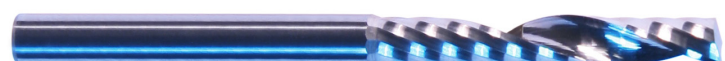


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CNC Cutter Guide

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



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

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.

Woods

Aluminum

Special Applications

Onsrud Upcut Bits - Soft Plastics



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
63-760	1/8	1/4	1/4	2	1 x D	60	20,000	No
63-762	1/8	1/4	1/2	2	1 x D	60	20,000	No
63-775	1/4	1/4	3/4	2 1/4	1 x D	200	20,000	No
63-783	3/8	3/8	1 1/8	3	1 x D	240	20,000	No

Onsrud Double Edge 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
52-340	7/16	1/2	1	3	1 x D	240	20,000	No
52-325	3/8	3/8	1 1/4	3	1 x D	200	20,000	No
52-360	1/2	1/2	1 1/8	3	1 x D	250	20,000	No

Onsrud Downcut Bits



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
64-010	1/8	1/4	1/4	2	1 x D	90	22,000	No
64-012	1/8	1/4	1/4	2	1 x D	90	22,000	No
64-018	3/16	1/4	1/4	2	1 x D	120	22,000	No
64-024	1/4	1/4	3/8	2	1 x D	180	22,000	No
64-025	1/4	1/4	3/4	2	1 x D	180	22,000	No
64-026	1/4	1/4	1 1/4	3	1 x D	180	22,000	No
64-031	3/8	3/8	3/4	3	1 x D	150	22,000	No
64-033	3/8	3/8	1 1/8	3	1 x D	150	22,000	No

Straight Bits



100 100 100

Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)
56-240	1/8		1/4	1/2
56-260	3/4		1/4	3/4
56-280	1/4		1/4	7/8
56-612	1/8		1/4	5/16
56-618	3/16		1/4	5/8
56-625	1/4		1/4	1

Solid Carbide Engraving Tools - Single Flute



Product Code	Tip Dia (inches)	Shank Dia (inches)	Angle	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
37-01	0.005	1/4	60°	2	.01	20	20,000	Yes on metals
37-03	0.01	1/4	60°	2	.01	20	20,000	Yes on metals
37-05	0.02	1/4	60°	2	.01	20	20,000	Yes on metals
37-07	0.03	1/4	60°	2	.01	20	20,000	Yes on metals
37-09	0.04	1/4	60°	2	.01	20	20,000	Yes on metals
37-11	0.06	1/4	60°	2	.01	20	20,000	Yes on metals
37-15	0.09	1/4	60°	2	.01	20	20,000	Yes on metals
37-21	0.005	1/4	30°	2	.01	20	20,000	Yes on metals
37-23	0.01	1/4	30°	2	.01	20	20,000	Yes on metals
37-25	0.02	1/4	30°	2	.01	20	20,000	Yes on metals
37-27	0.03	1/4	30°	2	.01	20	20,000	Yes on metals
37-29	0.04	1/4	30°	2	.01	20	20,000	Yes on metals
37-31	0.06	1/4	30°	2	.01	20	20,000	Yes on metals
37-35	0.09	1/4	30°	2	.01	20	20,000	Yes on metals

Solid Carbide Engraving Tools - Double Flute

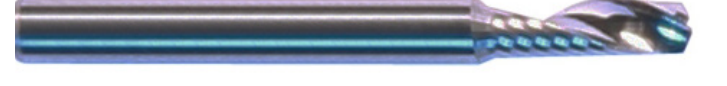


100 100

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
37-50	3/16	1/4	5/8	2	0.01	20	20,000	Yes on metals
37-51	1/4	1/4	3/4	2	0.01	20	20,000	Yes on metals
37-52	3/8	3/8	3/4	2 1/2	0.01	20	20,000	Yes on metals
37-61 (CT)	1/2	1/4	13/32	1 25/32	0.01	20	20,000	Yes on metals
37-62 (CT)	3/4	1/2	1/2	2 1/8	0.01	20	20,000	Yes on metals
37-63 (CT)	1	1/2	27/32	2 27/32	0.01	20	20,000	Yes on metals

Aluminium

Belin Upcut Bits - Aluminum



100

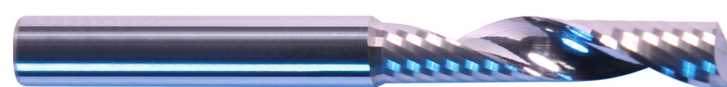
Product Code	Cut Dia (inches)	Shank Dia (inches)	Cut Length (inches)	Overall Length (inches)	Depth per Pass (inches)	Feed Rate (inch/min)	Spindle (rpm)	Coolant / Lubricant
33317	1/8	1/4	5/16	1 1/2	0.0686	10	21,000	Yes
33317A	1/8	1/8	5/16	1 1/2	0.0686	10	21,000	Yes
33476	3/16	1/4	1/2	2	0.0686	40	21,000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



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



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