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CNC Cutter Guide

## Plastics

### Belin Upcut Bits



100 100 100

Metric Sizes	Product Code	Cut Dia (mm)	Shank Dia (mm)	Cut Length (mm)	Overall Length (mm)	Depth per Pass (mm)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
	13020	2	2	8	30	1 x D	30	22,000	No
	13030	3	3	10	30	1 x D	50	22,000	No
	13040	4	4	12	60	1 x D	40	22,000	No
	13050	5	5	16	60	1 x D	100	22,000	No
	13060	6	6	20	60	1 x D	150	22,000	No
	13080	8	8	22	60	1 x D	180	22,000	No
	13100	10	10	30	75	1 x D	180	22,000	No
	13120	12	12	30	75	1 x D	180	22,000	No

### Imperial Sizes

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
13317A	1/8	1/8	1/2	2	1 x D	50	22,000	No
13317	1/8	1/4	1/2	1 1/2	1 x D	50	22,000	No
13317B	1/8	1/8	3/4	2	1 x D	50	22,000	No
13476A	3/16	3/16	5/8	2	1 x D	90	22,000	No
13476	3/16	1/4	5/8	2	1 x D	90	22,000	No
13476B	3/16	1/4	1 1/4	3	1 x D	90	22,000	No
13635	1/4	1/4	3/4	2	1 x D	100	22,000	No
13635A	1/4	1/4	1 1/2	3	1 x D	100	22,000	No
13635B	1/4	1/4	2 1/4	3 3/4	1 x D	100	22,000	No
13635C	1/4	1/4	1 1/8	3	1 x D	100	22,000	No
13952	3/8	3/8	1 1/8	3	1 x D	180	22,000	No
13127	1/2	1/2	1 1/4	3	1 x D	180	22,000	No
13127A	1/2	1/4	2	4	1 x D	180	22,000	No

### Belin Downcut Bits



100 100 100

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
22317	1/8	1/4	5/16	1 1/2	1 x D	50	24,000	No
12317	1/8	1/4	1/2	1 1/2	1 x D	50	24,000	No
12476	3/16	1/4	5/8	2	1 x D	90	24,000	No
12635	1/4	1/4	3/4	2	1 x D	100	24,000	No
12952	3/8	3/8	3/8	3	1 x D	180	24,000	No
12127	1/2	1/2	1 1/4	3	1 x D	180	24,000	No

### Onsrud Upcut Bits



100 100 100

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
63-618	3/16	1/4	5/8	2	1 x D	90	24,000	No
65-020	3/16	1/4	1 1/4	3	1 x D	90	24,000	No
65-023	1/4	1/4	5/8	2	1 x D	100	24,000	No

### Onsrud Upcut Bits - Hard Plastics



100 50 20

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
63-706	1/8	1/4	5/8	2 1/2	1 x D	60	20,000	No
63-707	1/8	1/4	3/4	2 1/2	1 x D	60	20,000	No
63-710	1/8	1/4	1/4	2	1 x D	60	20,000	No
63-711	1/8	1/8	1/4	2	1 x D	60	20,000	No
63-712	1/8	1/4	1/2	2	1 x D	60	20,000	No
63-713	1/8	1/8	1/2	2	1 x D	60	20,000	No
63-718	3/16	1/4	5/8	2 1/2	1 x D	160	20,000	No
63-724	1/4	1/4	3/8	2	1 x D	200	20,000	No
63-725	1/4	1/4	3/8	2	1 x D	200	20,000	No
63-726	1/4	1/4	1 1/4	3	1 x D	200	20,000	No
63-727	1/4	1/4	1 1/2	3	1 x D	200	20,000	No
63-730	3/8	3/8	5/8	2 1/2	1 x D	240	20,000	No
63-733	3/8	3/8	1 1/8	3	1 x D	240	20,000	No
63-740	1/2	1/2	1 5/8	3 1/2	1 x D	300	20,000	No

IMPORTANT: The data in these tables should be used for guidance only. Under most conditions the values represent a good safe starting point for cutting the materials shown. With experience, it is likely that machine operators will be able to improve on these values to better suit specific machining applications.

## Tooling by materials

Plastics

Foam

Non Ferrous Metals

Woods

Aluminum

Special Applications

100 100 50 20 10

The number given in the material indicator is a percentage value, that should be applied to the feed rates & depth of cut in the table, when cutting each material.

## Aluminium

### Belin Upcut Bits - Aluminum



100

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
33317	1/8	1/4	5/16	1 1/2	0.0686	10	21,000	Yes
33317A	1/8	1/8	5/16	1 1/2	0.0686	10	21,000	Yes
33476	3/16	1/4	1/2	2	0.0686	40	21,000	Yes
33476A	3/16	3/16	1/2	2	0.0686	40	21,000	Yes
33476B	3/16	3/16	5/8	2	0.0686	40	21,000	Yes
33635	1/4	1/4	5/8	2	.1	50	21,000	Yes
33635A	1/4	1/4	3/4	2	.1	60	21,000	Yes
33952	3/8	3/8	1	3	.125	65	21,000	Yes

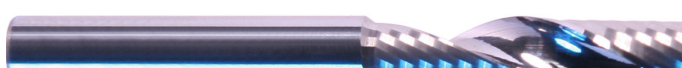
### Belin Downcut Bits - Aluminum



100

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
22317	1/8	1/4	5/16	1 1/2	.062			Yes
22635	1/4	1/4	5/8	2	.1			Yes

### Onsrud Upcut Bits - Aluminum



100

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
63-602	1/16	1/8	1/4	1 1/2		28		Yes
63-604	1/8	1/4	1/4	2		42		Yes
63-610	1/8	1/4	1/2	2		42		Yes
63-612	3/16	3/16	3/8	1 1/2		60		Yes
63-614	3/16	1/4	3/8	2		60		Yes
63-618	3/16	1/4	5/8	2		60		Yes
63-620	1/4	1/4	3/8	2		70		Yes
63-622	1/4	1/4	3/4	2 1/2		70		Yes
63-624	1/4	1/4	1 1/4	3		70		Yes

### Robbjack Triple Flute Carbide End Mill - Aluminum

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
A1-303-080	1/8					80	25,000	

## Knives and Blades

### Blades for Oscillating Knife

Product Code	Cut Dia (mm)	Angle (mm)	Length (mm)
BT-57210	10	68°	36
BT-57220	20	89°	39
BT-57230	30	82°	4
BT-57240	40	87°	57
BT-572065	65	87°	82
BT-572120	120	90°	135



### Blades for Tangential Knife

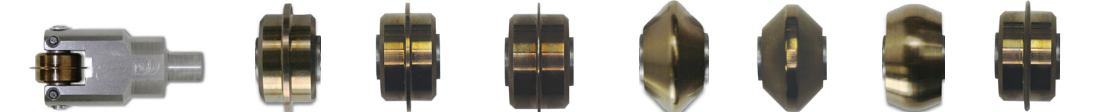
Product Code	Description
61329	Super Trapezoid Deep Edge Blade
26082	60° Double Edge Saber Blade
26085	48mm Pizza Wheel Blade

### Drag Knives

Product Code	Description
22782	60° Roland Blade
20314	45° Roland Blade

Product Code	Cut Length (mm)	Length (mm)
BT-57267	10	36
BT-57265	15	36
BT-57269	20	36
BT-57268	25	46
BT-572050	50	76
BT-57270	70	88
BT-57290	90	110

### Creasing Wheels



Product Code	Description
26981	Creasing Wheel Post
B12	2 point - 24mm
B14	3 Point - 24mm
B16	4 point - 24mm
B22	Type-E / Type-F
B24	Type-B
B26	Type-C
B32	Polypropylene Material

## Woods

### Compression Bits



100

Product Code	Flutes	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
60-110	1	1/8	1/4	7/8	2 1/4	1/2	300	18,000	No
60-112	2	1/4	1/4	7/8	2 1/2	1/2	300	18,000	No
3110	2	1/4	1/4	7/8	3	1/2	300	18,000	No
3130	2	1/4	3/8	1 1/8	3	1/2	500	18,000	No
60-120	1	3/8	3/8	1 1/8	3	1/2	500	18,000	No
60-124	2	3/8	3/8	1 1/8	3	1/2	500	18,000	No
3135	2	3/8	1/2	1	3	1/2	700	18,000	No
3152	2	1/2	1/2	1 3/6	3 1/2	1/2	700	18,000	No
3160	2	1/2	1/2	1 3/4	3 1/2	1/2	700	18,000	No

### Mortising Bits



100

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Dia (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
3115	1/4	1/4	5/8	2 1/2	1/2	300	18,000	No
3185	3/8	3/8	7/8	3	8/8	500	18,000	No

### Surfacing Bits



100

Product Code	Description	Cut Dia (inches)	Shank Dia (inches)	Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
91-104		2 1/2	1/2	2	.02	500	18,000	NO
91-125 Insert for 91-104 (10 pack)								

### Straight Twin Fluted Tools



100

Product Code	Cut Dia (inches)	Shank Dia (inches)	Overall Length (inches)
107RL8-51	2	1/2	2 7/8
107RL8-38	1 1/2	1/2	2 7/8

## Special Applications

### Aluminum Special End Bits



100 100 20

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
00193	3/16	3/8	1/4	2	.100	80	23,000	YES
00197	3/16	3/8	1/4	2	.100	80	23,000	YES
00192	3/16	3/8	1 1/64	2	.100	90	23,000	YES
00196	3/16	3/8	1 1/64	2	.100	90	23,000	YES

Use conventional milling

### Belin ACM Upcut Profiling Tools



100

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut (inches)	Length (inches)	Depth per Pass (mm)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
33476	3/16	1/4	1/2	2	4	500	23,000	No
33635	1/4	1/4	5/8	2	4	600	23,000	No

### 3D Ball Nose Bits

