and the rest to down cut) so get the full benefit of the cutter, your first plunge must go below that length (e.g. 1/8" or more).

Suitable for

Wood (MDF, hardwood) - **Excellent**

Wood (Ply & softwoods) - **Excellent**

Melamine White Board - **Excellent**

Plastics (ABS, acrylic, HPDE etc.) - **Not suitable**

Adam's Tips

Albeit compression bits are primarily used for slot cutting, you can still profile cut as long as you go past the up cut component. This will give you both a perfect bottom and top finish. Compression cutters like to run a bit faster than other wood cutting bit to get the best finish along the side of your material.



Diamond Like Carbon
Solid Carbide

2F
Up/Down

Compression

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
3.175-CM-2F-17-DLC	3.175mm x 3.175mm x 17mm 2F	\$ 13.95
3.175-CM-2F-22-DLC	3.175mm x 3.175mm x 22mm 2F	\$ 14.95
4-4-CM-2F-22-DLC	4mm x 4mm x 22mm 2F	\$ 16.45
6-6-CM-2F-22-DLC	6mm x 6mm x 22mm 2F	\$ 29.95
6-6-CM-2F-32-DLC	6mm x 6mm x 32mm 2F	\$ 32.95
8-8-CM-2F-32-DLC	8mm x 8mm x 32mm 2F	\$ 44.95
10-10-CM-2F-35-DLC	10mm x 10mm x 35mm 2F	\$ 49.95
10-10-CM-2F-45-DLC	10mm x 10mm x 45mm 2F	\$ 69.95
12-12-CM-2F-45-DLC	12mm x 12mm x 45mm 2F	\$ 89.95

1 Flute Spiral DOWN Cut

An 1 flute down cut are suitable for both aluminium composite material (a.k.a aluminium composite panel, ACM, alucobond), plastics and wood. Operating in the same manner as the 2 flute down cut, an 1 flute has a single cutting edge and forces chips back down into the material. This has the benefit of holding your material down to the bed of your CNC while cutting.

Suitable for

Soft Metals (Aluminum & Brass) - **Not suitable**

Plastics (ABS, acrylic, HPDE etc.) - **Great**

Aluminum Composite Materials - **Excellent**

Wood (MDF, hardwood) - **Great (top finish only)**

Wood (Ply & softwoods) - **Great (top finish only)**

Adam's Tips

Depending on the rigidity of your CNC, you can cut aluminium composite panel with 1 or 2 passes. Also, if you find that using a smaller diameter bit (e.g. 2mm) creates a higher than desired clean up time due to plastic chips packing back into the slot, try a 1 flute up cut for aluminium or plastics.



Solid Carbide

1F

Down Cut

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
0.5-1/8-DC-1F-2	0.5mm x 3.175mm x 2mm 1F	\$ 12.95
1-1/8-DC-1F-4	1mm x 3.175mm x 4mm 1F	\$ 12.95
1.5-1/8-DC-1F-6	1.5mm x 3.175mm x 6mm 1F	\$ 9.45
2-1/8-DC-1F-8	2mm x 3.175mm x 8mm 1F	\$ 9.45
1/8-1/8-DC-1F-8	3.175mm x 3.175mm x 8mm 1F	\$ 12.95
1/8-1/8-DC-1F-17	3.175mm x 3.175mm x 17mm 1F	\$ 12.95
1/8-1/8-DC-1F-22	3.175mm x 3.175mm x 22mm 1F	\$ 12.95
4-4-DC-1F-17	4mm x 4mm x 17mm 1F	\$ 16.95
3.175-6.35-DC-1F-17	3.175mm x 6.35mm x 17mm 1F	\$ 24.95
4-6.35-DC-1F-22	4mm x 6.35mm x 22mm 1F	\$ 24.95
6.35-6.35-DC-1F-22	6.35mm x 6.35mm x 22mm 1F	\$ 24.95
6-6-DC-1F-12	6mm x 6mm x 12mm 1F	\$ 21.95
6-6-DC-1F-22	6mm x 6mm x 22mm 1F	\$ 22.95

PCB Corn Cutter

Sporting a diamond pattern, a combination of up and down cut angles allows this router bit to grind through hard and highly abrasive material. These are the go to bits for PCBs and carbon fibre and works well on epoxies containing carbon, fibres, glass, composite materials and phenolics.

Suitable for

- Carbon Fibre
- Composite Materials
- Fiberglass including PCB Boards
- Phenolics
- Fibre & Glass Reinforced Plastics or Polymers
- G10 & G11 Glass Epoxy Composite Laminate Material

Adam’s Tips

Cutting such materials like carbon fibre, phenolics and fiberglass must be done so with extreme caution. Inhaling or coming into contact with dust may cause irritation and/or respiratory problems. Use appropriate dust extraction, dust elimination and PPE such as respirator.

Alternatives

4 flute UP cut **great alternative** - a sharp 4 flute up cut can produce the same results under certain conditions



Solid Carbide

Corn Flute

PCB Cutter

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
0.5-1/8-CT-MF-3	0.5mm x 3.175mm x 3mm MF	\$ 5.45
1-1/8-CT-MF-7	1mm x 3.175mm x 7mm MF	\$ 5.45
1.5-1/8-CT-MF-8	1.5mm x 3.175mm x 8.5mm MF	\$ 5.45
2-1/8-CT-MF-10.5	2mm x 3.175mm x 10.5mm MF	\$ 5.45
1/8-1/8-CT-MF-12	3.175mm x 3.175mm x 12mm MF	\$ 5.45
1/8-1/8-CT-MF-17	3.175mm x 3.175mm x 17mm MF	\$ 5.45
4-4-CT-MF-17	4mm x 4mm x 17mm MF	\$ 9.95
4-4-CT-MF-22	4mm x 4mm x 22mm MF	\$ 9.95
6-6-CT-MF-22	6mm x 6mm x 22mm MF	\$ 19.95
8-8-CT-MF-22	8mm x 8mm x 22mm MF	\$ 29.95

2 Flute 15deg High Helix SPIRAL Cut

Cutting foam has now been made easier with a 15deg high helix 2 flute spiral up cut. Designed to cut rather than tear material away, this half way between a straight and spiral bit can be used on most hard and soft foams. Great for making tool inserts, kaizen boards, box padding, product inserts and more.

Suitable for

EVA (Ethylene-vinyl Acetate Foam)

Most polystyrenes

Most machinable foams

Adam's Tips

All foams have not been created equal and albeit that cheap hardware store floor mat foam might be enticing, it's good to test to see which yields the best results. The rule of thumb is the harder the material the better it will cut.



Solid Carbide

2F
15° Helix

Foam 15°

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
1/8-1/8-FC-2F-17	3.175mm x 3.175mm x 17mm 2F	\$ 8.95
1/8-1/8-FC-2F-32	3.175mm x 3.175mm x 32mm 2F	\$ 10.95
4-4-FC-2F-22	4mm x 4mm x 22mm 2F	\$ 12.95
4-4-FC-2F-42	4mm x 4mm x 42mm 2F	\$ 15.95
6-6-FC-2F-22	6mm x 6mm x 22mm 2F	\$ 19.95
6-6-FC-2F-62	6mm x 6mm x 62mm 2F	\$ 24.95

2 Flute BALL NOSE (for 3D Carving)

A favourite of CNC enthusiasts is to 3D carve and a ball nose router bit allows you to do just that.

These are a great entry level bits as they are value for money compared to tapered ball nose. The radius = 1/2 of the diameter with no flat bottom.

These bits can also be used to engrave lettering.

Suitable for

Plastics (ABS, acrylic, HPDE etc.) - **Great**

Wood (MDF, hardwood) - **Excellent**

Wood (Ply & softwoods) - **Great**

Soft Metals - **Not Suitable**

Adam's Tips

Cutting against the grain reduces fuzzy material forming in your carve. This can be set in your 3D carving software under the term "raster". Also, choosing the right step over value is key to a perfect finish.

The step over value is calculated on the % of diameter so a value of 10% for a 3.175mm bit would be 0.3175mm. It really does depend on the finish you are expecting but a good range to aim for is between 8% and 12%. Just remember that a high step over value will reduce time considerably, although it could produce undesired lines from the "cupping" produced by the bottom profile of the bit.



Solid Carbide

2F

Ball Nose



Check out <https://www.instagram.com/p/ByJfDQLAWOa/>

SKU	Cut Radius x Shank Diam. x Cut Length	Price
2-BN-2F-17	R1.0mm x 3.175mm x 17mm 2F	\$ 5.45
1/8-1/8-BN-2F-17	R1.6mm x 3.175mm x 17mm 2F	\$ 5.45
1/8-1/8-BN-2F-22	R1.6mm x 3.175mm x 22mm 2F	\$ 5.45
1/8-1/8-BN-2F-32	R1.6mm x 3.175mm x 32mm 2F	\$ 5.45
4-4-BN-2F-22	R2mm x 4mm x 22mm 2F	\$ 6.95
4-4-BN-2F-32	R2mm x 4mm x 32mm 2F	\$ 7.45
6-6-BN-2F-25	R3mm x 6mm x 25mm 2F	\$ 14.95
6-6-BN-2F-32	R3mm x 6mm x 32mm 2F	\$ 16.95
6-6-BN-2F-62	R3mm x 6mm x 62mm 2F	\$ 21.95
3.175-6.35-BN-2F-17	R1.6mm x 6.35mm x 17mm 2F	\$ 17.95
4-6.35-BN-2F-22	R2mm x 6.35mm x 22mm 2F	\$ 17.95
6.35-6.35-BN-2F-22	R3.175mm x 6.35mm x 22mm 2F	\$ 17.95
8-8-BN-2F-32	R4mm x 8mm x 32mm 2F	\$ 29.95
10-10-BN-2F-32	R5mm x 10mm x 32mm 2F	\$ 49.95

2 Flute TAPERED Ball Nose (for 3D Carving)

The most versatile bit you need to have in your set is the tapered ball nose. Capable of engraving wood, plastics, soft metals and even steel, these are a high quality bit and withstand a beating even with a R0.25mm tip. Some uses of this bit include cutting PCB tracks, engraving lettering in ABS, steel plates, 3D carving of aluminium or brass and much more.

Suitable for

Plastics (ABS, acrylic, HPDE etc.) - **Excellent**

Wood - **Excellent**

Steels and Soft Steels - **Excellent**

Adam's Tips

Avoid a deep depth of cut to improve the finish of your material and increase the feed rate to make up for lost time. Also, use a lubricant/coolant when cutting soft metals or steel to ensure the cleanest finish.

Alternatives

2 flute BALL NOSE **great alternative** - great if you can get away with a larger diameter cut

2 flute TAPERED BALL NOSE for wood **great alternative** - a cheaper alternative to larger sizes for timbers



Carbide TiAlN

2F
Spiral

Tapered



Check out <https://www.instagram.com/p/BuLIzi3A1UU/>

SKU	Cut Radius x Shank Diam. x Cut Length	Price
R0.25-3.175-TP-2F-15-C55	R0.25mm x 3.175mm x 15mm 2F	\$ 14.95
R0.5-3.175-TP-2F-15-C55	R0.5mm x 3.175mm x 15mm 2F	\$ 14.95
R0.75-3.175-TP-2F-15-C55	R0.75mm x 3.175mm x 15mm 2F	\$ 14.95
R1.0-3.175-TP-2F-15-C55	R1.0mm x 3.175mm x 15mm 2F	\$ 14.95
R0.25-6-TP-2F-20-C55	R0.25mm x 6mm x 20mm 2F	\$ 22.95
R0.5-6-TP-2F-20-C55	R0.5mm x 6mm x 20mm 2F	\$ 22.95
R0.75-6-TP-2F-20-C55	R0.75mm x 6mm x 20mm 2F	\$ 22.95
R1.0-6-TP-2F-20-C55	R1mm x 6mm x 20mm 2F	\$ 22.95
R1.5-6-TP-2F-20-C55	R1.5mm x 6mm x 20mm 2F	\$ 22.95
R2.0-6-TP-2F-20-C55	R2mm x 6mm x 20mm 2F	\$ 22.95
R0.25-6-TP-2F-30.5-C55	R0.25mm x 6mm x 30.5mm 2F	\$ 24.95
R0.5-6-TP-2F-30.5-C55	R0.5mm x 6mm x 30.5mm 2F	\$ 24.95
R0.75-6-TP-2F-30.5-C55	R0.75mm x 6mm x 30.5mm 2F	\$ 24.95
R1.0-6-TP-2F-30.5-C55	R1.0mm x 6mm x 30.5mm 2F	\$ 24.95
R1.5-6-TP-2F-30.5-C55	R1.5mm x 6mm x 30.5mm 2F	\$ 24.95
R2.0-6-TP-2F-30.5-C55	R2.0mm x 6mm x 30.5mm 2F	\$ 24.95

2 Flute STRAIGHT TAPERED Ball Nose

If you want to up your 3D carving game using a variety of radii to refine your desired detail without breaking the bank, these are the bits. Sporting a 10deg full angle across all radii, these bits are suitable for wood and provide a clean cut with it's straight flute edge. Naturally with straight flute bits, the harder the material (timber), the cleaner the cut.

Suitable for

Plastics (ABS, acrylic, HPDE etc.) - **Not Suitable**

Wood - **Excellent**

Steels - **Not Suitable**

Soft Metals - **Not Suitable**

Adam's Tips

Tapered ball nose are designed to be rigid even with a small radius which cannot be achieved with traditional ball nose bits. If your CNC is rigid enough, you may be able to 3D carve without needing to perform a roughing operation if cutting length permits.



Solid Carbide

2F
Straight

Tapered



Check out <https://www.instagram.com/p/B7BE9t8gF4Z/>

SKU	Cut Radius x Shank Diam. x Cut Length	Price
R0.25-6-TP-2F-22-U	R0.25mm x 6mm x 20mm 2F	\$ 12.95
R0.5-6-TP-2F-22-U	R0.5mm x 6mm x 20mm 2F	\$ 12.95
R0.75-6-TP-2F-22-U	R0.75mm x 6mm x 20mm 2F	\$ 12.95
R1.0-6-TP-2F-22-U	R1mm x 6mm x 20mm 2F	\$ 12.95
R1.5-6-TP-2F-22-U	R1.5mm x 6mm x 20mm 2F	\$ 12.95
R2.0-6-TP-2F-22-U	R2mm x 6mm x 20mm 2F	\$ 12.95

V Bit Carbide End Mill (for engraving)

Used in sign-making and detail work, V-bits are great for carving intricate design in detail on a wide range of materials. V-bits add depth and dimension where the same result cannot be achieved with a flat bit. These are a 1 flute cutter so the finish on softer material will leave a slight burr.

Suitable for

Plastics (ABS, acrylic, HPDE etc.) - **Great**

Wood - **Great**

Soft Metals - **Great**

Adam's Tips

A V bit is a great alternative to a small diameter straight cutter in engraving very fine detail. Use a smaller degree bit with a finer tip to achieve width of cuts smaller than 0.5mm. It is advisable to test on some scrap your carve to dial in the desired result.



Solid Carbide

1F
V Bit

Engraving

SKU	Tip x Full Angle x Shank Diam.	Price
0.1-6-V-10	0.1mm x 6mm 10deg°	\$ 7.45
0.3-6-V-10	0.3mm x 6mm 10deg°	\$ 7.45
1.0-6-V-10	1mm x 6mm 10deg°	\$ 7.45
0.1-6-V-20	0.1mm x 6mm 20deg°	\$ 7.45
0.3-6-V-20	0.3mm x 6mm 20deg°	\$ 7.45
1.0-6-V-20	1mm x 6mm 20deg°	\$ 7.45
0.1-6-V-30	0.1mm x 6mm 30deg°	\$ 7.45
0.3-6-V-30	0.3mm x 6mm 30deg°	\$ 7.45
1.0-6-V-30	1mm x 6mm 30deg°	\$ 7.45
0.1-6-V-45	0.1mm x 6mm 45deg°	\$ 7.45
0.3-6-V-45	0.3mm x 6mm 45deg°	\$ 7.45
1.0-6-V-45	1mm x 6mm 45deg°	\$ 7.45
0.1-6-V-60	0.1mm x 6mm 60deg°	\$ 7.45
0.3-6-V-60	0.3mm x 6mm 60deg°	\$ 7.45
1.0-6-V-60	1mm x 6mm 60deg°	\$ 7.45
0.1-6-V-90	0.1mm x 6mm 90deg°	\$ 7.45
0.3-6-V-90	0.3mm x 6mm 90deg°	\$ 7.45
1.0-6-V-90	1mm x 6mm 90deg°	\$ 7.45

2 Flute V Bit Carbide End Mill (for Engraving)

Used in sign-making and detail work, V-bits are great for carving intricate engravings on a wide range of materials. V-bits add depth and dimension where the same result cannot be achieved with a flat bit. Make light work of softer woods with 2 flutes to achieve an exceptional finish and hold that tip for longer on soft metals.

Suitable for

Wood—All

Plastics - ABS & acrylic/perspex

Soft metals - brass, aluminium

Aluminium Composite

Signboard fiberglass and composites

Adam's Tips

The sharper the angle the more likely you have a chance of chipping the tip. This is less likely on tim-

bers but almost certain on metals. If you do cut on metals, use a bit of cutting fluid/ lubricant to achieve a cleaner finish. V-bits like to be run shallow but can be feed relatively fast.



Adam's Bits



Solid Carbide

2F
V Bit

Engraving



Check out <https://www.instagram.com/p/B5zyA49g4-g/>

SKU	Tip x Full Angle x Shank Diam.	Price
0.1-3.175-V-2F-20	0.1mm x 3.175mm 20deg°	\$ 6.95
0.3-3.175-V-2F-20	0.3mm x 3.175mm 20deg°	\$ 6.95
0.1-3.175-V-2F-30	0.1mm x 3.175mm 30deg°	\$ 6.95
0.3-3.175-V-2F-30	0.3mm x 3.175mm 30deg°	\$ 6.95
0.1-3.175-V-2F-60	0.1mm x 3.175mm 60deg°	\$ 6.95
0.3-3.175-V-2F-60	0.3mm x 3.175mm 60deg°	\$ 6.95
0.1-3.175-V-2F-90	0.1mm x 3.175mm 90deg°	\$ 6.95
0.3-3.175-V-2F-90	0.3mm x 3.175mm 90deg°	\$ 6.95
0.1-6-V-2F-20	0.1mm x 6mm 20deg°	\$ 11.95
0.3-6-V-2F-20	0.3mm x 6mm 20deg°	\$ 11.95
0.1-6-V-2F-30	0.1mm x 6mm 30deg°	\$ 11.95
0.3-6-V-2F-30	0.3mm x 6mm 30deg°	\$ 11.95
0.1-6-V-2F-60	0.1mm x 6mm 60deg°	\$ 11.95
0.3-6-V-2F-60	0.3mm x 6mm 60deg°	\$ 11.95
0.1-6-V-2F-90	0.1mm x 6mm 90deg°	\$ 11.95
0.3-6-V-2F-90	0.3mm x 6mm 90deg°	\$ 11.95

V Router Bits

V bit, also known as V groove router bit are ideal for timbers and some plastics. From 3D lettering, chamfer and groove cutting, these premium bits are able to be used in a CNC router and hand router.

Suitable for

Wood—All

Plastics - ABS & acrylic/Perspex

Soft metals - brass, aluminium

Aluminium Composite

Signboard fiberglass and composites

Adam's Tips

A TCT or Tungsten Carbide Tipped V bit has the advantage of a longer cutting length which will allow for deeper V carves. The tips are not 0 point and you will need to adjust your overall cut depth to account for this.



Router Bit

2F

V Bit



Check out <https://www.instagram.com/p/BvRR-IMA6tW/>

SKU	#N/A	Price
16-6-V-60	60deg x 6mm x 16mm 2F	\$ 13.95
22-6-V-60	60deg x 6mm x 22mm 2F	\$ 14.95
32-6-V-60	60deg x 6mm x 32mm 2F	\$ 19.95
16-6-V-90	90deg x 6mm x 16mm 2F	\$ 13.95
22-6-V-90	90deg x 6mm x 22mm 2F	\$ 14.95
32-6-V-90	90deg x 6mm x 32mm 2F	\$ 19.95
16-6-V-120	120deg x 6mm x 16mm 2F	\$ 13.95
22-6-V-120	120deg x 6mm x 22mm 2F	\$ 14.95

HERO 2 Flute Compression Chip Breaker TCT

Drive efficiency to it's full potential with a 2 flute compression chip breaker. These bits will produce chips at an astonishing rate and leave a perfect top and bottom finish.

Suitable for

Wood (MDF, hardwood)

Wood (Ply & softwoods)

Adam's Tips

These bits are meant for industrial application and must be treated mean to be kept sharp. This means they will need to be feed at a high rate so that the bit does not overheat or collect residue. Alternatively, drop your spindle speed to ensure a consistent chip load.



TCT Compression

2F

Chip Breaker

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
M16-4006228	6mm x 12.7mm x 22mm 2F	\$ 24.95
M16-4008228	8mm x 12.7mm x 22mm 2F	\$ 34.95

HERO 3 Flute TCT Straight Chip Breaker

A combination of high quality carbide braised on an 12.7mm HSS shank, these router bits have gone through rigorous testing and customer feedback to give you a great cutter at an amazing price. These bits are designed for cutting MDF, plywood, soft and hard wood where you require speed and high efficiency. Go even harder with 3 flute straight with an innovative chip breaker profile that will slice through your material with a perfect finish.

Suitable for

- Wood (MDF, hardwood)
- Wood (Ply & softwoods)

Adam’s Tips

These are industrial bits and like to go fast. Going slow will reduce the life of the tool due to heat build up. You can also use these in your hand router with an 12.7mm collet.



TCT Straight Cut

3F

Chip Breaker

SKU	Cut Diam. x Shank Diam. x Cut Length	Price
M16-2006288	6mm x 12.7mm x 28mm 3F	\$ 19.95
M16-2008208	8mm x 12.7mm x 20mm 3F	\$ 24.95
M16-2008308	8mm x 12.7mm x 30mm 3F	\$ 34.95