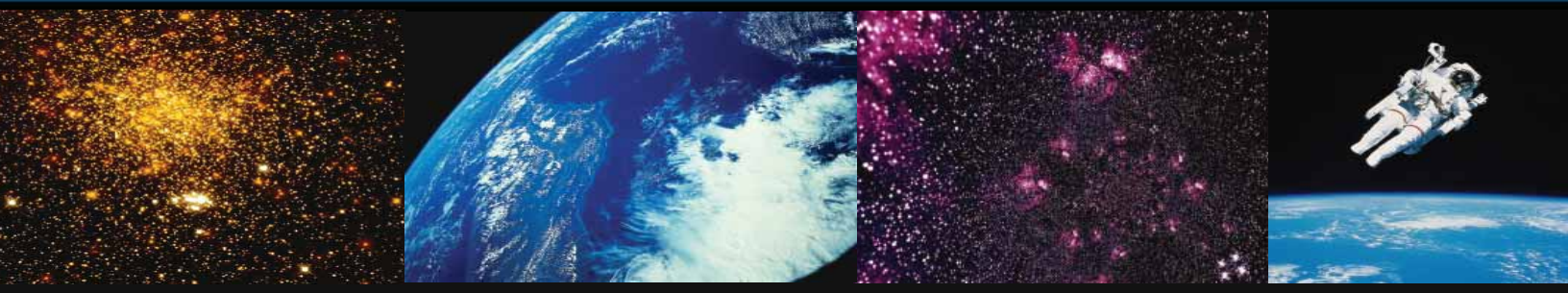
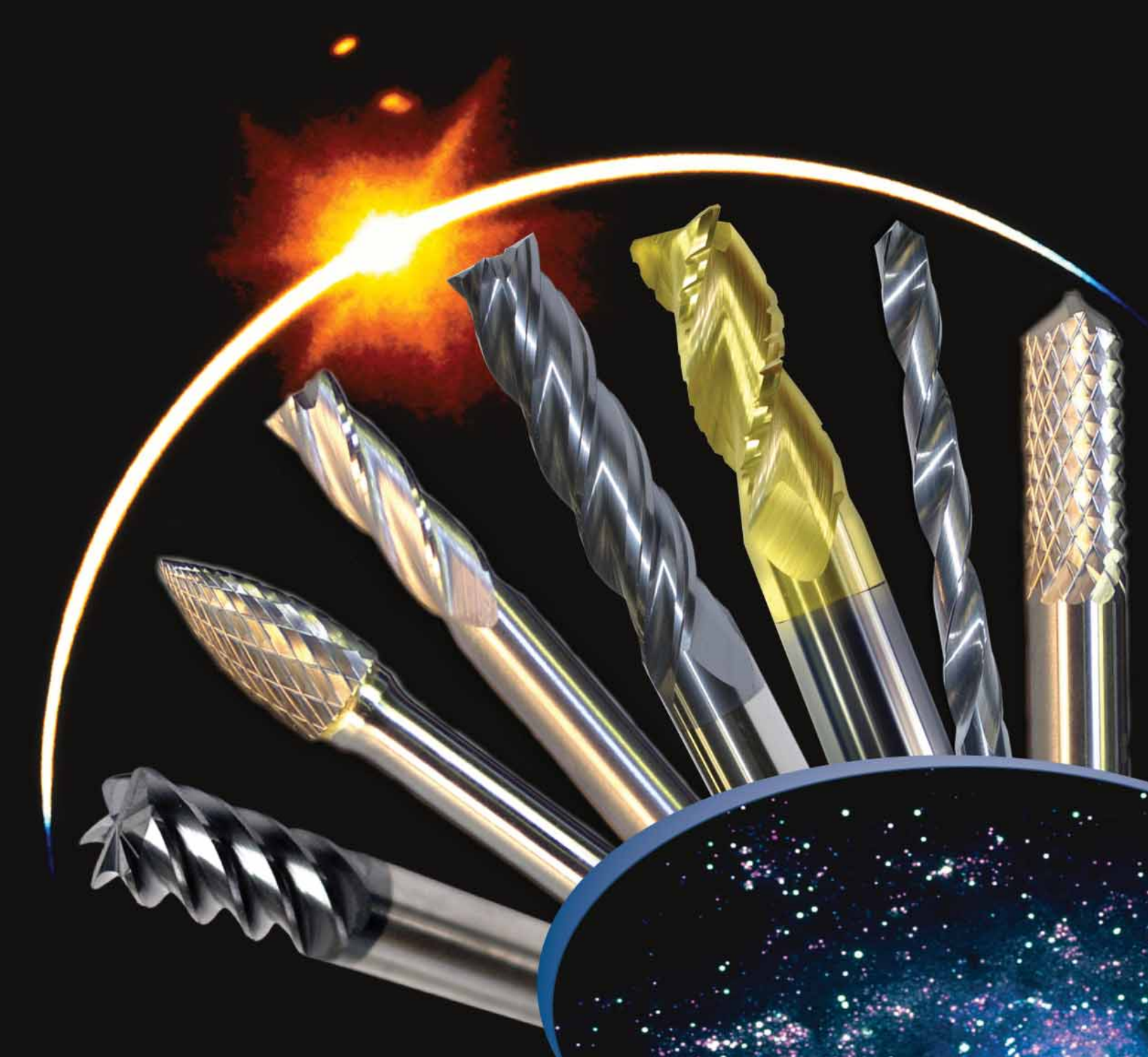
MASTERCUT TOOL CORP.

Rotary Cutting Tools

2009 Metric





Terms and Conditions of Sale

To Order
Faxed or e-mailed orders are required. Please specify quantity and EDP numbers.

Minimum Orders
$50 for standard items, $200 for special orders. Orders below $50 are subject to a $7,50 handling fee.

Standard Payment Terms
Overseas customers: Prepaid.
US customers: Net 30 Days, Past due after 30 days from billing date.

Freight
Minimum freight charge, $7,00. Orders totaling $1500 or more are shipped freight prepaid barring any special labeling or etching requirements. Freight is F.O.B. shipping point. A 1,5% special marking fee is available as an option to receive prepaid freight for privately marked orders exceeding $1500. Prepaid freight only applies to ground shipments within the US.

Special Tooling for your Requirements
When you need a non-standard tool for a specific job, give us a call. Requirements for special tooling or modifications of existing standard items will be given prompt, expert attention.

Resharpening
Mastercut Tool Corp. employs skilled craftsmen and advanced equipment to provide excellent resharpening services. We can sharpen dull cutters regardless of the manufacturer. This is an excellent and efficient way to get new tool performance at a fraction of the cost. Please inquire about our resharpening price list.

Return Policy
We do not accept returns on items which we do not maintain in stock. Returns are subject to a 15% re-stocking fee.

PRODUCTS IN THIS CATALOG ARE SUBJECT TO CHANGE WITHOUT NOTICE!

www.mastercuttool.com
sales@mastercuttool.com

Important Calculations

Weight Of Metric Carbide Rod (kg) $= 3{,}142 \times \left(\frac{\text{Shank Diameter}}{50.8}\right)^2 \times \frac{\text{Overall Length}}{25{,}4} \times 0{,}2309$

SMM (Surface Meters / Minute) $= \text{Diameter} \times \left(\frac{\text{R.P.M.}}{318{,}3}\right)$

$\text{R.P.M.} = \left(\frac{\text{SMM}}{\text{Diameter}}\right) 318{,}3$

$\text{mm Per Revolution} = \text{Chip Load} \times \text{Number of Flutes}$

$\text{mm Per Revolution} = \frac{\text{mm Per Minute}}{\text{R.P.M.}}$

$\text{mm Per Minute} = \text{R.P.M.} \times \text{mm Per Revolution}$

$\text{Chip Load} = \frac{\text{mm Per Revolution}}{\text{Number of Flutes}}$

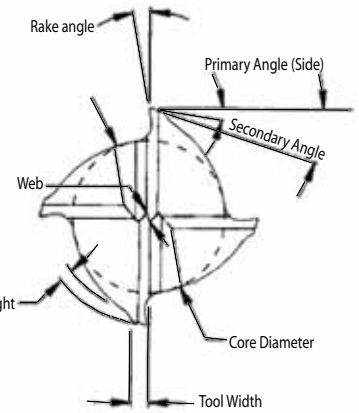
$\text{Chip Load} = \frac{\text{mm Per Minute}}{\text{R.P.M} \times \text{Number of Flutes}}$

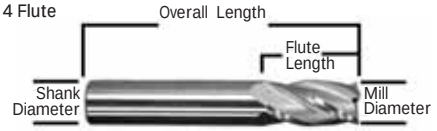
Weight Of Fractional Carbide Rod (kg) $= 3{,}142 \times \left(\frac{\text{Shank Diameter}}{2}\right)^2 \times \text{Overall Length} \times 0{,}2309$


2 Flute


3 Flute


4 Flute





Basic List of Endmill Use

FACE MILLING: For small face areas of relatively shallow depth of cut. The surface finish produced can be "scratchy".

KEYWAY PRODUCTION: Normally two separate endmills are required to produce a quality keyway.

WOODRUFF KEYWAYS: Normally produced with a single cutter in a straight plunge operation.

SPECIALITY CUTTING: Includes milling of tapered surfaces such as "T" shaped slots & dovetail production.

FINISHING PROFILING: To finish the inside / outside shape on a part with a parallel side wall.

CAVITY DIE WORK: Generally involves plunging and finishing cutting of pockets in die steel. Cavity work requires the production of three dimensional shapes. A Ball type endmill is used for the finishing cutter with this application.

Materials	2FL	3FL	4FL	6FL	Straight
Aluminum	✓	✓			
Brass, Bronze	✓	✓	✓		
Fiberglass	✓	✓			
Iron	✓		✓	✓	
Plastics	✓	✓			
Steel nickel, Chrome		✓	✓	✓	✓
Steel: Carbon	✓	✓	✓		
Steel: 39-48Rc		✓	✓	✓	
Steel: 46-68Rc	✓		✓	✓	✓
Steel Stainless		✓	✓	✓	
Steel Weldments	✓	✓	✓		✓
Titanium		✓	✓	✓	
Zinc		✓	✓		

Endmill Speeds and Feeds

Material Group	Speed SMM	Millimeter Per Tooth (mmPT) - Endmill Diameter Equals up to 6,35mm	6,35 - 12,7mm	12,7 - 19,05mm	19,05 - 25,4mm
Aluminum / Related Alloys	183-366	0,0254-0,0508	0,0508-0,1016	0,1016-0,1524	0,1524-0,2032
Brass / Bronze	91-168	0,0254-0,0508	0,0508-0,0762	0,0762-0,1016	0,1016-0,127
Copper / Related Alloys	152-274	0,0254-0,0508	0,0508-0,0762	0,0762-0,127	0,127-0,1524
Cast Iron (soft ±195bhn)	61-152	0,0254-0,0508	0,0508-0,0762	0,0762-0,127	0,127-0,2032
Cast Iron (medium ±225bhn)	38-107	0,0254-0,0508	0,0508-0,0762	0,0762-0,1016	0,1016-0,1778
Cast Iron (hard ±275bhn)	24-91	0,00205-0,0254	0,0254-0,0508	0,0508-0,0762	0,0762-0,127
Magnesium	244-427	0,0254-0,0762	0,0762-0,127	0,127-0,1778	0,1778-0,2286
Monel / Nickel Alloys	20-53	0,0127-0,0254	0,0254-0,0508	0,0508-0,0762	0,0762-0,1016
Plastics	183-366	0,0254-0,0762	0,0762-0,1524	0,1524-0,254	0,254-0,381
Steel-Heat Treated (35-40Rc)	46-107	0,00762-0,0127	0,0127-0,0254	0,0254-0,0762	0,0762-0,127
Steel-Heat Treated (40-45Rc)	38-84	0,00508-0,0127	0,0127-0,0254	0,0254-0,0508	0,0508-0,1016
Steel-Heat Treated (45+Rc)	15-61	0,00508-0.0127	0,0127-0,0254	0,0254-0,0508	0,0508-0,0762
Steel-Medium Carbon	53-107	0,0127-0,0254	0,0254-0,0508	0,0508-0,1016	0,1016-0,1524
Steel; Mold & Die	15-76	0,0127-0.0254	0,0254-0,0508	0,0508-0,1016	0,1016-0,1778
Steel; Tool	46-76	0,0127-0.0254	0,0254-0,0508	0,0508-0,1016	0,1016-0,1524
Stainless-Soft	76-122	0,0127-0.0254	0,0254-0,0508	0,0508-0,1016	0,1016-0,1524
Stainless-Hard	23-76	0,0127-0.0254	0,0254-0,0508	0,0508-0,0762	0,0762-0,127
Titanium Alloys	27-69	0,00762-0,02032	0,02032-0,0508	0,0508-0,0762	0,0762-0,127

SMM = Surface Meters / Minute
mmPT = Millimeter Per Toth

Materials Index of Friction

Material	Coefficient of Friction	
	Clean	Lubricated
Steel	0,8	0,16
Copper-lead alloy	0,22	-
Phosphor-bronze	0,35	-
Aluminum-bronze	0,45	-
Brass	0,35	0,19
Cast iron	0,4	0,21
Bronze	-	0,16
Sintered bronze	-	0,13
Hard carbon	0,14	0,11-0,14
Graphite	0,1	0,1
Tungsten carbide	0,4-0.6	0,1-0,2
Plexiglas	0,4-0,5	0,4-0,5
Polystyrene	0,3-0,35	0,3-0,35
Polythene	0,2	0,2
Teflon	0,04	0,04
Aluminum-aluminum	1,35	0,3
Cadmium-cadmium	0,5	0,05
Chromium-chromium	0,41	0,34
Copper-copper	1	0,08
Iron-iron	1	0,15-0,20
Magnesium-magnesium	0,6	0,08
Nickel-nickel	0,7	0,28
Platinum-platinum	1,2	0,25
Silver-silver	1,4	0,55
Zinc-zinc	0,6	0,04
Glass-glass	0,9-1,0	0,1-0,6
Glass-metal	0,5-0,7	0,2-0,3
Diamond-diamond	0,1	0,05-0,1
Diamond-metal	0,1-0,15	0,1
Sapphire-sapphire	0,2	0,2
Hard carbon on carbon	0,16	0,12-0,14
Graphite-graphite (in vacuum)	0,5-0,8	-
Graphite-graphite	0,1	0,1
Tungsten carbide-tungsten carbide	0,2-0,25	0,12
Plexiglas-plexiglas	0,8	0,8
Polystyrene-polystyrene	0,5	0,5
Wood on wood (clean)	0,25-0,5	-
Wood on wood (wet)	0,2	-
Wood on metals (clean)	0,2-0,6	-
Wood on metals (wet)	0,2	-
Brake material on cast iron	0,4	-
Brake material on cast iron (wet)	0,2	-

Looking for more technical data and how-to's?
Visit the Mastercut Tool Website at:
www.mastercuttool.com
Email: sales@mastercuttool.com

Types of Milling Procedures

CLIMB MILLING CUTTER
Direction for a milling operation. The cutter tending to "Climb" into the workspace, relieving feed force requirements. First choice for CNC machining. Increases cutter tool life. Sometimes called down-milling.

CONVENTIONAL MILLING
Cutter direction for a milling operation. The cutter tendency to push the workpiece away from the part, increasing the required feeding force. First choice for manual machining. Sometimes called up-milling.

END MILLING
Metal removal process that is achieved by feeding a workpiece into a revolving cutter.

PERIPHERAL MILLING
To machine the edge surface of a part. Peripheral milling is accomplished by presenting the workpiece to the circumference or the periphery of the milling cutter.

PLUNGE CUT
Axial feeding into a part. CNC machine movement in the Z-axis direction. Direct plunging into the face of a part. Plunge feeding in an axial direction requires a center cutting endmill.

RAMP CUT
Axial feeding into a part. CNC machine movement in the Z-axis direction and an additional axis (X or Y). Angle plunged into the face of a part, feeding in other than the axial direction. Requires a center cutting endmill. Ramp cutting will assist the endmill to enter a part face.

Titanium Based Coatings

With today's coating technologies, you can make your tools last longer and run harder than ever before. At Mastercut Tool Corp. we offer a full range of coatings including Titanium Nitride, Titanium Aluminum Nitride, and many more. Look below for more information. TiN and TiCN coatings are not listed in this catalog but are available on all tools by request.

PowerA

Consider PowerA coatings to run more aggressive speeds and feeds!

PowerA Coating

PowerA is Mastercut Tool Corp's new proprietary coating that surpasses the proven performance of TiAlN for superior extreme machining results. With a thermal stability above 900°C this coating excels in high speed dry machining applications. Harder than our original TiAlN by 1000 HV, with an increase in thermal stability of 100°C, PowerA will ensure that heat buildup, friction, and edge breakdown are all greatly reduced, resulting in better cutting performance and longer tool life. As with it's predecessor, PowerA will be an excellent coating for applications involving tough-to-cut tool steels, stainless, cast iron and non-ferrous material, and it can also be used very effectively for interrupted cuts. PowerA can be run at more aggressive speeds and feeds than other coatings, and can be run without coolant in specific applications. PowerA continues to be the coating of choice for tough-to-cut materials.

Hardness: 3800 HV
Coating Thickness: 2-4 Microns
Thermal Stability: 1.650°F or 900°C

Titanium Carbon Nitride (TiCN) Coating

Titanium Carbon Nitride (TiCN) Coating has an ambient temperature hardness in the 4000 Vickers (low 90Rc) range. It's use is particularly advantageous when cutting cast iron, silicon aluminum, certain non-ferrous and other abrasive materials. Tool life can be extended using the right combination of speeds, feeds and coolant.

Titanium Nitride (TiN) Coating

Titanium Nitride (TiN) Coating is bright gold in color, has an ambient temperature hardness in the 2800 Vickers (low 80Rc) range, a coefficient of friction under 0,5, and a thermal stability up to about 600°C TiN meets FDA requirements for surgical tools and food applications. Cutting speeds, feeds, wear resistance and tool life generally improve.

POWER Z

Zirconium Based (ZrN) Coating

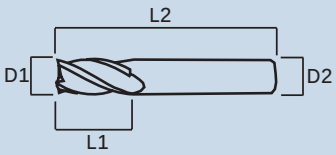
Zirconium Nitride (ZrN) Coating has proven itself over the years in many industries. ZrN's characteristics have made it suitable for applications where TiN has not performed well. It has excellent erosion resistance, good lubricity and ductility combined with an attractive appearance to make it stand out from the all the rest. This coating has worked well in all non-ferrous applications. Recommended Applications: Aluminum, Brass, Cast Iron, Graphite, Ni Alloys, Ti Alloys, 300 / PH Series Stainless Zinc, Glass-filled Plastics (Not recommended for carbon steels). Coating Characteristics: Thickness (2-5 microns), Hardness (2800 Vickers), Thermal (550°C), Lubricity (0,5 coefficient of friction).

Material to Machine	TiN	AlTiN	TiCN	PowerA
Aluminum, Low Silicon < 10%			✺	✺
Aluminum, High Silicon > 10%			✺	✺
Copper, Copper Alloys	✺		✺	✺
Ductile, Malleable Cast Iron	✺	✺	✺	✺
Carbon Steel, 1000 Series	✺	✺	✺	✺
Alloy Steel, 4 to 9000 Series	✺	✺	✺	✺
Tool Steel	✺	✺	✺	✺
SS Steel, 300 Series	✺	✺	✺	✺
SS Steel, 400 Series	✺	✺	✺	✺
SS PH Series	✺	✺	✺	✺
Titanium, Titanium Alloys	✺	✺	✺	✺
Nickel, Nickel Alloys, Cobalt	✺	✺	✺	✺
Wood, Paper	✺		✺	✺
Composites, Plastics	✺	✺	✺	✺

Why use a Coating?

- Carbide tool's life increased 2 to 5 times. Deposition temperatures as low as 250°-450°C protect carbide's binder from deterioration, by comparison with the CVD process applied at more than 1000°C.
- Isolates the tool from the part, avoids edge buildup and tool cratering.
- Reduced friction against workpiece and chips, reduced spindle torque, less vibration, better finish.
- Speed and Feed increased from 10 to 50 percent.
- Reduces or eliminates coolant (with specific coatings).
- Repeatable, stable performance of the coatings between batches.

Square End Standard Length Endmills

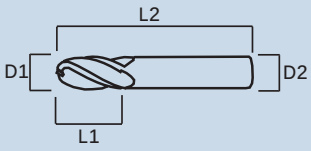


D1	L1	D2	L2	4 FL SQ	2 FL SQ	3 FL SQ
1	3	3	38	81000	81001	81003
1,5	5	3	38	81050	81051	81053
2	6	3	38	81100	81101	81103
2,5	7	3	38	81150	81151	81153
3	12	3	38	81200	81201	81203
3,5	12	4	50	81250	81251	81253
4	14	4	50	81300	81301	81303
4.5	14	5	50	81350	81351	81353
5	16	5	50	81400	81401	81403
6	19	6	63	81450	81451	81453
7	19	8	63	81500	81501	81503
8	19	8	63	81550	81551	81553
9	22	10	70	81600	81601	81603
10	22	10	70	81650	81651	81653
11	25	11	70	81700	81701	81703
12	25	12	75	81750	81751	81753
14	30	14	88	81800	81801	81803
16	32	16	88	81850	81851	81853
18	36	18	100	81900	81901	81903
20	38	20	100	81950	81951	81953
22	38	22	100	82000	82001	82003
25	38	25	100	82050	82051	82053

D1	L1	D2	L2	4 FL SQ PowerA	2 FL SQ PowerA	3 FL SQ PowerA
1	3	3	38	81030	81031	81033
1,5	5	3	38	81080	81081	81083
2	6	3	38	81130	81131	81133
2,5	7	3	38	81180	81181	81183
3	12	3	38	81230	81231	81233
3,5	12	4	50	81280	81281	81283
4	14	4	50	81330	81331	81333
4,5	14	5	50	81380	81381	81383
5	16	5	50	81430	81431	81433
6	19	6	63	81480	81481	81483
7	19	8	63	81530	81531	81533
8	19	8	63	81580	81581	81583
9	22	10	70	81630	81631	81633
10	22	10	70	81680	81681	81683
11	25	11	70	81730	81731	81733
12	25	12	75	81780	81781	81783
14	30	14	88	81830	81831	81833
16	32	16	88	81880	81881	81883
18	36	18	100	81930	81931	81933
20	38	20	100	81980	81981	81983
22	38	22	100	82030	82031	82033
25	38	25	100	82080	82081	82083

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6



Ball End Standard Length Endmills

D1	L1	D2	L2	4 FL BALL Uncoated	2 FL BALL Uncoated
1	3	3	38	81004	81005
1,5	5	3	38	81054	81055
2	6	3	38	81104	81105
2,5	7	3	38	81154	81155
3	12	3	38	81204	81205
3,5	12	4	50	81254	81255
4	14	4	50	81304	81305
4,5	14	5	50	81354	81355
5	16	5	50	81404	81405
6	19	6	63	81454	81455
7	19	8	63	81504	81505
8	19	8	63	81554	81555
9	22	10	70	81604	81605
10	22	10	70	81654	81655
11	25	11	70	81704	81705
12	25	12	75	81754	81755
14	30	14	88	81804	81805
16	32	16	88	81854	81855
18	36	18	100	81904	81905
20	38	20	100	81954	81955
22	38	22	100	82004	82005
25	38	25	100	82054	82055

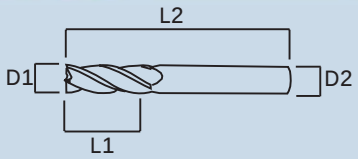
D1	L1	D2	L2	4 FL BALL PowerA	2 FL BALL PowerA
1	3	3	38	81034	81035
1,5	5	3	38	81084	81085
2	6	3	38	81134	81135
2,5	7	3	38	81184	81185
3	12	3	38	81234	81235
3,5	12	4	50	81284	81285
4	14	4	50	81334	81335
4,5	14	5	50	81384	81385
5	16	5	50	81434	81435
6	19	6	63	81484	81485
7	19	8	63	81534	81535
8	19	8	63	81584	81585
9	22	10	70	81634	81635
10	22	10	70	81684	81685
11	25	11	70	81734	81735
12	25	12	75	81784	81785
14	30	14	88	81834	81835
16	32	16	88	81884	81885
18	36	18	100	81934	81935
20	38	20	100	81984	81985
22	38	22	100	82034	82035
25	38	25	100	82084	82085

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6

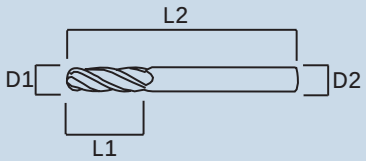
Square End Long Length Endmills

D1	L1	D2	L2	4FL SQ	2FL SQ	4FL PowerA	2FL PowerA
3	25	3	65	83000	83001	83030	83031
4	25	4	65	83050	83051	83080	83081
5	25	5	75	83100	83101	83130	83131
6	25	6	75	83150	83151	83180	83181
8	25	8	75	83200	83201	83230	83231
10	38	10	100	83250	83251	83280	83281
12	50	12	100	83300	83301	83330	83331
14	56	14	125	83350	83351	83380	83381
16	75	16	150	83400	83401	83430	83431
18	75	18	150	83450	83451	83480	83481
20	75	20	150	83500	83501	83530	83531
25	75	25	150	83550	83551	83580	83581



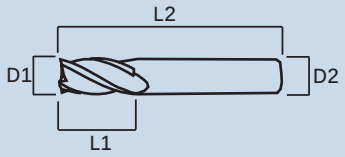
Ball End Long Length Endmills

D1	L1	D2	L2	4FL	2FL	4FL PowerA	2FL PowerA
3	25	3	65	83004	83005	83034	83035
4	25	4	65	83054	83055	83084	83085
5	25	5	75	83104	83105	83134	83135
6	25	6	75	83154	83155	83184	83185
8	25	8	75	83204	83205	83234	83235
10	38	10	100	83254	83255	83284	83285
12	50	12	100	83304	83305	83334	83335
14	56	14	125	83354	83355	83384	83385
16	75	16	150	83404	83405	83434	83435
18	75	18	150	83454	83455	83484	83485
20	75	20	150	83504	83505	83534	83535
25	75	25	150	83554	83555	83584	83585



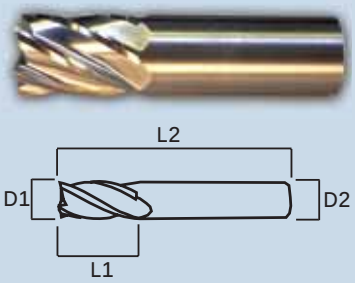
Extra Long Length Endmills

D1	L1	D2	L2	4FL SQ	2FL SQ	4FL BALL	2FL BALL
6	38	6	100	301-1000	300-1000	311-1000	310-1000
6	75	6	150	301-1002	300-1002	311-1002	310-1002
6	75	8	200	301-1004	300-1004	311-1004	310-1004
8	42	8	100	301-1006	300-1006	311-1006	310-1006
8	75	8	150	301-1008	300-1008	311-1008	310-1008
8	75	8	200	301-1010	300-1010	311-1010	310-1010
8	75	10	200	301-1012	300-1012	311-1012	310-1012
10	75	10	150	301-1014	300-1014	311-1014	310-1014
10	75	10	200	301-1016	300-1016	311-1016	310-1016
12	75	12	150	301-1018	300-1018	311-1018	310-1018
12	75	12	200	301-1020	300-1020	311-1020	310-1020
14	62	14	125	301-1022	300-1022	311-1022	310-1022
14	75	14	150	301-1024	300-1024	311-1024	310-1024
14	75	16	200	301-1026	300-1026	311-1026	310-1026
16	75	16	200	301-1028	300-1028	311-1028	310-1028
18	75	18	200	301-1030	300-1030	311-1030	310-1030
20	75	20	200	301-1032	300-1032	311-1032	310-1032



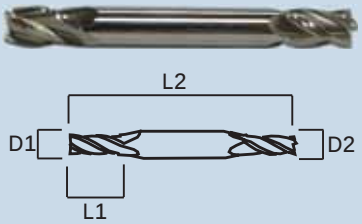
D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6



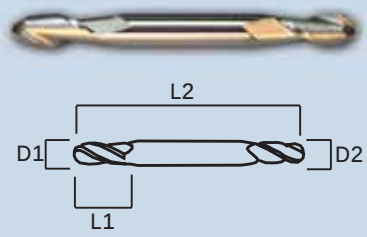
6 Flute Square Endmills

D1	L1	D2	L2	Standard	PowerA
3	12	3	38	81202	81232
4	14	4	50	81302	81332
5	16	5	50	81402	81432
6	19	6	63	81452	81482
7	19	8	63	81502	81532
8	21	8	63	81552	81582
9	22	10	70	81602	81632
10	25	10	70	81652	81682
11	25	11	70	81702	81732
12	25	12	75	81752	81782
14	30	14	88	81802	81832
16	32	16	88	81852	81882
18	35	18	100	81902	81932
20	38	20	100	81952	81982
22	38	22	100	82002	82032
25	38	25	100	82052	82082



Standard Length Square Double End Endmills

D1	L1	D2	L2	4FL Uncoated	2FL Uncoated	4FL PowerA	2FL PowerA
3	9	3	50	86700	86701	86706	86707
4	10	4	63	86716	86717	86722	86723
5	12	5	63	86732	86733	86738	86739
6	16	6	63	86748	86749	86754	86755
8	18	8	75	86762	86763	86768	86769
10	18	10	75	86778	86779	86784	86785
12	25	12	100	86794	86795	86800	86801
16	32	16	150	86810	86811	86816	86817



Standard Length Double End Ball Endmills

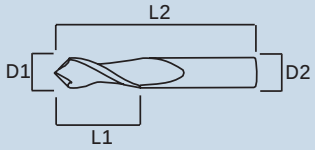
D1	L1	D2	L2	4FL Uncoated	2FL Uncoated	4FL PowerA	2FL PowerA
3	9	3	50	86708	86709	86714	86715
4	10	4	63	86724	86725	86730	86731
5	12	5	63	86740	86741	86746	86747
6	16	6	63	86756	86757	86826	86827
8	18	8	75	86770	86771	86776	86777
10	18	10	75	86786	86787	86792	86793
12	25	12	100	86802	86803	86808	86809
16	32	16	150	86818	86819	86824	86825

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6

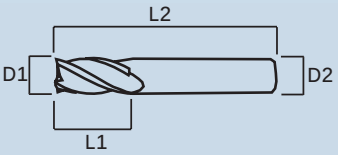
2 Flute 90° Drill Mills

D1	L1	D2	L2	2 FL SQ Uncoated	2 FL SQ PowerA
3	12	3	38	81201-90	81231-90
5	16	5	50	81401-90	81431-90
6	19	6	63	81451-90	81481-90
8	19	8	63	81551-90	81581-90
10	22	10	70	81651-90	81681-90
12	25	12	75	81751-90	81781-90
16	32	16	88	81851-90	81881-90
18	36	18	100	81901-90	81931-90



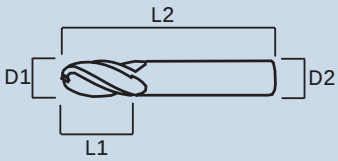
Square End Stub Length Endmills

D1	L1	D2	L2	4 FL SQ Uncoated	2 FL SQ Uncoated	4 FL SQ PowerA	2 FL SQ PowerA
1	2	3	38	85000	85001	85030	85031
1,5	3	3	38	85050	85051	85080	85081
2	4	3	38	85100	85101	85130	85131
2,5	5	3	38	85150	85151	85180	85181
3	6	3	38	85200	85201	85230	85231
3,5	7	4	50	85250	85251	85280	85281
4	8	4	50	85300	85301	85330	85331
4,5	9	5	50	85350	85351	85380	85381
5	10	5	50	85400	85401	85430	85431
6	12	6	50	85450	85451	85480	85481
8	12	8	50	85500	85501	85530	85531
10	14	10	50	85550	85551	85580	85581
12	16	12	63	85600	85601	85630	85631



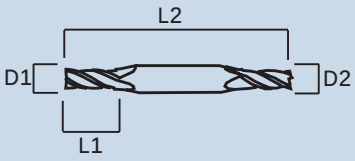
Ball End Stub Length Endmills

D1	L1	D2	L2	4 FL BALL Uncoated	2 FL BALL Uncoated	4 FL BALL PowerA	2 FL BALL PowerA
1	2	3	38	85004	85005	85034	85035
1,5	3	3	38	85054	85055	85084	85085
2	4	3	38	85104	85105	85134	85135
2,5	5	3	38	85154	85155	85184	85185
3	6	3	38	85204	85205	85234	85235
3,5	7	4	50	85254	85255	85284	85285
4	8	4	50	85304	85305	85334	85335
4,5	9	5	50	85354	85355	85384	85385
5	10	5	50	85404	85405	85434	85435
6	12	6	50	85454	85455	85484	85485
8	12	8	50	85504	85505	85534	85535
10	14	10	50	85554	85555	85584	85585
12	16	12	63	85604	85605	85634	85635



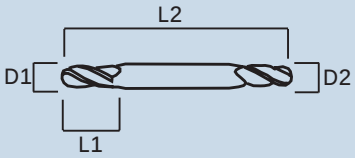
D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6



Square End Double End Stub Length Endmills

D1	L1	D2	L2	4 FL SQ Uncoated	2 FL SQ Uncoated	4 FL SQ PowerA	2 FL SQ PowerA
1	2	3	38	86000	86001	86030	86031
1,5	3	3	38	86050	86051	86080	86081
2	4	3	38	86100	86101	86130	86131
2,5	5	3	38	86150	86151	86180	86181
3	6	3	38	86200	86201	86230	86231
3,5	7	4	50	86250	86251	86280	86281
4	8	4	50	86300	86301	86330	86331
4,5	10	5	50	86350	86351	86380	86381
5	10	5	50	86400	86401	86430	86431
6	12	6	63	86450	86451	86480	86481
8	12	8	63	86500	86501	86530	86531
10	12	10	70	86550	86551	86580	86581
12	16	12	75	86600	86601	86630	86631



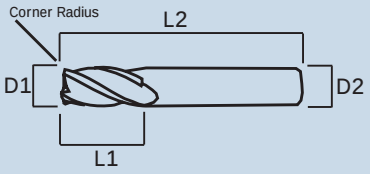
Ball End Double End Stub Length Endmills

D1	L1	D2	L2	4 FL BALL Uncoated	2 FL BALL Uncoated	4 FL BALL PowerA	2 FL BALL PowerA
1	2	3	38	86004	86005	86034	86035
1,5	3	3	38	86054	86055	86084	86085
2	4	3	38	86104	86105	86134	86135
2,5	5	3	38	86154	86155	86184	86185
3	6	3	38	86204	86205	86234	86235
3,5	7	4	50	86254	86255	86284	86285
4	8	4	50	86304	86305	86334	86335
4,5	10	5	50	86354	86355	86384	86385
5	10	5	50	86404	86405	86434	86435
6	12	6	63	86454	86455	86484	86485
8	12	8	63	86504	86505	86534	86535
10	12	10	70	86554	86555	86584	86585
12	16	12	75	86604	86605	86634	86635

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6

Corner Radius Endmills



D1	L1	D2	L2	4FL 0,25MM	4FL 0,50MM	4FL 0,75MM	4FL 1,00MM	4FL 1,25MM	4FL 1,50MM
4	14	4	50	81300R0.25	81300R0.50	81300R0.75	81300R1.00	--	--
6	19	6	63	81450R0.25	81450R0.50	81450R0.75	81450R1.00	81450R1.25	81450R1.50
8	19	8	63	81550R0.25	81550R0.50	81550R0.75	81550R1.00	81550R1.25	81550R1.50
10	25	10	70	81650R0.25	81650R0.50	81650R0.75	81650R1.00	81650R1.25	81650R1.50
12	25	12	75	81750R0.25	81750R0.50	81750R0.75	81750R1.00	81750R1.25	81750R1.50
16	32	16	88	81850R0.25	81850R0.50	81850R0.75	81850R1.00	81850R1.25	81850R1.50
20	38	20	100	81950R0.25	81950R0.50	81950R0.75	81950R1.00	81950R1.25	81950R1.50

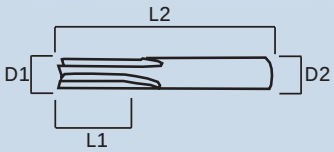
D1	L1	D2	L2	2FL 0,25MM	2FL 0,50MM	2FL 0,75MM	2FL 1,00MM	2FL 1,25MM	2FL 1,50MM
4	14	4	50	81301R0.25	81301R0.50	81301R0.75	81301R1.00	--	--
6	19	6	63	81451R0.25	81451R0.50	81451R0.75	81451R1.00	81451R1.25	81451R1.50
8	19	8	63	81551R0.25	81551R0.50	81551R0.75	81551R1.00	81551R1.25	81551R1.50
10	25	10	70	81651R0.25	81651R0.50	81651R0.75	81651R1.00	81651R1.25	81651R1.50
12	25	12	75	81751R0.25	81751R0.50	81751R0.75	81751R1.00	81751R1.25	81751R1.50
16	32	16	88	81851R0.25	81851R0.50	81851R0.75	81851R1.00	81851R1.25	81851R1.50
20	38	20	100	81951R0.25	81951R0.50	81951R0.75	81951R1.00	81951R1.25	81951R1.50

D1	L1	D2	L2	4FL 0,25MM	4FL 0,50MM	4FL 0,75MM	4FL 1,00MM	4FL 1,25MM	4FL 1,50MM
				PowerA	PowerA	PowerA	PowerA	PowerA	PowerA
4	14	4	50	81330R0.25	81330R0.50	81330R0.75	81330R1.00	--	--
6	19	6	63	81480R0.25	81480R0.50	81480R0.75	81480R1.00	81480R1.25	81480R1.50
8	19	8	63	81580R0.25	81580R0.50	81580R0.75	81580R1.00	81580R1.25	81580R1.50
10	25	10	70	81680R0.25	81680R0.50	81680R0.75	81680R1.00	81680R1.25	81680R1.50
12	25	12	75	81780R0.25	81780R0.50	81780R0.75	81780R1.00	81780R1.25	81780R1.50
16	32	16	88	81880R0.25	81880R0.50	81880R0.75	81880R1.00	81880R1.25	81880R1.50
20	38	20	100	81980R0.25	81980R0.50	81980R0.75	81980R1.00	81980R1.25	81980R1.50

D1	L1	D2	L2	2FL 0,25MM	2FL 0,50MM	2FL 0,75MM	2FL 1,00MM	2FL 1,25MM	2FL 1,50MM
				PowerA	PowerA	PowerA	PowerA	PowerA	PowerA
4	14	4	50	81331R0.25	81331R0.50	81331R0.75	81331R1.00	--	--
6	19	6	63	81481R0.25	81481R0.50	81481R0.75	81481R1.00	81481R1.25	81481R1.50
8	19	8	63	81581R0.25	81581R0.50	81581R0.75	81581R1.00	81581R1.25	81581R1.50
10	25	10	70	81681R0.25	81681R0.50	81681R0.75	81681R1.00	81681R1.25	81681R1.50
12	25	12	75	81781R0.25	81781R0.50	81781R0.75	81781R1.00	81781R1.25	81781R1.50
16	32	16	88	81881R0.25	81881R0.50	81881R0.75	81881R1.00	81881R1.25	81881R1.50
20	38	20	100	81981R0.25	81981R0.50	81981R0.75	81981R1.00	81981R1.25	81981R1.50

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6



Straight Flute Endmills

Square End

D1	L1	D2	L2	4 FL Uncoated	2 FL Uncoated	4 FL PowerA	2 FL PowerA
3	12	3	38	87000	87001	87006	87007
4	14	4	50	87016	87017	87022	87023
5	16	5	50	87032	87033	87038	87039
6	19	6	63	87048	87049	87054	87055
8	19	8	63	87064	87065	87070	87071
10	22	10	70	87080	87081	87086	87087
12	25	12	75	87096	87097	87102	87103
16	32	16	88	87112	87113	87118	87119

Ball End

D1	L1	D2	L2	4 FL Uncoated	2 FL Uncoated	4 FL PowerA	2 FL PowerA
3	12	3	38	87008	87009	87014	87015
4	14	4	50	87024	87025	87030	87031
5	16	5	50	87040	87041	87046	87047
6	19	6	63	87056	87057	87062	87063
8	19	8	63	87072	87073	87078	87079
10	22	10	70	87088	87089	87094	87095
12	25	12	75	87104	87105	87110	87111
16	32	16	88	87120	87121	87126	87127

Mini Mills

Mini Mills Square End

Description	2 Flute	4 Flute
	Part ID	Part ID
0,5x1,5x3x38	30-0005	31-0005

Mini Mills Ball End

Description	2 Flute	4 Flute
	Part ID	Part ID
0,5x1,5x3x38	33-0005	34-0005

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6

2 Flute Square 40° Helix Short Flute

D1 x L1x D2 x L2	Square		
	Part #	Neck Dia / mm	Reach / mm
3x3x6x75	200-0003	2,5	12
4x4x6x75	200-0004	3,5	15
5x5x6x75	200-0005	4,5	20
6x6x6x100	200-0006	5	20
8x6x8x100	200-0008	7	25
10x10x10x100	200-0010	9	25
12x12x12x100	200-0012	11	40
14x12x14x125	200-0014	13	50
6x12x16x125	200-0016	14	50
18x14x18x125	200-0018	16	50
20x16x20x150	200-0020	18	65

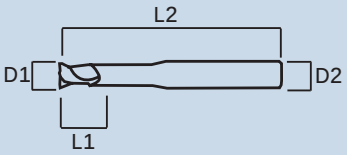
3 Flute Square 40° Helix Short Flute

D1 x L1x D2 x L2	Square		
	Part #	Neck Dia / mm	Reach / mm
6x6x6x100	300-0006	5	20
8x6x8x100	300-0008	7	25
10x10x10x100	300-0010	9	25
12x12x12x100	300-0012	11	40
14x12x14x125	300-0014	13	50
16x12x16x125	300-0016	14	50
18x14x18x125	300-0018	16	50
20x16x20x150	300-0020	18	65

2 Flute Ball 50° Short Flute / Aluminum

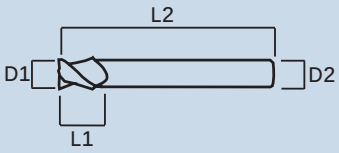
D1 x L1x D2 x L2	Ball		
	Part #	Neck Dia / mm	Reach / mm
2x4x6x75	204-0002	1,8	8
3x5x6x75	204-0003	2,7	9
4x6x6x75	204-0004	3,6	15
5x7x6x75	204-0005	4,5	18
6x8x6x100	204-0006	5	20
8x10x8x100	204-0008	7	25
10x12x10x100	204-0010	9	30
12x16x12x100	204-0012	11	40
14x18x14x100	204-0014	13	45
16x20x16x125	204-0016	14	50
18x22x18x125	204-0018	16	60
20x25x20x150	204-0020	18	65

D1 x L1x D2 x L2	Ball / Aluminum
	Part #
6x6x5x100	206-0006
8x8x7x100	206-0008
10x10x9x100	206-0010
12x12x11x100	206-0012
14x14x12x125	206-0014
16x16x14x125	206-0016
18x18x16x125	206-0018
20x20x18x150	206-0020



D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6



2 Flute 50° Reduced Shank

D1 x L1x D2 x L2	Square
	Part #
6x6x5x100	202-0006
8x8x7x100	202-0008
10x10x9x100	202-0010
12x12x11x100	202-0012
14x14x12x125	202-0014
16x16x14x125	202-0016
18x18x16x125	202-0018
20x20x18x150	202-0020

2 Flute Corner Radius 40° Short Flute

D1 x L1x D2 x L2	Corner Radius			
	Part #	CR/mm	Neck Dia/mm	Reach/mm
3x3x6x75	208-0003R0.5	0.5	2,5	12
3x3x6x75	208-0003R1.0	1	2,5	12
4x4x6x75	208-0004R0.5	0,5	3,5	15
4x4x6x75	208-0004R1.0	1	3,5	15
5x5x6x75	208-0005R0.5	0,5	4,5	20
5x5x6x75	208-0005R1.0	1	4,5	20
6x6x6x100	208-0006R0.5	0,5	5	20
6x6x6x100	208-0006R1.0	1	5	20
6x6x6x100	208-0006R1.5	1,5	5	20
6x6x6x100	208-0006R2.0	2	5	20
8x8x8x100	208-0008R0.5	0,5	7	25
8x8x8x100	208-0008R1.0	1	7	25
8x8x8x100	208-0008R1.5	1,5	7	25
8x8x8x100	208-0008R2.0	2	7	25
8x8x8x100	208-0008R3.0	3	7	25
10x10x10x100	208-0010R0.5	0,5	9	25
10x10x10x100	208-0010R1.0	1	9	25
10x10x10x100	208-0010R1.5	1,5	9	25
10x10x10x100	208-0010R2.0	2	9	25
10x10x10x100	208-0010R3.0	3	9	25

D1 x L1x D2 x L2	Corner Radius			
	Part #	CR/mm	Neck Dia/mm	Reach/mm
12x12x12x100	208-0012R0.5	0,5	11	40
12x12x12x100	208-0012R1.0	1	11	40
12x12x12x100	208-0012R1.5	1,5	11	40
12x12x12x100	208-0012R2.0	2	11	40
12x12x12x100	208-0012R3.0	3	11	40
14x14x14x125	208-0014R0.5	0,5	13	50
14x14x14x125	208-0014R1.0	1	13	50
16x16x16x125	208-0016R0.5	0,5	14	50
16x16x16x125	208-0016R1.0	1	14	50
16x16x16x125	208-0016R1.5	1,5	14	50
16x16x16x125	208-0016R2.0	2	14	50
16x16x16x125	208-0016R3.0	3	14	50
16x16x16x125	208-0016R4.0	4	14	50
20x20x20x150	208-0020R0.5	0,5	18	65
20x20x20x150	208-0020R1.0	1	18	65
20x20x20x150	208-0020R1.5	1,5	18	65
20x20x20x150	208-0020R2.0	2	18	65
20x20x20x150	208-0020R3.0	3	18	65
20x20x20x150	208-0020R4.0	4	18	65

2 Flute Ball 55° Helix

D1 x L1x D2 x L2	Ball
	Part #
3x12x3x38	207-0003
4x14x4x50	207-0004
5x19x5x50	207-0005
6x19x6x63	207-0006
8x19x8x63	207-0008
10x22x10x70	207-0010
12x25x12x83	207-0012
14x30x14x83	207-0014
16x32x16x88	207-0016
18x35x18x90	207-0018
20x38x20x100	207-0020

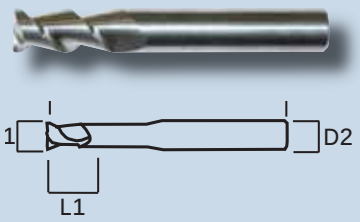
D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6

2 Flute Corner Radius 55° Helix

D1 x L1x D2 x L2	Corner Radius	
	Part #	CR / mm
3x12x3x38	88000R0.5	0,5
3x12x3x38	88000R1.0	1
4x14x4x50	88020R0.5	0,5
4x14x4x50	88020R1.0	1
5x19x5x50	88030R0.5	0,5
5x19x5x50	88030R1.0	1
6x19x6x63	88040R0.5	0,5
6x19x6x63	88040R1.0	1
6x19x6x63	88040R1.5	1,5
6x19x6x63	88040R2.0	2
8x19x8x63	88060R0.5	0,5
8x19x8x63	88060R1.0	1
8x19x8x63	88060R1.5	1,5
8x19x8x63	88060R2.0	2
8x19x8x63	88060R3.0	3,0
10x22x10x70	88080R0.5	0,5
10x22x10x70	88080R1.0	1
10x22x10x70	88080R1.5	1,5
10x22x10x70	88080R2.0	2
10x22x10x70	88080R3.0	3
12x25x12x83	88100R0.5	0,5

D1 x L1x D2 x L2	Corner Radius	
	Part #	CR / mm
12x25x12x83	88100R1.0	1
12x25x12x83	88100R1.5	1,5
12x25x12x83	88100R2.0	2
12x25x12x83	88100R3.0	3
14x30x14x83	88120R0.5	0,5
14x30x14x83	88120R1.0	1
16x32x16x88	88140R0.5	0,5
16x32x16x88	88140R1.0	1
16x32x16x88	88140R1.5	1,5
16x32x16x88	88140R2.0	2
16x32x16x88	88140R3.0	3
16x32x16x88	88140R4.0	4
18x35x18x90	88160R0.5	0,5
18x35x18x90	88160R1.0	1
20x38x20x100	88180R0.5	0,5
20x38x20x100	88180R1.0	1
20x38x20x100	88180R1.5	1,5
20x38x20x100	88180R2.0	2
20x38x20x100	88180R3.0	3
20x38x20x100	88180R4.0	4

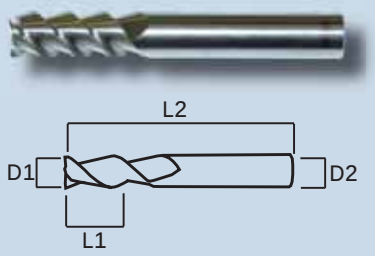


3 Flute Square 55° Helix

D1 x L1x D2 x L2	Square
	Part #
3x12x3x38	302-0003
4x15x4x50	302-0004
5x20x5x50	302-0005
6x20x6x64	302-0006
8x22x8x64	302-0008
10x25x10x70	302-0010
12x25x12x76	302-0012
14x30x14x90	302-0014
16x35x16x90	302-0016
18x35x18x90	302-0018
20x40x20x100	302-0020

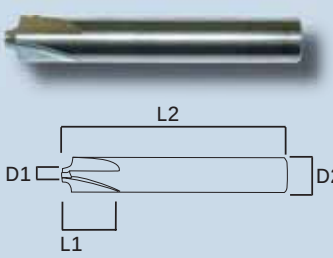
3 Flute Square 55° Helix Long

D1 x L1x D2 x L2	Square
	Part #
3x15x6x75	304-0003
4x20x6x75	304-0004
5x25x6x75	304-0005
6x35x6x100	304-0006
8x45x8x100	304-0008
10x45x10x100	304-0010
12x50x12x100	304-0012
14x50x14x100	304-0014
16x60x16x150	304-0016
18x60x18x150	304-0018
20x60x20x150	304-0020



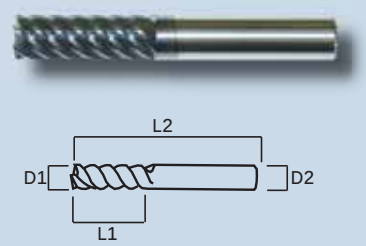
D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6



4 Flute Corner Rounding

D1 x L2	Corner Radius	
	Part #	CR/mm
8x64	401-0008R0.5	0,5
8x64	401-0008R1.0	1
10x70	401-0010R1.5	1,5
10x70	401-0010R2.0	2
12x76	401-0012R2.5	2,5
12x76	401-0012R3.0	3
16x89	401-0016R3.5	3,5
16x89	401-0016R4.0	4
16x89	401-0016R4.5	4,5
16x89	401-0016R5.0	5
20x100	401-0020R5.5	5,5
20x100	401-0020R6.0	6



6 Flute Corner Radius 50° Helix

D1 x L1x D2 x L2	PowerA	
	Part #	CR/mm
6x18x6x58	601-0006R0.5	0,5
6x18x6x58	601-0006R1.0	1
8x24x8x63	601-0008R0.5	0,5
8x24x8x63	601-0008R1.0	1
10x30x10x75	601-0010R0.5	0,5
10x30x10x75	601-0010R1.0	1
12x36x12x84	601-0012R0.5	0,5
12x36x12x84	601-0012R1.0	1

D1 x L1x D2 x L2	PowerA	
	Part #	CR/mm
14x42x14x84	601-0014R0.5	0,5
14x42x14x84	601-0014R1.0	1
16x48x16x93	601-0016R0.5	0,5
16x48x16x93	601-0016R1.0	1
18x54x18x100	601-0018R0.5	0,5
18x54x18x100	601-0018R1.0	1
20x60x20x105	601-0020R0.5	0,5
20x60x20x105	601-0020R1.0	1

6 Flute Corner Radius Long 50° Helix

D1 x L1x D2 x L2	PowerA	
	Part #	CR/mm
6x32x6x75	602-0006R0.5	0,5
6x32x6x75	602-0006R1.0	1
8x32x8x75	602-0008R0.5	0,5
8x32x8x75	602-0008R1.0	1
10x50x10x100	602-0010R0.5	0,5
10x50x10x100	602-0010R1.0	1
12x50x12x100	602-0012R0.5	0,5
12x50x12x100	602-0012R1.0	1
14x50x14x100	602-0014R0.5	0,5
14x50x14x100	602-0014R1.0	1
16x62x16x125	602-0016R0.5	0,5
16x62x16x125	602-0016R1.0	1
18x62x18x125	602-0018R0.5	0,5
18x62x18x125	602-0018R1.0	1
20x65x20x130	602-0020R0.5	0,5
20x65x20x130	602-0020R1.0	1

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 - 0,0508
Shank Tolerance H6

Speed and Feed Recommendations

350 Aluminum Series, Roughing & Finishing E / M

(1) Aluminum Alloys 6061-T6,7075-T6
(2) Aluminum Alloys 440, 356, 380, C61300

SMM = Surface Meters / Minute
CLPT = Chip Load Per Tooth
mmPM = Millimeter Per Minute

MATERIAL TO BE CUT		Rc	SMM	CLPT	mmPM	CLPT	mmPM	CLPT	mmPM
TYPE OF CUT		Range	Range	6,3mm	9,5mm	12,7mm	15,8mm	19mm	25,4mm
Shallow Slotting	< 12,7mm x	1	365 Plus	0,1143	0,18034	0,254	0,31242	0,37846	0,508
	Dia.	2	182 Plus	0,09144	0,11478	0,2032	0,24892	0,30226	0,4064
Deep Slotting	19,5mm -1mm x	1	365 Plus	0,09144	0,11478	0,2032	0,24892	0,30226	0,4064
	Dia.	2	182 Plus	0,06858	0,10922	0,1524	0,18796	0,22606	0,3048
Medium Radial	30% x	1	365 Plus	0,1143	0,18034	0,254	0,31242	0,37846	0,0200
1,0 X DIA DEPTH	Dia. Radial	2	182 Plus	0,09144	0,11478	0,2032	0,24892	0,30226	0,4064
Heavy Radial	50% x	1	365 Plus	0,09144	0,11478	0,2032	0,24892	0,30226	0,4064
1,0 X DIA DEPTH	Dia. Radial	2	182 Plus	0,06858	0,10922	0,1524	0,18796	0,22606	0,3048
Medium Radial	30% x	1	365 Plus	0,1143	0,18034	0,254	0,31242	0,37846	0,508
2,0 X DIA DEPTH	Dia. Radial	2	182 Plus	0,09144	0,11478	0,2032	0,24892	0,30226	0,4064
Heavy Radial	50% x	1	365 Plus	0,09144	0,11478	0,1524	0,24892	0,30226	0,4064
2,0 X DIA DEPTH	Dia. Radial	2	182 Plus	0,06858	0,10922	0,1524	0,18796	0,22606	0,3048
Finishing MEDIUM	< 25%	1	365 Plus	0,1143	0,18034	0,254	0,31242	0,37846	0,508
Radial	OF Dia.	2	182 Plus	0,09144	0,11478	0,2032	0,24892	0,30226	0,4064
Finishing Light	< 10%	1	365 Plus	0,1143	0,18034	0,254	0,31242	0,37846	0,508
Radial	OF Dia.	2	182 Plus	0,09144	0,11478	0,2032	0,24892	0,30226	0,4064
Finishing	< 0,254mm	1	365 Plus	0,13716	0,0086	0,3048	0,37338	0,45212	0,6096
	Radial Depth	2	182 Plus	0,1143	0,18034	0,254	0,31242	0,37846	0,508
TYPE OF CUT		Rc	SMM	6,3mm	6,3mm	9,5mm	9,5mm	12,7mm	12,7mm
Shallow Slotting	< 12,7mm x	< 32	365 Plus	18336	6286,5	12224	6637,02	9168	6985
	Dia.	> 32	182 Plus	9168	2514,6	6112	2654,3	4584	2794
Deep Slotting	19,05mm -	< 32	365 Plus	18336	5029,2	12224	5308,6	9168	5588
	25,4mm x Dia.	> 32	182 Plus	9168	1887,22	6112	1991,36	4584	2095,5
Medium Radial	30% x	< 32	365 Plus	18336	6286,5	12224	6637,02	9168	6985
1,0 X DIA DEPTH	Dia. Radial	> 32	182 Plus	9168	2514,6	6112	2654,3	4584	2794
Heavy Radial	50% x	< 32	365 Plus	18336	5029,2	12224	5308,6	9168	5588
1,0 X DIA DEPTH	Dia. Radial	> 32	182 Plus	9168	1887,22	6112	1991,36	4584	2095,5
Medium Radial	30% x	< 32	365 Plus	18336	6286,5	12224	6642,1	9168	6985
2,0 X DIA DEPTH	Dia. Radial	> 32	182 Plus	9168	2514,6	6112	2654,3	4584	2794
Heavy Radial	50% x	< 32	365 Plus	18336	5029,2	12224	5308,6	9184	5588
2,0 X DIA DEPTH	Dia. Radial	> 32	182 Plus	9168	1887,22	6112	1991,36	4584	2095,5
Finishing MEDIUM	< 25%	< 32	365 Plus	18336	8382	12224	6637,02	9168	6985
Radial	OF Dia.	> 32	182 Plus	9168	3352,8	6112	2654,3	4584	2794
Finishing Light	< 10%	< 32	365 Plus	18336	8382	12224	6637,02	9168	6985
Radial	OF Dia.	> 32	182 Plus	9168	3352,8	6112	2654,3	4584	2794
Finishing	< 0,254mm	< 32	365 Plus	18336	10060,94	12224	7962,9	9168	8382
	Radial Depth	> 32	182 Plus	9168	4191	6112	3317,24	4584	3492,5
TYPE OF CUT		Rc	SMM	15,9mm	15,9mm	19mm	19mm	25,4mm	25,4mm
Shallow Slotting	< 12,7mm x	< 32	365 Plus	7323	6835,14	6112	6916,42	4584	6985
	Dia.	> 32	182 Plus	3661	2733,04	3056	2766,06	2292	2794
Deep Slotting	19,05mm -	< 32	365 Plus	7323	5468,62	6112	5532,12	4584	5590,54
	25,4mm x Dia.	> 32	182 Plus	3661	2049,78	3056	2075,18	2292	2095,5
Medium Radial	30% x	< 32	365 Plus	7323	6835,14	6112	6916,42	4584	6985
1,0 X DIA DEPTH	Dia. Radial	> 32	182 Plus	3661	2733,04	3056	2766,06	2292	2794
Heavy Radial	50% x	< 32	365 Plus	7323	5468,62	6112	5532,12	4584	5588
1,0 X DIA DEPTH	Dia. Radial	> 32	182 Plus	3661	2049,78	3056	2075,18	2292	2095,5
Medium Radial	30% x	< 32	365 Plus	7223	6835,14	6112	6916,42	4584	6985
2,0 X DIA DEPTH	Dia. Radial	> 32	182,Plus	3661	2733,04	3056	2766,06	2292	2794
Heavy Radial	50% x	< 32	365 Plus	7323	5468,62	6112	5532,12	4584	5588
2,0 X DIA DEPTH	Dia. Radial	> 32	182 Plus	3661	2049,78	3056	2075,18	2292	2095,5
Finishing MEDIUM	< 25%	< 32	365 Plus	7323	6835,14	6112	6916,42	4584	6985
Radial	OF Dia.	> 32	182 Plus	3661	2733,04	3056	2766,06	2292	2794
Finishing Light	< 10%	< 32	365 Plus	7323	6835,14	6112	6916,42	4584	6985
Radial	OF Dia.	> 32	182 Plus	3661	2733,04	3056	2766,06	2292	2794
Finishing	< 0,254mm	< 32	365 Plus	7323	8201,66	6112	8298,18	4584	8382
	Radial Depth	> 32	182 Plus	3661	3418,84	3056	3456,94	2292	3492,5

Starting point for this chart is based on a 50 Taper Machine Spindle and the lower starting point on the SMM Range.

NOTE! Reduce SMM and mmPM by 10% for 45 Taper and 20% for a 40 Taper Machine Spindle!

Recommended starting speeds and feeds for AX Mills.

Starting rake and high helix makes the AX Mill a very powerful aluminum cutter.

AX Mill - 2 Flute Uncoated

DIA x LOC x SH x OAL	Square	Corner Radius		Ball
	Part #	CR/mm	Part #	Part #
6x19x6x63	AX2-88000	0,5	AX2-88000R0.50	AX2-88001
6x19x6x63	-	1	AX2-88000R1.00	-
8x20x8x63	AX2-88050	0,5	AX2-88050R0.50	AX2-88051
8x20x8x63	-	1	AX2-88050R1.00	-
10x22x10x63	AX2-88100	0,5	AX2-88100R0.50	AX2-88101
10x22x10x63	-	1	AX2-88100R1.00	-
12x25x12x75	AX2-88150	0,5	AX2-88150R0.50	AX2-88151
12x25x12x75	-	1	AX2-88150R1.00	-
16x32x16x88	AX2-88200	0,5	AX2-88200R0.50	AX2-88201
16x32x16x88	-	1	AX2-88200R1.00	-
20x36x20x100	AX2-88250	0,5	AX2-88250R0.50	AX2-88251
20x36x20x100	-	1	AX2-88250R1.00	-

The two flutes allow for large chip load and high finish.

PowerZ coating is designed specifically for the effective evacuation of aluminum.

AX Mill - 2 Flute Power Z Coated

DIA x LOC x SH x OAL	Square	Corner Radius		Ball
	Part #	CR/mm	Part #	Part #
6x19x6x63	AX2-88030	0,5	AX2-88030R0.50	AX2-88031
6x19x6x63	-	1	AX2-88030R1.00	-
8x20x8x63	AX2-88080	0,5	AX2-88080R0.50	AX2-88081
8x20x8x63	-	1	AX2-88080R1.00	-
10x22x10x63	AX2-88130	0,5	AX2-88130R0.50	AX2-88131
10x22x10x63	-	1	AX2-88130R1.00	-
12x25x12x75	AX2-88180	0,5	AX2-88180R0.50	AX2-88181
12x25x12x75	-	1	AX2-88180R1.00	-
16x32x16x88	AX2-88230	0,5	AX2-88230R0.50	AX2-88231
16x32x16x88	-	1	AX2-88230R1.00	-
20x36x20x100	AX2-88280	0,5	AX2-88280R0.50	AX2-88281
20x36x20x100	-	1	AX2-88280R1.00	-

AX Mill - Chipbreaker 2 Flute Uncoated

DIA x LOC x SH x OAL	Square	Corner Radius		Ball
	Part #	CR/mm	Part #	Part #
6x19x6x63	AX2-88002	0,5	AX2-88002R0.50	AX2-88003
6x19x6x63	-	1	AX2-88002R1.00	-
8x20x8x63	AX2-88052	0,5	AX2-88052R0.50	AX2-88053
8x20x8x63	-	1	AX2-88052R1.00	-
10x22x10x63	AX2-88102	0,5	AX2-88102R0.50	AX2-88103
10x22x10x63	-	1	AX2-88102R1.00	-
12x25x12x75	AX2-88152	0,5	AX2-88152R0.50	AX2-88153
12x25x12x75	-	1	AX2-88152R1.00	-
16x32x16x88	AX2-88202	0,5	AX2-88202R0.50	AX2-88203
16x32x16x88	-	1	AX2-88202R1.00	-
20x36x20x100	AX2-88252	0,5	AX2-88252R0.50	AX2-88253
20x36x20x100	-	1	AX2-88252R1.00	-

Chipbreaker will increase the cutting feeds by 30%.

AX Mill - Chipbreaker 2 Flute Power Z Coated

DIA x LOC x SH x OAL	Square	Corner Radius		Ball
	Part #	CR/mm	Part #	Part #
6x19x6x63	AX2-88032	0,5	AX2-88032R0.50	AX2-88033
6x19x6x63	-	1	AX2-88032R1.00	-
8x20x8x63	AX2-88082	0,5	AX2-88082R0.50	AX2-88083
8x20x8x63	-	1	AX2-88082R1.00	-
10x22x10x63	AX2-88132	0,5	AX2-88132R0.50	AX2-88133
10x22x10x63	-	1	AX2-88132R1.00	-
12x25x12x75	AX2-88182	0,5	AX2-88182R0.50	AX2-88183
12x25x12x75	-	1	AX2-88182R1.00	-
16x32x16x88	AX2-88232	0,5	AX2-88232R0.50	AX2-88233
16x32x16x88	-	1	AX2-88232R1.00	-
20x36x20x100	AX2-88282	0,5	AX2-88282R0.50	AX2-88283
20x36x20x100	-	1	AX2-88282R1.00	-

AX Mill - 3 Flute Uncoated

DIA x LOC x SH x OAL	Square	Corner Radius		Ball
	Part #	CR/mm	Part #	Part #
6x19x6x63	AX3-88000	0,5	AX3-88000R0.50	AX3-88001
6x19x6x63	-	1	AX3-88000R1.00	-
8x20x8x63	AX3-88050	0,5	AX3-88050R0.50	AX3-88051
8x20x8x63	-	1	AX3-88050R1.00	-
10x22x10x63	AX3-88100	0,5	AX3-88100R0.50	AX3-88101
10x22x10x63	-	1	AX3-88100R1.00	-
12x25x12x75	AX3-88150	0,5	AX3-88150R0.50	AX3-88151
12x25x12x75	-	1	AX3-88150R1.00	-
16x32x16x88	AX3-88200	0,5	AX3-88200R0.50	AX3-88201
16x32x16x88	-	1	AX3-88200R1.00	-
20x36x20x100	AX3-88250	0,5	AX3-88250R0.50	AX3-88251
20x36x20x100	-	1	AX3-88250R1.00	-

The three flute design increases the tool life, lowers the chip load and has very high finish.

AX Mill - 3 Flute Power Z Coated

DIA x LOC x SH x OAL	Square	Corner Radius		Ball
	Part #	CR/mm	Part #	Part #
6x19x6x63	AX3-88030	0,5	AX3-88030R0.50	AX3-88031
6x19x6x63	-	1	AX3-88030R1.00	-
8x20x8x63	AX3-88080	0,5	AX3-88080R0.50	AX3-88081
8x20x8x63	-	1	AX3-88080R1.00	-
10x22x10x63	AX3-88130	0,5	AX3-88130R0.50	AX3-88131
10x22x10x63	-	1	AX3-88130R1.00	-
12x25x12x75	AX3-88180	0,5	AX3-88180R0.50	AX3-88181
12x25x12x75	-	1	AX3-88180R1.00	-
16x32x16x88	AX3-88230	0,5	AX3-88230R0.50	AX3-88231
16x32x16x88	-	1	AX3-88230R1.00	-
20x36x20x100	AX3-88280	0,5	AX3-88280R0.50	AX3-88281
20x36x20x100	-	1	AX3-88280R1.00	-

Ax Mill Chipbreaker

AX Mill - Chipbreaker, 3 Flute, Uncoated

DIA x LOC x SH x OAL	Square	Corner Radius		Ball
	Part #	CR/mm	Part #	Part #
6x19x6x63	AX3-88002	0,5	AX3-88002R0.50	AX3-88003
6x19x6x63	-	1	AX3-88002R1.00	-
8x20x8x63	AX3-88052	0,5	AX3-88052R0.50	AX3-88053
8x20x8x63	-	1	AX3-88052R1.00	-
10x22x10x63	AX3-88102	0,5	AX3-88102R0.50	AX3-88103
10x22x10x63	-	1	AX3-88102R1.00	-
12x25x12x75	AX3-88152	0,5	AX3-88152R0.50	AX3-88153
12x25x12x75	-	1	AX3-88152R1.00	-
16x32x16x88	AX3-88202	0,5	AX3-88202R0.50	AX3-88203
16x32x16x88	-	1	AX3-88202R1.00	-
20x36x20x100	AX3-88252	0,5	AX3-88252R0.50	AX3-88253
20x36x20x100	-	1	AX3-88252R1.00	-

Ax Mill Power Z

Our unique PowerZ coating combination increases the tool life by 40%.

AX Mill - Chipbreaker, 3 Flute, Power Z Coated

DIA x LOC x SH x OAL	Square	Corner Radius		Ball
	Part #	CR/mm	Part #	Part #
6x19x6x63	AX3-88032	0,5	AX3-88032R0.50	AX3-88033
6x19x6x63	-	1	AX3-88032R1.00	-
8x20x8x63	AX3-88082	0,5	AX3-88082R0.50	AX3-88083
8x20x8x63	-	1	AX3-88082R1.00	-
10x22x10x63	AX3-88132	0,5	AX3-88132R0.50	AX3-88133
10x22x10x63	-	1	AX3-88132R1.00	-
12x25x12x75	AX3-88182	0,5	AX3-88182R0.50	AX3-88183
12x25x12x75	-	1	AX3-88182R1.00	-
16x32x16x88	AX3-88232	0,5	AX3-88232R0.50	AX3-88233
16x32x16x88	-	1	AX3-88232R1.00	-
20x36x20x100	AX3-88282	0,5	AX3-88282R0.50	AX3-88283
20x36x20x100	-	1	AX3-88282R1.00	-

Speed and Feed Recomendations

SPEED & FEED Recomendations Material	Surface M / Minute	Chip Load Per Tooth (CLPT) 3,175mm	6,35mm	12,7mm	25,4mm
Aluminium Alloys	366	0,0254	0,0508	0,1016	0,2032
Carbon Steel	91 - 183	0,0254	0,0381	0,0762	0,1524
Cast Iron	107 - 168	0,0254	0,0381	0,0762	0,1524
Copper Alloys	152 - 274	0,0254	0,0508	0,0762	0,1524
Steel (Annealed)	107 - 152	0,0254	0,0508	0,0762	0,127
Steel (18-24 HRC)	46 - 152	0,01016	0,02032	0,0381	0,1143
Steel (25-37 HRC)	38 - 61	0,00762	0,0127	0,0254	0,0762
Stainless Steel (Free Machining)	76 - 122	0,0127	0,0254	0,0508	0,0762
Stainless Steel (Other)	46 - 91	0,0127	0,0254	0,0508	0,0762
Inconel, Monel	18 - 30	0,0127	0,0254	0,0381	0,0762
Titanium	53 - 91	0,0127	0,02032	0,0381	0,0762

Recommended starting speeds and feeds for variable-helix endmills.

V4 - PowerA 4 Flute Standard Length

D1	L1	D2	L2	Square	CR	Corner Radius	Ball
3	12	3	38	V4-81200WF	0,25-0,38	V4-81200R.25WF	V4-81204WF
3	12	3	38	V4-81200NF	0,25-0,38	V4-81200R.25NF	V4-81204NF
4	14	4	50	V4-81300WF	0,25-0,38	V4-81300R.25WF	V4-81304WF
4	14	4	50	V4-81300NF	0,25-0,38	V4-81300R.25NF	V4-81304NF
5	16	5	50	V4-81400WF	0,25-0,38	V4-81400R.25WF	V4-81404WF
5	16	5	50	V4-81400NF	0,25-0,38	V4-81400R.25NF	V4-81404NF
6	19	6	63	V4-81450WF	0,38-0,51	V4-81450R.50WF	V4-81454WF
6	19	6	63	V4-81450NF	0,38-0,51	V4-81450R.50NF	V4-81454NF
8	19	8	63	V4-81550WF	0,38-0,51	V4-81550R.50WF	V4-81554WF
8	19	8	63	V4-81550NF	0,38-0,51	V4-81550R.50NF	V4-81554NF
10	22	10	70	V4-81650WF	0,38-0,51	V4-81650R.50WF	V4-81654WF
10	22	10	70	V4-81650NF	0,38-0,51	V4-81650R.50NF	V4-81654NF
12	25	12	75	V4-81750WF	0,64-0,76	V4-81750R.75WF	V4-81754WF
12	25	12	75	V4-81750NF	0,64-0,76	V4-81750R.75NF	V4-81754NF
14	25	14	88	V4-81800WF	0,64-0,76	V4-81800R.75WF	V4-81804WF
14	25	14	88	V4-81800NF	0,64-0,76	V4-81800R.75NF	V4-81804NF
16	32	16	88	V4-81850WF	0,76-0,89	V4-81850R.75WF	V4-81854WF
16	32	16	88	V4-81850NF	0,76-0,89	V4-81850R.75NF	V4-81854NF
18	36	18	100	V4-81900WF	0,76-0,89	V4-81900R.75WF	V4-81904WF
18	36	18	100	V4-81900NF	0,76-0,89	V4-81900R.75NF	V4-81904NF
20	38	20	100	V4-81950WF	0,76-0,89	V4-81950R.75WF	V4-81954WF
20	38	20	100	V4-81950NF	0,76-0,89	V4-81950R.75NF	V4-81954NF
25	38	25	100	V4-82050WF	0,76-0,89	V4-82050R.75WF	V4-82054WF
25	38	25	100	V4-82050NF	0,76-0,89	V4-82050R.75NF	V4-82054NF

Mastercut Tool Corp. does not recommend adding a weldon flat on tools with a shank diameter under 6mm.

V4 - Variable Helix Endmills

The V4 Endmill reduces harmonic vibrations creating a smoother running endmill.

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

V4 - PowerA 4 Flute Stub Length

D1	L1	D2	L2	Square	CR	Corner Radius	Ball
3	6	3	38	V4-85200WF	0,25-0,38	V4-85200R.25WF	V4-85204WF
3	6	3	38	V4-85200NF	0,25-0,38	V4-85200R.25NF	V4-85204NF
4	8	4	50	V4-85300WF	0,25-0,38	V4-85300R.25WF	V4-85304WF
4	8	4	50	V4-85300NF	0,25-0,38	V4-85300R.25NF	V4-85304NF
5	10	5	50	V4-85400WF	0,25-0,38	V4-85400R.25WF	V4-85404WF
5	10	5	50	V4-85400NF	0,25-0,38	V4-85400R.25NF	V4-85404NF
6	12	6	50	V4-85450WF	0,38-0,50	V4-85450R.50WF	V4-85454WF
6	12	6	50	V4-85450NF	0,38-0,50	V4-85450R.50NF	V4-85454NF
8	12	8	50	V4-85500WF	0,38-0,50	V4-85500R.50WF	V4-85504WF
8	12	8	50	V4-85500NF	0,38-0,50	V4-85500R.50NF	V4-85504NF
10	14	10	50	V4-85550WF	0,38-0,50	V4-85550R.50WF	V4-85554WF
10	14	10	50	V4-85550NF	0,38-0,50	V4-85550R.50NF	V4-85554NF
12	16	12	63	V4-85600WF	0,64-0,76	V4-85600R.75WF	V4-85604WF
12	16	12	63	V4-85600NF	0,64-0,76	V4-85600R.75NF	V4-85604NF

V4 - PowerA 4 Flute Long Length

D1	L1	D2	L2	Square	CR	Corner Radius	Ball
3	20	3	65	V4-83000WF	0,25-0,38	V4-83000R.25WF	V4-83004WF
3	20	3	65	V4-83000NF	0,25-0,38	V4-83000R.25NF	V4-83004NF
4	20	4	65	V4-83050WF	0,25-0,38	V4-83050R.25WF	V4-83054WF
4	20	4	65	V4-83050NF	0,25-0,38	V4-83050R.25NF	V4-83054NF
5	20	5	75	V4-83100WF	0,25-0,38	V4-83100R.25WF	V4-83104WF
5	20	5	75	V4-83100NF	0,25-0,38	V4-83100R.25NF	V4-83104NF
6	25	6	75	V4-83150WF	0,38-0,51	V4-83150R.50WF	V4-83154WF
6	25	6	75	V4-83150NF	0,38-0,51	V4-83150R.50NF	V4-83154NF
8	25	8	75	V4-83200WF	0,38-0,51	V4-83200R.50WF	V4-83204WF
8	25	8	75	V4-83200NF	0,38-0,51	V4-83200R.50NF	V4-83204NF
10	38	10	100	V4-83250WF	0,38-0,51	V4-83250R.50WF	V4-83254WF
10	38	10	100	V4-83250NF	0,38-0,51	V4-83250R.50NF	V4-83254NF
12	50	12	100	V4-83300WF	0,64-0,76	V4-83300R.75WF	V4-83304WF
12	50	12	100	V4-83300NF	0,64-0,76	V4-83300R.75NF	V4-83304NF
14	56	14	125	V4-83350WF	0,64-0,76	V4-83350R.75WF	V4-83354WF
14	56	14	125	V4-83350NF	0,64-0,76	V4-83350R.75NF	V4-83354NF

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 -0,049
Shank Tolerance H6

Mastercut Tool Corp. does not recommend adding a weldon flat on tools with a shank diameter under 6mm.

Recommended Speed and Feed Rates

Material	SMM	Chip Load Per Tooth (CLPT)				
		2,175mm	6,35mm	12,7mm	8,466mm	25,4mm
Cast Iron (Ductile)	76-122	0,0127	0,0381	0,0508	0,1016	0,1524
Cast Iron (Gray)	107-152	0,0127	0,0508	0,1016	0,1524	0,2032
Cast Iron (Malleable)	61-107	0,0127	0,0508	0,1016	0,1524	0,2032
Nickel Base Alloys	61-91	0,0127	0,0254	0,0508	0,0762	0,1016
Stainless Steel (Free Machining)	91-122	0,0127	0,0254	0,0508	0,1016	0,1524
Stainless Steel (Work Hardening)	46-91	0,0127	0,0127	0,0254	0,0762	0,127
Steel (Low Alloy)	107-183	0,0127	0,0254	0,0508	0,1016	0,1524
Steel (Medium Alloy)	61-122	0,0127	0,0254	0,0508	0,1016	0,1524
Steel (High Alloy Mold-Die)	53-76	0,0127	0,0254	0,0508	0,1016	0,1524
Steel (High Strength)	23-46	0,0127	0,0127	0,0254	0,0762	0,1016
Titanium (Soft)	46-91	0,0127	0,0254	0,0508	0,1016	0,1524
Titanium (Hard)	15-46	0,0127	0,0127	0,0254	-	0,1016

SMM = Surface Meters / Minute

CLPT = Chip Load Per Tooth

F45, 6 Flute Square End

D1	L1	D2	L2	Uncoated	PowerA
5	16	5	50	F45-81402	F45-81432
6	19	6	63	F45-81452	F45-81482
7	19	8	63	F45-81502	F45-81532
8	21	8	63	F45-81552	F45-81582
9	22	10	70	F45-81602	F45-81632
10	25	10	70	F45-81652	F45-81682
11	25	11	70	F45-81702	F45-81732
12	25	12	75	F45-81752	F45-81782
14	30	14	88	F45-81802	F45-81832
16	32	16	88	F45-81852	F45-81882
18	35	18	100	F45-81902	F45-81932
20	38	20	100	F45-81952	F45-81982
22	38	22	100	F45-82002	F45-82032
25	38	25	100	F45-82052	F45-82082

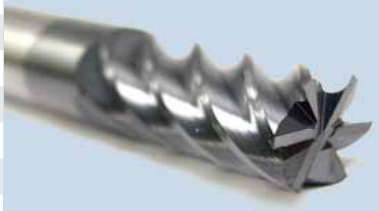
F45, 6 Flute Corner Radius

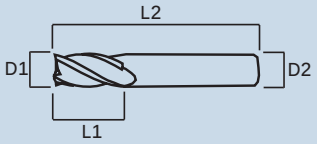
D1	L1	D2	L2	Uncoated	PowerA
6	19	6	63	F45-81452R0.25	F45-81482R0.25
8	21	8	63	F45-81552R0.25	F45-81582R0.25
7	19	8	63	F45-81502R0.25	F45-81532R0.25
9	22	10	70	F45-81602R0.50	F45-81632R0.50
10	25	10	70	F45-81652R0.50	F45-81682R0.50
11	25	11	70	F45-81702R0.50	F45-81732R0.50
12	25	12	75	F45-81752R0.50	F45-81782R0.50
14	30	14	88	F45-81802R0.50	F45-81832R0.50
16	32	16	88	F45-81852R0.50	F45-81882R0.50
18	35	18	100	F45-81902R1.00	F45-81932R1.00
20	38	20	100	F45-81952R1.00	F45-81982R1.00
22	38	22	100	F45-82002R1.00	F45-82032R1.00
25	38	25	100	F45-82052R1.25	F45-82082R1.25

F45

Endmills

6 Flute 45 Degree Eccentric Relief High Performance Finishers





Enhanced Surface Finish

Faster Finishing Rates

Improved Tool Life

Radially Relieved For Better Accuracy

Proprietary Coating

High Tolerance Concentricity

This special endmill is one of Mastercut Tool's newest additions. It is designed to achieve an impeccable finish in hard metals like stainless steel, alloys, and titanium. The 45° spiral achieves faster feed rates.

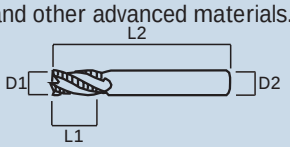
D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance +0,000 -0,049
Shank Tolerance H6

Rougher

Roughers, or “hoggers”, are useful for rapid removal of large amounts of material. The chip groove design allows for more cutting fluid to the cutting edge and dissipates heat better. There is a wide range of variations in rougher profile forms for different material groups. The coarser the pitch of the roughing edge, the more material removed and the less smooth the finish. In addition, most roughers have eccentric relief so regrinding can be done only using the cutting face. This saves you if you have access to regrinding equipment.

Fine Pitch
For maximum stock removal of titanium, inconel, waspalloy, and other advanced materials.



Series 621 - Fine Pitch Roughers (.048 Pitch)

D1	L1	D2	L2	No. of Flutes	Uncoated	PowerA
6	19	6	63	3	86828	86831
8	19	8	63	3	86832	86835
10	22	10	63	3	86836	86839
12	25	12	75	4	86840	86843
16	32	16	88	4	86844	86847
20	38	20	100	4	86848	86851
25	38	25	100	6	86852	86855

Medium Pitch
For maximum stock removal of mild, stainless, and hardened steels and alloys.

Series 620 - Medium Pitch Rougher (.062 Pitch)

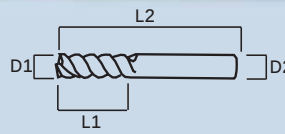
D1	L1	D2	L2	No. of Flutes	Uncoated	PowerA
6	19	6	63	3	86900	86903
8	19	8	63	3	86904	86907
10	22	10	63	3	86908	86911
12	25	12	75	4	86912	86915
16	32	16	88	4	86916	86919
20	38	20	100	4	86920	86923
25	38	25	100	5	86924	86927

Coarse Pitch
For maximum stock removal of aluminum, brass, bronze, and other lightweight alloys.

TiN and TiCN also available!

622 - Coarse Pitch Roughers (.105 Pitch)

D1	L1	D2	L2	No. of Flutes	Uncoated	PowerA
6	19	6	63	3	86856	86859
8	19	8	63	3	86860	86863
10	22	10	63	3	86864	86867
12	25	12	75	3	86868	86871
16	32	16	88	3	86872	86875
20	38	20	100	3	86876	86879
25	38	25	100	3	86880	86883



Designed for high speed milling of inconel, titanium, stainless, and steel alloys.

TwisterMill 60° 3 Flute, High Helix Twistermill

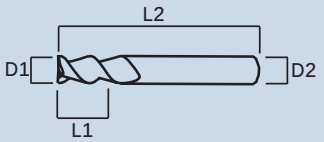
D1	L1	D2	L2	Uncoated	PowerA
6	20	6	63	88250	88253
8	22	8	63	88254	88257
10	25	10	70	88258	88261
12	25	12	75	88262	88265
16	30	16	88	88266	88269
20	38	20	100	88270	88273

Cutting Edge Tolerance +0,000 -0,049
Shank Tolerance H6

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

AlumaZip 55° 2 Flute, High Helix AlumaZips

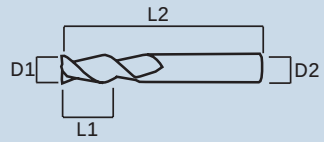
D1	L1	D2	L2	Uncoated	PowerA
3	12	3	38	88000	88005
4	14	4	50	88020	88025
5	19	5	50	88030	88035
6	19	6	63	88040	88045
8	19	8	63	88060	88065
10	22	10	70	88080	88085
12	25	12	83	88100	88105
14	30	14	83	88120	88125
16	32	16	88	88140	88145
20	38	20	100	88160	88165
25	38	25	100	88180	88185



Designed for high speed milling of aluminum.

HyperMill 45° 2 Flute, High Helix Hypermill

D1	L1	D2	L2	Uncoated	PowerA
6	25	6	63	88200	88203
8	25	8	63	88204	88207
10	25	10	70	88208	88211
12	32	12	75	88212	88215
16	42	16	88	88216	88219
20	48	20	100	88220	88223



Designed for high speed milling of aluminum.

See the Mastercut Tool website for more in-depth information about High Performance Endmills.

Cutting Edge Tolerance +0,000 -0,049
Shank Tolerance H6

Standard Drill Recommendations

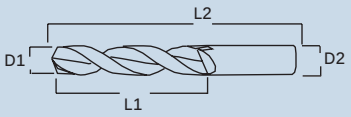
Material Group	Speed (mm / min)	mm Rate (mm / r) 1.5875mm	3.175mm	6.35mm	12.7mm	19.05mm
Aluminum / Aluminum Alloys	91-183	0,02	0,076	0,178	0,305	0,381
Aluminum Alloyed Si > 10%	46-122	0,02	0,051	0,152	0,254	0,305
Soft Cast Irons	61-92	0,025	0,076	0,127	0,254	0,305
Medium Cast Irons	38-69	0,025	0,076	0,127	0,203	0,254
Malleable Cast Irons	20-61	0,013	0,051	0,102	0,178	0,254
Brass	61-92	0,018	0,051	0,076	0,102	0,152
Bronze	46-77	0,018	0,051	0,076	0,102	0,152
Coppers / Copper Alloys	46-92	0,025	0,076	0,152	0,254	0,305
Magnesium	92-183	0,025	0,076	0,178	0,305	0,381
Nickel Alloys	23-61	0,025	0,076	0,127	0,229	0,305
Free Machining Stainless Steels	30-46	0,025	0,076	0,127	0,203	0,305
Work Hardening Stainless Steels	15-30	0,013	0,051	0,102	0,152	0,254
Low Carbon Steels	46-91	0,025	0,051	0,102	0,178	0,305
Medium Carbon Steels	30-61	0,025	0,051	0,076	0,152	0,254
High Tensile (35-40 Rc) Steels	23-46	0,025	0,051	0,076	0.102	0,127
High Tensile (40-45 Rc) Steels	15-30	0,018	0,025	0,051	0,076	0102
High Tensile (45 Rc+) Steels	8-23	0,013	0,018	0,025	0,051	0,076
Tool Steels	12-30	0,025	0,038	0,076	0,127	0,203
Soft Titanium	24-38	0,025	0,051	0,102	0,152	0,254
Titanium Alloys Hard Titanium	12-30	0,018	0,025	0,051	0,127	0,203

Drills

Replace or Resharpen drills at first sign of dulling or rounding.

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance / Shank Tolerance
+0,000 -0,005



Standard Length Drills

DIN 338 2 Flute 27° Helix 118° 4 Facet Point
3mm to 7mm

D1	L1	D2	L2	PART#	TiN PART#
3	33	3	61	47-1181	47-1181TN
3,1	36	3,1	65	47-1220	47-1220TN
3,2	36	3,2	65	47-1260	47-1260TN
3,3	36	3,3	65	47-1299	47-1299TN
3,4	39	3,4	70	47-1339	47-1339TN
3,5	39	3,5	70	47-1378	47-1378TN
3,6	39	3,6	70	47-1417	47-1417TN
3,7	39	3,7	70	47-1457	47-1457TN
3,8	43	3,8	75	47-1496	47-1496TN
3,9	43	3,9	75	47-1535	47-1535TN
4	43	4	75	47-1575	47-1575TN
4,1	43	4,1	75	47-1614	47-1614TN
4,2	43	4,2	75	47-1654	47-1654TN
4,3	47	4,3	80	47-1693	47-1693TN
4,4	47	4,4	80	47-1732	47-1732TN
4,5	47	4,5	80	47-1772	47-1772TN
4,6	47	4.6	80	47-1811	47-1811TN
4,7	47	4,7	80	47-1850	47-1850TN
4,8	52	4,8	86	47-1890	47-1890TN
4,9	52	4,9	86	47-1929	47-1929TN
5	52	5	86	47-1969	47-1969TN
5,1	52	5,1	86	47-2008	47-2008TN
5,2	52	5,2	86	47-2047	47-2047TN
5,3	52	5,3	86	47-2087	47-2087TN
5,4	57	5,4	93	47-2126	47-2126TN
5,5	57	5,5	93	47-2165	47-2165TN
5,6	57	5,6	93	47-2205	47-2205TN
5,7	57	5,7	93	47-2244	47-2244TN
5,8	57	5,8	93	47-2283	47-2283TN
5,9	57	5,9	93	47-2323	47-2323TN
6	57	6	93	47-2362	47-2362TN
6,1	63	6,1	101	47-2402	47-2402TN
6,2	63	6,2	101	47-2441	47-2441TN
6,3	63	6,3	101	47-2480	47-2480TN
6,4	63	6,4	101	47-2520	47-2520TN
6,5	63	6,5	101	47-2559	47-2559TN
6,6	63	6,6	101	47-2598	47-2598TN
6,7	63	6,7	101	47-2638	47-2638TN
6,8	69	6,8	109	47-2677	47-2677TN
6,9	69	6,9	109	47-2717	47-2717TN

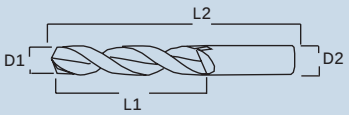
D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance / Shank Tolerance
+0,000 -0,005

Standard Length Drills

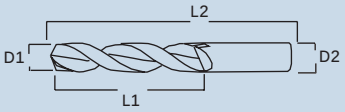
DIN 338 2 Flute 27° Helix 118° 4 Facet Point
7mm to 12mm

D1	L1	D2	L2	PART#	TiN PART#
7	69	7	109	47-2756	47-2756TN
7,1	69	7,1	109	47-2795	47-2795TN
7,2	69	7,2	109	47-2835	47-2835TN
7,3	69	7,3	109	47-2874	47-2874TN
7,4	69	7,4	109	47-2913	47-2913TN
7,5	69	7,5	109	47-2953	47-2953TN
7,6	75	7,6	117	47-2992	47-2992TN
7,7	75	7,7	117	47-3031	47-3031TN
7,8	75	7,8	117	47-3071	47-3071TN
7,9	75	7,9	117	47-3110	47-3110TN
8	75	8	117	47-3150	47-3150TN
8,1	75	8,1	117	47-3189	47-3189TN
8,2	75	8,2	117	47-3228	47-3228TN
8,3	75	8,3	117	47-3268	47-3268TN
8,4	75	8,4	117	47-3307	47-3307TN
8,5	75	8,5	117	47-3346	47-3346TN
8,6	81	8,6	125	47-3386	47-3386TN
8,7	81	8,7	125	47-3425	47-3425TN
8,8	81	8,8	125	47-3465	47-3465TN
8,9	81	8,9	125	47-3504	47-3504TN
9	81	9	125	47-3543	47-3543TN
9,1	81	9,1	125	47-3583	47-3583TN
9,2	81	9,2	125	47-3622	47-3622TN
9,3	81	9,3	125	47-3661	47-3661TN
9,4	81	9,4	125	47-3701	47-3701TN
9,5	81	9,5	125	47-3740	47-3740TN
9,6	87	9,6	133	47-3780	47-3780TN
9,7	87	9,7	133	47-3819	47-3819TN
9,8	87	9,8	133	47-3858	47-3858TN
9,9	87	9,9	133	47-3898	47-3898TN
10	87	10	133	47-3937	47-3937TN
10.2	87	10,2	133	47-4016	47-4016TN
10,5	87	10,5	133	47-4134	47-4134TN
11	94	11	142	47-4331	47-4331TN
11,5	94	11,5	142	47-4528	47-4528TN
12	101	12	151	47-4724	47-4724TN



D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance / Shank Tolerance
+0,000 -0,005



Medium Length Drills

2 Flute 25° Helix 118° 4 Facet Point

D1	L1	D2	L2	STD PART #	TiN PART #
3,1	16	3,1	46	50-1220	51-1220
3,2	18	3,2	49	50-1260	51-1260
3,3	18	3,3	49	50-1299	51-1299
3,4	20	3,4	52	50-1339	51-1339
3,5	20	3,5	52	50-1378	51-1378
3,6	20	3,6	52	50-1417	51-1417
3,7	20	3,7	52	50-1457	51-1457
3,8	22	3,8	55	50-1496	51-1496
3,9	22	3,9	55	50-1535	51-1535
4	22	4	55	50-1575	51-1575
4,1	22	4,1	55	50-1614	51-1614
4,2	22	4,2	55	50-1654	51-1654
4,3	24	4,3	58	50-1693	51-1693
4,4	24	4,4	58	50-1732	51-1732
4,5	24	4,5	58	50-1772	51-1772
4,6	24	4,6	58	50-1811	51-1811
4,7	24	4,7	58	50-1850	51-1850
4,8	26	4,8	62	50-1890	51-1890
4,9	26	4,9	62	50-1929	51-1929
5	26	5	62	50-1969	51-1969
5,1	26	5,1	62	50-2008	51-2008
5,2	26	5,2	62	50-2047	51-2047
5,3	26	5,3	62	50-2087	51-2087
5,4	28	5,4	66	50-2126	51-2126
5,5	28	5,5	66	50-2165	51-2165
5,6	28	5,6	66	50-2205	51-2205
5,7	28	5,7	66	50-2244	51-2244
5,8	28	5,8	66	50-2283	51-2283
5,9	28	5,9	66	50-2323	51-2323
6	28	6	66	50-2362	51-2362
6,1	31	6,1	70	50-2402	51-2402
6,2	31	6,2	70	50-2441	51-2441
6,3	31	6,3	70	50-2480	51-2480
6,4	31	6,4	70	50-2520	51-2520
6,5	31	6,5	70	50-2559	51-2559
6,6	31	6,6	70	50-2598	51-2598
6,7	31	6,7	70	50-2638	51-2638
6,8	34	6,8	74	50-2677	51-2677
6,9	34	6,9	74	50-2717	51-2717
7	34	7	74	50-2756	51-2756
7,1	34	7,1	74	50-2795	51-2795
7,2	34	7,2	74	50-2835	51-2835
7,3	34	7,3	74	50-2874	51-2874
7,4	34	7,4	74	50-2913	51-2913
7,5	34	7,5	74	50-2953	51-2953
7,6	37	7,6	79	50-2992	51-2992
7,7	37	7,7	79	50-3031	51-3031
7,8	37	7,8	79	50-3071	51-3071
7,9	37	7,9	79	50-3110	51-3110

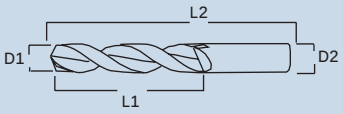
D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Cutting Edge Tolerance / Shank Tolerance
+0,000 -0,005

Medium Length Drills

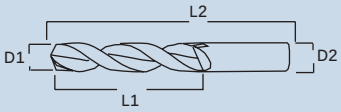
2 Flute 25° Helix 118° 4 Facet Point

D1	L1	D2	L2	STD PART#	TiN PART#
8	37	8	79	50-3150	51-3150
8,1	37	8,1	79	50-3189	51-3189
8,2	37	8,2	79	50-3228	51-3228
8,3	37	8,3	79	50-3268	51-3268
8,4	37	8,4	79	50-3307	51-3307
8,5	37	8,5	79	50-3346	51-3346
8,6	40	8,6	84	50-3386	51-3386
8,7	40	8,7	84	50-3425	51-3425
8,8	40	8,8	84	50-3465	51-3465
8,9	40	8,9	84	50-3504	51-3504
9	40	9	84	50-3543	51-3543
9,1	40	9,1	84	50-3583	51-3583
9,2	40	9,2	84	50-3622	51-3622
9,3	40	9,3	84	50-3661	51-3661
9,4	40	9,4	84	50-3701	51-3701
9,5	40	9,5	84	50-3740	51-3740
9,6	43	9,6	89	50-3780	51-3780
9,7	43	9,7	89	50-3819	51-3819
9,8	43	9,8	89	50-3858	51-3858
9,9	43	9,9	89	50-3898	51-3898
10	43	10	89	50-3937	51-3937
10,1	43	10,1	89	50-3976	51-3976
10,2	43	10,2	89	50-4016	51-4016
10,3	43	10,3	89	50-4055	51-4055
10,4	43	10,4	89	50-4094	51-4094
10,5	43	10,5	89	50-4134	51-4134
10,6	43	10.6	89	50-4173	51-4173
10,7	43	10,7	89	50-4213	51-4213
10,8	43	10,8	89	50-4252	51-4252
11	47	11	95	50-4331	51-4331
11,2	47	11,2	95	50-4409	51-4409
11,5	47	11,5	95	50-4528	51-4528
11,8	47	11,8	95	50-4646	51-4646
12	51	12	102	50-4724	51-4724
12,5	51	12,5	102	50-4921	51-4921
13	51	13	102	50-5118	51-5118
13,5	51	13,5	102	50-5315	51-5315
14	56	14	111	50-5512	51-5512
14,5	56	14,5	111	50-5709	51-5709
15	56	15	111	50-5906	51-5906
15,5	58	15,5	115	50-6102	51-6102
16	58	16	115	50-6299	51-6299
16,5	60	16,5	119	50-6496	51-6496
17	60	17	119	50-6693	51-6693
17,5	62	17,5	123	50-6890	51-6890
18	62	18	123	50-7087	51-7087
18,5	64	18,5	127	50-7283	51-7283
19	64	19	127	50-7480	51-7480
19,5	66	19,5	131	50-7677	51-7677
20	66	20	131	50-7874	51-7874



D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

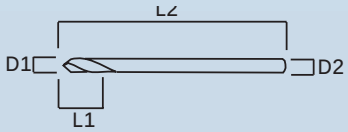
Cutting Edge Tolerance / Shank Tolerance
+0,000 -0,005



Stub Length Drills, DIN 6539, 2 Flute, 25° Helix

D1	L1	D2	L2	PART#
3	12	3	46	45-1182
3,1	14	3,1	49	45-1220
3,2	14	3,2	49	45-1260
3,3	14	3,3	49	45-1299
3,4	15	3,4	52	45-1339
3,5	15	3,5	52	45-1379
3,6	15	3,6	52	45-1417
3,7	15	3,7	52	45-1457
3,8	17	38	55	45-1496
3,9	17	3,9	55	45-1535
4	17	4	55	45-1575
4,1	17	4,1	55	45-1614
4,2	17	4,2	55	45-1654
4,3	18	4,3	58	45-1693
4,4	18	4,4	58	45-1732
4,5	18	4,5	58	45-1773
4,6	18	4,6	58	45-1811
4,7	18	4,7	58	45-1850
4,8	20	4,8	62	45-1890
4,9	20	4,9	62	45-1929
5	20	5	62	45-1970
5,1	20	5,1	62	45-2008
5,2	20	5,2	62	45-2047
5,3	20	5,3	62	45-2087
5,4	21	5,4	66	45-2126

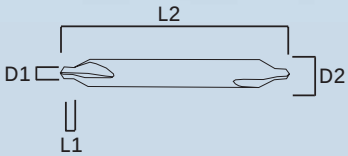
D1	L1	D2	L2	PART#
5,5	21	5,5	66	45-2166
5,6	21	5,6	66	45-2205
5,7	21	5,7	66	45-2244
5,8	21	5,8	66	45-2283
5,9	21	5,9	66	45-2323
6	21	6	66	45-2363
6,1	23	6,1	70	45-2402
6,2	23	6,2	70	45-2441
6,3	23	6,3	70	45-2480
6,4	23	6,4	70	45-2520
6,5	23	6,5	70	45-2559
7	25	7	74	45-2756
7,5	25	7,5	74	45-2953
8	27	8	79	45-3150
8,5	27	8,5	79	45-3346
9	29	9	84	45-3543
9,5	29	9,5	84	45-3740
10	31	10	89	45-3938
10,5	31	10,5	89	45-4134
11	33	11	95	45-4331
11,5	33	11,5	95	45-4528
12	35	12	102	45-4724
12,5	35	12,5	102	45-4921
13	35	13	102	45-5118
14	37	14	107	45-5512



NC Spotting Drills

D1	L1	D2	L2	Point Angle	EDP#
3	10	3	38	90°	89250
4	18	4	63	90°	89251
6	20	6	63	90°	89252
10	25	10	75	90°	89253
12	25	12	75	90°	89254

D1	L1	D2	L2	Point Angle	EDP#
3	10	3	38	120°	89255
4	18	4	63	120°	89256
6	20	6	63	120°	89257
10	25	10	75	120°	89258
12	25	12	75	120°	89259



Solid Carbide Center Drills

D1	L1	D2	L2	Size#	60 Degree	82 Degree	90 Degree
1,2	1,2	3,18	38	M1	89200	89201	89202
2	2	4,75	50	M2	89203	89204	89205
2,8	2,8	6,3	50	M3	89206	89207	89208
3,15	3,15	8	56	M4	89209	89210	89211
4	4	11,1	70	M5	89212	89213	89214
5	5	12,7	75	M6	89215	89216	89217
6	6	15,9	81	M7	89218	89219	89220
8	8	19	85	M8	89221	89222	89223

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Bur Shapes and Sizes

We carry burs in all shapes and sizes.
We can also customize any bur to your needs.

Bur Part Number Codes

L6 - 150 mm Shank (6 Inch)
L4 - 100 mm Shank (4 Inch)
L3 - 75 mm Shank (3 Inch)

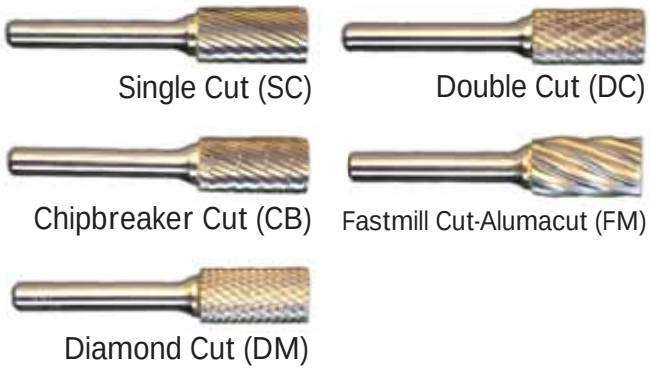
R - 8 mm Shank (3 / 8 Inch)

X - Solid Carbide
(Bur and Shank)

ECO - Endcut Only

SC - Singlecut
DC - Doublecut
DM - Diamondcut
CB - Chipbreaker
FM - Fastmill Cut / Alumacut
FC - Fine Cut
CC - Coarse Cut

Bur Cut Types



Example

SL-5RMML6DC

- SL Shape
- 5 8 mm Shank (3 / 8 Inch) Cutter Size
- R
- MM Millimeter
- L6 150 mm Shank (6 Inch)
- DC Doublecut

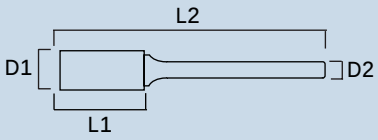
Bur Speed Recommendations

Bur Diameter	RPM
3mm Solid Carbide	45.000-50.000
5mm Solid Carbide	35.000-40.000
5mm Carbide Head Brazed to 1 / 8 or 3mm Steel Shank	30.000-35.000
6mm Solid Carbide	30.000-35.000
6mm Carbide Head Brazed to 1 / 8 or 3mm Steel Shank	25.000-30.000
8mm Carbide Head Brazed to 1 / 4 or 6mm Steel Shank	25.000-30.000
10mm Carbide Head Brazed to 1 / 4 or 6mm Steel Shank	25.000-30.000
11mm Carbide Head Brazed to 1 / 4 or 6mm Steel Shank	20.000-25.000
12mm Carbide Head Brazed to 1 / 4 or 6mm Steel Shank	20.000-25.000
16mm Carbide Head Brazed to 1 / 4 or 6mm Steel Shank	15.000-20.000
18mm Carbide Head Brazed to 1 / 4 or 6mm Steel Shank	15.000-20.000
25mm Carbide Head Brazed to 1 / 4 or 6mm Steel Shank	12.000-18.000

The chart is a general and approximate recommendation. Variations to achieve desired results may be necessary. Long shank burs should be used at reduced speeds.

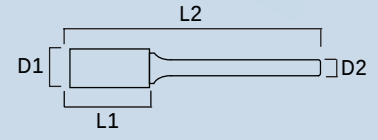
General Bur Cut Type Applications

Materials	Doublecut	Singlecut	Alumacut	Diamondcut	Chipbreaker
Aluminum			✓	✓	
Brass, Bronze, Copper	✓	✓			✓
Fiberglass				✓	
Cast Iron	✓	✓		✓	
Plastics			✓	✓	
Steel: 40-55rc	✓	✓		✓	✓
Steel: 55-60rc	✓	✓		✓	✓
Steel: Carbon	✓	✓			✓
Steel Nickel, Chrome	✓	✓		✓	✓
Stainless Steel	✓	✓			✓
Steel Weldments	✓	✓			✓
Titanium	✓	✓			✓
Zinc			✓		



SA Burs - Cylindrical No Endcut

D1	L1	D2	L2	Singlecut	Doublecut	Alumacut
1, 5	6	3	38	SA-41MMSC*	SA-41MMDC*	SA-41MMFM*
2,5	11	3	38	SA-42MMSC*	SA-42MMDC*	SA-42MMFM*
3	14	3	38	SA-43MMSC*	SA-43MMDC*	SA-43MMFM*
6,3	12,7	3	50	SA-51MMSC	SA-51MMDC	SA-51MMFM
3	12,7	6	50	SA-12MMSC*	SA-12MMDC*	SA-12MMFM*
5	16	6	50	SA-14MMSC*	SA-14MMDC*	SA-14MMFM*
6	16	6	50	SA-1MMSC*	SA-1MMDC*	SA-1MMFM*
6	16	6	162	SA-1MML6SC	SA-1MML6DC	SA-1MML6FM
6	25	6	50	SA-1MMASC*	SA-1MMADC*	SA-1MMAFM*
8	19	6	64	SA-2MMSC	SA-2MMDC	SA-2MMFM
9,5	19	6	64	SA-3MMSC	SA-3MMDC	SA-3MMFM
9,5	19	6	169	SA-3MML6SC	SA-3MML6DC	SA-3MML6FM
11	25	6	70	SA-4MMSC	SA-4MMDC	SA-4MMFM
12,7	25	6	70	SA-5MMSC	SA-5MMDC	SA-5MMFM
12,7	25	6	175	SA-5MML6SC	SA-5MML6DC	SA-5MML6FM
16	25	6	70	SA-6MMSC	SA-6MMDC	SA-6MMFM
19	25	6	70	SA-7MMSC	SA-7MMDC	SA-7MMFM
25,4	25	6	70	SA-9MMSC	SA-9MMDC	SA-9MMFM



SB Burs - Cylindrical With Endcut

D1	L1	D2	L2	Singlecut	Doublecut	Alumacut
1,5	6	3	38	SB-41MMSC*	SB-41MMDC*	SB-41MMFM*
2,5	11	3	38	SB-42MMSC*	SB-42MMDC*	SB-42MMFM*
3	14	3	38	SB-43MMSC*	SB-43MMDC*	SB-43MMFM*
6,3	4,7	3	43	SB-51MMSC	SB-51MMDC	SB-51MMFM
3	12,7	6	60	SB-12MMSC*	SB-12MMDC*	SB-12MMFM*
5	16	6	50	SB-14MMSC*	SB-14MMDC*	SB-14MMFM*
6	16	6	50	SB-1MMSC*	SB-1MMDC*	SB-1MMFM*
6	16	6	162	SB-1MML6SC	SB-1MML6DC	SB-1MML6FM
8	19	6	64	SB-2MMSC	SB-2MMDC	SB-2MMFM
9,5	19	6	64	SB-3MMSC	SB-3MMDC	SB-3MMFM
9,5	19	6	169	SB-3MML6SC	SB-3MML6DC	SB-3MML6FM
11	25	6	70	SB-4MMSC	SB-4MMDC	SB-4MMFM
12,7	25	6	70	SB-5MMSC	SB-5MMDC	SB-5MMFM
12,7	25	6	175	SB-5MML6SC	SB-5MML6DC	SB-5MML6FM
16	25	6	70	SB-6MMSC	SB-6MMDC	SB-6MMFM
19	25	6	70	SB-7MMSC	SB-7MMDC	SB-7MMFM
25,4	25	6	70	SB-9MMSC	SB-9MMDC	SB-9MMFM

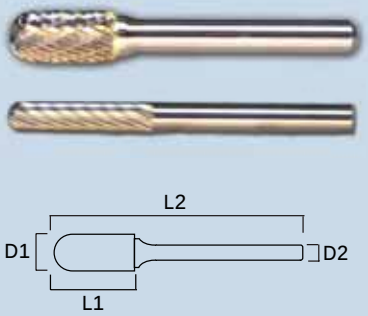
* Denotes Solid Carbide

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Burs also available in Chipbreaker and Diamondcut

SC Burs - Radius Cylinder

D1	L1	D2	L2	Singlecut	Doublecut	Alumacut
2,5	11	3	38	SC-41MMSC*	SC-41MMDC*	SC-41MMFM*
3	14	3	38	SC-42MMSC*	SC-42MMDC*	SC-42MMFM*
6,3	12,7	3	50	SC-51MMSC	SC-51MMDC	SC-51MMFM
3	16	6	60	SC-12MMSC*	SC-12MMDC*	SC-12MMFM*
5	16	6	50	SC-14MMSC*	SC-14MMDC*	SC-14MMFM*
6	16	6	50	SC-1MMSC*	SC-1MMDC*	SC-1MMFM*
6	16	6	162	SC-1MML6SC	SC-1MML6DC	SC-1MML6FM
8	19	6	64	SC-2MMSC	SC-2MMDC	SC-2MMFM
9,5	19	6	64	SC-3MMSC	SC-3MMDC	SC-3MMFM
9,5	19	6	169	SC-3MML6SC	SC-3MML6DC	SC-3MML6FM
11	25	6	70	SC-4MMSC	SC-4MMDC	SC-4MMFM
12,7	25	6	70	SC-5MMSC	SC-5MMDC	SC-5MMFM
12,7	25	6	175	SC-5MML6SC	SC-5MML6DC	SC-5MML6FM
16	25	6	70	SC-6MMSC	SC-6MMDC	SC-6MMFM
19	25	6	70	SC-7MMSC	SC-7MMDC	SC-7MMFM



SD Burs - Ball Shape

D1	L1	D2	L2	Singlecut	Doublecut	Alumacut
2,5	2,3	3	38	SD-41MMSC*	SD-41MMDC*	SD-41MMFM*
3	2,5	3	38	SD-42MMSC*	SD-42MMDC*	SD-42MMFM*
6,3	5	3	44	SD-51MMSC	SD-51MMDC	SD-51MMFM
3	2	6	50	SD-12MMSC*	SD-12MMDC*	SD-12MMFM*
5	4	6	50	SD-14MMSC*	SD-14MMDC*	SD-14MMFM*
6	5	6	50	SD-1MMSC*	SD-1MMDC*	SD-1MMFM*
6	5	6	155	SD-1MML6SC	SD-1MML6DC	SD-1MML6FM
8	6,4	6	51,4	SD-2MMSC	SD-2MMDC	SD-2MMFM
9,5	8	6	53	SD-3MMSC	SD-3MMDC	SD-3MMFM
9,5	8	6	158	SD-3MML6SC	SD-3MML6DC	SD-3MML6FM
11	9,5	6	54,5	SD-4MMSC	SD-4MMDC	SD-4MMFM
12,7	11	6	56	SD-5MMSC	SD-5MMDC	SD-5MMFM
12,7	11	6	161	SD-5MML6SC	SD-5MML6DC	SD-5MML6FM
16	14	6	58	SD-6MMSC	SD-6MMDC	SD-6MMFM
19	16	6	61	SD-7MMSC	SD-7MMDC	SD-7MMFM
25,4	21	6	72	SD-9MMSC	SD-9MMDC	SD-9MMFM

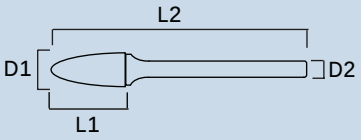
D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

SE Burs - Oval Shape

D1	L1	D2	L2	Singlecut	Doublecut	Alumacut
3	5.5	3	38	SE-41MMSC*	SE-41MMDC*	SE-41MMFM*
6,3	9,5	3	47	SE-51MMSC	SE-51MMDC	SE-51MMFM
6	9,5	6	50	SE-1MMSC*	SE-1MMDC*	SE-1MMFM*
6	9,5	6	160	SE-1MML6SC	SE-1MML6DC	SE-1MML6FM
9,5	16	6	61	SE-3MMSC	SE-3MMDC	SE-3MMFM
9,5	16	6	166	SE-3MML6SC	SE-3MML6DC	SE-3MML6FM
12,7	22	6	67	SE-5MMSC	SE-5MMDC	SE-5MMFM
12,7	22	6	172	SE-5MML6SC	SE-5MML6DC	SE-5MML6FM
16	25	6	70	SE-6MMSC	SE-6MMDC	SE-6MMFM
19	25	6	70	SE-7MMSC	SE-7MMDC	SE-7MMFM

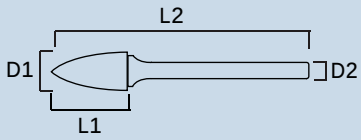
* Denotes Solid Carbide

Burs also available in Chipbreaker and Diamondcut



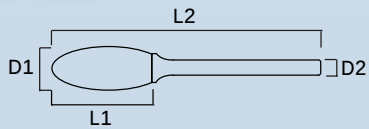
SF Burs - Tree Shape

D1	L1	D2	L2	Singlecut	Doublecut	Alumacut
3	6	3	38	SF-41MMSC*	SF-41MMDC*	SF-41MMFM*
3	12,7	3	38	SF-42MMSC*	SF-42MMDC*	SF-42MMFM*
6,3	12,7	3	50	SF-51MMSC	SF-51MMDC	SF-51MMFM
6	16	6	50	SF-1MMSC*	SF-1MMDC*	SF-1MMFM*
6	16	6	163	SF-1MML6SC	SF-1MML6DC	SF-1MML6FM
9,5	19	6	64	SF-3MMSC	SF-3MMDC	SF-3MMFM
9,5	19	6	169	SF-3MML6SC	SF-3MML6DC	SF-3MML6FM
11	25	6	70	SF-4MMSC	SF-4MMDC	SF-4MMFM
12,7	19	6	64	SF-13MMSC	SF-13MMDC	SF-13MMFM
12,7	25	6	70	SF-5MMSC	SF-5MMDC	SF-5MMFM
12,7	25	6	175	SF-5MML6SC	SF-5MML6DC	SF-5MML6FM
16	25	6	70	SF-6MMSC	SF-6MMDC	SF-6MMFM
19	25	6	70	SF-7MMSC	SF-7MMDC	SF-7MMFM
19	32	6	77	SF-14MMSC	SF-14MMDC	SF-14MMFM
19	38	6	83	SF-15MMSC	SF-15MMDC	SF-15MMFM



SG Burs - Pointed Tree

D1	L1	D2	L2	Singlecut	Doublecut	Alumacut
3	6	3	38	SG-41MMSC*	SG-41MMDC*	SG-41MMFM*
3	9,5	3	38	SG-43MMSC*	SG-43MMDC*	SG-43MMFM*
3	12,7	3	38	SG-44MMSC*	SG-44MMDC*	SG-44MMFM*
6,3	12,7	3	50	SG-51MMSC	SG-51MMDC	SG-51MMFM
6	16	6	50	SG-1MMSC*	SG-1MMDC*	SG-1MMFM*
6	16	6	163	SG-1MML6SC	SG-1MML6DC	SG-1MML6FM
8	19	6	64	SG-2MMSC	SG-2MMDC	SG-2MMFM
9,5	19	6	64	SG-3MMSC	SG-3MMDC	SG-3MMFM
9,5	19	6	169	SG-3MML6SC	SG-3MML6DC	SG-3MML6FM
12,7	19	6	64	SG-13MMSC	SG-13MMDC	SG-13MMFM
12,7	25	6	70	SG-5MMSC	SG-5MMDC	SG-5MMFM
12,7	25	6	175	SG-5MML6SC	SG-5MML6DC	SG-5MML6FM
16	25	6	70	SG-6MMSC	SG-6MMDC	SG-6MMFM
19	25	6	70	SG-7MMSC	SG-7MMDC	SG-7MMFM



SH Burs - Flame Shape

D1	L1	D2	L2	Singlecut	Doublecut	Alumacut
3	6,3	3	38	SH-41MMSC*	SH-41MMDC*	SH-41MMFM*
6	12,7	6	50	SH-1MMSC*	SH-1MMDC*	SH-1MMFM*
6	12,7	6	160	SH-1MML6SC	SH-1MML6DC	SH-1MML6FM
8	19	6	64	SH-2MMSC	SH-2MMDC	SH-2MMFM
8	19	6	169	SH-2MML6SC	SH-2MML6DC	SH-2MML6FM
12,7	32	6	77	SH-5MMSC	SH-5MMDC	SH-5MMFM
12,7	32	6	182	SH-5MML6SC	SH-5MML6DC	SH-5MML6FM
16	36	6	81	SH-6MMSC	SH-6MMDC	SH-6MMFM
19	41	6	86	SH-7MMSC	SH-7MMDC	SH-7MMFM

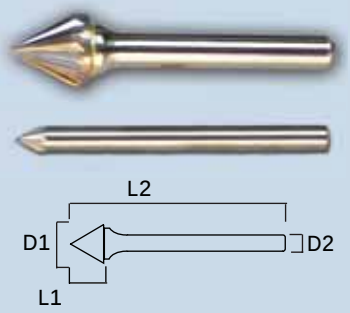
D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

* Denotes Solid Carbide
*^ Denotes Double End

Burs also available in Chipbreaker and Diamondcut

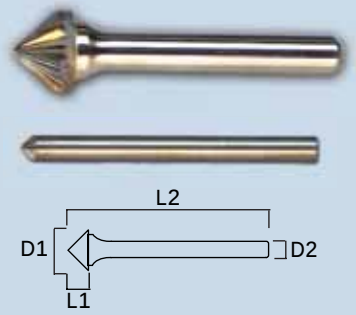
SJ Burs - 60° Included Cone

D1	L1	D2	L2	Singlecut	Doublecut	Alumacut
3	2,5	3	38	SJ-42MMSC*	SJ-42MMDC	SJ-42MMFM
3	2,5	3	38	SJ-42MMDESC*^	SJ-42MMDEDC*^	SJ-42MMDEFM*^
6	4	6	50	SJ-1MMSC*	SJ-1MMDC*	SJ-1MMFM*
6	4	6	50	SJ-1MMDESC*^	SJ-1MMDEDC*^	SJ-1MMDEFM*^
9,5	8	6	53	SJ-3MMSC	SJ-3MMDC	SJ-3MMFM
12,7	11	6	56	SJ-5MMSC	SJ-5MMDC	SJ-5MMFM
16	14,5	6	59,5	SJ-6MMSC	SJ-6MMDC	SJ-6MMFM
19	17,5	6	62,5	SJ-7MMSC	SJ-7MMDC	SJ-7MMFM
25	24,5	6	69,5	SJ-9MMSC	SJ-9MMDC	SJ-9MMFM



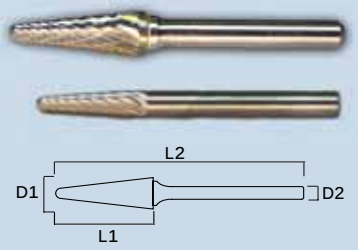
SK Burs - 90° Included Cone

D1	L1	D2	L2	Singlecut	Doublecut	Alumacut
3	1,5	3	38	SK-42MMSC*	SK-42MMDC*	SK-42MMFM*
3	1,5	3	38	SK-42MMDESC*^	SK-42MMDEDC*^	SK-42MMDEFM*^
6	3	6	50	SK-1MMSC*	SK-1MMDC*	SK-1MMFM*
6	3	6	50	SK-1MMDESC*^	SK-1MMDEDC*^	SK-1MMDEFM*^
9,5	4,7	6	49,7	SK-3MMSC	SK-3MMDC	SK-3MMFM
12,7	6,3	6	51,3	SK-5MMSC	SK-5MMDC	SK-5MMFM
16	8	6	53	SK-6MMSC	SK-6MMDC	SK-6MMFM
19	9,5	6	54,5	SK-7MMSC	SK-7MMDC	SK-7MMFM
25	12,7	6	57,7	SK-9MMSC	SK-9MMDC	SK-9MMFM



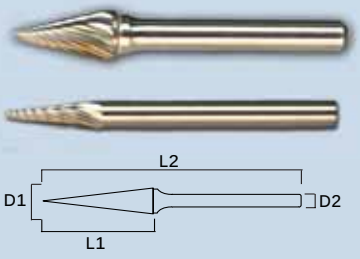
SL Burs - 14° Included Cone

D1	L1	D2	L2	DEG	Singlecut	Doublecut	Alumacut
3	9,5	3	38	8°	SL-41MMSC*	SL-41MMDC*	SL-41MMFM*
3	12,7	3	38	8°	SL-42MMSC*	SL-42MMDC*	SL-42MMFM*
6	16	6	50	14°	SL-1MMSC*	SL-1MMDC*	SL-1MMFM*
6	16	6	166	14°	SL-1MML6SC	SL-1MML6DC	SL-1MML6FM
8	22	6	67	14°	SL-2MMSC	SL-2MMDC	SL-2MMFM
9,5	27	6	72	14°	SL-3MMSC	SL-3MMDC	SL-3MMFM
9,5	27	6	177	14°	SL-3MML6SC	SL-3MML6DC	SL-3MML6FM
12,7	28	6	73	14°	SL-4MMSC	SL-4MMDC	SL-4MMFM
12,7	28	6	178	14°	SL-4MML6SC	SL-4MML6DC	SL-4MML6FM
16	30	6	75	14°	SL-5MMSC	SL-5MMDC	SL-5MMFM
16	33	6	78	14°	SL-6MMSC	SL-6MMDC	SL-6MMFM
19	38	6	83	14°	SL-7MMSC	SL-7MMDC	SL-7MMFM



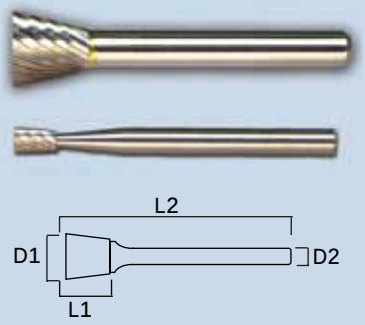
SM Burs - Pointed Cone Shape

D1	L1	D2	L2	DEG	Singlecut	Doublecut	Alumacut
3	8,9	3	38	12°	SM-41MMSC*	SM-41MMDC*	SM-41MMFM*
3	11	3	38	14°	SM-42MMSC*	SM-42MMDC*	SM-42MMFM*
3	16	3	38	7°	SM-43MMSC*	SM-43MMDC*	SM-43MMFM*
6,3	12,7	3	54	22°	SM-51MMSC	SM-51MMDC	SM-51MMFM
6	12,7	6	50	22°	SM-1MMSC*	SM-1MMDC*	SM-1MMFM*
6	19	6	50	14°	SM-2MMSC	SM-2MMDC	SM-2MMFM
6	25	6	50	8°	SM-3MMSC*	SM-3MMDC*	SM-3MMFM*
9,5	16	6	61	28°	SM-4MMSC	SM-4MMDC	SM-4MMFM
12,7	22	6	67	28°	SM-5MMSC	SM-5MMDC	SM-5MMFM
16	25	6	73	31°	SM-6MMSC	SM-6MMDC	SM-6MMFM



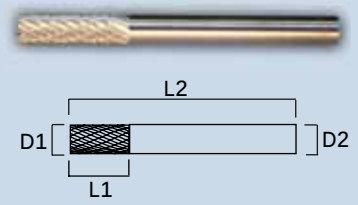
* Denotes Solid Carbide
*^ Denotes Double End

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length



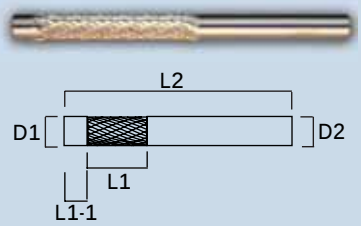
SN Burs - Inverted Cone

D1	L1	D2	L2	DEG	Singlecut	Doublecut	Alumacut
2,5	3	3	38	10°	SN-41MMSC*	SN-41MMDC*	SN-41MMFM*
3	4	3	38	10°	SN-42MMSC*	SN-42MMDC*	SN-42MMFM*
6,3	6	3	44	10°	SN-51MMSC	SN-51MMDC	SN-51MMFM
6	8	6	50	10°	SN-1MMSC*	SN-1MMDC*	SN-1MMFM*
9,5	9,5	6	54,5	13°	SN-2MMSC	SN-2MMDC	SN-2MMFM
12,7	12,7	6	57,7	28°	SN-4MMSC	SN-4MMDC	SN-4MMFM
16	19	6	64	18°	SN-6MMSC	SN-6MMDC	SN-6MMFM
19	16	6	61	30°	SN-7MMSC	SN-7MMDC	SN-7MMFM



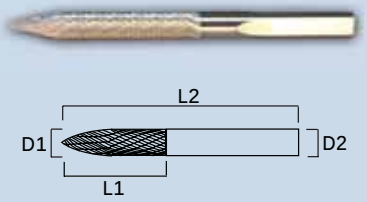
Diemills

D1	L1	D2	L2	STD	COARSE
3	12	3	38	M48000	M48020
4	12	4	50	M48100	M48120
5	16	5	50	M48200	M48220
6	18	6	50	M48300	M48320
8	22	8	63	M48400	M48420
10	25	10	63	M48500	M48520



Piloted Diemills

D1	L1	L1-1	D2	L2	Doublecut	Singlecut
3	25	3	3	75	M22000	M22001
5	32	5	5	75	M22100	M22101
6	32	6	6	75	M22200	M22201
10	50	10	10	100	M22300	M22301
12	50	12	12	100	M22400	M22401



Tire Burs

D1	L1	D2	L2	Round Shank	Tri-Shank
3	14	3	38	STBM-012	STBM-012T
6	50	6	75	STBM-013	STBM-013T
8	53	8	100	STBM-014	STBM-014T
10	75	10	100	STBM-015	~
10	75	10	100	~	STBM-015T

* Denotes Solid Carbide

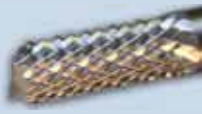
D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Burs also available in Chipbreaker and Diamondcut

Fiberglass Routers

D1	L1	D2	L2	Plain (A)	Burend (B)	Millend (C)	Drillend (D)
1,5	5	3	38	FGRM1A	FGRM1B	FGRM1C	FGRM1D
2	10	3	38	FGRM1-1A	FGRM1-1B	FGRM1-1C	FGRM1-1D
3	12	3	38	FGRM2A	FGRM2B	FGRM2C	FGRM2D
5	16	5	50	FGRM3A	FGRM3B	FGRM3C	FGRM3D
5	16	6	50	FGRM4A	FGRM4B	FGRM4C	FGRM4D
6	18	6	50	FGRM5A	FGRM5B	FGRM5C	FGRM5D
6	18	6	63	FGRM6A	FGRM6B	FGRM6C	FGRM6D
6	25	6	63	FGRM6-0A	FGRM6-0B	FGRM6-0C	FGRM6-0D
6	18	6	75	FGRM6-1A	FGRM6-1B	FGRM6-1C	FGRM6-1D
6	25	6	75	FGRM6-2A	FGRM6-2B	FGRM6-2C	FGRM6-2D
6	38	6	75	FGRM6-3A	FGRM6-3B	FGRM6-3C	FGRM6-3D
8	25	8	63	FGRM7A	FGRM7B	FGRM7C	FGRM7D
10	25	10	63	FGRM8A	FGRM8B	FGRM8C	FGRM8D
12	25	12	75	FGRM9A	FGRM9B	FGRM9C	FGRM9D

Plain End



Mill End

Bur End

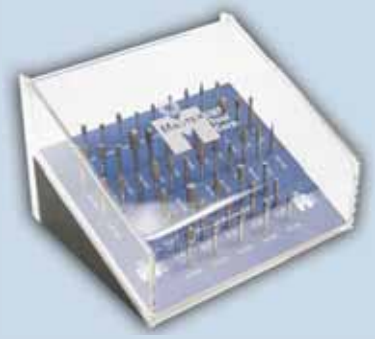
Drill End

Bur Sets

BURS INCLUDED	Singlecut	Doublecut	Alumacut
SA43, SA42, SC42, SC41, SD42, SE41, SF41, SG41, SH41, SJ41, SL42, SN42	SETM100MMWSC	SETM100MMWDC	~
SA51, SB51, SC51, SD51, SE51, SF51, SG51, SM51, SN51	SETM110MMWSC	SETM110MMWDC	~
SA1, SC1, SD1, SE1, SF1, SG1, SH1, SJ1, SK1, SL1, SM1, SN1	SETM120MMWSC	SETM120MMWDC	~
SA1, SA3, SC1, SC3, SD1, SD3, SF1, SF3	SETM130MMWSC	SETM130MMWDC	SETM130MMWFM
SB1, SB3, SC1, SC3, SD1, SD3, SF1, SF3	SETM135MMWSC	SETM135MMWDC	SETM135MMWFM
SA3, SA5, SC3, SC5, SD3, SD5, SF3, SF5	SETM140MMWSC	SETM140MMWDC	SETM140MMWFM
SB3, SB5, SC3, SC5, SD3, SD5, SF3, SF5	SETM145MMWSC	SETM145MMWDC	SETM145MMWFM
SA5, SC3, SC5, SD5, SF3, SF5, SG3, SL4	SETM150MMWSC	SETM150MMWDC	SETM150MMWFM
SB5, SC3, SC5, SD5, SF3, SF5, SG3, SL4	SETM155MMWSC	SETM155MMWDC	SETM155MMWFM
SC3L6, SD3L6, SF3L6, SF5L6	SETM640MMWSC	SETM640MMWDC	SETM640MMWFM

D1 - Cutting Diameter
L 1 - Cutting Length
D2 - Shank Diameter
L 2 - Overall Length

Burs also available in Chipbreaker and Diamondcut



48 Piece Doublecut Bur Display

24 Piece Doublecut Bur Display

150mm Shank Bur Display

150mm Shank Plastic Pouch

Tire Bur Set with Clamshell Case

The Mastercut 48-Piece Countertop Display

The Mastercut 48-Piece Countertop Display showcases 48 pieces of our popular burs. The burs are showcased in a high quality acrylic lexan display with locking back panel.

The set includes:

Doublecut Burs (3mm Shank)
SA-51MMDC, SB-51MMDC, SC-51MMDC, SD-51MMDC, SE-51MMDC, SF-51MMDC, SG-51MMDC, SM-51MMDC, SN-51MMDC

Doublecut Burs (6mm Shank)
SA-1MMDC, SA-3MMDC, SA-5MMDC, SC-1MMDC, SC-3MMDC, SC-5MMDC, SD-1MMDC, SD-3MMDC, SD-5MMDC, SE-1MMDC, SE-3MMDC, SE-5MMDC, SF-1MMDC, SF-3MMDC, SF-5MMDC, SG-1MMDC, SG-3MMDC, SG-5MMDC, SL-4MMDC, SL-3MMDC, SL-1MMDC, SM-5MMDC, SM-4MMDC, SM-3MMDC

AlumaCut Burs (6mm Shank)
SA-1MMFM, SA-3MMFM, SA-5MMFM, SC-1MMFM, SC-3MMFM, SC-5MMFM, SD-5MMFM, SD-3MMFM, SE-5MMFM, SE-3MMFM, SF-5MMFM, SF-3MMFM, SF-1MMFM, SL-4MMFM, SL-3MMFM

Description	Part Number
48 Piece Bur Display	DISPLAY2-48
48 Piece Bur Display Without 3mm Shank Burs	DISPLAY2-39
Bur Set Without Plastic Display	DIS48-ND

Additional Bur Sets

Description	No. Of Pieces	Part Number
Plastic Pouch 150 mm Shank Set Includes: SD-3L6MMDC, SF-5L6MMDC, SF-3L6MMDC, SC-3L6MMDC	4	SET8170
Tire Bur Set Includes: 270, 271, and 271 / 38 in Clamshell Case	3	SET-TB1
Tire Bur Set Includes: 270, 270P, 271, and 271P in Clamshell Case	4	SET-TB2
24 Piece Display Includes: SA-5MMDC, SA-3MMDC, SA-1MMDC, SC-5MMDC, SC-3MMDC, SC-1MMDC, SD-5MMDC, SD-3MMDC, SD-1MMDC, SE-5MMDC, SE-3MMDC, SE-1MMDC, SF-5MMDC, SF-3MMDC, SF-1MMDC, SG-5MMDC, SG-3MMDC, SG-1MMDC, SL-4MMDC, SL-3MMDC, SL-1MMDC, SM-5MMDC, SM-4MMDC, SM-3MMDC	24	DISPLAY2
15 Piece Alumacut Display Includes: SA-1MMFM, SA-3MMFM, SA-5MMFM, SC-1MMFM, SC-3MMFM, SC-5MMFM, SD-3MMFM, SD-5MMFM, SE-3MMFM, SE-5MMFM, SF-1MMM, SF-3MMFM, SF-5MMFM, SL-3MMFM, SL-4MMFM Similar to 24 Piece display but with 15 holes.	15	SETBDIS250-FM
18 Piece 150mm Shank Bur Dislpay Includes: SC-5L6MMDC, SC-3L6MMDC, SC-1L6MMDC, SE-5L6MMDC, SE-3L6MMDC, SE-1L6MMDC, SF-5L6MMDC, SF-3L6MMDC, SF-1L6MMDC, SC-5L6MMFM, SC-3L6MMFM, SC-1L6MMFM, SE-5L6MMFM, SE-3L6MMFM, SE-1L6MMFM, SF-5L6MMFM, SF-3L6MMFM, SF-1L6MMFM,	18	DISPLAY6-18

Quality Control

At Mastercut Tool we take great pride in our high standards of quality control and in the accomplishments of your customers using our tools. Therefore, our bottom line is: Our customers' success with our products is the measure of our success. From advanced grinders and machinery, to great quality control personnel, our priority has always been providing you with the highest quality tools for your customers.

ISO 9001:2000 CERTIFIED
MASTERCUT TOOL CORP.
Cutting Edge Technology

In August of 2003 Mastercut Tool Corp. obtained it's ISO 9001:2000 Certification

Mastercut Automated Production System (M.A.P.S.)

Mastercut Automated Production System or MAPS is a production control technique which utilizes Simulators, Measuring Equipment, and Grinding Equipment in a process that ensures that our tools are consistent from differing manufacturing dates. Our process starts with a simulated grinding of a tool on a "Cyber Grinding Computer". Simulated grinding is faster and does not consume any physical resources. Upon a good simulation, a real carbide test tool is ground. The test tool is then inspected using advanced automated inspection equipment and compared to previously saved geometry. If it meets our standards, it is then and only then that the tool will go into production and the program to grind the tool is saved on a separate production server to be used on all future tool manufacturing runs.

Inspection

All of our tools receive a full inspection before being placed on our stock shelves. When the tool has finished the manufacturing cycle, it is given a detailed inspection of tool geometry. Every dimension is taken down, which includes general dimensions, such as radius and cutting edge length, and some not so common dimensions like secondary land width and rake angles. As tool complexity increases, so does the number of dimensions recorded. When the tool has passed the quality inspection, it then must go through another inspection while in cleaning and packaging. After cleaning and packaging, the tools are placed on our stock shelves awaiting your order.

Diagramming

Diagramming is an essential part of manufacturing customized tools to your specifications. Routinely, samples from both our customers special items and our standard items are translated into AutoCAD format tool manufacturing prints. These prints are useful in maintaining accurate details of a tool for future measurements. Our tools are compared to these prints after each manufacturing cycle to ensure that the newly manufactured tools match the tools you purchased in the past.

Don't Forget to Check Out All That Mastercut Has to Offer

Mastercut Tool Corp. offers a full line of solid carbide cutting tools, both standards and special requests. Whether you are cutting wood, exotic metals, acrylic, or any other material, Mastercut has an ideal solution for all of your cutting tool needs.

We can also sharpen your dull cutters, regardless of manufacturer. Call or E-mail us for more information.

www.mastercuttool.com

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Cutting Edge Technology

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