IDC WOODCRAFT

CNC ROUTER BIT FEEDS & SPEEDS

IMPERIAL (INCH) & METRIC

Provided by IDC Woodcraft

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CNC ROUTER BIT FEEDS & SPEEDS

PLEASE READ

Hello CNC'er!

The following table will guide you through feeds & speeds for most CNC router bits you will use, as well as less common ones.

The feeds & speeds provided are average accepted values for benchtop CNC routers. These will work with soft, medium and moderately hard wood.

For extremely hard wood (Ex. Brazilian Ebony, Snakewood), please do some research before you run projects.

You may see values on this table that are not in listed in your software. Some programs require more information than usual. Don't worry, if you don't see it in yours. It won't be needed.

CNC ROUTER BIT FEEDS & SPEEDS

This table has been built to make ordering bits easy for you. All bits listed have a ***BUY NOW*** link to save you from searching when you need to get bits.

If the IDC Woodcraft store does not carry a bit listed in this table, you will be directed to the best source to get it.

Make sure to put this document on your desktop so you always have immediate access to it.

Some router bits will be highlighted like this example → 1/4” Down Cut

When you see this, it means the bit is used a lot.

If you do not have backups for those bits, you’ll want to consider getting them, because no one wants to wait on a project because of a broken or worn bit.

***NOTE**: Only high-quality bits are listed. For lower-quality, or practice bits, please search Amazon.*

CNC ROUTER BIT FEEDS & SPEEDS

SPECIAL NOTE

Feeds & Speeds tables always refer to speed in *rpm* (revolutions per minute). This is fine when the router uses a spindle controlled by the CNC.

However, for those that have manual routers, the rpm number is not very helpful.

To help with this, you will see an unusual field titled “Router Dial”. This is for users with manual routers.

Note: The “Router Dial” number refers to Makita model RT0701C that commonly comes with benchtop CNC routers (shown at right top).

Makita RT0701C Dial Settings	
1	10,000
2	12,000
3	17,000
4	22,000
5	27,000
6	30,000

Manual CNC Router

Spindle

CNC ROUTER BIT FEEDS & SPEEDS

IMPORTANT

Different CNC routers have different levels of rigidity. The rigidity of a machine will determine the feeds & speeds limits a machine can handle. A rigid machine will work well with these settings. One with flex in the gantry will not.

If your machine has flex, you will want to back the feeds off by about 20%.

How to tell if you need to tone down the feeds.

Grab your router and push back and forth. If it moves easily, reduce the feed rates in this table.

WHEN IS IT TIME TO REPLACE A BIT?

Setting up appropriate Feeds & Speeds are designed to get the best life from your bit, as well as the best cuts. However, router bits do not last forever.

Router bits eventually get dull, just like a kitchen knife. And there are many factors that contribute to this, such as:

- *Quality of the bit*
- *Material being cut*
- *How it is used*
- *Stiffness of your CNC router*
- *Etc.*

INDICATIONS IT IS TIME TO REPLACE A CNC ROUTER BIT

- *The sound from the bit seems to be at a higher, and louder, pitch*
- *The bit seems to be working harder than normal*
- *A low-pitch rumble is coming from your machine while cutting*
- *The bit gets very hot (the nut will be hot as well)*
- *The cut is rougher than usual, and has a fuzzy finish*
- *Chips from the cut tend to be more dust than chips*
- *Edges and corners of raised letters seem to be breaking more often, or leaving jagged edges*
- *Brown lines (burn marks) start showing up at the bottom of cuts*
- *You can smell burning wood*

Resharpening – It is not cost-effective to resharpen smaller spiral bits. Flat-blade bits are easy to resharpen.

Do not throw away worn or broken carbide bits. Save them. Carbide will give you a return of $5 per pound at a metal recycling center.

CNC ROUTER BIT FEEDS & SPEEDS

Learning About Router Bits

If you are **brand new** to CNC routers and router bits, this tutorial video will teach you everything you need to know about router bits.

Click the image to watch →

BE SURE TO SUBSCRIBE

CNC ROUTER BIT FEEDS & SPEEDS

Learn How To Set Up Your Router Bits In Vectric

Setting up your bits properly in the Vectric software can feel a little intimidating at first.

This video will walk you through the process, so you get it right the first time.

Click the image to watch →

BE SURE TO SUBSCRIBE

CNC ROUTER BIT FEEDS & SPEEDS

FOR METRIC USERS

The first section of this *Feeds & Speeds* table is in imperial (inch) units for imperial router bits.

Section 2 refers to the same imperial bits, except all units are list in proper metric values.

Look for the page titled “METRIC FEEDS AND SPEEDS”. Your information is after that.

Please be sure to read the header information in that section.

CNC ROUTER BIT FEEDS & SPEEDS

This table is set up in 2 sections…

The next page is for the 8-piece starter pack provided by IDC Woodcraft (see image below).

The rest are broken down by bit type, with feeds & speeds for each size of that type.

ROUTER BIT STARTER SET

+

+

+

6 VECTOR FILES

LEARN MORE ABOUT THIS SET NOW

FEEDS & SPEEDS for the Complete CNC Router Bit Starter Set

ENDMILLS												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (in/min)	Plunge (in/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1/16" Down Cut	0.0625	2	0.250	2	0.125	20	10	0.032	40%	27,000	5	BUY NOW
1/8" Down Cut	0.125	2	0.750	2	0.125	50	15	0.125	40%	22,000	4	BUY NOW
1/4" Down Cut	0.25	2	1.000	3	0.25	70	30	0.25	40%	19,000	3.5	BUY NOW
1/8" Ballnose	0.125	2	0.500	2	0.125	60	15	0.05	40%*	22,000	4	BUY NOW
1/4" Ballnose	0.25	2	0.750	3	0.25	70	30	0.12	40%	19,000	3.5	BUY NOW

ENDMILLS

V-BIT															
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Side Angle	Feed (in/min)	Plunge (in/min)	Depth Per Pass	Clear Pass Stepover	Final Pass Stepover	Spindle (rpm)	Router Dial		
30° V-bit	0.25	1	0.750	2.00	0.25	15	35	20	0.025	20%	0.005	27,000	5	BUY NOW	BUY THE SET (save $$)
60° V-bit	0.25	2	0.216	2.00	0.25	30	40	20	0.05	20%	0.005	22,000	4	BUY NOW	
90° V-bit	0.25	2	0.125	2.00	0.25	45	50	25	0.1	20%	0.005	17,000	3	BUY NOW	

V-BITS

1/8" DRILLING ENDMILL *See notes below												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (in/min)	Plunge (in/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
Drilling	0.125	2	0.750	2	0.125	50	60*	0.125	40%	22,000	4	BUY NOW
Conventional	0.125	2	0.750	2	0.125	50	25	0.125	40%	22,000	4	
* The plunge value is for using the spiral drilling technique. Watch this video to learn how									Watch Video			

SPIRAL DRILLING UP-CUT ENDMILL

NOTE: When peck drilling with this bit, do not exceed 0.01” peck depth for holes deeper than 0.375”

CNC ROUTER BIT FEEDS & SPEEDS

SECTION 2

ALL COMMON CNC ROUTER BITS FEEDS & SPEEDS

IMPERIAL (INCH)

FEEDS & SPEEDS
FOR CNC ROUTER BITS

PLEASE READ

All *Feeds & Speeds* information in this section are in inches (in).

NOTE: All units use the CNC industry standard ***inches per minute (ipm)***

FEEDS & SPEEDS – DOWN CUTTING ENDMILLS

Down cutting endmills, also known as 'down bits', are the most common bit you will use for material removal and getting squared edges on your projects.

Despite the benefits of creating clean sharp corners and edge, they do have a drawback. This *MUST WATCH* video will explain what it is and how to overcome it.

Items with GREEN '→' are bits you want to have backups of. You will use these most often.

DOWN CUT ENDMILL												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (in/min)	Plunge (in/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1/32"	0.031	2	0.188	2.00	0.125	10	7	0.015	40%	27,000	5	BUY NOW
1/16"	0.0625	2	0.250	2.00	0.125	20	10	0.032	40%	27,000	5	BUY NOW
→ 1/8"	0.125	2	0.750	2.00	0.125	50	15	0.125	40%	22,000	4	BUY NOW
3/16"	0.1875	2	1.000	2.00	0.25	75	35	0.187	40%	19,000	3.5	BUY NOW
→ 1/4"	0.25	2	1.000	3.00	0.25	70	30	0.25	40%	19,000	3.5	BUY NOW

FEEDS & SPEEDS – UP CUTTING ENDMILLS

Up cutting endmills, also known as 'up bits', are best used to remove lots of material quickly while leaving a very good finish along the bottom surface.

They can be used in place of down cutters with proper feeds and speeds. A ggod time to use this bit is when a V-bit is used to accent an edge of a large area that is recessed.

The bit with the GREEN '→' is the one you want to have. If you plan on using this often, get a backup bit.

UP CUT ENDMILL												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (in/min)	Plunge (in/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1/32"	0.031	2	0.125	2.00	0.125	10	7	0.015	40%	27,000	5	BUY NOW
1/16"	0.0625	2	0.813	2.50	0.125	20	10	0.032	40%	27,000	5	BUY NOW
1/8"	0.125	2	0.750	2.00	0.125	50	25	0.125	40%	22,000	4	BUY NOW
3/16"	0.1875	2	0.750	2.00	0.25	80	40	0.28	40%	19,000	3.5	BUY NOW
1/4"	0.25	2	1.00	3.00	0.25	80	40	0.250	40%	19,000	3.5	BUY NOW

FEEDS & SPEEDS – BALL NOSE ENDMILL

The ball nose endmill is categorized as an endmill. The difference is the rounded end.

It is used to accent your projects, such as putting a rounded edge on a sign. You can also use them to do 2.5D or 3D relief carves when extremely high detail is not a concern, but you still want a good-looking project.

To learn about this application, watch this video.

It is standard to have both in your set of bits. You do not need backups of these unless you find you use them a lot.

BALLNOSE												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (in/min)	Plunge (in/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1/8" Ballnose	0.125	2	0.500	2.00	0.125	60	15	0.05	8%	22,000	4	BUY NOW
1/4" Ballnose	0.25	2	1.00	3.00	0.25	70	30	0.12	8%	19,000	3.5	BUY NOW

Note: Stepover is set for 3D modeling work.

FEEDS & SPEEDS – V-BITS

You will notice more fields in this section for V-bits than for the previous bits. That's because more information is required for your software to create toolpaths.

You might find some fields aren't even in your software. Don't worry., you won't need them. They are for more advanced engineering type software programs.

The bit with the **GREEN '→'** are typical backups. However, it is suggested to get the 120 V-bit since it easily does the job of the 90-degree bit. And it can do much larger projects efficiently.

V-BIT														
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Side Angle	Feed (in/min)	Plunge (in/min)	Depth Per Pass	Step Over	Final Pass Stepover	Spindle (rpm)	Router Dial	
30° V-bit	0.25	1	0.750	2.00	0.25	15	35	20	0.025	20%	0.005	27,000	5	BUY NOW
60° V-bit	0.25	2	0.216	2.00	0.25	30	60	20	0.05	20%	0.005	22,000	4	BUY NOW
90° V-bit	0.25	2	0.125	2.00	0.25	45	45	25	0.1	20%	0.005	17,000	3	BUY NOW
120° V-bit	1.0	2	0.288	2.00	0.25	60	80	30	0.19	30%	0.02	17,000	3	BUY NOW
150° V-bit	1.5	2	0.200	2.00	0.25	75	60	20	0.150	30%	0.02	17,000	3	BUY NOW

FEEDS & SPEEDS – SURFACING & BOWL BITS

Here, you will find 2 types of bits. The surfacing bit and bowl bit. Each serve a different purpose.

The surfacing bit is an **ABSOLUTE MUST HAVE**! It is used to surface your spoilboard and smooth warped material or botched projects. Watch this video to learn more about surfacing a spoilboard.

The bowl bit is used to remove large amounts of material without a lot of force applied to your machine. This is commonly used to remove material from deep pockets. It is an extremely handy bit to have.

SURFACING BIT - FOR SURFACING SPOILBOARD (Category: Endmill)												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (in/min)	Plunge (in/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
0.75" Surfacing	0.75	4	0.125	1.00	0.125	100	8	0.050	70%	17000	3	BUY NOW
1" Surfacing	1.0	4	0.250	2.00	0.25	150	7	0.125	70%	10,000	1-2	BUY NOW
1.5" Surfacing	1.5	4	0.250	2.00	0.25	120	7	0.070	70%	12,000	2	BUY NOW
BOWL BIT - HOGGING (Category: Radiused Endmill)												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (in/min)	Plunge (in/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
Bowl	1.00	2	.75	2.00	0.25	80	15	0.250	40%	14,000	2	BUY NOW

A note about surfacing bits

- When surfacing your spoilboard, use the high feed rate setting
- When hoggin out material, use the lower feed rate setting
- If you see burn marks, increase the feed rate or reduce spindle speed

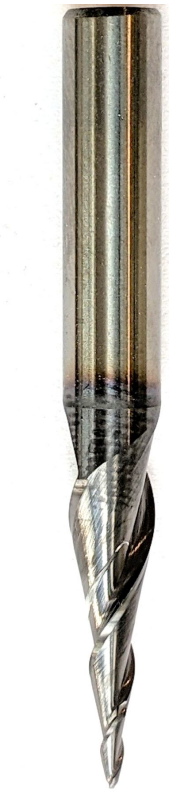
FEEDS & SPEEDS – TAPER BALL NOSE CARVING BIT

The taper ball nose bit is use for fine detail carving. This is the bit to use for exquisite projects.

You may notice the image is a bit 'stumpy' for this type of bit. Most carving bits tend to be longer. The drawback to long, narrow bits in this family is 'tool deflection'.

A long narrow bit will have side bounce which will show up as lines in your project.

To learn more about taper ball nose bits and how they are used, watch this video.



TAPER BALLNOSE CARVING BIT													
Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Tip Radius	Angle	Feed (in/min)	Plunge (in/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
0.250	2	0.750	2.00	0.25	0.015	10	60	25	0.25	5-8%	19,000	3.5	BUY NOW
0.250	2	0.75	2.00	0.25	0.045	10	60	25	0.25	5-8%	19,000	3.5	BUY NOW

FEEDS & SPEEDS – 0-FLUTE

The 0-flute bit is used for acrylic and aluminum, depending on the design of the bit. The bits and settings listed here are for acrylic only.

Always use CAST ACRYLIC when creating these types of projects. Click these links to see it on Amazon.

1/8” thick clear – 1/4” thick clear

0-FLUTE BIT (For Acrylic)												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (in/min)	Plunge (in/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1/8"	0.125	1	0.500	2.00	0.125	60	15	0.125	70%	17,000	3	BUY NOW
1/4"	0.25	1	1.000	2.00	0.25	60	15	0.25	70%	17,000	3	BUY NOW

METRIC

FEEDS & SPEEDS
FOR CNC ROUTER BITS

PLEASE READ

All *Feeds & Speeds* from this point forward are in millimeters (mm).

The ‘Bit’ column refers to the inch size the bits are normally labeled as.

NOTE: All feed units use the CNC industry standard of ***mm/second***

METRIC FEEDS & SPEEDS for Complete CNC Router Bit Starter Set

ENDMILLS												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (mm/min)	Plunge (mm/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1/16" Up Cut	1.587	2	6.350	38	3.175	508	254	0.813	40%	27,000	5	BUY NOW
1/8" Down Cut	3.175	2	19.0	44	3.175	1270	381	3.175	40%	22,000	4	BUY NOW
1/4" Down Cut	6.350	2	25.4	64	6.35	1778	762	6.35	40%	19,000	3.5	BUY NOW
1/8" Ballnose	3.175	2	12.7	44	3.175	1524	381	1.270	40%*	22,000	4	BUY NOW
1/4" Ballnose	6.35	2	36	64	6.35	1778	762	3.048	40%	19,000	3.5	BUY NOW

ENDMILLS

V-BIT															
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Side Angle	Feed (mm/min)	Plunge (mm/min)	Depth Per Pass	Clear Pass Stepover	Final Pass Stepover	Spindle (rpm)	Router Dial		
30° V-bit	6.35	1	19.050	51	6.35	15°	889	508	0.635	20%	0.13	27,000	5	BUY NOW	BUY THE SET (save $$)
60° V-bit	6.35	2	5.486	51	6.35	30°	1524	508	1.270	20%	0.13	22,000	4	BUY NOW	
90° V-bit	6.35	2	3.175	51	6.35	45°	1143	635	2.5	20%	0.13	17,000	3	BUY NOW	

V-BITS

1/8" DRILLING ENDMILL *See notes below												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (mm/min)	Plunge (mm/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
Drilling	3.175	2	19	38	3.175	1270	635	3.175	40%	22,000	4	BUY NOW
Conventional	3.175	2	19	38	3.175	1270	638	5	40%	22,000	4	
* The plunge value is for using the spiral drilling technique. Watch this video to learn how									Watch Video			

NOTE: When peck drilling with this bit, do not exceed 0.05mm peck depth for holes deeper than 10mm

SPIRAL DRILLING UP-CUT ENDMILL

METRIC CNC ROUTER BIT FEEDS & SPEEDS

SECTION 2

ALL COMMON CNC ROUTER BITS FEEDS & SPEEDS

METRIC FEEDS & SPEEDS – DOWN CUTTING ENDMILLS

Down cutting endmills, also known as 'down bits', are the most common bit you will use for material removal and getting squared edges on your projects.

Despite the benefits of creating clean sharp corners and edge, they do have a drawback. This *MUST WATCH* video will explain what it is and how to overcome it.

Items with GREEN '→' are bits you want to have backups of. You will use these most often.

DOWN CUT ENDMILL												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (mm/min)	Plunge (mm/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1/32"	0.79	2	4.762	38	3.175	254	178	0.381	40%	27,000	5	BUY NOW
1/16"	1.587	2	6.35	38	3.175	508	254	0.813	40%	27,000	5	BUY NOW
→ 1/8"	3.175	2	19	44	3.175	1270	381	3.175	40%	22,000	4	BUY NOW
3/16"	4.763	2	25	60	6.35	762	13762	6.350	40%	19,000	3.5	BUY NOW
→ 1/4"	6.35	2	25	63	6.35	1778	762	6.35	40%	19,000	3.5	BUY NOW

METRIC FEEDS & SPEEDS – UP CUTTING ENDMILLS

Up cutting endmills, also known as 'up bits', are best used to remove lots of material quickly while leaving a very good finish along the bottom surface.

They can be used in place of down cutters with proper feeds and speeds. A ggod time to use this bit is when a V-bit is used to accent an edge of a large area that is recessed.

The bit with the GREEN '→' is the one you want to have. If you plan on using this often, get a backup bit.

UP CUT ENDMILL												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (mm/min)	Plunge (mm/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1/32"	0.79	2	3.175	51	3.175	240	180	0.4	40%	15,000	5	BUY NOW
1/16"	1.587	2	60	63	3.175	480	240	0.8	40%	15,000	5	BUY NOW
1/8"	3.175	2	19	38	3.175	1270	635	4.375	40%	15,000	4	BUY NOW
3/16"	4.763	2	19	51	6.35	2040	1020	7	40%	15,000	3-3.5	BUY NOW
1/4"	6.35	2	19	63	6.35	2032	1020	6.350	40%	15,000	3-3.5	BUY NOW

METRIC FEEDS & SPEEDS – BALL NOSE ENDMILL

The ball nose endmill is categorized as an endmill. The difference is the rounded end.

It is used to accent your projects, such as putting a rounded edge on a sign. You can also use them to do 2.5D or 3D relief carves when extremely high detail is not a concern, but you still want a good-looking project.

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It is standard to have both in your set of bits. You do not need backups of these unless you find you use them a lot.

BALLNOSE												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (mm/min)	Plunge (mm/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1/8" Ballnose	3.175	2	12	44	3.175	1524	381	1.3	20%*	14,000	4	BUY NOW
1/4" Ballnose	6.35	2	36	63	6.35	1778	762	3.0	20%	13,000	3-3.5	BUY NOW

* When using 1/8“ ballnose for 2.5D & 3D relief carves, set stepover to 5-8%

METRIC FEEDS & SPEEDS – V-BITS

You will notice more fields in this section for V-bits than for the previous bits. That's because more information is required for your software to create toolpaths.

You might find some fields aren't even in your software. Don't worry., you won't need them. They are for more advanced engineering type software programs.

The bit with the **GREEN '→'** are typical backups. However, it is suggested to get the 120 V-bit since it easily does the job of the 90-degree bit. And it can do much larger projects efficiently.

V-BIT														
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Side Angle	Feed (mm/min)	Plunge (mm/min)	Depth Per Pass	Step Over	Final Pass Stepover	Spindle (rpm)	Router Dial	
30° V-bit	6.35	1	19	51	6.35	15	889	508	0.6	20%	0.13	27,000	5	BUY NOW
60° V-bit	6.35	2	5.5	51	6.35	30	1524	508	1.3	20%	0.13	22,000	4	BUY NOW
90° V-bit	6.35	2	3.2	51	6.35	45	1143	635	2.5	20%	0.13	17,000	3	BUY NOW
120° V-bit	25.4	2	7.315	46	6.35	60	2032	762	4.8	30%	0.25	17,000	3	BUY NOW
150° V-bit	38	2	5.080	46	6.35	75	1524	508	3.81	30%	0.25	17,000	3	BUY NOW

METRIC FEEDS & SPEEDS – SURFACING & BOWL BITS

Here, you will find 2 types of bits. The surfacing bit and bowl bit. Each serve a different purpose.

The surfacing bit is an **ABSOLUTE MUST HAVE**! It is used to surface your spoilboard and smooth warped material or botched projects. Watch this video to learn more about surfacing a spoilboard.

The bowl bit is used to remove large amounts of material without a lot of force applied to your machine. This is commonly used to remove material from deep pockets. It is an extremely handy bit to have.

SURFACING BIT - FOR SURFACING SPOILBOARD (Category: Endmill)

Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (mm/min)	Plunge (mm/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
0.75”	19.050	4	3.175	32	3.175	2540	203	1.270	70%	17,000	3	BUY NOW
1"	25.4	4	6.35	51	6.35	3810	178	3.175	70%	17,000	3	BUY NOW
1.5”	38	4	6.350	51	6.35	3048	203	1.778	70%	12,000	1.5	BUY NOW

BOWL BIT - HOGGING (Category: Endmill)

Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (mm/min)	Plunge (mm/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1” Bowl	25.4	2	19.05	51	6.35	2032	400	6.350	40%	17,000	3	BUY NOW

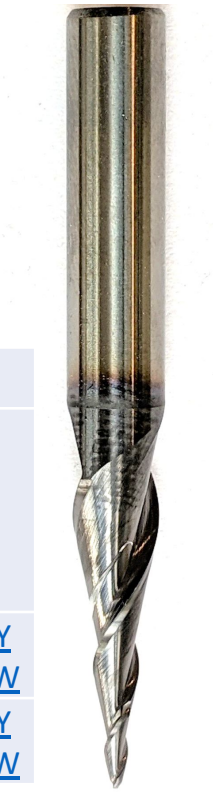
METRIC FEEDS & SPEEDS – TAPER BALL NOSE CARVING BIT

The taper ball nose bit is use for fine detail carving. This is the bit to use for exquisite projects.

You may notice the image is a bit ‘stumpy’ for this type of bit. Most carving bits tend to be longer. The drawback to long, narrow bits in this family is ‘tool deflection’.

A long narrow bit will have side bounce which will show up as lines in your project.

To learn more about taper ball nose bits and how they are used, watch this video.



TAPER BALLNOSE CARVING BIT													
Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Tip Radius	Angle / Side Angle	Feed (mm/min)	Plunge (mm/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1mm rad.	2	19	56	6.35	0.5	12/6	1524	635	6.35	5-8%	19,000	3.5	BUY NOW
1.143mm rad.	2	19	56	6.35	0.5	12/6	1524	635	6.35	5-8%	19,000	3.5	BUY NOW

METRIC FEEDS & SPEEDS - 0-FLUTE

The 0-flute bit is used for acrylic and aluminum, depending on the design of the bit. The bits and settings listed here are for acrylic only.

Always use CAST ACRYLIC when creating these types of projects. Click these links to see it on Amazon.

1/8” thick clear – 1/4” thick clear

0-FLUTE BIT (For Acrylic)												
Bit	Cut Dia.	# Flutes	Flute Length	Overall Length	Shank Dia.	Feed (mm/min)	Plunge (mm/min)	Depth Per Pass	Step Over	Spindle (rpm)	Router Dial	
1/8"	3.175	1	12	41	3.175	1524	381	3.175	70%	17,000	3	BUY NOW
1/4"	6.35	1	25	55	3.175	1524	381	6.35	70%	17,000	3	BUY NOW