SwiftCARB

High Performance Solid Carbide and Indexable Cutting Tools



2026

THE NEW SWIFTCARB CATALOG

Ensuring the right tool length is key to maximizing productivity in your application. That's why SwiftCARB manufactures all of our high-performance tools with a wide range of length options, available at approximately every half times diameter. This means that for every geometry and diameter, we offer 10 to 15 length choices, all stocked with standard radii and premium coatings.

RAMPMILL





US Patent: 9,227,253
10,335,870

Engineered for aggressive Ramping Operations.
The first and best tool specifically designed for ramp entry and dynamic milling / High Efficiency Milling cutter paths, our patented design delivers unmatched performance. RampMill enables ramp angles up to 10 times steeper than standard end mills, providing exceptional results with every cut.



Our patented through-coolant hole effectively blasts chips away from the tool, allowing for higher feeds and speeds. This innovation not only extends tool life but also delivers superior finishes compared to other similar cutting tools.



SUPERBEE INDEXABLE FORM CUTTERS

OVER 100 different sizes of Convex, Concave, Angle and Form Inserts in stock.

See flip side of this catalog for our complete line of SUPERBEE tooling.

MDC Coating



Offering 30% greater heat resistance than AlTiN; MDC coating also enhances wear resistance and lubricity. This results in up to a 25% increase in speeds and feeds, with tool life extending by as much as 200%.

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SwiftCARB

WWW.SWIFTCARB.COM

TRADE POLICIES

QUOTATIONS - All quotations are valid for THIRTY DAYS from the original date. We also reserve the right to correct any inaccuracy on quotations or invoices. Quoted lead times on specials are subject to change, depending on lead time between the initial quote and the actual order date.

RETURNED GOODS - Before returning any item, please contact our sales department within 30 days of the initial invoice date to make arrangements for an RME (Returned Merchandise Evaluation). RME paperwork must be completed entirely or the return will be subject to a 20% restock fee and may be rejected.

ALL SPECIAL ORDERS AND MACHINABLE CARBIDE PRODUCTS ARE MADE TO ORDER AND ARE NOT RETURNABLE. CUSTOMER - ALTERED TOOLING WILL NOT BE WARRANTIED AND IS ALSO NOT RETURNABLE.

OPEN ACCOUNTS - Account terms are Net 30 days. Credit limits are reviewed on a regular basis and are subject to change.

PRODUCT LIABILITY GUARANTEE - Our liability is limited to the value of any defective goods. We cannot assume labor charges, damage costs or any other assessment resulting from misuse, defective or imperfect material.

PRINT REVISIONS - Revised information is printed and released when deemed appropriate. We reserve the right to cancel, change or modify any product we supply.

SHIPPING POLICIES - Standard stock items are shipped the same day as ordered unless otherwise specified providing the order is received by 3:00 Pacific time. All packages are shipped UPS GROUND and are insured for full invoice value unless otherwise requested. The freight program Blue@Ground is for orders over $200 and under 10lbs for domestic shipments and must be requested as "BLUE@GROUND". Ground rates are calculated as the current UPS ground price plus the current fuel surcharge and insurance charge.

Damaged Shipment Policy - If you receive an item that is damaged due to improper handling or packaging, it must be inspected immediately to ensure your eligibility for replacement tools. Do not remove the tools from the package or box in the shipping area. For pre-paid and add shipments, please contact SwiftCARB directly. For Collect shipments please contact the carrier associated with your collect account. If you use a collect shipping account, you are responsible for filing your own claim and placing a new order to replace the damaged items, as we are unable to file claims on your behalf. For pre-paid and add shipments, SwiftCARB will promptly file a claim and arrange for immediate replacement of any damaged products.

Guaranteed Trial Order (G.T.O.)If you'd like to experience the performance of SwiftCARB or SUPERBEE products risk-free for 30 days, simply reach out to our sales team about our GTO program. We guarantee improvements in productivity and tool life for any proven process. Please note that the GTO offer requires approval for R&D testing, unproven applications, or uses outside the product's intended purpose.

All SwiftCARB products are proudly manufactured in the USA!



CALL 800-227-9876 FOR YOUR NEAREST DISTRIBUTOR

SwiftCARB

Add these to any end mill

Chip Management Notch: add " -N " to the end of the part number.

Weldon Flat: add " -W " to the end of the part number.



PVD COATING

MDC

Nano-Composite coating for tough materials
Maximum usage temp: 1,100°C

AlTiN

Universal High Performance coating
Maximum usage temp: 900° C

Super TiN

Special multi-layer TiN coating with Carbon to increase performance (TICN + TIN)

Our coating process is designed for a wide variety of tools including:

- END MILLS
- INSERTS
- DRILLS
- HOBS
- TAPS





SwiftCARB

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Non-Alloy Steel	P	< 25 HRC
Low Alloy Steel	P	~30 HRC
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Cast Irons	K	~30 HRC

Aluminum - Low Si	N	B60
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Non-Alloy Steel	P	< 25 HRC
Low Alloy Steel	P	~30 HRC
Die & Mold Steels	P	< 33 HRC
Stainless Steel (PH)	M	< 33 HRC
Stainless Steel (AS)	M	< 35 HRC
Cast Irons	K	~30 HRC

Aluminum - Low Si	N	B60
Aluminum - High Si	N	B80
Titanium Alloys	S	< 38 HRC
High Temp Alloys	S	< 44 HRC
Hardened Steels	H	< 50 HRC

-Best ☑ -Good ☐ -Not Recommended

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XD4 SERIES

Differential Pitch & Differential Helix
4FL Extreme Series Heavy Roughing RampMill



US PATENT:
9,227,253
10,335,870

The XD4 RampMill has an improved differential pitch / differential helix design that reduces harmonic vibration and chatter. The XD4 can be used in applications from full slotting to light roughing, allowing for aggressive ramping and high material removal rates. Its patented end geometry and center through coolant option are ideal for pocketing applications in steel and exotic materials.

- The XD series end geometry allows ramp angles up to six degrees in steel and exotic metals.
- Truncated radius adds corner strength avoiding the wear points of a traditional radius.
- The center coolant hole delivers coolant or air, blasting chips away, eliminating re-cutting and dramatically increasing tool life.
- Designed to handle any roughing operation.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XD037548I001	T6	0	M		XD037548I001T60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	Pick One None	Pick One Center	MDC
0.375	4	0.500	0	2.000	XD037548I001	T6 (.030)	0	C	M
0.375	4	0.750	0	2.500	XD03754BU003				
0.375	4	0.875	0	2.500	XD03754CA003				
0.375	4	1.000	0	3.000	XD03754CS005				
0.375	4	1.250	0	3.000	XD03754DG005				
0.375	4	1.500	0	3.500	XD03754E6007				
0.375	4	1.750	0	3.500	XD03754EW007				
0.375	4	2.000	0	4.000	XD03754FK009				
0.375	4	2.500	0	4.000	XD03754GS009				
0.437	4	0.500	0	2.750	XD043748I004	TC (.060)	0	C	M
0.437	4	0.625	0	2.750	XD04374A6004				
0.437	4	0.875	0	2.750	XD04374CA004				
0.437	4	1.000	0	2.750	XD04374CS004				
0.437	4	1.250	0	2.750	XD04374DG004				
0.437	4	1.500	0	3.500	XD04374E6007				
0.437	4	1.750	0	4.000	XD04374EW009				
0.437	4	2.000	0	4.000	XD04374FK009				
0.437	4	3.000	0	5.000	XD04374HY00E				
0.500	4	0.625	0	2.500	XD05004A6003	TC (.060)	0	C	M
0.500	4	1.000	0	3.000	XD05004CS005				
0.500	4	1.250	0	3.000	XD05004DG005				
0.500	4	1.500	0	3.500	XD05004E6007				
0.500	4	1.750	0	4.000	XD05004EW009				
0.500	4	2.000	0	4.000	XD05004FK009				
0.500	4	2.250	0	4.000	XD05004G6009				
0.500	4	2.500	0	4.500	XD05004GS00B				
0.500	4	3.000	0	5.000	XD05004HY00E				
0.625	4	0.750	0	3.000	XD06254BU005	TC (.060)	0	C	M
0.625	4	1.250	0	3.500	XD06254DG007				
0.625	4	1.625	0	3.500	XD06254EI007				
0.625	4	2.000	0	4.000	XD06254FK009				
0.625	4	2.250	0	4.500	XD06254G600B				
0.625	4	2.500	0	5.000	XD06254GS00E				
0.625	4	3.000	0	5.000	XD06254HY00E				
0.625	4	3.250	0	5.500	XD06254II00G				

Non-standard lengths, diameters and radius sizes available upon request.

XD4 SERIES -Continued-

Differential Pitch & Differential Helix
4FL Extreme Series Heavy Roughing RampMill





US PATENT:
9,227,253
10,335,870

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XD07504BU005	TC	0	M		XD07504BU005TC0M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	None	Center	MDC
0.750	4	0.750	0	3.000	XD07504BU005	TC (.060)	0	C	M
0.750	4	1.000	0	3.500	XD07504CS007				
0.750	4	1.250	0	3.500	XD07504DG007				
0.750	4	1.500	0	3.500	XD07504E6007				
0.750	4	1.750	0	4.000	XD07504EW009				
0.750	4	2.250	0	4.500	XD07504G600B				
0.750	4	2.500	0	5.000	XD07504GS00E				
0.750	4	2.750	0	5.000	XD07504HC00E				
0.750	4	3.000	0	5.000	XD07504HY00E				
0.750	4	3.250	0	5.500	XD07504II00G				
0.750	4	3.500	0	6.000	XD07504J400I				
0.750	4	4.000	0	6.000	XD07504KA00I				
0.750	4	4.500	0	7.000	XD07504LG00L				
0.875	4	1.625	0	4.000	XD08754EI009	TC (.060)	0	C	M
0.875	4	2.625	0	5.000	XD08754H200E				
0.875	4	3.000	0	5.000	XD08754HY00E				
0.875	4	3.750	0	6.000	XD08754JQ00I				
1.000	4	1.500	0	4.000	XD10004E6009	TC (.060)	0	C	M
1.000	4	2.000	0	4.500	XD10004FK00B				
1.000	4	2.375	0	5.000	XD10004GG00E				
1.000	4	2.625	0	5.000	XD10004H200E				
1.000	4	3.000	0	6.000	XD10004HY00I				
1.000	4	3.375	0	6.000	XD10004IU00I				
1.000	4	3.625	0	6.000	XD10004JE00I				
1.000	4	4.125	0	7.000	XD10004KK00L				
1.000	4	4.500	0	7.000	XD10004LG00L				
1.000	4	5.000	0	7.500	XD10004MM00N				
1.250	4	1.500	0	4.000	XD12504E6009	TC (.060)	0	C	M
1.250	4	2.250	0	4.500	XD12504G600B				
1.250	4	3.000	0	6.000	XD12504HY00I				
1.250	4	3.625	0	6.000	XD12504JE00I				
1.250	4	4.375	0	7.500	XD12504L600N				
1.250	4	5.125	0	7.500	XD12504MY00N				
1.250	4	6.000	0	9.000	XD12504Q000R				
1.250	4	6.500	0	9.000	XD12504R300R				

Non-standard lengths, diameters and radius sizes available upon request.

XDEL4 SERIES

Differential Pitch & Differential Helix
4FL Heavy Roughing Extreme RampMill Necked XL

US PATENT:
9,227,253
10,335,870



The XDEL4 RampMill has an improved differential pitch / differential helix design that reduces harmonic vibration and chatter. The XD4 can be used in applications from full slotting to light roughing, allowing for aggressive ramping and high material removal rates. Its patented end geometry and center through coolant option are ideal for pocketing applications in steel and exotic materials.

- The XD series end geometry allows ramp angles up to six degrees in steel and exotic metals.
- Truncated radius adds corner strength avoiding the wear points of a traditional radius.
- The center coolant hole delivers coolant or air, blasting chips away, eliminating re-cutting and dramatically increasing tool life.
- Designed to handle any roughing operation.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XD037548IBU3	T6	0	M	=	XD037548IBU3T60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	None	Center	MDC
0.375	4	0.500	0.750	2.500	XD037548IBU3	T6 (.030)	0	C	M
0.375	4	0.500	1.125	3.000	XD037548ID45				
0.375	4	0.500	1.500	3.000	XD037548IE65				
0.375	4	0.500	1.875	3.500	XD037548IF87				
0.375	4	0.500	2.125	4.000	XD037548IFW9				
0.375	4	0.500	2.500	4.000	XD037548IGS9				
0.375	4	0.500	3.125	5.000	XD037548II8E				
0.375	4	0.500	4.125	6.000	XD037548IKKI				
0.500	4	0.625	1.500	3.500	XD05004A6E67	TC (.060)	0	C	M
0.500	4	0.625	2.000	4.000	XD05004A6FK9				
0.500	4	0.625	2.250	4.000	XD05004A6G69				
0.500	4	0.625	2.625	5.000	XD05004A6H2E				
0.500	4	0.625	3.000	5.000	XD05004A6HYE				
0.500	4	0.625	3.375	5.000	XD05004A6IUE				
0.500	4	0.625	3.625	6.000	XD05004A6JEI				
0.500	4	0.625	4.125	6.000	XD05004A6KKI				
0.625	4	0.750	1.625	4.000	XD06254BUEI9	TC (.060)	0	C	M
0.625	4	0.750	2.000	4.000	XD06254BUFK9				
0.625	4	0.750	2.375	4.625	XD06254BUGGC				
0.625	4	0.750	3.000	5.000	XD06254BUHYE				
0.625	4	0.750	3.375	5.500	XD06254BUIUG				
0.625	4	0.750	3.750	6.000	XD06254BUJQI				
0.625	4	0.750	4.125	6.000	XD06254BUKKI				
0.625	4	0.750	5.000	7.000	XD06254BUMML				
0.750	4	1.000	2.000	4.000	XD07504CSFK9	TC (.060)	0	C	M
0.750	4	1.000	2.250	5.000	XD07504CSG6E				
0.750	4	1.000	2.625	5.000	XD07504CSH2E				
0.750	4	1.000	3.000	5.000	XD07504CSHYE				
0.750	4	1.000	3.375	6.000	XD07504CSIUI				
0.750	4	1.000	3.750	6.000	XD07504CSJQI				
0.750	4	1.000	4.125	6.000	XD07504CSKKI				
0.750	4	1.000	5.000	7.000	XD07504CSMML				
0.750	4	1.000	6.000	8.000	XD07504CSQ0P				

Non-standard lengths, diameters and radius sizes available upon request.

US PATENT:
9,227,253
10,335,870

XDEL4 SERIES -Continued-

Differential Pitch & Differential Helix
4FL Heavy Roughing Extreme RampMill Necked XL



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XD10004DGG6B	TC	0	M		XD10004DGG6BTC0M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	None	Center	MDC
1.000	4	1.250	2.250	4.500	XD10004DGG6B	TC (.060)	0	C	M
1.000	4	1.250	2.625	5.000	XD10004DGH2E				
1.000	4	1.250	3.000	5.500	XD10004DGHYG				
1.000	4	1.250	3.375	6.000	XD10004DGIUI				
1.000	4	1.250	3.750	6.000	XD10004DGJQI				
1.000	4	1.250	4.250	6.500	XD10004DGKWK				
1.000	4	1.250	4.750	7.000	XD10004DGM2L				
1.000	4	1.250	5.750	8.000	XD10004DGPEP				
1.000	4	1.250	6.750	9.000	XD10004DGRSR				

Non-standard lengths, diameters and radius sizes available upon request.

XT5 SERIES

5FL Extreme RampMill





US PATENT:
9,227,253
10,335,870

The XT5 RampMill allows aggressive ramping and high material removal rates when used with Controlled Radial Engagement / High Efficiency Milling cutter paths. Its patented end geometry and center through coolant option are ideal for pocketing applications in steel and exotic materials.

- Patent protected features engineered for High Efficiency Milling cutter paths allow the RampMill to outperform all other tools using this technology.
- RampMill's end geometry allows ramp angles up to five degrees in steel and exotic metals.
- RampMill's patented design handles the highest tool load.
- Truncated radius adds corner strength avoiding the wear points of a traditional radius.
- The center coolant hole delivers coolant or air, blasting chips away, eliminating re-cutting and dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XT018754E001	T3	0	M		XT018754E001T30M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

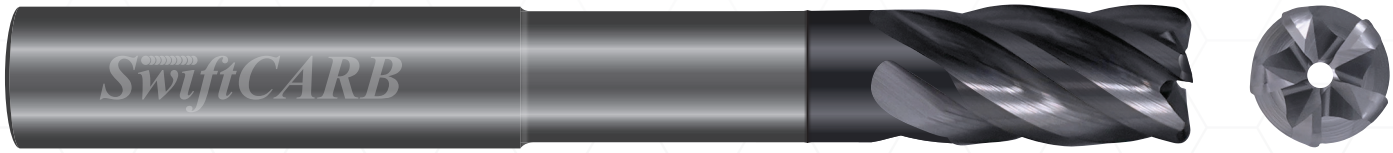
Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	None	Center	MDC
0.187	5	0.187	0	2.000	XT018754E001	T3 (.015)	0	C	M
0.187	5	0.281	0	2.000	XT018755M001				
0.187	5	0.375	0	2.000	XT018756W001				
0.250	5	0.250	0	2.000	XT0250558001	T6 (.030)	0	C	M
0.250	5	0.375	0	2.000	XT025056W001				
0.250	5	0.500	0	2.000	XT025058I001				
0.312	5	0.312	0	2.000	XT0312562001	T6 (.030)	0	C	M
0.312	5	0.468	0	2.000	XT0312584001				
0.312	5	0.625	0	2.000	XT03125A6001				
0.375	5	0.375	0	2.000	XT037556W001	T6 (.030)	0	C	M
0.375	5	0.562	0	2.500	XT037559C003				
0.375	5	0.750	0	2.500	XT03755BU003				
0.375	5	0.937	0	2.500	XT03755CI003				
0.375	5	1.125	0	3.000	XT03755D4005				
0.437	5	0.437	0	2.750	XT043757Q004	TC (.060)	0	C	M
0.437	5	0.656	0	2.750	XT04375AK004				
0.437	5	0.875	0	3.000	XT04375CA005				
0.437	5	1.100	0	3.000	XT04375D2005				
0.437	5	1.312	0	3.500	XT04375DM007				
0.500	5	0.500	0	2.500	XT050058I003	TC (.060)	0	C	M
0.500	5	0.750	0	3.000	XT05005BU005				
0.500	5	1.000	0	3.000	XT05005CS005				
0.500	5	1.250	0	3.000	XT05005DG005				
0.500	5	1.500	0	3.500	XT05005E6007				
0.625	5	0.625	0	3.000	XT06255A6005	TC (.060)	0	C	M
0.625	5	0.937	0	3.000	XT06255CI005				
0.625	5	1.250	0	3.500	XT06255DG007				
0.625	5	1.563	0	3.500	XT06255EC007				
0.625	5	1.875	0	4.000	XT06255F8009				
0.750	5	0.750	0	3.000	XT07505BU005	TC (.060)	0	C	M
0.750	5	1.125	0	3.000	XT07505D4005				
0.750	5	1.500	0	3.500	XT07505E6007				
0.750	5	1.875	0	4.000	XT07505F8009				
0.750	5	2.250	0	4.500	XT07505G600B				
1.000	5	1.000	0	3.500	XT10005CS007	TC (.060)	0	C	M
1.000	5	1.500	0	4.000	XT10005E6009				
1.000	5	2.000	0	4.500	XT10005FK00B				
1.000	5	2.500	0	5.000	XT10005GS00E				
1.000	5	3.000	0	5.500	XT10005HY00G				

Non-standard lengths, diameters and radius sizes available upon request.

US PATENT:
9,227,253
10,335,870

XTEL5 SERIES -Continued-

5FL Extreme RampMill Necked XL



The XTEL5 RampMill allows aggressive ramping and high material removal rates when used with Controlled Radial Engagement / High Efficiency Milling cutter paths. Its patented end geometry and center through coolant option are ideal for pocketing applications in steel and exotic materials.

- Patent protected features engineered for High Efficiency Milling cutter paths allow the RampMill to outperform all other tools using this technology.
- RampMill's end geometry allows ramp angles up to five degrees in steel and exotic metals.
- RampMill's patented design handles the highest tool load.
- Truncated radius adds corner strength avoiding the wear points of a traditional radius.
- The center coolant hole delivers coolant or air, blasting chips away, eliminating re-cutting and dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XT037559CBU3	T6	0	M		XT037559CBU3T60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	None	Center	MDC
0.375	5	0.562	0.750	2.500	XT037559CBU3	T6 (.030)	0	C	M
0.375	5	0.562	1.125	3.000	XT037559CD45				
0.375	5	0.562	1.500	3.000	XT037559CE65				
0.375	5	0.562	1.875	3.500	XT037559CF87				
0.375	5	0.562	2.125	4.000	XT037559CFW9				
0.375	5	0.375	2.500	4.000	XT037556WGS9				
0.375	5	0.375	3.125	5.000	XT037556WI8E				
0.375	5	0.375	4.125	6.000	XT037556WKKI				
0.500	5	0.750	1.500	3.500	XT05005BUE67	TC (.060)	0	C	M
0.500	5	0.750	2.000	4.000	XT05005BUFK9				
0.500	5	0.750	2.250	4.000	XT05005BUG69				
0.500	5	0.750	2.625	5.000	XT05005BUH2E				
0.500	5	0.500	3.000	5.000	XT050058IHYE				
0.500	5	0.500	3.375	5.000	XT050058IIUE				
0.500	5	0.500	3.625	6.000	XT050058IJEI				
0.500	5	0.500	4.125	6.000	XT050058IKKI				
0.625	5	0.937	1.625	4.000	XT06255CIEI9	TC (.060)	0	C	M
0.625	5	0.937	2.000	4.000	XT06255CIFK9				
0.625	5	0.937	2.375	4.625	XT06255CIGGC				
0.625	5	0.937	3.000	5.000	XT06255CIHYE				
0.625	5	0.937	3.375	6.000	XT06255CIIUI				
0.625	5	0.625	3.750	6.000	XT06255A6JQI				
0.625	5	0.625	4.125	6.000	XT06255A6KKI				
0.625	5	0.625	5.000	7.000	XT06255A6MML				
0.750	5	1.125	2.000	4.000	XT07505D4FK9	TC (.060)	0	C	M
0.750	5	1.125	2.250	5.000	XT07505D4G6E				
0.750	5	1.125	2.625	5.000	XT07505D4H2E				
0.750	5	1.125	3.000	5.000	XT07505D4HYE				
0.750	5	1.125	3.375	6.000	XT07505D4IUI				
0.750	5	1.125	3.750	6.000	XT07505D4JQI				
0.750	5	0.750	4.125	6.000	XT07505BUKKI				
0.750	5	0.750	5.000	7.000	XT07505BUMML				
0.750	5	0.750	6.000	8.000	XT07505BUQ0P				
1.000	5	1.500	2.250	4.500	XT10005E6G6B	TC (.060)	0	C	M
1.000	5	1.500	2.625	5.000	XT10005E6H2E				
1.000	5	1.500	3.000	5.500	XT10005E6HYG				
1.000	5	1.500	3.375	6.000	XT10005E6IUI				
1.000	5	1.500	3.750	6.000	XT10005E6JQI				
1.000	5	1.500	4.250	6.500	XT10005E6KWK				
1.000	5	1.000	4.750	7.000	XT10005CSM2L				
1.000	5	1.000	5.750	8.000	XT10005CSPEP				
1.000	5	1.000	6.750	9.000	XT10005CSRSR				

Non-standard lengths, diameters and radius sizes available upon request.

XT7 SERIES

7FL Extreme RampMill





US PATENT:
9,227,253
10,335,870

The XT7 RampMill allows aggressive ramping and high material removal rates when used with Controlled Radial Engagement / High Efficiency Milling cutter paths. Its patented end geometry and center through coolant option are ideal for pocketing applications in steel and exotic materials.

- Patent protected features engineered for High Efficiency Milling cutter paths allow the RampMill to outperform all other tools using this technology.
- RampMill's end geometry allows ramp angles up to five degrees in steel and exotic metals.
- RampMill's patented design handles the highest tool load.
- Truncated radius adds corner strength avoiding the wear points of a traditional radius.
- The center coolant hole delivers coolant or air, blasting chips away, eliminating re-cutting and dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XT018774E001	T3	0	M		XT018774E001T30M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

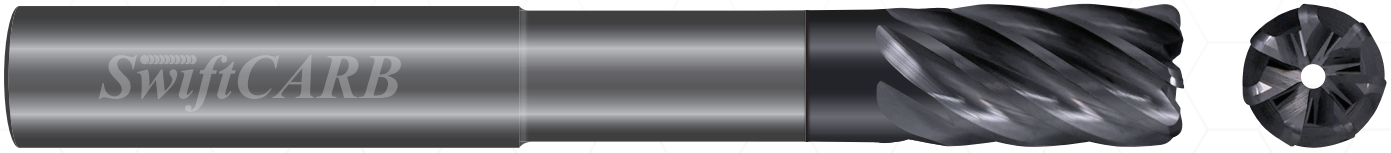
Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	None	Center	MDC
0.187	7	0.187	0	2.000	XT018774E001	T3 (.015)	0	C	M
0.187	7	0.281	0	2.000	XT018775M001				
0.187	7	0.375	0	2.000	XT018776W001				
0.250	7	0.250	0	2.000	XT0250758001	T6 (.030)	0	C	M
0.250	7	0.375	0	2.000	XT025076W001				
0.250	7	0.500	0	2.000	XT025078I001				
0.312	7	0.312	0	2.000	XT0312762001	T6 (.030)	0	C	M
0.312	7	0.468	0	2.000	XT0312784001				
0.312	7	0.625	0	2.000	XT03127A6001				
0.375	7	0.375	0	2.000	XT037576W001	T6 (.030)	0	C	M
0.375	7	0.562	0	2.500	XT037579C003				
0.375	7	0.750	0	2.500	XT03757BU003				
0.375	7	0.937	0	2.500	XT03757CI003				
0.437	7	0.437	0	2.750	XT043777Q004	TC (.060)	0	C	M
0.437	7	0.656	0	2.750	XT04377AK004				
0.437	7	0.875	0	3.000	XT04377CA005				
0.437	7	1.100	0	3.000	XT04377D2005				
0.500	7	0.500	0	2.500	XT050078I003	TC (.060)	0	C	M
0.500	7	0.750	0	3.000	XT05007BU005				
0.500	7	1.000	0	3.000	XT05007CS005				
0.500	7	1.250	0	3.000	XT05007DG005				
0.625	7	0.625	0	3.000	XT06257A6005	TC (.060)	0	C	M
0.625	7	0.937	0	3.000	XT06257CI005				
0.625	7	1.250	0	3.500	XT06257DG007				
0.625	7	1.563	0	3.500	XT06257EC007				
0.750	7	0.750	0	3.000	XT07507BU005	TC (.060)	0	C	M
0.750	7	1.125	0	3.000	XT07507D4005				
0.750	7	1.500	0	3.500	XT07507E6007				
0.750	7	1.875	0	4.000	XT07507F8009				
1.000	7	1.000	0	3.500	XT10007CS007	TC (.060)	0	C	M
1.000	7	1.500	0	4.000	XT10007E6009				
1.000	7	2.000	0	4.500	XT10007FK00B				
1.000	7	2.500	0	5.000	XT10007GS00E				

Non-standard lengths, diameters and radius sizes available upon request.

US PATENT:
9,227,253
10,335,870

XTEL7 SERIES

7FL Extreme RampMill Necked XL



The XTEL7 RampMill allows aggressive ramping and high material removal rates when used with Controlled Radial Engagement / High Efficiency Milling cutter paths. Its patented end geometry and center through coolant option are ideal for pocketing applications in steel and exotic materials.

- Patent protected features engineered for High Efficiency Milling cutter paths allow the RampMill to outperform all other tools using this technology.
- RampMill's end geometry allows ramp angles up to five degrees in steel and exotic metals.
- RampMill's patented design handles the highest tool load.
- Truncated radius adds corner strength avoiding the wear points of a traditional radius.
- The center coolant hole delivers coolant or air, blasting chips away, eliminating re-cutting and dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XT037579CBU3	T6	0	M		XT037579CBU3T60M

Start Here

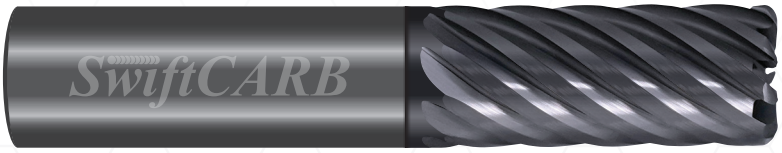
Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

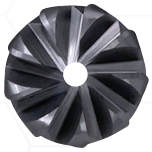
Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	Pick One None	Pick One Center	MDC
0.375	7	0.562	0.750	2.500	XT037579CBU3	T6 (.030)	0	C	M
0.375	7	0.562	1.125	3.000	XT037579CD45				
0.375	7	0.562	1.500	3.000	XT037579CE65				
0.375	7	0.562	1.875	3.500	XT037579CF87				
0.375	7	0.562	2.125	4.000	XT037579CFW9				
0.375	7	0.375	2.500	4.000	XT037576WGS9				
0.375	7	0.375	3.125	5.000	XT037576WI8E				
0.375	7	0.375	4.125	6.000	XT037576WKKI				
0.500	7	0.750	1.500	3.500	XT05007BUE67	TC (.060)	0	C	M
0.500	7	0.750	2.000	4.000	XT05007BUFK9				
0.500	7	0.750	2.250	4.000	XT05007BUG69				
0.500	7	0.750	2.625	5.000	XT05007BUH2E				
0.500	7	0.500	3.000	5.000	XT050078IHYE				
0.500	7	0.500	3.375	5.000	XT050078IIUE				
0.500	7	0.500	3.625	6.000	XT050078IJEI				
0.500	7	0.500	4.125	6.000	XT050078IKKI				
0.625	7	0.937	1.625	4.000	XT06257CIEI9	TC (.060)	0	C	M
0.625	7	0.937	2.000	4.000	XT06257CIFK9				
0.625	7	0.937	2.375	4.625	XT06257CIGGC				
0.625	7	0.937	3.000	5.000	XT06257CIHYE				
0.625	7	0.937	3.375	6.000	XT06257CIIUI				
0.625	7	0.625	3.750	6.000	XT06257A6JQI				
0.625	7	0.625	4.125	6.000	XT06257A6KKI				
0.625	7	0.625	5.000	7.000	XT06257A6MML				
0.750	7	1.125	2.000	4.000	XT07507D4FK9	TC (.060)	0	C	M
0.750	7	1.125	2.250	5.000	XT07507D4G6E				
0.750	7	1.125	2.625	5.000	XT07507D4H2E				
0.750	7	1.125	3.000	5.000	XT07507D4HYE				
0.750	7	1.125	3.375	6.000	XT07507D4IUI				
0.750	7	1.125	3.750	6.000	XT07507D4JQI				
0.750	7	0.750	4.125	6.000	XT07507BUKKI				
0.750	7	0.750	5.000	7.000	XT07507BUMML				
0.750	7	0.750	6.000	8.000	XT07507BUQ0P				
1.000	7	1.500	2.250	4.500	XT10007E6G6B	TC (.060)	0	C	M
1.000	7	1.500	2.625	5.000	XT10007E6H2E				
1.000	7	1.500	3.000	5.500	XT10007E6HYG				
1.000	7	1.500	3.375	6.000	XT10007E6IUI				
1.000	7	1.500	3.750	6.000	XT10007E6JQI				
1.000	7	1.500	4.250	6.500	XT10007E6KWK				
1.000	7	1.000	4.750	7.000	XT10007CSM2L				
1.000	7	1.000	5.750	8.000	XT10007CSPEP				
1.000	7	1.000	6.750	9.000	XT10007CSRSR				

Non-standard lengths, diameters and radius sizes available upon request.

XT9 SERIES

9FL Extreme RampMill





US PATENT:
9,227,253
10,335,870

The XT9 RampMill is designed for aggressive ramping and high material removal rates, particularly when paired with Controlled Radial Engagement (CRE) and High Efficiency Milling (HEM) cutter paths. Its patented end geometry and center-through coolant feature make it perfect for periphery and pocketing operations in steel and exotic materials, especially in applications with open internal corners and shallow depths of cut.

- Patent protected features engineered for High Efficiency Milling cutter paths allow the RampMill to outperform all other tools using this technology.
- RampMill's end geometry allows ramp angles up to three degrees in steel and exotic metals.
- RampMill's patented design handles the highest tool load.
- Truncated radius adds corner strength, avoiding the wear points of a traditional radius.
- The center coolant hole delivers coolant or air, blasting chips away, eliminating re-cutting and dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XT037596W001	T6	0	M		XT037596W001T60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

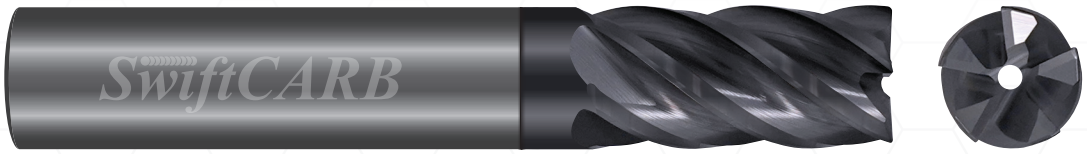
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	None	Center	MDC
0.375	9	0.375	0	2.000	XT037596W001	T6 (.030)	0	C	M
0.375	9	0.562	0	2.500	XT037599C003				
0.375	9	0.750	0	2.500	XT03759BU003				
0.437	9	0.437	0	2.750	XT043797Q004	TC (.060)	0	C	M
0.437	9	0.656	0	2.750	XT04379AK004				
0.437	9	0.875	0	3.000	XT04379CA005				
0.500	9	0.500	0	2.500	XT050098I003	TC (.060)	0	C	M
0.500	9	0.750	0	3.000	XT05009BU005				
0.500	9	1.000	0	3.000	XT05009CS005				
0.625	9	0.625	0	3.000	XT06259A6005	TC (.060)	0	C	M
0.625	9	0.937	0	3.000	XT06259CI005				
0.625	9	1.250	0	3.500	XT06259DG007				
0.750	9	0.750	0	3.000	XT07509BU005	TC (.060)	0	C	M
0.750	9	1.125	0	3.500	XT07509D4007				
0.750	9	1.500	0	3.500	XT07509E6007				
1.000	9	1.000	0	3.500	XT10009CS007	TC (.060)	0	C	M
1.000	9	1.500	0	4.000	XT10009E6009				
1.000	9	2.000	0	4.500	XT10009FK00B				

Non-standard lengths, diameters and radius sizes available upon request.

XM5 SERIES

5FL High Performance Finisher - Square or Radius



US PATENT:
9,227,253
10,335,870

The XM5 is a long lasting highly productive 5 flute designed for light roughing and finishing in steel and exotic materials. The 5 flute is the best choice for long length and parts with tight internal corners.

- Stronger core increases tool life and rigidity especially in extended lengths.
- Eccentric relief for superior cutting edge strength.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating providing unmatched heat and wear resistance and dramatically increased tool life.
- The center coolant hole delivers coolant or air, blasting chips away, eliminating re-cutting and dramatically increasing tool life.

For heavy roughing, see our 5D 5 flute on page 25.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XT018754E001	R6	0	M		XT018754E001R60M

Start Here

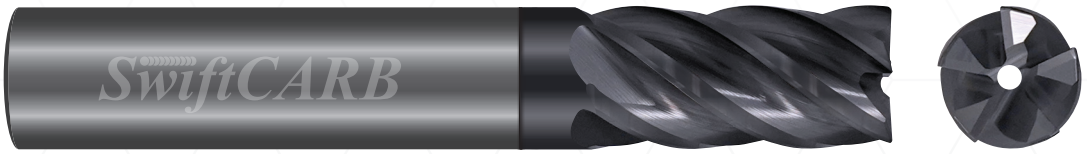
Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-					Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	Pick One None	Pick One Center	MDC
0.125	5	0.250	0	1.500	XM0125558000	S0	R3	R6			0		M
0.125	5	0.500	0	1.500	XM012558I000								
0.125	5	0.750	0	2.000	XM01255BU001								
0.156	5	0.312	0	2.000	XM0156562001	S0	R3	R6			0		M
0.156	5	0.437	0	2.000	XM015657Q001								
0.187	5	0.312	0	2.000	XM0187562001	S0	R3	R6			0	C	M
0.187	5	0.437	0	2.000	XM018757Q001								
0.187	5	0.562	0	2.500	XM018759C003								
0.187	5	0.750	0	2.500	XM01875BU003								
0.218	5	0.375	0	2.000	XM021856W001	S0	R3	R6			0	C	M
0.218	5	0.500	0	2.000	XM021858I001								
0.218	5	0.750	0	2.500	XM02185BU003								
0.250	5	0.375	0	2.000	XM025056W001	S0	R3	R6	RC		0	C	M
0.250	5	0.500	0	2.000	XM025058I001								
0.250	5	0.625	0	2.000	XM02505A6001								
0.250	5	0.750	0	2.500	XM02505BU003								
0.250	5	0.875	0	2.500	XM02505CA003								
0.250	5	1.000	0	2.500	XM02505CS003								
0.250	5	1.125	0	3.000	XM02505D4005								
0.250	5	1.250	0	3.000	XM02505DG005								
0.250	5	1.375	0	3.000	XM02505DU005								
0.250	5	1.500	0	3.000	XM02505E6005								
0.250	5	1.750	0	4.000	XM02505EW009						0		
0.281	5	0.437	0	2.000	XM028157Q001						0	C	
0.281	5	0.812	0	2.500	XM02815C2003								
0.312	5	0.437	0	2.000	XM031257Q001	S0	R3	R6	RC	RH	0	C	M
0.312	5	0.500	0	2.000	XM031258I001								
0.312	5	0.625	0	2.000	XM03125A6001								
0.312	5	0.812	0	2.500	XM03125C2003								
0.312	5	1.000	0	2.500	XM03125CS003								
0.312	5	1.250	0	3.000	XM03125DG005								
0.312	5	1.500	0	3.000	XM03125E6005								
0.312	5	1.750	0	3.500	XM03125EW007								
0.312	5	2.000	0	3.500	XM03125FK007								
0.312	5	2.125	0	4.000	XM03125FW009								
0.343	5	0.500	0	2.000	XM034358I001								
0.343	5	0.750	0	2.500	XM03435BU003								
0.343	5	1.000	0	2.500	XM03435CS003								
0.343	5	1.250	0	3.000	XM03435DG005								
0.343	5	1.500	0	3.500	XM03435E6007								

Non-standard lengths, diameters and radius sizes available upon request.

XM5 SERIES -Continued-

5FL High Performance Finisher - Square or Radius



US PATENT:
9,227,253
10,335,870

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XM037558I001	R6	0	M		XM037558I001R60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	Center	MDC
0.375	5	0.500	0	2.000	XM037558I001	S0	R3	R6	RC	RH	RL	RM				0	C	M
0.375	5	0.750	0	2.500	XM03755BU003													
0.375	5	1.000	0	2.500	XM03755CS003													
0.375	5	1.250	0	3.000	XM03755DG005													
0.375	5	1.500	0	3.500	XM03755E6007													
0.375	5	2.000	0	4.000	XM03755FK009													
0.375	5	2.250	0	4.000	XM03755G6009													
0.375	5	2.500	0	4.500	XM03755GS00B													
0.375	5	2.750	0	5.000	XM03755HC00E													
0.375	5	3.000	0	5.000	XM03755HY00E													
0.406	5	0.562	0	2.500	XM040659C003	S0	R3	R6	RC	RH	RL	RM				0	C	M
0.406	5	0.750	0	2.750	XM04065BU004													
0.406	5	1.000	0	2.750	XM04065CS004													
0.406	5	1.250	0	3.000	XM04065DG005													
0.406	5	1.500	0	4.000	XM04065E6009													
0.406	5	1.750	0	4.000	XM04065EW009													
0.406	5	2.000	0	4.000	XM04065FK009													
0.437	5	0.562	0	2.500	XM043759C003	S0	R3	R6	RC	RH	RL	RM	RN			0	C	M
0.437	5	0.750	0	3.000	XM04375BU005													
0.437	5	1.000	0	2.750	XM04375CS004													
0.437	5	1.250	0	3.000	XM04375DG005													
0.437	5	1.500	0	4.000	XM04375E6009													
0.437	5	1.750	0	4.000	XM04375EW009													
0.437	5	2.000	0	4.000	XM04375FK009													
0.437	5	2.250	0	4.000	XM04375G6009													
0.468	5	0.625	0	2.500	XM04685A6003	S0	R3	R6	RC	RH	RL	RM	RN			0	C	M
0.468	5	1.000	0	3.000	XM04685CS005													
0.468	5	1.250	0	3.000	XM04685DG005													
0.468	5	1.500	0	3.500	XM04685E6007													
0.468	5	1.750	0	4.000	XM04685EW009													
0.468	5	2.000	0	4.000	XM04685FK009													
0.468	5	2.500	0	5.000	XM04685GS00E													
0.500	5	0.625	0	2.500	XM05005A6003	S0	R3	R6	RC	RH	RL	RM	RN	RQ		0	C	M
0.500	5	1.000	0	3.000	XM05005CS005													
0.500	5	1.250	0	3.000	XM05005DG005													
0.500	5	1.625	0	3.500	XM05005EI007													
0.500	5	1.750	0	4.000	XM05005EW009													
0.500	5	2.000	0	4.000	XM05005FK009													
0.500	5	2.250	0	4.500	XM05005G600B													
0.500	5	2.500	0	4.500	XM05005GS00B													
0.500	5	2.750	0	5.000	XM05005HC00E													
0.500	5	3.000	0	5.000	XM05005HY00E													
0.500	5	3.125	0	5.000	XM05005I800E													
0.500	5	3.250	0	5.500	XM05005II00G													
0.500	5	3.500	0	5.500	XM05005J400G													
0.500	5	3.750	0	6.000	XM05005JQ00I													
0.500	5	4.000	0	6.000	XM05005KA00I													
0.562	5	1.000	0	3.000	XM05625CS005	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.562	5	1.500	0	3.500	XM05625E6007													
0.562	5	2.000	0	4.000	XM05625FK009													
0.562	5	3.000	0	5.000	XM05625HY00E													

Non-standard lengths, diameters and radius sizes available upon request.

XM5 SERIES -Continued-

5FL High Performance Finisher - Square or Radius





US PATENT:
9,227,253
10,335,870

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XM06255BU005	R6	0	M		XM06255BU005R60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant		Coating
					Series, Diameter, Flutes											Pick One		
DIA	#FL	LOC	LBS	OAL	LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	Center	MDC
0.625	5	0.750	0	3.000	XM06255BU005	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	C	M
0.625	5	1.250	0	3.500	XM06255DG007														
0.625	5	1.625	0	3.500	XM06255EI007														
0.625	5	2.000	0	4.000	XM06255FK009														
0.625	5	2.250	0	4.000	XM06255G6009														
0.625	5	2.500	0	4.500	XM06255GS00B														
0.625	5	3.000	0	5.000	XM06255HY00E														
0.625	5	3.375	0	5.500	XM06255IU00G														
0.625	5	3.750	0	6.000	XM06255JQ00I														
0.625	5	4.000	0	6.000	XM06255KA00I														
0.625	5	4.625	0	7.000	XM06255LS00L														
0.750	5	0.750	0	3.000	XM07505BU005	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	C	M
0.750	5	1.000	0	3.000	XM07505CS005														
0.750	5	1.250	0	3.500	XM07505DG007														
0.750	5	1.625	0	3.500	XM07505EI007														
0.750	5	1.875	0	4.000	XM07505F8009														
0.750	5	2.250	0	4.500	XM07505G600B														
0.750	5	2.500	0	4.500	XM07505GS00B														
0.750	5	2.875	0	5.000	XM07505HM00E														
0.750	5	3.250	0	5.000	XM07505II00E														
0.750	5	3.500	0	5.500	XM07505J400G														
0.750	5	4.000	0	6.000	XM07505KA00I														
0.750	5	4.375	0	6.500	XM07505L600K														
0.750	5	4.750	0	7.000	XM07505M200L														
0.875	5	2.000	0	4.000	XM08755FK009	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	C	M
0.875	5	3.000	0	5.000	XM08755HY00E														
0.875	5	3.750	0	6.000	XM08755JQ00I														
1.000	5	1.250	0	3.500	XM10005DG007	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	C	M
1.000	5	1.500	0	4.000	XM10005E6009														
1.000	5	2.000	0	4.500	XM10005FK00B														
1.000	5	2.375	0	5.000	XM10005GG00E														
1.000	5	2.750	0	5.500	XM10005HC00G														
1.000	5	3.250	0	5.500	XM10005II00G														
1.000	5	3.625	0	6.000	XM10005JE00I														
1.000	5	4.125	0	6.500	XM10005KK00K														
1.000	5	4.625	0	7.000	XM10005LS00L														
1.000	5	5.125	0	7.500	XM10005MY00N														
1.000	5	5.625	0	8.000	XM10005P400P														
1.250	5	2.000	0	4.500	XM12505FK00B	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	C	M
1.250	5	2.750	0	6.000	XM12505HC00I														
1.250	5	3.250	0	6.000	XM12505II00I														
1.250	5	4.000	0	7.000	XM12505KA00L														
1.250	5	4.500	0	7.000	XM12505LG00L														
1.250	5	5.000	0	7.500	XM12505MM00N														
1.250	5	6.000	0	9.000	XM12505Q000R														

Non-standard lengths, diameters and radius sizes available upon request.

XM7 SERIES

7FL High Performance Finisher - Square or Radius





US PATENT:
9,227,253
10,335,870

The XM7 is a long lasting, highly productive, 7 flute designed for light roughing and finishing in steel and exotic materials. The 7 flute is a great option for parts with open internal corners and periphery operations.

- Stronger core increases tool life and rigidity especially in extended lengths.
- Eccentric relief for superior cutting edge strength.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance, dramatically increasing tool life.
- The center coolant hole delivers coolant or air, blasting chips away, eliminating re-cutting and dramatically increasing tool life.

For heavy roughing, see our 5D 5 flute on page 33.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XM025076W001	R6	0	M		XM025076W001R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-					Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	None	Center	MDC
0.250	7	0.375	0	2.000	XM025076W001	S0	R3	R6	RC		0	C	M
0.250	7	0.500	0	2.000	XM025078I001								
0.250	7	0.750	0	2.500	XM02507BU003								
0.250	7	0.875	0	2.500	XM02507CA003								
0.250	7	1.000	0	2.500	XM02507CS003								
0.250	7	1.125	0	3.000	XM02507D4005								
0.250	7	1.250	0	3.000	XM02507DG005								
0.250	7	1.500	0	3.000	XM02507E6005								
0.250	7	1.750	0	4.000	XM02507EW009						0		
0.312	7	0.437	0	2.000	XM031277Q001	S0	R3	R6	RC		0	C	M
0.312	7	0.625	0	2.000	XM03127A6001								
0.312	7	0.812	0	2.500	XM03127C2003								
0.312	7	1.000	0	2.500	XM03127CS003								
0.312	7	1.375	0	3.000	XM03127DU005								
0.312	7	1.750	0	3.500	XM03127EW007								
0.312	7	2.000	0	3.500	XM03127FK007								
0.375	7	0.500	0	2.000	XM037578I001	S0	R3	R6	RC	RH	0	C	M
0.375	7	0.750	0	2.500	XM03757BU003								
0.375	7	1.000	0	2.500	XM03757CS003								
0.375	7	1.250	0	3.000	XM03757DG005								
0.375	7	1.500	0	3.500	XM03757E6007								
0.375	7	2.000	0	4.000	XM03757FK009								
0.375	7	2.250	0	4.000	XM03757G6009								
0.375	7	2.500	0	4.500	XM03757GS00B								
0.375	7	2.750	0	5.000	XM03757HC00E								
0.437	7	0.562	0	2.500	XM043779C003	S0	R3	R6	RC	RH	0	C	M
0.437	7	0.750	0	3.000	XM04377BU005								
0.437	7	1.000	0	2.750	XM04377CS004								
0.437	7	1.250	0	3.000	XM04377DG005								
0.437	7	1.500	0	4.000	XM04377E6009								
0.437	7	1.750	0	4.000	XM04377EW009								
0.437	7	2.000	0	4.000	XM04377FK009								
0.437	7	2.375	0	4.000	XM04377GG009								
0.437	7	2.750	0	4.000	XM04377HC009								

Non-standard lengths, diameters and radius sizes available upon request.

XM7 SERIES -Continued-

7FL High Performance Finisher - Square or Radius





US PATENT:
9,227,253
10,335,870

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XM05007BU005	R6	0	M		XM05007BU005R60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant		Coating
					Series, Diameter, Flutes											Pick One		
DIA	#FL	LOC	LBS	OAL	LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	Center	MDC
0.500	7	0.750	0	3.000	XM05007BU005		S0	R3	R6	RC	RH	RL	RM				0	C	M
0.500	7	1.000	0	3.000	XM05007CS005														
0.500	7	1.250	0	3.000	XM05007DG005														
0.500	7	1.625	0	3.500	XM05007EI007														
0.500	7	2.000	0	4.000	XM05007FK009														
0.500	7	2.375	0	5.000	XM05007GG00E														
0.500	7	2.750	0	5.000	XM05007HC00E														
0.500	7	3.000	0	5.000	XM05007HY00E														
0.500	7	3.250	0	5.500	XM05007II00G														
0.500	7	3.500	0	5.500	XM05007J400G														
0.562	7	1.000	0	3.000	XM05627CS005		S0	R3	R6	RC	RH	RL	RM				0	C	M
0.562	7	1.500	0	3.500	XM05627E6007														
0.562	7	2.000	0	4.000	XM05627FK009														
0.562	7	3.000	0	5.000	XM05627HY00E														
0.625	7	0.750	0	3.000	XM06257BU005		S0	R3	R6	RC	RH	RL	RM	RN	RQ		0	C	M
0.625	7	1.250	0	3.500	XM06257DG007														
0.625	7	1.625	0	3.500	XM06257EI007														
0.625	7	2.000	0	4.000	XM06257FK009														
0.625	7	2.625	0	5.000	XM06257H200E														
0.625	7	3.250	0	6.000	XM06257II00I														
0.625	7	3.750	0	6.000	XM06257JQ00I														
0.750	7	0.750	0	3.000	XM07507BU005		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.750	7	1.000	0	3.000	XM07507CS005														
0.750	7	1.250	0	3.500	XM07507DG007														
0.750	7	1.625	0	3.500	XM07507EI007														
0.750	7	2.250	0	4.500	XM07507G600B														
0.750	7	2.750	0	5.000	XM07507HC00E														
0.750	7	3.250	0	5.000	XM07507II00E														
0.750	7	3.750	0	6.000	XM07507JQ00I														
0.750	7	4.125	0	6.000	XM07507KK00I														
0.875	7	2.000	0	4.000	XM08757FK009		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.875	7	3.000	0	5.000	XM08757HY00E														
0.875	7	3.750	0	6.000	XM08757JQ00I														
1.000	7	1.250	0	3.500	XM10007DG007		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.000	7	1.625	0	4.000	XM10007EI009														
1.000	7	2.000	0	4.500	XM10007FK00B														
1.000	7	2.625	0	5.000	XM10007H200E														
1.000	7	3.250	0	5.500	XM10007II00G														
1.000	7	3.625	0	6.000	XM10007JE00I														
1.000	7	4.125	0	6.500	XM10007KK00K														
1.000	7	4.625	0	7.000	XM10007LS00L														
1.000	7	5.500	0	8.000	XM10007NU00P														
1.250	7	2.000	0	4.500	XM12507FK00B		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.250	7	2.750	0	6.000	XM12507HC00I														
1.250	7	3.250	0	6.000	XM12507II00I														
1.250	7	4.000	0	6.500	XM12507KA00K														
1.250	7	4.500	0	7.000	XM12507LG00L														
1.250	7	5.000	0	7.500	XM12507MM00N														
1.250	7	6.500	0	9.000	XM12507R600R														

Non-standard lengths, diameters and radius sizes available upon request.

XM9 SERIES

9FL High Performance Finisher - Square or Radius





US PATENT:
9,227,253
10,335,870

The XM9 is a long lasting highly productive 9 flute designed for light roughing and finishing in steel and exotic materials. The 9 flute is a great choice for short LOC in pockets with open corners and periphery operations.

- Stronger core increases tool life and rigidity, especially in extended lengths.
- Eccentric relief for superior cutting edge strength.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance, dramatically increasing tool life.
- The center coolant hole delivers coolant or air, blasting chips away, eliminating re-cutting and dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XM037598I001	R6	0	M		XM037598I001R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

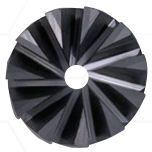
Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant		Coating
					Series, Diameter, Flutes										Pick One		
DIA	#FL	LOC	LBS	OAL	LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	None	Center	MDC
0.375	9	0.500	0	2.000	XM037598I001													
0.375	9	0.750	0	2.500	XM03759BU003													
0.375	9	1.000	0	2.500	XM03759CS003		S0	R3	R6	RC						0	C	M
0.375	9	1.250	0	3.000	XM03759DG005													
0.375	9	1.500	0	3.500	XM03759E6007													
0.437	9	0.562	0	2.500	XM043799C003													
0.437	9	0.750	0	3.000	XM04379BU005													
0.437	9	1.000	0	2.750	XM04379CS004		S0	R3	R6	RC						0	C	M
0.437	9	1.250	0	3.000	XM04379DG005													
0.437	9	1.500	0	4.000	XM04379E6009													
0.500	9	0.750	0	3.000	XM05009BU005													
0.500	9	1.000	0	3.000	XM05009CS005													
0.500	9	1.250	0	3.000	XM05009DG005		S0	R3	R6	RC	RH					0	C	M
0.500	9	1.625	0	3.500	XM05009EI007													
0.500	9	2.000	0	4.000	XM05009FK009													
0.625	9	0.750	0	3.000	XM06259BU005													
0.625	9	1.250	0	3.500	XM06259DG007		S0	R3	R6	RC	RH	RL				0	C	M
0.625	9	1.625	0	3.500	XM06259EI007													
0.625	9	2.000	0	4.000	XM06259FK009													
0.750	9	0.750	0	3.000	XM07509BU005													
0.750	9	1.000	0	3.000	XM07509CS005													
0.750	9	1.250	0	3.500	XM07509DG007		S0	R3	R6	RC	RH	RL	RM			0	C	M
0.750	9	1.625	0	3.500	XM07509EI007													
0.750	9	2.250	0	4.500	XM07509G600B													
0.750	9	2.750	0	5.000	XM07509HC00E													
0.875	9	2.000	0	4.000	XM08759FK009		S0	R3	R6	RC	RH	RL	RM	RN		0	C	M
1.000	9	1.250	0	3.500	XM10009DG007													
1.000	9	1.625	0	4.000	XM10009EI009													
1.000	9	2.000	0	4.500	XM10009FK00B													
1.000	9	2.625	0	5.000	XM10009H200E		S0	R3	R6	RC	RH	RL	RM	RN	RQ	0	C	M
1.000	9	3.250	0	5.500	XM10009II00G													
1.000	9	3.625	0	6.000	XM10009JE00I													
1.250	9	2.000	0	4.500	XM12509FK00B													
1.250	9	2.750	0	6.000	XM12509HC00I													
1.250	9	3.250	0	6.000	XM12509II00I													
1.250	9	4.000	0	6.500	XM12509KA00K		S0	R3	R6	RC	RH	RL	RM	RN	RQ	0	C	M
1.250	9	4.500	0	7.000	XM12509LG00L													
1.250	9	5.000	0	7.500	XM12509MM00N													

Non-standard lengths, diameters and radius sizes available upon request.

XM11 SERIES

11FL High Performance Finisher - Square or Radius





US PATENT:
9,227,253
10,335,870

The XM11 is a combination of our best substrate and coating to produce a long lasting highly productive 11 flute designed for light roughing and finishing in steel and exotic materials.

- Stronger core increases tool life and rigidity, especially in extended lengths.
- Eccentric relief for superior cutting edge strength.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance, dramatically increasing tool life.
- The center coolant hole delivers coolant or air, blasting chips away, eliminating re-cutting and dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
XM0500BBU005	R6	0	M		XM0500BBU005R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-								Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	.120	.125	.156	None	Center	MDC
0.500	11	0.750	0	3.000	XM0500BBU005	S0	R3	R6	RC					0	C	M
0.500	11	1.000	0	3.000	XM0500BCS005											
0.500	11	1.250	0	3.000	XM0500BDG005											
0.500	11	1.625	0	3.500	XM0500BEI007											
0.625	11	0.750	0	3.000	XM0625BBU005	S0	R3	R6	RC					0	C	M
0.625	11	1.250	0	3.500	XM0625BDG007											
0.625	11	1.625	0	3.500	XM0625BEI007											
0.625	11	2.000	0	4.000	XM0625BFK009											
0.750	11	0.750	0	3.000	XM0750BBU005	S0	R3	R6	RC	RH				0	C	M
0.750	11	1.000	0	3.000	XM0750BCS005											
0.750	11	1.250	0	3.500	XM0750BDG007											
0.750	11	1.625	0	3.500	XM0750BEI007											
0.750	11	2.250	0	4.500	XM0750BG600B											
0.875	11	2.000	0	4.000	XM0875BFK009	S0	R3	R6	RC	RH				0	C	M
1.000	11	1.250	0	3.500	XM1000BDG007	S0	R3	R6	RC	RH	RL	RM		0	C	M
1.000	11	1.625	0	4.000	XM1000BEI009											
1.000	11	2.000	0	4.500	XM1000BFK00B											
1.000	11	2.625	0	5.000	XM1000BH200E											
1.000	11	3.250	0	6.000	XM1000BII00I											
1.250	11	2.000	0	4.500	XM1250BFK00B	S0	R3	R6	RC	RH	RL	RM	RN	0	C	M
1.250	11	2.750	0	6.000	XM1250BHC00I											
1.250	11	3.250	0	6.000	XM1250BII00I											
1.250	11	4.000	0	6.500	XM1250BKA00K											

Non-standard lengths, diameters and radius sizes available upon request.

SD4 SERIES

Differential Pitch & Differential Helix
4FL Heavy Rougher - Square or Radius





US PATENT:
9,227,253
10,335,870

The SD4 has a differential pitch / differential helix design that reduces the harmonics that cause vibration and chatter. As a result, it can be used in steel, stainless and exotic metals for everything from full slotting to heavy roughing while still achieving a great finish. The SD4 is also a great choice for finishing in tight corners with a long LOC. The SD4 is highly versatile and delivers exceptional performance across a wide variety of applications.

- Moderate helix allows for both aggressive cutting and excellent finishes.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance while dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD0187462001	R6	0	M		SD0187462001R60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	.120	.125	.156	.187	None	Center	MDC
0.187	4	0.312	0	2.000	SD0187462001	S0	R3	R6	RC						0	C	M
0.187	4	0.500	0	2.000	SD018748I001												
0.187	4	0.625	0	2.500	SD01874A6003												
0.187	4	0.750	0	2.500	SD01874BU003												
0.187	4	1.000	0	3.000	SD01874CS005										0		
0.250	4	0.375	0	2.000	SD025046W001	S0	R3	R6	RC	RH					0	C	M
0.250	4	0.500	0	2.500	SD025048I003												
0.250	4	0.750	0	2.500	SD02504BU003												
0.250	4	1.000	0	3.000	SD02504CS005												
0.250	4	1.250	0	3.000	SD02504DG005												
0.312	4	0.437	0	2.000	SD031247Q001	S0	R3	R6	RC	RH	RL	RM			0	C	M
0.312	4	0.750	0	2.500	SD03124BU003												
0.312	4	1.000	0	3.000	SD03124CS005												
0.312	4	1.250	0	3.000	SD03124DG005												
0.312	4	1.750	0	3.500	SD03124EW007												
0.375	4	0.750	0	2.500	SD03754BU003	S0	R3	R6	RC	RH	RL	RM	RN		0	C	M
0.375	4	0.875	0	2.500	SD03754CA003												
0.375	4	1.000	0	3.000	SD03754CS005												
0.375	4	1.250	0	3.000	SD03754DG005												
0.375	4	1.500	0	3.500	SD03754E6007												
0.375	4	1.750	0	3.500	SD03754EW007												
0.375	4	2.000	0	4.000	SD03754FK009												
0.375	4	2.500	0	4.000	SD03754GS009												
0.437	4	0.500	0	2.500	SD043748I003	S0	R3	R6	RC	RH	RL	RM	RN	RQ	0	C	M
0.437	4	0.625	0	2.500	SD04374A6003												
0.437	4	0.875	0	3.000	SD04374CA005												
0.437	4	1.000	0	3.000	SD04374CS005												
0.437	4	1.250	0	3.000	SD04374DG005												
0.437	4	1.500	0	3.500	SD04374E6007												
0.437	4	1.750	0	4.000	SD04374EW009												
0.437	4	2.000	0	4.000	SD04374FK009												
0.437	4	3.000	0	5.000	SD04374HY00E												

Non-standard lengths, diameters and radius sizes available upon request.

SD4 SERIES -Continued-

Differential Pitch & Differential Helix
4FL Heavy Rougher - Square or Radius





US PATENT:
9,227,253
10,335,870

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD05004A6003	R6	0	M		SD05004A6003R60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

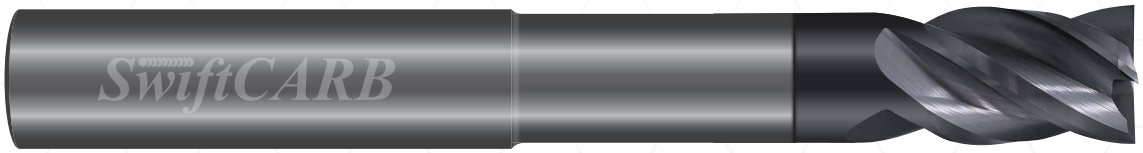
Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	Center	MDC
0.500	4	0.625	0	2.500	SD05004A6003														
0.500	4	1.000	0	3.000	SD05004CS005														
0.500	4	1.250	0	3.000	SD05004DG005														
0.500	4	1.500	0	3.500	SD05004E6007														
0.500	4	1.750	0	4.000	SD05004EW009		S0	R3	R6	RC	RH	RL	RM	RN	RQ		0	C	M
0.500	4	2.000	0	4.000	SD05004FK009														
0.500	4	2.250	0	4.000	SD05004G6009														
0.500	4	2.500	0	5.000	SD05004GS00E														
0.500	4	3.000	0	5.000	SD05004HY00E														
0.562	4	1.500	0	3.500	SD05624E6007														
0.562	4	2.000	0	4.000	SD05624FK009		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.562	4	3.000	0	5.000	SD05624HY00E														
0.625	4	0.750	0	3.000	SD06254BU005														
0.625	4	1.250	0	3.500	SD06254DG007														
0.625	4	1.625	0	3.500	SD06254EI007														
0.625	4	2.000	0	4.000	SD06254FK009														
0.625	4	2.250	0	5.000	SD06254G600E		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.625	4	2.500	0	5.000	SD06254GS00E														
0.625	4	3.000	0	5.000	SD06254HY00E														
0.625	4	3.250	0	6.000	SD06254II00I														
0.750	4	0.750	0	3.000	SD07504BU005														
0.750	4	1.000	0	3.500	SD07504CS007														
0.750	4	1.250	0	3.500	SD07504DG007														
0.750	4	1.500	0	3.500	SD07504E6007														
0.750	4	1.750	0	4.000	SD07504EW009														
0.750	4	2.250	0	5.000	SD07504G600E														
0.750	4	2.500	0	5.000	SD07504GS00E		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.750	4	2.750	0	5.000	SD07504HC00E														
0.750	4	3.000	0	5.000	SD07504HY00E														
0.750	4	3.250	0	6.000	SD07504II00I														
0.750	4	3.500	0	6.000	SD07504J400I														
0.750	4	4.000	0	6.000	SD07504KA00I														
0.750	4	4.500	0	7.000	SD07504LG00L														
1.000	4	1.500	0	4.000	SD10004E6009														
1.000	4	2.000	0	4.500	SD10004FK00B														
1.000	4	2.375	0	5.000	SD10004GG00E														
1.000	4	2.625	0	5.000	SD10004H200E														
1.000	4	3.000	0	6.000	SD10004HY00I		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.000	4	3.375	0	6.000	SD10004IU00I														
1.000	4	3.625	0	6.000	SD10004JE00I														
1.000	4	4.125	0	7.000	SD10004KK00L														
1.000	4	4.500	0	7.000	SD10004LG00L														
1.000	4	5.000	0	8.000	SD10004MM00P														
1.250	4	1.500	0	4.000	SD12504E6009														
1.250	4	2.250	0	4.500	SD12504G600B														
1.250	4	3.000	0	6.000	SD12504HY00I														
1.250	4	3.625	0	6.000	SD12504JE00I														
1.250	4	4.375	0	7.500	SD12504L600N		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.250	4	5.125	0	7.500	SD12504MY00N														
1.250	4	6.000	0	9.000	SD12504Q000R														
1.250	4	6.500	0	9.000	SD12504R600R														

Non-standard lengths, diameters and radius sizes available upon request.

SDEL4 SERIES

Differential Pitch & Differential Helix
4FL Extended Relief Rougher - Square or Radius

US PATENT:
9,227,253
10,335,870





The SDEL4 has a differential pitch / differential helix design that reduces the harmonics that cause vibration and chatter. As a result, it can be used in steel, stainless and exotic metals for everything from full slotting to heavy roughing while still achieving a great finish. The SDEL4 is also a great choice for finishing in tight corners with a long stick out requirement. The SDEL4 is highly versatile and delivers exceptional performance across a wide variety of applications.

- Moderate helix allows for both aggressive cutting and excellent finishes.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Blended neck relief reduces marks in step-down machining.
- Stocked with MDC coating, providing unmatched heat and wear resistance, dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD0187458BU3	R6	0	M		SD0187458BU3R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	.120	.125	.156	.187	None	Center	MDC
0.187	4	0.250	0.750	2.500	SD0187458BU3	S0	R3	R6	RC						0	C	M
0.187	4	0.250	1.000	2.500	SD0187458CS3												
0.187	4	0.250	1.250	3.000	SD0187458DG5												
0.187	4	0.250	1.500	3.000	SD0187458E65												
0.250	4	0.375	1.000	2.500	SD025046WCS3	S0	R3	R6	RC	RH					0	C	M
0.250	4	0.375	1.250	3.000	SD025046WDG5												
0.250	4	0.375	1.500	3.000	SD025046WE65												
0.250	4	0.375	2.000	3.500	SD025046WFK7												
0.250	4	0.375	2.500	4.000	SD025046WGS9												
0.312	4	0.437	1.000	2.500	SD031247QCS3	S0	R3	R6	RC	RH	RL	RM			0	C	M
0.312	4	0.437	1.250	3.000	SD031247QDG5												
0.312	4	0.437	1.500	3.000	SD031247QE65												
0.312	4	0.437	2.000	3.500	SD031247QFK7												
0.312	4	0.437	2.500	4.000	SD031247QGS9												
0.375	4	0.500	0.750	2.500	SD037548IBU3	S0	R3	R6	RC	RH	RL	RM	RN		0	C	M
0.375	4	0.500	1.125	3.000	SD037548ID45												
0.375	4	0.500	1.500	3.000	SD037548IE65												
0.375	4	0.500	1.875	3.500	SD037548IF87												
0.375	4	0.500	2.125	4.000	SD037548IFW9												
0.375	4	0.500	2.500	4.000	SD037548IGS9												
0.375	4	0.500	3.125	5.000	SD037548II8E												
0.375	4	0.500	4.125	6.000	SD037548IKKI												
0.500	4	0.625	1.500	3.500	SD05004A6E67	S0	R3	R6	RC	RH	RL	RM	RN	RQ	0	C	M
0.500	4	0.625	2.000	4.000	SD05004A6FK9												
0.500	4	0.625	2.250	4.000	SD05004A6G69												
0.500	4	0.625	2.625	5.000	SD05004A6H2E												
0.500	4	0.625	3.000	5.000	SD05004A6HYE												
0.500	4	0.625	3.375	5.000	SD05004A6IUE												
0.500	4	0.625	3.625	6.000	SD05004A6JEI												
0.500	4	0.625	4.125	6.000	SD05004A6KKI												

Non-standard lengths, diameters and radius sizes available upon request.

US PATENT:
9,227,253
10,335,870

SDEL4 SERIES -Continued-

Differential Pitch & Differential Helix
4FL Extended Relief Rougher - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD06254BUEI9	R6	0	M		SD06254BUEI9R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	Center	MDC
0.625	4	0.750	1.625	4.000	SD06254BUEI9	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	C	M
0.625	4	0.750	2.000	4.000	SD06254BUFK9														
0.625	4	0.750	2.375	4.625	SD06254BUGGC														
0.625	4	0.750	3.000	5.000	SD06254BUHYE														
0.625	4	0.750	3.375	6.000	SD06254BUIUI														
0.625	4	0.750	3.750	6.000	SD06254BUJQI														
0.625	4	0.750	4.125	6.000	SD06254BUKKI														
0.625	4	0.750	5.000	7.000	SD06254BUMML														
0.750	4	1.000	2.000	4.000	SD07504CSFK9	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	C	M
0.750	4	1.000	2.250	5.000	SD07504CSG6E														
0.750	4	1.000	2.625	5.000	SD07504CSH2E														
0.750	4	1.000	3.000	5.000	SD07504CSHYE														
0.750	4	1.000	3.375	6.000	SD07504CSIUI														
0.750	4	1.000	3.750	6.000	SD07504CSJQI														
0.750	4	1.000	4.125	6.000	SD07504CSKKI														
0.750	4	1.000	5.000	7.000	SD07504CSMML														
0.750	4	1.000	6.000	8.000	SD07504CSQ0P														
1.000	4	1.250	2.250	4.500	SD10004DGG6B	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	C	M
1.000	4	1.250	2.625	5.000	SD10004DGH2E														
1.000	4	1.250	3.000	5.500	SD10004DGHYG														
1.000	4	1.250	3.375	6.000	SD10004DGIUI														
1.000	4	1.250	3.750	6.000	SD10004DGJQI														
1.000	4	1.250	4.250	6.500	SD10004DGKWK														
1.000	4	1.250	4.750	7.000	SD10004DGM2L														
1.000	4	1.250	5.750	8.000	SD10004DGPEP														
1.000	4	1.250	6.750	9.000	SD10004DGRSR														

Non-standard lengths, diameters and radius sizes available upon request.

SD4 BALL SERIES

Differential Pitch & Differential Helix
4FL Heavy Rougher - Ball End



The SD4 Ball has a differential pitch / differential helix design that reduces the harmonics that cause vibration and chatter. As a result, it can be used in steel, stainless and exotic metals for everything from full slotting to heavy roughing while still achieving a great finish. The SD4 is also a great choice for finishing in tight corners with a long LOC. The SD4 is highly versatile and delivers exceptional performance across a wide variety of applications.

- Moderate helix allows for both aggressive cutting and excellent finishes.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance while dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD0187462001	B0	0	M		SD0187462001B00M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	MDC
0.187	4	0.312	0	2.000	SD0187462001	B0	0	M
0.187	4	0.500	0	2.000	SD018748I001			
0.187	4	0.625	0	2.500	SD01874A6003			
0.187	4	0.750	0	2.500	SD01874BU003			
0.187	4	1.000	0	3.000	SD01874CS005			
0.250	4	0.375	0	2.000	SD025046W001	B0	0	M
0.250	4	0.500	0	2.500	SD025048I003			
0.250	4	0.750	0	2.500	SD02504BU003			
0.250	4	1.000	0	3.000	SD02504CS005			
0.250	4	1.250	0	3.000	SD02504DG005			
0.312	4	0.437	0	2.000	SD031247Q001	B0	0	M
0.312	4	0.750	0	2.500	SD03124BU003			
0.312	4	1.000	0	3.000	SD03124CS005			
0.312	4	1.250	0	3.000	SD03124DG005			
0.312	4	1.750	0	3.500	SD03124EW007			
0.375	4	0.750	0	2.500	SD03754BU003	B0	0	M
0.375	4	0.875	0	2.500	SD03754CA003			
0.375	4	1.000	0	3.000	SD03754CS005			
0.375	4	1.250	0	3.000	SD03754DG005			
0.375	4	1.500	0	3.500	SD03754E6007			
0.375	4	1.750	0	3.500	SD03754EW007			
0.375	4	2.000	0	4.000	SD03754FK009			
0.375	4	2.500	0	4.000	SD03754GS009			
0.437	4	0.500	0	2.500	SD043748I003	B0	0	M
0.437	4	0.625	0	2.500	SD04374A6003			
0.437	4	0.875	0	3.000	SD04374CA005			
0.437	4	1.000	0	3.000	SD04374CS005			
0.437	4	1.250	0	3.000	SD04374DG005			
0.437	4	1.500	0	3.500	SD04374E6007			
0.437	4	1.750	0	4.000	SD04374EW009			
0.437	4	2.000	0	4.000	SD04374FK009			
0.437	4	3.000	0	5.000	SD04374HY00E			

Non-standard lengths, diameters and radius sizes available upon request.

SD4 BALL SERIES -Continued-

Differential Pitch & Differential Helix

4FL Heavy Rougher - Ball End



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD05004A6003	B0	0	M		SD05004A6003B00M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

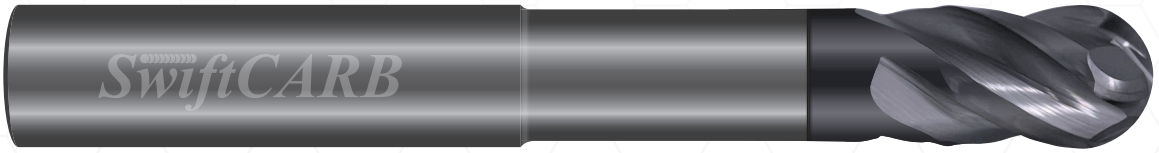
Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	MDC
0.500	4	0.625	0	2.500	SD05004A6003	B0	0	M
0.500	4	1.000	0	3.000	SD05004CS005			
0.500	4	1.250	0	3.000	SD05004DG005			
0.500	4	1.500	0	3.500	SD05004E6007			
0.500	4	1.750	0	4.000	SD05004EW009			
0.500	4	2.000	0	4.000	SD05004FK009			
0.500	4	2.250	0	4.000	SD05004G6009			
0.500	4	2.500	0	5.000	SD05004GS00E			
0.500	4	3.000	0	5.000	SD05004HY00E			
0.562	4	1.500	0	3.500	SD05624E6007	B0	0	M
0.562	4	2.000	0	4.000	SD05624FK009			
0.562	4	3.000	0	5.000	SD05624HY00E			
0.625	4	0.750	0	3.000	SD06254BU005	B0	0	M
0.625	4	1.250	0	3.500	SD06254DG007			
0.625	4	1.625	0	3.500	SD06254EI007			
0.625	4	2.000	0	4.000	SD06254FK009			
0.625	4	2.250	0	5.000	SD06254G600E			
0.625	4	2.500	0	5.000	SD06254GS00E			
0.625	4	3.000	0	5.000	SD06254HY00E			
0.625	4	3.250	0	6.000	SD06254II00I			
0.750	4	0.750	0	3.000	SD07504BU005	B0	0	M
0.750	4	1.000	0	3.500	SD07504CS007			
0.750	4	1.250	0	3.500	SD07504DG007			
0.750	4	1.500	0	3.500	SD07504E6007			
0.750	4	1.750	0	4.000	SD07504EW009			
0.750	4	2.250	0	5.000	SD07504G600E			
0.750	4	2.500	0	5.000	SD07504GS00E			
0.750	4	2.750	0	5.000	SD07504HC00E			
0.750	4	3.000	0	5.000	SD07504HY00E			
0.750	4	3.250	0	6.000	SD07504II00I			
0.750	4	3.500	0	6.000	SD07504J400I			
0.750	4	4.000	0	6.000	SD07504KA00I			
0.750	4	4.500	0	7.000	SD07504LG00L			
1.000	4	1.500	0	4.000	SD10004E6009	B0	0	M
1.000	4	2.000	0	4.500	SD10004FK00B			
1.000	4	2.375	0	5.000	SD10004GG00E			
1.000	4	2.625	0	5.000	SD10004H200E			
1.000	4	3.000	0	6.000	SD10004HY00I			
1.000	4	3.375	0	6.000	SD10004IU00I			
1.000	4	3.625	0	6.000	SD10004JE00I			
1.000	4	4.125	0	7.000	SD10004KK00L			
1.000	4	4.500	0	7.000	SD10004LG00L			
1.000	4	5.000	0	8.000	SD10004MM00P			
1.250	4	1.500	0	4.000	SD12504E6009	B0	0	M
1.250	4	2.250	0	4.500	SD12504G600B			
1.250	4	3.000	0	6.000	SD12504HY00I			
1.250	4	3.625	0	6.000	SD12504JE00I			
1.250	4	4.375	0	7.500	SD12504L600N			
1.250	4	5.125	0	7.500	SD12504MY00N			
1.250	4	6.000	0	9.000	SD12504Q000R			
1.250	4	6.500	0	9.000	SD12504R600R			

Non-standard lengths, diameters and radius sizes available upon request.

CALL 800-227-9876 FOR YOUR NEAREST DISTRIBUTOR

SDEL4 BALL SERIES

Differential Pitch & Differential Helix
4FL Extended Relief Rougher - Ball End



The SDEL4 Ball has a differential pitch / differential helix design that reduces the harmonics that cause vibration and chatter. As a result, it can be used in steel, stainless and exotic metals for everything from full slotting to heavy roughing while still achieving a great finish. The SDEL4 is also a great choice for finishing in tight corners with a long stick out requirement. The SDEL4 is highly versatile and delivers exceptional performance across a wide variety of applications.

- Moderate helix allows for both aggressive cutting and excellent finishes.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Blended neck relief reduces marks in step-down machining.
- Stocked with MDC coating, providing unmatched heat and wear resistance while dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD0187458BU3	B0	0	M		SD0187458BU3B00M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

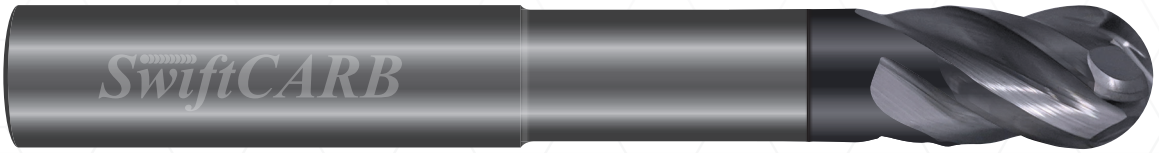
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	MDC
0.187	4	0.250	0.750	2.500	SD0187458BU3	B0	0	M
0.187	4	0.250	1.000	2.500	SD0187458CS3			
0.187	4	0.250	1.250	3.000	SD0187458DG5			
0.187	4	0.250	1.500	3.000	SD0187458E65			
0.250	4	0.375	1.000	2.500	SD025046WCS3	B0	0	M
0.250	4	0.375	1.250	3.000	SD025046WDG5			
0.250	4	0.375	1.500	3.000	SD025046WE65			
0.250	4	0.375	2.000	3.500	SD025046WFK7			
0.250	4	0.375	2.500	4.000	SD025046WGS9			
0.312	4	0.437	1.000	2.500	SD031247QCS3	B0	0	M
0.312	4	0.437	1.250	3.000	SD031247QDG5			
0.312	4	0.437	1.500	3.000	SD031247QE65			
0.312	4	0.437	2.000	3.500	SD031247QFK7			
0.312	4	0.437	2.500	4.000	SD031247QGS9			
0.375	4	0.500	0.750	2.500	SD037548IBU3	B0	0	M
0.375	4	0.500	1.125	3.000	SD037548ID45			
0.375	4	0.500	1.500	3.000	SD037548IE65			
0.375	4	0.500	1.875	3.500	SD037548IF87			
0.375	4	0.500	2.125	4.000	SD037548IFW9			
0.375	4	0.500	2.500	4.000	SD037548IGS9			
0.375	4	0.500	3.125	5.000	SD037548II8E			
0.375	4	0.500	4.125	6.000	SD037548IKKI			
0.500	4	0.625	1.500	3.500	SD05004A6E67	B0	0	M
0.500	4	0.625	2.000	4.000	SD05004A6FK9			
0.500	4	0.625	2.250	4.000	SD05004A6G69			
0.500	4	0.625	2.625	5.000	SD05004A6H2E			
0.500	4	0.625	3.000	5.000	SD05004A6HYE			
0.500	4	0.625	3.375	5.000	SD05004A6IUE			
0.500	4	0.625	3.625	6.000	SD05004A6JEI			
0.500	4	0.625	4.125	6.000	SD05004A6KKI			

Non-standard lengths, diameters and radius sizes available upon request.

SDEL4 BALL SERIES -Continued-

Differential Pitch & Differential Helix
4FL Extended Relief Rougher - Ball End



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD06254BUEI9	B0	0	M		SD06254BUEI9B00M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	MDC
0.625	4	0.750	1.625	4.000	SD06254BUEI9	B0	0	M
0.625	4	0.750	2.000	4.000	SD06254BUFK9			
0.625	4	0.750	2.375	4.625	SD06254BUGGC			
0.625	4	0.750	3.000	5.000	SD06254BUHYE			
0.625	4	0.750	3.375	6.000	SD06254BUIUI			
0.625	4	0.750	3.750	6.000	SD06254BUJQI			
0.625	4	0.750	4.125	6.000	SD06254BUKKI			
0.625	4	0.750	5.000	7.000	SD06254BUMML			
0.750	4	1.000	2.000	4.000	SD07504CSFK9	B0	0	M
0.750	4	1.000	2.250	5.000	SD07504CSG6E			
0.750	4	1.000	2.625	5.000	SD07504CSH2E			
0.750	4	1.000	3.000	5.000	SD07504CSHYE			
0.750	4	1.000	3.375	6.000	SD07504CSIUI			
0.750	4	1.000	3.750	6.000	SD07504CSJQI			
0.750	4	1.000	4.125	6.000	SD07504CSKKI			
0.750	4	1.000	5.000	7.000	SD07504CSMML			
0.750	4	1.000	6.000	8.000	SD07504CSQ0P			
1.000	4	1.250	2.250	4.500	SD10004DGG6B	B0	0	M
1.000	4	1.250	2.625	5.000	SD10004DGH2E			
1.000	4	1.250	3.000	5.500	SD10004DGHYG			
1.000	4	1.250	3.375	6.000	SD10004DGIUI			
1.000	4	1.250	3.750	6.000	SD10004DGJQI			
1.000	4	1.250	4.250	6.500	SD10004DGKWK			
1.000	4	1.250	4.750	7.000	SD10004DGM2L			
1.000	4	1.250	5.750	8.000	SD10004DGPEP			
1.000	4	1.250	6.750	9.000	SD10004DGRSR			

Non-standard lengths, diameters and radius sizes available upon request.

SD5 SERIES

Differential Pitch & Differential Helix

SFL Rougher - Square or Radius





US PATENT:
9,227,253
10,335,870

The SD5 has a differential pitch / differential helix design that reduces the harmonics that cause vibration and chatter. As a result, it can be used in steel, stainless and exotic metals for everything from roughing to finishing. The 5 flute is a great choice for long length of cut in pockets with tight internal corners.

- Moderate helix allows for both aggressive cutting and excellent finishes.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance while dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD025056W001	R6	0	M		SD025056W001R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	None	Center	MDC
0.250	5	0.375	0	2.000	SD025056W001													
0.250	5	0.500	0	2.500	SD025058I003													
0.250	5	0.750	0	2.500	SD02505BU003		S0	R3	R6	RC						0	C	M
0.250	5	1.000	0	3.000	SD02505CS005													
0.250	5	1.250	0	3.000	SD02505DG005													
0.312	5	0.437	0	2.000	SD031257Q001													
0.312	5	0.750	0	2.500	SD03125BU003													
0.312	5	1.000	0	3.000	SD03125CS005		S0	R3	R6	RC	RH					0	C	M
0.312	5	1.250	0	3.000	SD03125DG005													
0.312	5	1.750	0	3.500	SD03125EW007													
0.375	5	0.500	0	2.000	SD037558I001													
0.375	5	0.750	0	2.500	SD03755BU003													
0.375	5	0.875	0	2.500	SD03755CA003													
0.375	5	1.000	0	3.000	SD03755CS005													
0.375	5	1.250	0	3.000	SD03755DG005		S0	R3	R6	RC	RH	RL	RM			0	C	M
0.375	5	1.500	0	3.500	SD03755E6007													
0.375	5	1.750	0	3.500	SD03755EW007													
0.375	5	2.000	0	4.000	SD03755FK009													
0.375	5	2.500	0	4.000	SD03755GS009													
0.437	5	0.500	0	2.500	SD043758I003													
0.437	5	0.625	0	2.500	SD04375A6003													
0.437	5	0.875	0	3.000	SD04375CA005													
0.437	5	1.000	0	3.000	SD04375CS005													
0.437	5	1.250	0	3.000	SD04375DG005		S0	R3	R6	RC	RH	RL	RM	RN		0	C	M
0.437	5	1.500	0	3.500	SD04375E6007													
0.437	5	1.750	0	4.000	SD04375EW009													
0.437	5	2.000	0	4.000	SD04375FK009													
0.437	5	3.000	0	5.000	SD04375HY00E													
0.500	5	0.625	0	2.500	SD05005A6003													
0.500	5	1.000	0	3.000	SD05005CS005													
0.500	5	1.250	0	3.000	SD05005DG005													
0.500	5	1.500	0	3.500	SD05005E6007													
0.500	5	1.750	0	4.000	SD05005EW009		S0	R3	R6	RC	RH	RL	RM	RN	RQ	0	C	M
0.500	5	2.000	0	4.000	SD05005FK009													
0.500	5	2.250	0	4.000	SD05005G6009													
0.500	5	2.500	0	5.000	SD05005GS00E													
0.500	5	3.000	0	5.000	SD05005HY00E													

Non-standard lengths, diameters and radius sizes available upon request.

SD5 SERIES -Continued-

Differential Pitch & Differential Helix

SFL Rougher - Square or Radius





US PATENT:
9,227,253
10,335,870

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD05625E6007	R6	0	M		SD05625E6007R60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant		Coating
					Series, Diameter, Flutes	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	Pick One		
DIA	#FL	LOC	LBS	OAL	LOC, LBS & OAL												None	Center	MDC
0.562	5	1.500	0	3.500	SD05625E6007		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.562	5	2.000	0	4.000	SD05625FK009														
0.562	5	3.000	0	5.000	SD05625HY00E														
0.625	5	0.750	0	3.000	SD06255BU005		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.625	5	1.250	0	3.500	SD06255DG007														
0.625	5	1.625	0	3.500	SD06255EI007														
0.625	5	2.000	0	4.000	SD06255FK009														
0.625	5	2.250	0	5.000	SD06255G600E														
0.625	5	2.500	0	5.000	SD06255GS00E														
0.625	5	3.000	0	5.000	SD06255HY00E														
0.625	5	3.250	0	6.000	SD06255II00I														
0.750	5	0.750	0	3.000	SD07505BU005		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.750	5	1.000	0	3.500	SD07505CS007														
0.750	5	1.250	0	3.500	SD07505DG007														
0.750	5	1.500	0	3.500	SD07505E6007														
0.750	5	1.750	0	4.000	SD07505EW009														
0.750	5	2.250	0	5.000	SD07505G600E														
0.750	5	2.500	0	5.000	SD07505GS00E														
0.750	5	2.750	0	5.000	SD07505HC00E														
0.750	5	3.000	0	5.000	SD07505HY00E														
0.750	5	3.250	0	6.000	SD07505II00I														
0.750	5	3.500	0	6.000	SD07505J400I														
0.750	5	4.000	0	6.000	SD07505KA00I														
0.750	5	4.500	0	7.000	SD07505LG00L														
1.000	5	1.500	0	4.000	SD10005E6009		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.000	5	2.000	0	4.500	SD10005FK00B														
1.000	5	2.375	0	5.000	SD10005GG00E														
1.000	5	2.625	0	5.000	SD10005H200E														
1.000	5	3.000	0	6.000	SD10005HY00I														
1.000	5	3.375	0	6.000	SD10005IU00I														
1.000	5	3.625	0	6.000	SD10005JE00I														
1.000	5	4.125	0	7.000	SD10005KK00L														
1.000	5	4.500	0	7.000	SD10005LG00L														
1.000	5	5.000	0	8.000	SD10005MM00P														
1.250	5	1.500	0	4.000	SD12505E6009		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.250	5	2.250	0	4.500	SD12505G600B														
1.250	5	3.000	0	6.000	SD12505HY00I														
1.250	5	3.625	0	6.000	SD12505JE00I														
1.250	5	4.375	0	7.500	SD12505L600N														
1.250	5	5.125	0	7.500	SD12505MY00N														
1.250	5	6.000	0	9.000	SD12505Q000R														
1.250	5	6.500	0	9.000	SD12505R600R														

Non-standard lengths, diameters and radius sizes available upon request.

SDEL5 SERIES

Differential Pitch & Differential Helix

SFL Extended Relief Rougher - Square or Radius

US PATENT:
9,227,253
10,335,870



The SDEL5 has a differential pitch / differential helix design that reduces the harmonics that cause vibration and chatter. As a result, it can be used in steel, stainless and exotic metals for everything from roughing to finishing. The 5 flute is a great choice for long stick outs in pockets with tight internal corners.

- Moderate helix allows for both aggressive cutting and excellent finishes.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance while dramatically increasing tool life.
- Blended neck relief reduces marks in step-down machining.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD025056WCS3	R6	0	M		SD025056WCS3R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

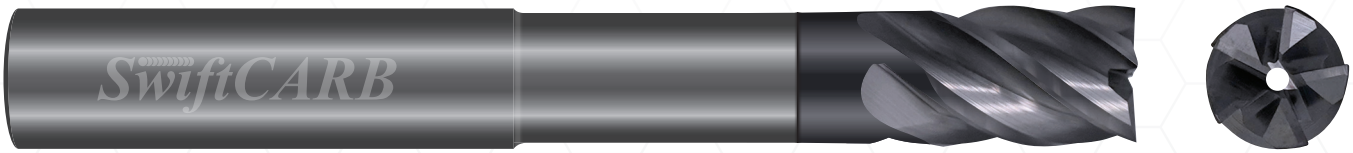
Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	None	Center	MDC
0.250	5	0.375	1.000	2.500	SD025056WCS3		S0	R3	R6	RC						0	C	M
0.250	5	0.375	1.250	3.000	SD025056WDG5													
0.250	5	0.375	1.500	3.000	SD025056WE65													
0.250	5	0.375	2.000	3.500	SD025056WFK7													
0.250	5	0.375	2.500	4.000	SD025056WGS9											0		
0.312	5	0.437	1.000	2.500	SD031257QCS3		S0	R3	R6	RC	RH					0	C	M
0.312	5	0.437	1.250	3.000	SD031257QDG5													
0.312	5	0.437	1.500	3.000	SD031257QE65													
0.312	5	0.437	2.000	3.500	SD031257QFK7													
0.312	5	0.437	2.500	4.000	SD031257QGS9													
0.375	5	0.500	1.125	3.000	SD037558ID45		S0	R3	R6	RC	RH	RL	RM			0	C	M
0.375	5	0.500	1.500	3.000	SD037558IE65													
0.375	5	0.500	1.875	3.500	SD037558IF87													
0.375	5	0.500	2.125	4.000	SD037558IFW9													
0.375	5	0.500	2.500	4.000	SD037558IGS9													
0.375	5	0.500	3.125	5.000	SD037558II8E													
0.375	5	0.500	4.125	6.000	SD037558IKKI													
0.500	5	0.625	1.500	3.500	SD05005A6E67		S0	R3	R6	RC	RH	RL	RM	RN	RQ	0	C	M
0.500	5	0.625	2.000	4.000	SD05005A6FK9													
0.500	5	0.625	2.250	4.000	SD05005A6G69													
0.500	5	0.625	2.625	5.000	SD05005A6H2E													
0.500	5	0.625	3.000	5.000	SD05005A6HYE													
0.500	5	0.625	3.375	5.000	SD05005A6IUE													
0.500	5	0.625	3.625	6.000	SD05005A6JEI													
0.500	5	0.625	4.125	6.000	SD05005A6KKI													

Non-standard lengths, diameters and radius sizes available upon request.

US PATENT:
9,227,253
10,335,870

SDEL5 SERIES -Continued-

Differential Pitch & Differential Helix
5FL Extended Relief Rougher - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD06255BUEI9	R6	0	M		SD06255BUEI9R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	Center	MDC
0.625	5	0.750	1.625	4.000	SD06255BUEI9	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.625	5	0.750	2.000	4.000	SD06255BUFK9														
0.625	5	0.750	2.375	4.625	SD06255BUGGC														
0.625	5	0.750	3.000	5.000	SD06255BUHYE														
0.625	5	0.750	3.375	6.000	SD06255BUIUI														
0.625	5	0.750	3.750	6.000	SD06255BUJQI														
0.625	5	0.750	4.125	6.000	SD06255BUKKI														
0.625	5	0.750	5.000	7.000	SD06255BUMML														
0.750	5	1.000	2.000	4.000	SD07505CSFK9	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.750	5	1.000	2.250	5.000	SD07505CSG6E														
0.750	5	1.000	2.625	5.000	SD07505CSH2E														
0.750	5	1.000	3.000	5.000	SD07505CSHYE														
0.750	5	1.000	3.375	6.000	SD07505CSIUI														
0.750	5	1.000	3.750	6.000	SD07505CSJQI														
0.750	5	1.000	4.125	6.000	SD07505CSKKI														
0.750	5	1.000	5.000	7.000	SD07505CSMML														
0.750	5	1.000	6.000	8.000	SD07505CSQ0P														
1.000	5	1.250	2.250	4.500	SD10005DGG6B	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.000	5	1.250	2.625	5.000	SD10005DGH2E														
1.000	5	1.250	3.000	5.500	SD10005DGHYG														
1.000	5	1.250	3.375	6.000	SD10005DGIUI														
1.000	5	1.250	3.750	6.000	SD10005DGJQI														
1.000	5	1.250	4.250	6.500	SD10005DGKWK														
1.000	5	1.250	4.750	7.000	SD10005DGM2L														
1.000	5	1.250	5.750	8.000	SD10005DGPEP														
1.000	5	1.250	6.750	9.000	SD10005DGRSR														

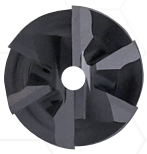
Non-standard lengths, diameters and radius sizes available upon request.

SD6 SERIES

Differential Pitch & Differential Helix

6FL Rougher - Square or Radius





US PATENT:
9,227,253
10,335,870

The SD6 has a differential pitch / differential helix design that reduces the harmonics that cause vibration and chatter. As a result, it can be used in steel, stainless and exotic metals for everything from roughing to finishing. The 6 flute is a great choice for machining pockets with tight internal corners and periphery operations.

- Moderate helix allows for both aggressive cutting and excellent finishes.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance while dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD025066W001	R6	0	M		SD025066W001R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-							Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	.120	.125	None	Center	MDC
0.250	6	0.375	0	2.000	SD025066W001	S0	R3	R6	RC	RH			0	C	M
0.250	6	0.500	0	2.500	SD025068I003										
0.250	6	0.750	0	2.500	SD02506BU003										
0.250	6	1.000	0	3.000	SD02506CS005										
0.250	6	1.250	0	3.000	SD02506DG005										
0.312	6	0.437	0	2.000	SD031267Q001	S0	R3	R6	RC	RH			0	C	M
0.312	6	0.750	0	2.500	SD03126BU003										
0.312	6	1.000	0	3.000	SD03126CS005										
0.312	6	1.250	0	3.000	SD03126DG005										
0.312	6	1.750	0	3.500	SD03126EW007										
0.375	6	0.500	0	2.000	SD037568I001	S0	R3	R6	RC	RH			0	C	M
0.375	6	0.750	0	2.500	SD03756BU003										
0.375	6	0.875	0	2.500	SD03756CA003										
0.375	6	1.000	0	3.000	SD03756CS005										
0.375	6	1.250	0	3.000	SD03756DG005										
0.375	6	1.500	0	3.500	SD03756E6007										
0.375	6	1.750	0	3.500	SD03756EW007										
0.375	6	2.000	0	4.000	SD03756FK009										
0.375	6	2.500	0	4.000	SD03756GS009										
0.437	6	0.500	0	2.500	SD043768I003	S0	R3	R6	RC	RH			0	C	M
0.437	6	0.625	0	2.500	SD04376A6003										
0.437	6	0.875	0	3.000	SD04376CA005										
0.437	6	1.000	0	3.000	SD04376CS005										
0.437	6	1.250	0	3.000	SD04376DG005										
0.437	6	1.500	0	3.500	SD04376E6007										
0.437	6	1.750	0	4.000	SD04376EW009										
0.437	6	2.000	0	4.000	SD04376FK009										
0.437	6	3.000	0	5.000	SD04376HY00E										
0.500	6	0.625	0	2.500	SD05006A6003	S0	R3	R6	RC	RH	RL	RM	0	C	M
0.500	6	1.000	0	3.000	SD05006CS005										
0.500	6	1.250	0	3.000	SD05006DG005										
0.500	6	1.500	0	3.500	SD05006E6007										
0.500	6	1.750	0	4.000	SD05006EW009										
0.500	6	2.000	0	4.000	SD05006FK009										
0.500	6	2.250	0	4.000	SD05006G6009										
0.500	6	2.500	0	5.000	SD05006GS00E										
0.500	6	3.000	0	5.000	SD05006HY00E										

Non-standard lengths, diameters and radius sizes available upon request.

SD6 SERIES -Continued-

Differential Pitch & Differential Helix
6FL Rougher - Square or Radius





US PATENT:
9,227,253
10,335,870

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD05626E6007	R6	0	M		SD05626E6007R60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

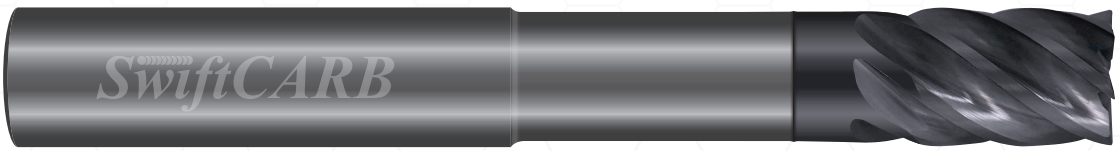
Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant		Coating
					Series, Diameter, Flutes										Pick One		
DIA	#FL	LOC	LBS	OAL	LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	Center	MDC
0.562	6	1.500	0	3.500	SD05626E6007		S0	R3	R6	RC	RH	RL	RM	RN	RQ		0		M
0.562	6	2.000	0	4.000	SD05626FK009														
0.562	6	3.000	0	5.000	SD05626HY00E														
0.625	6	0.750	0	3.000	SD06256BU005		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.625	6	1.250	0	3.500	SD06256DG007														
0.625	6	1.625	0	3.500	SD06256EI007														
0.625	6	2.000	0	4.000	SD06256FK009														
0.625	6	2.250	0	5.000	SD06256G600E														
0.625	6	2.500	0	5.000	SD06256GS00E														
0.625	6	3.000	0	5.000	SD06256HY00E														
0.625	6	3.250	0	6.000	SD06256II00I														
0.750	6	0.750	0	3.000	SD07506BU005		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.750	6	1.000	0	3.500	SD07506CS007														
0.750	6	1.250	0	3.500	SD07506DG007														
0.750	6	1.500	0	3.500	SD07506E6007														
0.750	6	1.750	0	4.000	SD07506EW009														
0.750	6	2.250	0	5.000	SD07506G600E														
0.750	6	2.500	0	5.000	SD07506GS00E														
0.750	6	2.750	0	5.000	SD07506HC00E														
0.750	6	3.000	0	5.000	SD07506HY00E														
0.750	6	3.250	0	6.000	SD07506II00I														
0.750	6	3.500	0	6.000	SD07506J400I														
0.750	6	4.000	0	6.000	SD07506KA00I														
0.750	6	4.500	0	7.000	SD07506LG00L														
1.000	6	1.500	0	4.000	SD10006E6009		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.000	6	2.000	0	4.500	SD10006FK00B														
1.000	6	2.375	0	5.000	SD10006GG00E														
1.000	6	2.625	0	5.000	SD10006H200E														
1.000	6	3.000	0	6.000	SD10006HY00I														
1.000	6	3.375	0	6.000	SD10006IU00I														
1.000	6	3.625	0	6.000	SD10006JE00I														
1.000	6	4.125	0	7.000	SD10006KK00L														
1.000	6	4.500	0	7.000	SD10006LG00L														
1.000	6	5.000	0	8.000	SD10006MM00P														
1.250	6	1.500	0	4.000	SD12506E6009		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.250	6	2.250	0	4.500	SD12506G600B														
1.250	6	3.000	0	6.000	SD12506HY00I														
1.250	6	3.625	0	6.000	SD12506JE00I														
1.250	6	4.375	0	7.500	SD12506L600N														
1.250	6	5.125	0	7.500	SD12506MY00N														
1.250	6	6.000	0	9.000	SD12506Q000R														
1.250	6	6.500	0	9.000	SD12506R600R														

Non-standard lengths, diameters and radius sizes available upon request.

SDEL6 SERIES

Differential Pitch & Differential Helix
6FL Extended Relief Rougher - Square or Radius

US PATENT:
9,227,253
10,335,870





The SDEL6 has a differential pitch / differential helix design that reduces the harmonics that cause vibration and chatter. As a result, it can be used in steel, stainless and exotic metals for everything from roughing to finishing. The 6 flute is a great choice for machining pockets with tight internal corners and periphery operations.

- Moderate helix allows for both aggressive cutting and excellent finishes.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance while dramatically increasing tool life.
- Blended neck relief reduces marks in step-down machining.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD025066WCS3	R6	0	M		SD025066WCS3R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-							Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	.120	.125	None	Center	MDC
0.250	6	0.375	1.000	2.500	SD025066WCS3	S0	R3	R6	RC	RH			0	C	M
0.250	6	0.375	1.250	3.000	SD025066WDG5										
0.250	6	0.375	1.500	3.000	SD025066WE65										
0.250	6	0.375	2.000	3.500	SD025066WFK7								0		
0.250	6	0.375	2.500	4.000	SD025066WGS9										
0.312	6	0.437	1.000	2.500	SD031267QCS3	S0	R3	R6	RC	RH			0	C	M
0.312	6	0.437	1.250	3.000	SD031267QDG5										
0.312	6	0.437	1.500	3.000	SD031267QE65										
0.312	6	0.437	2.000	3.500	SD031267QFK7										
0.312	6	0.437	2.500	4.000	SD031267QGS9										
0.375	6	0.500	1.125	3.000	SD037568ID45	S0	R3	R6	RC	RH			0	C	M
0.375	6	0.500	1.500	3.000	SD037568IE65										
0.375	6	0.500	1.875	3.500	SD037568IF87										
0.375	6	0.500	2.125	4.000	SD037568IFW9										
0.375	6	0.500	2.500	4.000	SD037568IGS9										
0.375	6	0.500	3.125	5.000	SD037568II8E										
0.375	6	0.500	4.125	6.000	SD037568IKKI										
0.500	6	0.625	1.500	3.500	SD05006A6E67	S0	R3	R6	RC	RH	RL	RM	0	C	M
0.500	6	0.625	2.000	4.000	SD05006A6FK9										
0.500	6	0.625	2.250	4.000	SD05006A6G69										
0.500	6	0.625	2.625	5.000	SD05006A6H2E										
0.500	6	0.625	3.000	5.000	SD05006A6HYE										
0.500	6	0.625	3.375	5.000	SD05006A6IUE										
0.500	6	0.625	3.625	6.000	SD05006A6JEI										
0.500	6	0.625	4.125	6.000	SD05006A6KKI										

Non-standard lengths, diameters and radius sizes available upon request.

US PATENT:
9,227,253
10,335,870

SDEL6 SERIES -Continued-

Differential Pitch & Differential Helix
6FL Extended Relief Rougher - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD06256BUEI9	R6	0	M		SD06256BUEI9R60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	Pick One None	Pick One Center	MDC
0.625	6	0.750	1.625	4.000	SD06256BUEI9	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	C	M
0.625	6	0.750	2.000	4.000	SD06256BUFK9														
0.625	6	0.750	2.375	4.625	SD06256BUGGC														
0.625	6	0.750	3.000	5.000	SD06256BUHYE														
0.625	6	0.750	3.375	6.000	SD06256BUIUI														
0.625	6	0.750	3.750	6.000	SD06256BUJQI														
0.625	6	0.750	4.125	6.000	SD06256BUKKI														
0.625	6	0.750	5.000	7.000	SD06256BUMML														
0.750	6	1.000	2.000	4.000	SD07506CSFK9	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	C	M
0.750	6	1.000	2.250	5.000	SD07506CSG6E														
0.750	6	1.000	2.625	5.000	SD07506CSH2E														
0.750	6	1.000	3.000	5.000	SD07506CSHYE														
0.750	6	1.000	3.375	6.000	SD07506CSIUI														
0.750	6	1.000	3.750	6.000	SD07506CSJQI														
0.750	6	1.000	4.125	6.000	SD07506CSKKI														
0.750	6	1.000	5.000	7.000	SD07506CSMML														
0.750	6	1.000	6.000	8.000	SD07506CSQ0P														
1.000	6	1.250	2.250	4.500	SD10006DGG6B	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	C	M
1.000	6	1.250	2.625	5.000	SD10006DGH2E														
1.000	6	1.250	3.000	5.500	SD10006DGHYG														
1.000	6	1.250	3.375	6.000	SD10006DGIUI														
1.000	6	1.250	3.750	6.000	SD10006DGJQI														
1.000	6	1.250	4.250	6.500	SD10006DGKWK														
1.000	6	1.250	4.750	7.000	SD10006DGM2L														
1.000	6	1.250	5.750	8.000	SD10006DGPEP														
1.000	6	1.250	6.750	9.000	SD10006DGRSR														

Non-standard lengths, diameters and radius sizes available upon request.

SD7 SERIES

Differential Pitch & Differential Helix

7FL Rougher - Square or Radius





US PATENT:
9,227,253
10,335,870

The SD7 has a differential pitch / differential helix design that reduces the harmonics that cause vibration and chatter. As a result, it can be used in steel, stainless and exotic metals for everything from roughing to finishing. The 7-flute design is an excellent choice for pocketing with open corners and periphery operations, offering optimal performance in both.

- Moderate helix allows for both aggressive cutting and excellent finishes.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance while dramatically increasing tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD025057W001	R6	0	M		SD025057W001R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-							Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	.120	.125	None	Center	MDC
0.250	7	0.375	0	2.000	SD025057W001	S0	R3	R6	RC				0	C	M
0.250	7	0.500	0	2.500	SD025078I003										
0.250	7	0.750	0	2.500	SD02507BU003										
0.250	7	1.000	0	3.000	SD02507CS005										
0.250	7	1.250	0	3.000	SD02507DG005										
0.312	7	0.437	0	2.000	SD031277Q001	S0	R3	R6	RC				0	C	M
0.312	7	0.750	0	2.500	SD03127BU003										
0.312	7	1.000	0	3.000	SD03127CS005										
0.312	7	1.250	0	3.000	SD03127DG005										
0.312	7	1.750	0	3.500	SD03127EW007										
0.375	7	0.500	0	2.000	SD037578I001	S0	R3	R6	RC	RH			0	C	M
0.375	7	0.750	0	2.500	SD03757BU003										
0.375	7	0.875	0	2.500	SD03757CA003										
0.375	7	1.000	0	3.000	SD03757CS005										
0.375	7	1.250	0	3.000	SD03757DG005										
0.375	7	1.500	0	3.500	SD03757E6007										
0.375	7	1.750	0	3.500	SD03757EW007										
0.375	7	2.000	0	4.000	SD03757FK009										
0.375	7	2.500	0	4.000	SD03757GS009										
0.437	7	0.500	0	2.500	SD043778I003	S0	R3	R6	RC	RH			0	C	M
0.437	7	0.625	0	2.500	SD04377A6003										
0.437	7	0.875	0	3.000	SD04377CA005										
0.437	7	1.000	0	3.000	SD04377CS005										
0.437	7	1.250	0	3.000	SD04377DG005										
0.437	7	1.500	0	3.500	SD04377E6007										
0.437	7	1.750	0	4.000	SD04377EW009										
0.437	7	2.000	0	4.000	SD04377FK009										
0.437	7	3.000	0	5.000	SD04377HY00E										
0.500	7	0.625	0	2.500	SD05007A6003	S0	R3	R6	RC	RH	RL	RM	0	C	M
0.500	7	1.000	0	3.000	SD05007CS005										
0.500	7	1.250	0	3.000	SD05007DG005										
0.500	7	1.500	0	3.500	SD05007E6007										
0.500	7	1.750	0	4.000	SD05007EW009										
0.500	7	2.000	0	4.000	SD05007FK009										
0.500	7	2.250	0	4.000	SD05007G6009										
0.500	7	2.500	0	5.000	SD05007GS00E										
0.500	7	3.000	0	5.000	SD05007HY00E										

Non-standard lengths, diameters and radius sizes available upon request.

SD7 SERIES -Continued-

Differential Pitch & Differential Helix
7FL Rougher - Square or Radius





US PATENT:
9,227,253
10,335,870

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD05627E6007	R6	0	M		SD05627E6007R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

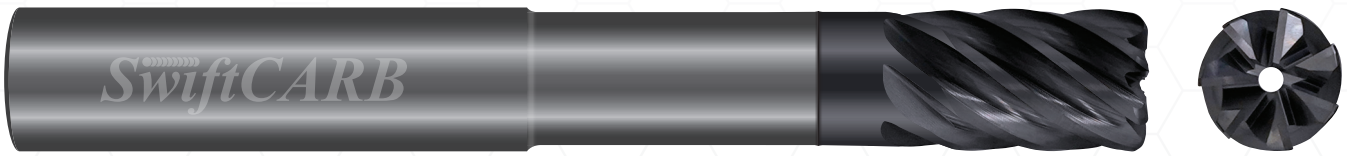
Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	Pick One None	Pick One Center	MDC
0.562	7	1.500	0	3.500	SD05627E6007		S0	R3	R6	RC	RH	RL	RM				0		M
0.562	7	2.000	0	4.000	SD05627FK009														
0.562	7	3.000	0	5.000	SD05627HY00E														
0.625	7	0.750	0	3.000	SD06257BU005		S0	R3	R6	RC	RH	RL	RM	RN	RQ		0	C	M
0.625	7	1.250	0	3.500	SD06257DG007														
0.625	7	1.625	0	3.500	SD06257EI007														
0.625	7	2.000	0	4.000	SD06257FK009														
0.625	7	2.250	0	5.000	SD06257G600E														
0.625	7	2.500	0	5.000	SD06257GS00E														
0.625	7	3.000	0	5.000	SD06257HY00E														
0.625	7	3.250	0	6.000	SD06257II00I														
0.750	7	0.750	0	3.000	SD07507BU005		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.750	7	1.000	0	3.500	SD07507CS007														
0.750	7	1.250	0	3.500	SD07507DG007														
0.750	7	1.500	0	3.500	SD07507E6007														
0.750	7	1.750	0	4.000	SD07507EW009														
0.750	7	2.250	0	5.000	SD07507G600E														
0.750	7	2.500	0	5.000	SD07507GS00E														
0.750	7	2.750	0	5.000	SD07507HC00E														
0.750	7	3.000	0	5.000	SD07507HY00E														
0.750	7	3.250	0	6.000	SD07507II00I														
0.750	7	3.500	0	6.000	SD07507J400I														
0.750	7	4.000	0	6.000	SD07507KA00I														
0.750	7	4.500	0	7.000	SD07507LG00L														
1.000	7	1.500	0	4.000	SD10007E6009		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.000	7	2.000	0	4.500	SD10007FK00B														
1.000	7	2.375	0	5.000	SD10007GG00E														
1.000	7	2.625	0	5.000	SD10007H200E														
1.000	7	3.000	0	6.000	SD10007HY00I														
1.000	7	3.375	0	6.000	SD10007IU00I														
1.000	7	3.625	0	6.000	SD10007JE00I														
1.000	7	4.125	0	7.000	SD10007KK00L														
1.000	7	4.500	0	7.000	SD10007LG00L														
1.000	7	5.000	0	8.000	SD10007MM00P														
1.250	7	1.500	0	4.000	SD12507E6009		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.250	7	2.250	0	4.500	SD12507G600B														
1.250	7	3.000	0	6.000	SD12507HY00I														
1.250	7	3.625	0	6.000	SD12507JE00I														
1.250	7	4.375	0	7.500	SD12507L600N														
1.250	7	5.125	0	7.500	SD12507MY00N														
1.250	7	6.000	0	9.000	SD12507Q000R														
1.250	7	6.500	0	9.000	SD12507R600R														

Non-standard lengths, diameters and radius sizes available upon request.

SDEL7 SERIES

Differential Pitch & Differential Helix
7FL Extended Relief Rougher - Square or Radius

US PATENT:
9,227,253
10,335,870



The SDEL7 has a differential pitch / differential helix design that reduces the harmonics that cause vibration and chatter. As a result, it can be used in steel, stainless and exotic metals for everything from roughing to finishing. The 7-flute design is an excellent choice for pocketing with open corners and periphery operations, offering optimal performance in both.

- Moderate helix allows for both aggressive cutting and excellent finishes.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance while dramatically increasing tool life.
- Blended neck relief reduces marks in step-down machining.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD025076WCS3	R6	0	M		SD025076WCS3R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-							Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	.120	.125	None	Center	MDC
0.250	7	0.375	1.000	2.500	SD025076WCS3	S0	R3	R6	RC				0	C	M
0.250	7	0.375	1.250	3.000	SD025076WDG5										
0.250	7	0.375	1.500	3.000	SD025076WE65										
0.250	7	0.375	2.000	3.500	SD025076WFK7								0		
0.250	7	0.375	2.500	4.000	SD025076WGS9										
0.312	7	0.437	1.000	2.500	SD031277QCS3	S0	R3	R6	RC				0	C	M
0.312	7	0.437	1.250	3.000	SD031277QDG5										
0.312	7	0.437	1.500	3.000	SD031277QE65										
0.312	7	0.437	2.000	3.500	SD031277QFK7										
0.312	7	0.437	2.500	4.000	SD031277QGS9										
0.375	7	0.500	0.750	2.500	SD037578IBU3	S0	R3	R6	RC	RH			0	C	M
0.375	7	0.500	1.125	3.000	SD037578ID45										
0.375	7	0.500	1.500	3.000	SD037578IE65										
0.375	7	0.500	1.875	3.500	SD037578IF87										
0.375	7	0.500	2.125	4.000	SD037578IFW9										
0.375	7	0.500	2.500	4.000	SD037578IGS9										
0.375	7	0.500	3.125	5.000	SD037578II8E										
0.375	7	0.500	4.125	6.000	SD037578IKKI										
0.500	7	0.625	1.500	3.500	SD05007A6E67	S0	R3	R6	RC	RH	RL	RM	0	C	M
0.500	7	0.625	2.000	4.000	SD05007A6FK9										
0.500	7	0.625	2.250	4.000	SD05007A6G69										
0.500	7	0.625	2.625	5.000	SD05007A6H2E										
0.500	7	0.625	3.000	5.000	SD05007A6HYE										
0.500	7	0.625	3.375	5.000	SD05007A6IUE										
0.500	7	0.625	3.625	6.000	SD05007A6JEI										
0.500	7	0.625	4.125	6.000	SD05007A6KKI										

Non-standard lengths, diameters and radius sizes available upon request.

US PATENT:
9,227,253
10,335,870

SDEL7 SERIES -Continued-

Differential Pitch & Differential Helix
7FL Extended Relief Rougher - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SD06257BUEI9	R6	0	M		SD06257BUEI9R60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	Pick One None	Pick One Center	MDC
0.625	7	0.750	1.625	4.000	SD06257BUEI9		S0	R3	R6	RC	RH	RL	RM	RN	RQ		0	C	M
0.625	7	0.750	2.000	4.000	SD06257BUFK9														
0.625	7	0.750	2.375	4.625	SD06257BUGGC														
0.625	7	0.750	3.000	5.000	SD06257BUHYE														
0.625	7	0.750	3.375	6.000	SD06257BUIUI														
0.625	7	0.750	3.750	6.000	SD06257BUJQI														
0.625	7	0.750	4.125	6.000	SD06257BUKKI														
0.625	7	0.750	5.000	7.000	SD06257BUMML														
0.750	7	1.000	2.000	4.000	SD07507CSFK9		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
0.750	7	1.000	2.250	5.000	SD07507CSG6E														
0.750	7	1.000	2.625	5.000	SD07507CSH2E														
0.750	7	1.000	3.000	5.000	SD07507CSHYE														
0.750	7	1.000	3.375	6.000	SD07507CSIUI														
0.750	7	1.000	3.750	6.000	SD07507CSJQI														
0.750	7	1.000	4.125	6.000	SD07507CSKKI														
0.750	7	1.000	5.000	7.000	SD07507CSMML														
0.750	7	1.000	6.000	8.000	SD07507CSQ0P														
1.000	7	1.250	2.250	4.500	SD10007DGG6B		S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	M
1.000	7	1.250	2.625	5.000	SD10007DGH2E														
1.000	7	1.250	3.000	5.500	SD10007DGHYG														
1.000	7	1.250	3.375	6.000	SD10007DGIUI														
1.000	7	1.250	3.750	6.000	SD10007DGJQI														
1.000	7	1.250	4.250	6.500	SD10007DGKWK														
1.000	7	1.250	4.750	7.000	SD10007DGM2L														
1.000	7	1.250	5.750	8.000	SD10007DGPEP														
1.000	7	1.250	6.750	9.000	SD10007DGRSR														

Non-standard lengths, diameters and radius sizes available upon request.

SH4 SERIES

Differential Pitch & Differential Helix
4FL V-Notch Rougher



The SH4 has a differential pitch / differential helix design that eliminates the harmonics that cause vibration and chatter; Engineered to remove the most material per HP available. The free cutting proprietary V-notch design breaks up sine waves and makes small, manageable chips. As a result, it can be used for everything from full slotting to heavy roughing in long reach applications.

- Differential pitch / helix design eliminates chatter.
- Proprietary V-notch produces short, manageable chips.
- Micro-polished edge-prep and staggered V-notch creates best possible finish from a rougher.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance and dramatically increased tool life.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SH037548I001	T6	0	M		SH037548I001T60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	Pick One None	Pick One Center	MDC
0.375	4	0.500	0	2.000	SH037548I001	T6 (.030)	0	C	M
0.375	4	0.750	0	2.500	SH03754BU003				
0.375	4	0.875	0	2.500	SH03754CA003				
0.375	4	1.000	0	3.000	SH03754CS005				
0.375	4	1.250	0	3.000	SH03754DG005				
0.375	4	1.500	0	3.500	SH03754E6007				
0.375	4	1.750	0	3.500	SH03754EW007				
0.375	4	2.000	0	4.000	SH03754FK009				
0.375	4	2.500	0	4.000	SH03754GS009				
0.437	4	0.500	0	2.500	SH043748I003	TC (.060)	0	C	M
0.437	4	0.625	0	2.500	SH04374A6003				
0.437	4	0.875	0	3.000	SH04374CA005				
0.437	4	1.000	0	3.000	SH04374CS005				
0.437	4	1.250	0	3.000	SH04374DG005				
0.437	4	1.500	0	3.500	SH04374E6007				
0.437	4	1.750	0	4.000	SH04374EW009				
0.437	4	2.000	0	4.050	SH04374FK009				
0.437	4	3.000	0	5.000	SH04374HY00E				
0.500	4	0.625	0	2.500	SH05004A6003	TC (.060)	0	C	M
0.500	4	1.000	0	3.000	SH05004CS005				
0.500	4	1.250	0	3.000	SH05004DG005				
0.500	4	1.500	0	3.500	SH05004E6007				
0.500	4	1.750	0	4.000	SH05004EW009				
0.500	4	2.000	0	4.000	SH05004FK009				
0.500	4	2.250	0	4.000	SH05004G6009				
0.500	4	2.500	0	5.000	SH05004GS00B				
0.500	4	3.000	0	5.000	SH05004HY00E				
0.625	4	0.750	0	3.000	SH06254BU005	TC (.060)	0	C	M
0.625	4	1.250	0	3.500	SH06254DG007				
0.625	4	1.625	0	3.500	SH06254EI007				
0.625	4	2.000	0	4.000	SH06254FK009				
0.625	4	2.250	0	5.000	SH06254G600E				
0.625	4	2.500	0	5.000	SH06254GS00E				
0.625	4	3.000	0	5.000	SH06254HY00E				
0.625	4	3.250	0	5.000	SH06254II00I				

Non-standard lengths, diameters and radius sizes available upon request.

SH4 SERIES -Continued-

Differential Pitch & Differential Helix
4FL V-Notch Rougher



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SH07504BU005	TC	0	M	=	SH07504BU005TC0M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

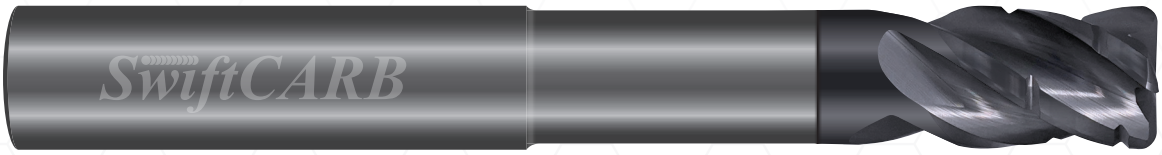
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	None	Center	MDC
0.750	4	0.750	0	3.000	SH07504BU005	TC (.060)	0	C	M
0.750	4	1.000	0	3.500	SH07504CS007				
0.750	4	1.250	0	3.500	SH07504DG007				
0.750	4	1.500	0	3.500	SH07504E6007				
0.750	4	1.750	0	4.000	SH07504EW009				
0.750	4	2.250	0	5.000	SH07504G600E				
0.750	4	2.500	0	5.000	SH07504GS00E				
0.750	4	2.750	0	5.000	SH07504HC00E				
0.750	4	3.000	0	5.000	SH07504HY00E				
0.750	4	3.250	0	6.000	SH07504II00I				
0.750	4	3.500	0	6.000	SH07504J400I				
0.750	4	4.000	0	6.000	SH07504KA00I				
0.750	4	4.500	0	7.000	SH07504LG00L				
0.875	4	1.625	0	4.000	SH08754EI009	TC (.060)	0	C	M
0.875	4	2.625	0	5.000	SH08754H200E				
0.875	4	3.000	0	5.000	SH08754HY00E				
0.875	4	3.750	0	6.000	SH08754JQ00I				
1.000	4	1.500	0	4.000	SH10004E6009	TC (.060)	0	C	M
1.000	4	2.000	0	4.500	SH10004FK00B				
1.000	4	2.375	0	5.000	SH10004GG00E				
1.000	4	2.625	0	5.000	SH10004H200E				
1.000	4	3.000	0	5.500	SH10004HY00G				
1.000	4	3.375	0	6.000	SH10004IU00I				
1.000	4	3.625	0	6.000	SH10004JE00I				
1.000	4	4.125	0	7.000	SH10004KK00L				
1.000	4	4.500	0	7.000	SH10004LG00L				
1.000	4	5.000	0	7.500	SH10004MM00N				
1.250	4	1.500	0	4.000	SH12504E6009	TC (.060)	0	C	M
1.250	4	2.250	0	4.500	SH12504G600B				
1.250	4	3.000	0	6.000	SH12504HY00I				
1.250	4	3.625	0	6.000	SH12504JE00I				
1.250	4	4.375	0	7.500	SH12504L600N				
1.250	4	5.125	0	7.500	SH12504MY00N				
1.250	4	6.000	0	9.000	SH12504Q000R				
1.250	4	6.500	0	9.000	SH12504R600R				

Non-standard lengths, diameters and radius sizes available upon request.

SHEL4 SERIES

Differential Pitch & Differential Helix
4FL Extended Relief V-Notch Rougher



The SHEL4 has a differential pitch / differential helix design that eliminates the harmonics that cause vibration and chatter; Engineered to remove the most material per HP available. The free cutting proprietary V-notch design breaks up sine waves and makes small, manageable chips. As a result, it can be used for everything from full slotting to heavy roughing in long reach applications.

- Differential pitch / helix design eliminates chatter.
- Proprietary V-notch produces short, manageable chips.
- Micro-polished edge-prep and staggered V-notch
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance and dramatically increased

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SH037548IBU3	T6	0	M		SH037548IBU3T60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	None	Center	MDC
0.375	4	0.500	0.750	2.500	SH037548IBU3	T6 (.030)	0	C	M
0.375	4	0.500	1.125	3.000	SH037548ID45				
0.375	4	0.500	1.500	3.000	SH037548IE65				
0.375	4	0.500	1.875	3.500	SH037548IF87				
0.375	4	0.500	2.125	4.000	SH037548IFW9				
0.375	4	0.500	2.500	4.000	SH037548IGS9				
0.375	4	0.500	3.125	5.000	SH037548II8E				
0.375	4	0.500	4.125	6.000	SH037548IKKI				
0.500	4	0.625	1.500	3.500	SH05004A6E67	TC (.060)	0	C	M
0.500	4	0.625	2.000	4.000	SH05004A6FK9				
0.500	4	0.625	2.250	4.000	SH05004A6G69				
0.500	4	0.625	2.625	5.000	SH05004A6H2E				
0.500	4	0.625	3.000	5.000	SH05004A6HYE				
0.500	4	0.625	3.375	5.000	SH05004A6IUE				
0.500	4	0.625	3.625	6.000	SH05004A6JEI				
0.500	4	0.625	4.125	6.000	SH05004A6KKI				
0.625	4	0.750	1.625	4.000	SH06254BUEI9	TC (.060)	0	C	M
0.625	4	0.750	2.000	4.000	SH06254BUFK9				
0.625	4	0.750	2.375	4.625	SH06254BUGGC				
0.625	4	0.750	3.000	5.000	SH06254BUHYE				
0.625	4	0.750	3.375	6.000	SH06254BUIUI				
0.625	4	0.750	3.750	6.000	SH06254BUJQI				
0.625	4	0.750	4.125	6.000	SH06254BUKKI				
0.625	4	0.750	5.000	7.000	SH06254BUMML				
0.750	4	1.000	2.000	4.000	SH07504CSFK9	TC (.060)	0	C	M
0.750	4	1.000	2.250	5.000	SH07504CSG6E				
0.750	4	1.000	2.625	5.000	SH07504CSH2E				
0.750	4	1.000	3.000	5.000	SH07504CSHYE				
0.750	4	1.000	3.375	6.000	SH07504CSIUI				
0.750	4	1.000	3.750	6.000	SH07504CSJQI				
0.750	4	1.000	4.125	6.000	SH07504CSKKI				
0.750	4	1.000	5.000	7.000	SH07504CSMML				
0.750	4	1.000	6.000	8.000	SH07504CSQ0P				
1.000	4	1.250	2.250	4.500	SH10004DGG6B	TC (.060)	0	C	M
1.000	4	1.250	2.625	5.000	SH10004DGH2E				
1.000	4	1.250	3.000	5.500	SH10004DGHYG				
1.000	4	1.250	3.375	6.000	SH10004DGIUI				
1.000	4	1.250	3.750	6.000	SH10004DGJQI				
1.000	4	1.250	4.250	6.500	SH10004DGKWK				
1.000	4	1.250	4.750	7.000	SH10004DGM2L				
1.000	4	1.250	5.750	8.000	SH10004DGPEP				
1.000	4	1.250	6.750	9.000	SH10004DGRSR				

Non-standard lengths, diameters and radius sizes available upon request.

SM5 SERIES

5FL Medium Peripheral Finisher - Square or Radius



The SM5 is a premium value line of 5 flute end mills designed for light roughing and finishing in steel and exotic metals.

- *Stronger core for increased rigidity and better tool life.*
- *Manufacturing tolerances far above industry standards.*
- Stocked with MDC coating, providing unmatched heat and wear resistance and dramatically increased tool life.

For highest performance and tool life, consider the XM5 on page 10.
For heavy roughing, see our 5D 5 flute on page 25.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SM0125558000	R6	0	M		SM0125558000R60M

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-					Coolant	Coating Pick One	
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	None	MDC	AlTiN
0.125	5	0.250	0	1.500	SM0125558000	S0	R3	R6			0	M	
0.125	5	0.500	0	1.500	SM012558I000								
0.125	5	0.750	0	2.000	SM01255BU001								
0.156	5	0.312	0	2.000	SM0156562001	S0	R3	R6			0	M	
0.156	5	0.437	0	2.000	SM015657Q001								
0.187	5	0.312	0	2.000	SM0187562001	S0	R3	R6			0	M	
0.187	5	0.437	0	2.000	SM018757Q001								
0.187	5	0.562	0	2.500	SM018759C003								
0.187	5	0.750	0	2.500	SM01875BU003								
0.218	5	0.375	0	2.000	SM021856W001	S0	R3	R6			0	M	
0.218	5	0.500	0	2.000	SM021858I001								
0.218	5	0.750	0	2.500	SM02185BU003								
0.250	5	0.375	0	2.000	SM025056W001	S0	R3	R6	RC		0	M	
0.250	5	0.500	0	2.000	SM025058I001								
0.250	5	0.625	0	2.000	SM02505A6001								
0.250	5	0.750	0	2.500	SM02505BU003								
0.250	5	0.875	0	2.500	SM02505CA003								
0.250	5	1.000	0	2.500	SM02505CS003								
0.250	5	1.125	0	3.000	SM02505D4005								
0.250	5	1.250	0	3.000	SM02505DG005								
0.250	5	1.375	0	3.000	SM02505DU005								
0.250	5	1.500	0	3.000	SM02505E6005								
0.250	5	1.750	0	4.000	SM02505EW009								
0.281	5	0.437	0	2.000	SM028157Q001	S0	R3	R6	RC		0	M	2
0.281	5	0.812	0	2.500	SM02815C2003								
0.312	5	0.437	0	2.000	SM031257Q001	S0	R3	R6	RC	RH	0	M	2
0.312	5	0.500	0	2.000	SM031258I001								
0.312	5	0.625	0	2.000	SM03125A6001								
0.312	5	0.812	0	2.500	SM03125C2003								
0.312	5	1.000	0	2.500	SM03125CS003								
0.312	5	1.250	0	3.000	SM03125DG005								
0.312	5	1.500	0	3.000	SM03125E6005								
0.312	5	1.750	0	3.500	SM03125EW007								
0.312	5	2.000	0	3.500	SM03125FK007								
0.312	5	2.125	0	4.000	SM03125FW009								
0.343	5	0.500	0	2.000	SM034358I001	S0	R3	R6	RC	RH	0	M	2
0.343	5	0.750	0	2.500	SM03435BU003								
0.343	5	1.000	0	2.500	SM03435CS003								
0.343	5	1.250	0	3.000	SM03435DG005								
0.343	5	1.500	0	3.500	SM03435E6007								

Non-standard lengths, diameters and radius sizes available upon request.

SM5 SERIES -Continued-

5FL Medium Peripheral Finisher - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SM037558I001	R6	0	M		SM037558I001R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating	
					Series, Diameter, Flutes											Pick One	
DIA	#FL	LOC	LBS	OAL	LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	None	MDC	AlTiN
0.375	5	0.500	0	2.000	SM037558I001		S0	R3	R6	RC	RH	RL	RM			0	M	2
0.375	5	0.750	0	2.500	SM03755BU003													
0.375	5	1.000	0	2.500	SM03755CS003													
0.375	5	1.250	0	3.000	SM03755DG005													
0.375	5	1.500	0	3.500	SM03755E6007													
0.375	5	2.000	0	4.000	SM03755FK009													
0.375	5	2.250	0	4.000	SM03755G6009													
0.375	5	2.500	0	4.500	SM03755GS00B													
0.375	5	2.750	0	5.000	SM03755HC00E													
0.375	5	3.000	0	5.000	SM03755HY00E													
0.406	5	0.562	0	2.500	SM040659C003		S0	R3	R6	RC	RH	RL	RM			0	M	2
0.406	5	0.750	0	2.750	SM04065BU004													
0.406	5	1.000	0	2.750	SM04065CS004													
0.406	5	1.250	0	3.000	SM04065DG005													
0.406	5	1.500	0	4.000	SM04065E6009													
0.406	5	1.750	0	4.000	SM04065EW009													
0.406	5	2.000	0	4.000	SM04065FK009													
0.437	5	0.562	0	2.500	SM043759C003		S0	R3	R6	RC	RH	RL	RM	RN		0	M	2
0.437	5	0.750	0	2.500	SM04375BU004													
0.437	5	1.000	0	2.750	SM04375CS004													
0.437	5	1.250	0	3.000	SM04375DG005													
0.437	5	1.500	0	4.000	SM04375E6009													
0.437	5	1.750	0	4.000	SM04375EW009													
0.437	5	2.000	0	4.000	SM04375FK009													
0.437	5	2.250	0	4.000	SM04375G6009													
0.468	5	0.625	0	2.500	SM04685A6003		S0	R3	R6	RC	RH	RL	RM	RN		0	M	2
0.468	5	1.000	0	3.000	SM04685CS005													
0.468	5	1.250	0	3.000	SM04685DG005													
0.468	5	1.500	0	3.500	SM04685E6007													
0.468	5	1.750	0	4.000	SM04685EW009													
0.468	5	2.000	0	4.000	SM04685FK009													
0.468	5	2.500	0	5.000	SM04685GS00E													
0.500	5	0.625	0	2.500	SM05005A6003		S0	R3	R6	RC	RH	RL	RM	RN	RQ	0	M	2
0.500	5	1.000	0	3.000	SM05005CS005													
0.500	5	1.250	0	3.000	SM05005DG005													
0.500	5	1.625	0	3.500	SM05005EI007													
0.500	5	1.750	0	4.000	SM05005EW009													
0.500	5	2.000	0	4.000	SM05005FK009													
0.500	5	2.250	0	4.500	SM05005G600B													
0.500	5	2.500	0	4.500	SM05005GS00B													
0.500	5	2.750	0	5.000	SM05005HC00E													
0.500	5	3.000	0	5.000	SM05005HY00E													
0.500	5	3.125	0	5.000	SM05005I800E													
0.500	5	3.250	0	5.500	SM05005II00G													
0.500	5	3.500	0	5.500	SM05005J400G													
0.500	5	3.750	0	6.000	SM05005JQ00I													
0.500	5	4.000	0	6.000	SM05005KA00I													

Non-standard lengths, diameters and radius sizes available upon request.

SM5 SERIES -Continued-

5FL Medium Peripheral Finisher - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SM05625CS005	R6	0	M		SM05625CS005R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

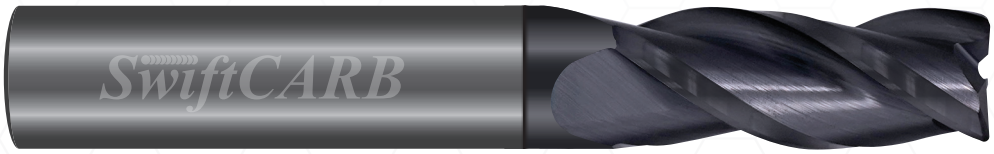
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant	Coating	
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	MDC	AlTiN
0.562	5	1.000	0	3.000	SM05625CS005	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	M	2
0.562	5	1.500	0	3.500	SM05625E6007														
0.562	5	2.000	0	4.000	SM05625FK009														
0.562	5	3.000	0	5.000	SM05625HY00E														
0.625	5	0.750	0	3.000	SM06255BU005	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	M	2
0.625	5	1.250	0	3.500	SM06255DG007														
0.625	5	1.625	0	3.500	SM06255EI007														
0.625	5	2.000	0	4.000	SM06255FK009														
0.625	5	2.250	0	4.000	SM06255G6009														
0.625	5	2.500	0	4.500	SM06255GS00B														
0.625	5	3.000	0	5.000	SM06255HY00E														
0.625	5	3.375	0	5.500	SM06255IU00G														
0.625	5	3.750	0	6.000	SM06255JQ00I														
0.625	5	4.000	0	6.000	SM06255KA00I														
0.625	5	4.625	0	7.000	SM06255LS00L														
0.750	5	0.750	0	3.000	SM07505BU005	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	M	2
0.750	5	1.000	0	3.000	SM07505CS005														
0.750	5	1.250	0	3.500	SM07505DG007														
0.750	5	1.625	0	3.500	SM07505EI007														
0.750	5	1.875	0	4.000	SM07505F8009														
0.750	5	2.250	0	4.500	SM07505G600B														
0.750	5	2.500	0	4.500	SM07505GS00B														
0.750	5	2.875	0	5.000	SM07505HM00E														
0.750	5	3.250	0	5.000	SM07505II00E														
0.750	5	3.500	0	5.500	SM07505J400G														
0.750	5	4.000	0	6.000	SM07505KA00I														
0.750	5	4.375	0	6.500	SM07505L600K														
0.750	5	4.750	0	7.000	SM07505M200L														
0.875	5	2.000	0	4.000	SM08755FK009	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	M	2
0.875	5	3.000	0	5.000	SM08755HY00E														
0.875	5	3.750	0	6.000	SM08755JQ00I														
1.000	5	1.250	0	3.500	SM10005DG007	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	M	2
1.000	5	1.500	0	4.000	SM10005E6009														
1.000	5	2.000	0	4.500	SM10005FK00B														
1.000	5	2.375	0	5.000	SM10005GG00E														
1.000	5	2.750	0	5.500	SM10005HC00G														
1.000	5	3.250	0	5.500	SM10005II00G														
1.000	5	3.625	0	6.000	SM10005JE00I														
1.000	5	4.125	0	6.500	SM10005KK00K														
1.000	5	4.625	0	7.000	SM10005LS00L														
1.000	5	5.125	0	7.500	SM10005MY00N														
1.000	5	5.625	0	8.000	SM10005P400P														
1.250	5	2.000	0	4.500	SM12505FK00B	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	M	2
1.250	5	2.750	0	6.000	SM12505HC00I														
1.250	5	3.250	0	6.000	SM12505II00I														
1.250	5	4.000	0	7.000	SM12505KA00L														
1.250	5	4.500	0	7.000	SM12505LG00L														
1.250	5	5.000	0	7.500	SM12505MM00N														
1.250	5	6.000	0	9.000	SM12505Q000R														

Non-standard lengths, diameters and radius sizes available upon request.

SS3 SERIES

3FL Full Slot Cutter for Steel Stainless & Exotics



The SS3 is designed specifically for keyways and milling slots in stainless steel and exotic metals. It's one of the most productive choices for full slotting and heavy roughing in steel and exotic metals when rigidity is an issue. It is also an excellent choice when full slotting diameters under .250".

- Moderate helix with 3 flutes for smooth cutting action when full slotting.
- Stocked with a radius for added strength.
- Manufacturing tolerances far above industry
- Stocked with MDC coating providing unmatched heat & wear resistance and dramatically increased
- tool life.
  Premium carbide blanks and eccentric relief provide

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
SS0125358000	R6	0	M		SS0125358000R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

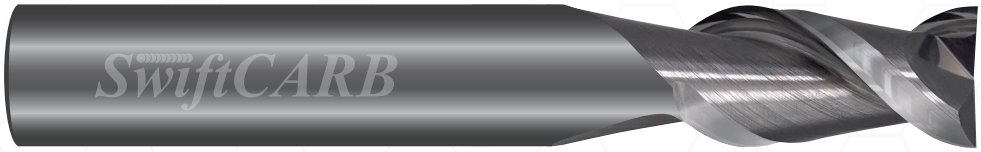
Stocked radius sizes are circled

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating Pick One	
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	.008	.015	.030	.060	.090	.120	.125	.156	.187	None	MDC	AlTiN
0.125	3	0.250	0	1.500	SS0125358000	S0	R3	R6							0	M	
0.125	3	0.500	0	1.500	SS012538I000												
0.156	3	0.312	0	2.000	SS0156362001	S0	R3	R6	RC						0	M	
0.156	3	0.562	0	2.000	SS015639C001												
0.187	3	0.312	0	2.000	SS0187362001	S0	R3	R6	RC						0	M	
0.187	3	0.562	0	2.000	SS018739C001												
0.218	3	0.375	0	2.000	SS021836W001		R3	R6	RC	RH					0	M	
0.218	3	0.750	0	2.500	SS02183BU003												
0.250	3	0.375	0	2.000	SS025036W001		R3	R6	RC	RH					0	M	
0.250	3	0.750	0	2.500	SS02503BU003												
0.281	3	0.437	0	2.000	SS028137Q001		R3	R6	RC	RH	RL	RM			0	M	2
0.281	3	0.812	0	2.500	SS02813C2003												
0.312	3	0.437	0	2.000	SS031237Q001		R3	R6	RC	RH	RL	RM			0	M	2
0.312	3	0.812	0	2.500	SS03123C2003												
0.343	3	0.500	0	2.000	SS034338I001		R3	R6	RC	RH	RL	RM	RN		0	M	2
0.343	3	1.000	0	2.500	SS03433CS003												
0.375	3	0.500	0	2.000	SS037538I001		R3	R6	RC	RH	RL	RM	RN		0	M	2
0.375	3	1.000	0	2.500	SS03753CS003												
0.437	3	0.562	0	2.500	SS043739C003		R3	R6	RC	RH	RL	RM	RN	RQ	0	M	2
0.437	3	1.000	0	2.750	SS04373CS004												
0.500	3	0.625	0	2.500	SS05003A6003			R6	RC	RH	RL	RM	RN	RQ	0	M	2
0.500	3	1.250	0	3.000	SS05003DG005												

Non-standard lengths, diameters and radius sizes available upon request.

AC2 SERIES

2FL High Helix for Aluminum - Square or Radius



The standard in aluminum cutting end mills, the AC2 is a great all around cutter that can be utilized from full slotting to finishing operations.

- Moderate helix allows for both aggressive cutting and excellent finishes.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Manufacturing tolerances far above industry standards.
- Stocked with MDC coating, providing unmatched heat and wear resistance while dramatically increasing tool life.
- Blended neck relief reduces marks in step-down machining.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AC0125258000	R6	0	0		AC0125258000R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

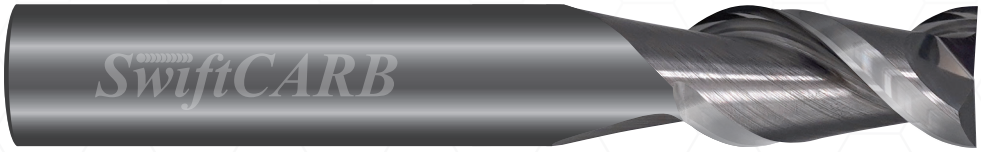
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	None	None
0.125	2	0.250	0	1.500	AC0125258000	S1	R3	R6							0	0
0.125	2	0.375	0	2.000	AC012526W001											
0.125	2	0.500	0	2.000	AC012528I001											
0.125	2	0.750	0	2.500	AC01252BU003											
0.187	2	0.312	0	2.000	AC0187262001	S1	R3	R6	RC						0	0
0.187	2	0.562	0	2.000	AC018729C001											
0.187	2	0.625	0	2.000	AC01872A6001											
0.187	2	0.750	0	2.500	AC01872BU003											
0.250	2	0.375	0	2.000	AC025026W001	S1	R3	R6	RC	RH					0	0
0.250	2	0.500	0	2.000	AC025028I001											
0.250	2	0.625	0	2.500	AC02502A6003											
0.250	2	0.750	0	2.500	AC02502BU003											
0.250	2	1.000	0	3.000	AC02502CS005											
0.250	2	1.250	0	3.000	AC02502DG005											
0.250	2	1.500	0	3.000	AC02502E6005											
0.250	2	1.750	0	3.000	AC02502EW005											
0.312	2	0.437	0	2.000	AC031227Q001	S1	R3	R6	RC	RH	RL	RM			0	0
0.312	2	0.500	0	2.000	AC031228I001											
0.312	2	0.750	0	2.500	AC03122BU003											
0.312	2	0.812	0	2.500	AC03122C2003											
0.312	2	1.000	0	3.000	AC03122CS005											
0.312	2	1.250	0	3.000	AC03122DG005											
0.312	2	1.750	0	3.500	AC03122EW007											
0.312	2	2.125	0	4.000	AC03122FW009											
0.375	2	0.500	0	2.000	AC037528I001	S1	R3	R6	RC	RH	RL	RM	RN		0	0
0.375	2	0.750	0	2.500	AC03752BU003											
0.375	2	1.000	0	2.500	AC03752CS003											
0.375	2	1.250	0	3.500	AC03752DG007											
0.375	2	1.500	0	3.500	AC03752E6007											
0.375	2	1.750	0	3.500	AC03752EW007											
0.375	2	2.000	0	4.000	AC03752FK009											
0.375	2	2.250	0	4.000	AC03752G6009											
0.375	2	2.500	0	5.000	AC03752GS00E											
0.437	2	0.562	0	2.750	AC043729C004	S1	R3	R6	RC	RH	RL	RM	RN	RQ	0	0
0.437	2	0.750	0	2.750	AC04372BU004											
0.437	2	1.000	0	2.750	AC04372CS004											
0.437	2	1.250	0	3.500	AC04372DG007											
0.437	2	1.500	0	3.500	AC04372E6007											
0.437	2	1.750	0	4.000	AC04372EW009											
0.437	2	2.000	0	4.000	AC04372FK009											
0.437	2	2.625	0	5.000	AC04372H200E											

Non-standard lengths, diameters and radius sizes available upon request.

AC2 SERIES -Continued-

2FL High Helix for Aluminum - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AC05002A6003	R6	0	0		AC05002A6003R600

Start Here

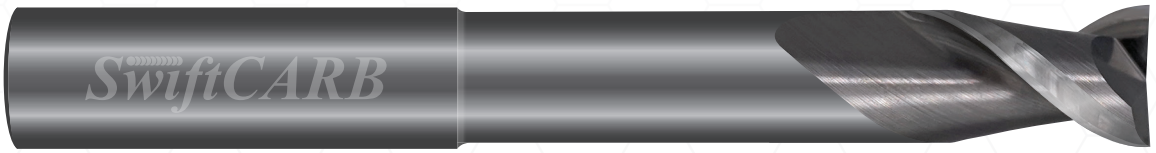
Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None
0.500	2	0.625	0	2.500	AC05002A6003	S1	R3	R6	RC	RH	RL	RM	RN	RQ		0	0
0.500	2	1.000	0	3.000	AC05002CS005												
0.500	2	1.250	0	3.000	AC05002DG005												
0.500	2	1.500	0	3.500	AC05002E6007												
0.500	2	1.625	0	3.500	AC05002EI007												
0.500	2	1.750	0	4.000	AC05002EW009												
0.500	2	2.000	0	4.000	AC05002FK009												
0.500	2	2.250	0	5.000	AC05002G600E												
0.500	2	2.500	0	5.000	AC05002GS00E												
0.500	2	2.750	0	5.000	AC05002HC00E												
0.500	2	3.000	0	5.000	AC05002HY00E												
0.500	2	3.125	0	5.000	AC05002I800E												
0.500	2	3.250	0	6.000	AC05002II00I												
0.500	2	3.500	0	6.000	AC05002J400I												
0.625	2	0.750	0	3.000	AC06252BU005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.625	2	1.250	0	3.500	AC06252DG007												
0.625	2	1.625	0	4.000	AC06252EI009												
0.625	2	1.875	0	4.000	AC06252F8009												
0.625	2	2.000	0	4.000	AC06252FK009												
0.625	2	2.250	0	5.000	AC06252G600E												
0.625	2	2.500	0	5.000	AC06252GS00E												
0.625	2	2.750	0	5.000	AC06252HC00E												
0.625	2	3.250	0	6.000	AC06252II00I												
0.625	2	3.750	0	7.000	AC06252JQ00I												
0.625	2	4.625	0	7.000	AC06252LS00L												
0.750	2	0.750	0	3.000	AC07502BU005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.750	2	1.000	0	4.000	AC07502CS009												
0.750	2	1.375	0	4.000	AC07502DU009												
0.750	2	1.625	0	4.000	AC07502EI009												
0.750	2	2.250	0	5.000	AC07502G600E												
0.750	2	2.500	0	5.000	AC07502GS00E												
0.750	2	3.250	0	6.000	AC07502II00I												
0.750	2	3.500	0	6.000	AC07502J400I												
0.750	2	4.000	0	6.500	AC07502KA00K												
0.750	2	4.500	0	7.000	AC07502LG00L												
1.000	2	1.000	0	3.000	AC10002CS005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.000	2	1.250	0	4.000	AC10002DG009												
1.000	2	1.500	0	4.000	AC10002E6009												
1.000	2	2.000	0	4.500	AC10002FK00B												
1.000	2	2.625	0	5.000	AC10002H200E												
1.000	2	3.000	0	6.000	AC10002HY00I												
1.000	2	3.250	0	6.000	AC10002II00I												
1.000	2	3.500	0	6.000	AC10002J400I												
1.000	2	4.125	0	7.000	AC10002KK00L												
1.000	2	4.500	0	7.000	AC10002LG00L												
1.000	2	5.250	0	8.000	AC10002N800P												
1.250	2	1.000	0	4.000	AC12502CS009	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.250	2	2.000	0	4.500	AC12502FK00B												
1.250	2	2.625	0	5.500	AC12502H200G												
1.250	2	3.250	0	6.000	AC12502II00I												
1.250	2	4.125	0	7.500	AC12502KW00N												
1.250	2	5.500	0	9.000	AC12502NU00R												

Non-standard lengths, diameters and radius sizes available upon request.

ACEL2 SERIES

2FL High Helix for Aluminum Necked XL - Square or Radius



The standard in aluminum cutting end mills, the ACEL2 is a great all around cutter that can be utilized from full slotting to finishing operations. The 2 flute high helix provides less tool pressure and great chip evacuation, perfect for long reach applications.

- Blended neck relief reduces marks in step-down machining.
- High helix for better shear and chip evacuation.
- Micro-polished edges & double rake flutes with a wiper flat for incredible wall and floor finishes.
- Manufacturing tolerances far above industry standards. Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AC0125258810	R6	0	0		AC0125258810R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

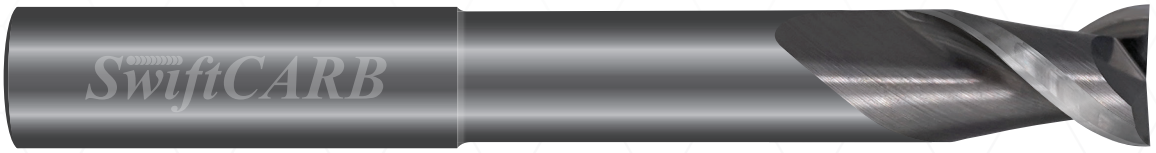
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Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-								Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	None	None
0.125	2	0.250	0.500	1.500	AC0125258810										
0.125	2	0.250	0.750	2.000	AC0125258BU1	S1	R3	R6						0	0
0.125	2	0.250	1.000	2.000	AC0125258CS1										
0.125	2	0.250	1.250	2.500	AC0125258DG3										
0.187	2	0.312	0.500	2.000	AC0187262810										
0.187	2	0.312	1.000	3.000	AC0187262CS5										
0.187	2	0.312	1.250	3.000	AC0187262DG5	S1	R3	R6	RC					0	0
0.187	2	0.312	1.500	3.000	AC0187262E65										
0.187	2	0.312	1.750	3.000	AC0187262EW5										
0.187	2	0.312	2.000	3.000	AC0187262FK5										
0.250	2	0.375	0.750	2.000	AC025026WBU1										
0.250	2	0.375	1.000	2.500	AC025026WCS3										
0.250	2	0.375	1.250	2.500	AC025026WDG3										
0.250	2	0.375	1.500	3.000	AC025026WE65	S1	R3	R6	RC	RH				0	0
0.250	2	0.375	1.750	3.000	AC025026WEW5										
0.250	2	0.375	2.000	3.500	AC025026WFK7										
0.250	2	0.375	2.250	3.500	AC025026WG67										
0.250	2	0.375	2.500	4.000	AC025026WGS9										
0.312	2	0.437	0.750	2.000	AC031227QBU1										
0.312	2	0.437	1.000	2.500	AC031227QCS3										
0.312	2	0.437	1.250	2.500	AC031227QDG3										
0.312	2	0.437	1.500	3.000	AC031227QE65										
0.312	2	0.437	1.750	3.000	AC031227QEW5	S1	R3	R6	RC	RH	RL	RM		0	0
0.312	2	0.437	2.000	3.500	AC031227QFK7										
0.312	2	0.437	2.250	3.500	AC031227QG67										
0.312	2	0.437	2.500	4.000	AC031227QGS9										
0.312	2	0.437	3.125	6.000	AC031227QI8I										
0.312	2	0.437	4.000	6.000	AC031227QKAI										
0.375	2	0.500	1.000	2.500	AC037528ICS3										
0.375	2	0.500	1.250	3.000	AC037528IDG5										
0.375	2	0.500	1.500	3.000	AC037528IE65										
0.375	2	0.500	2.000	3.500	AC037528IFK7										
0.375	2	0.500	2.250	4.000	AC037528IG69	S1	R3	R6	RC	RH	RL	RM	RN	0	0
0.375	2	0.500	2.500	4.500	AC037528IGSB										
0.375	2	0.500	3.000	5.000	AC037528IHYE										
0.375	2	0.500	3.500	5.500	AC037528IJ4G										
0.375	2	0.500	3.750	6.000	AC037528IJQI										
0.375	2	0.500	4.000	6.000	AC037528IKAI										

Non-standard lengths, diameters and radius sizes available upon request.

ACEL2 SERIES -Continued-

2FL High Helix for Aluminum Necked XL - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AC043729CCS4	R6	0	0		AC043729CCS4R600

Start Here

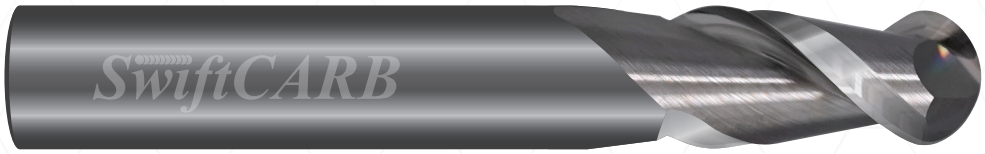
Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None
0.437	2	0.562	1.000	2.750	AC043729CCS4	S1	R3	R6	RC	RH	RL	RM	RN	RQ		0	0
0.437	2	0.562	1.250	2.750	AC043729CDG4												
0.437	2	0.562	1.500	3.500	AC043729CE67												
0.437	2	0.562	2.000	4.000	AC043729CFK9												
0.437	2	0.562	2.500	4.500	AC043729CGSB												
0.437	2	0.562	3.000	5.000	AC043729CHYE												
0.437	2	0.562	3.500	5.500	AC043729CJ4G												
0.437	2	0.562	4.000	6.000	AC043729CKAI												
0.500	2	0.625	1.000	3.000	AC05002A6CS5	S1	R3	R6	RC	RH	RL	RM	RN	RQ		0	0
0.500	2	0.625	1.375	3.500	AC05002A6DU7												
0.500	2	0.625	1.500	3.500	AC05002A6E67												
0.500	2	0.625	2.000	4.000	AC05002A6FK9												
0.500	2	0.625	2.250	4.000	AC05002A6G69												
0.500	2	0.625	2.500	4.500	AC05002A6GSB												
0.500	2	0.625	3.000	5.000	AC05002A6HYE												
0.500	2	0.625	3.500	5.500	AC05002A6J4G												
0.500	2	0.625	4.000	6.000	AC05002A6KAI												
0.500	2	0.625	4.500	6.500	AC05002A6LGK												
0.500	2	0.625	5.000	7.000	AC05002A6MML												
0.625	2	0.750	1.000	3.000	AC06252BUCS5	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.625	2	0.750	1.500	3.500	AC06252BUE67												
0.625	2	0.750	1.750	4.000	AC06252BUEW9												
0.625	2	0.750	2.000	4.000	AC06252BUFK9												
0.625	2	0.750	2.375	4.625	AC06252BUGGC												
0.625	2	0.750	3.000	5.000	AC06252BUHYE												
0.625	2	0.750	3.500	5.500	AC06252BUJ4G												
0.625	2	0.750	4.000	6.000	AC06252BUKAI												
0.625	2	0.750	4.500	6.500	AC06252BULGK												
0.625	2	0.750	5.000	7.000	AC06252BUMML												
0.625	2	0.750	5.500	7.500	AC06252BUNUN												
0.625	2	0.750	6.000	8.000	AC06252BUQ0P												
0.750	2	1.000	2.000	4.000	AC07502CSFK9	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.750	2	1.000	2.500	4.500	AC07502CSGSB												
0.750	2	1.000	3.000	5.000	AC07502CSHYE												
0.750	2	1.000	3.500	5.500	AC07502CSJ4G												
0.750	2	1.000	4.000	6.000	AC07502CSKAI												
0.750	2	1.000	4.500	6.500	AC07502CSLGK												
0.750	2	1.000	5.000	7.000	AC07502CSMML												
0.750	2	1.000	5.500	7.500	AC07502CSNUN												
0.750	2	1.000	6.000	8.000	AC07502CSQ0P												
1.000	2	1.000	1.500	4.000	AC10002CSE69	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.000	2	1.250	2.000	4.500	AC10002DGFKB												
1.000	2	1.250	2.500	5.000	AC10002DGGSE												
1.000	2	1.250	2.750	5.500	AC10002DGHCG												
1.000	2	1.250	3.500	6.000	AC10002DGJ4I												
1.000	2	1.250	4.000	6.500	AC10002DGKAK												
1.000	2	1.250	4.500	7.000	AC10002DGLGL												
1.000	2	1.250	5.000	7.500	AC10002DGMMN												
1.000	2	1.250	5.500	8.000	AC10002DGNUP												
1.000	2	1.250	6.000	8.500	AC10002DGQ0Q												
1.000	2	1.250	6.500	9.000	AC10002DGR6R												
1.000	2	1.250	7.000	9.500	AC10002DGSCS												
1.000	2	1.250	7.500	10.000	AC10002DGTIT												

Non-standard lengths, diameters and radius sizes available upon request.

AC2 BALL SERIES

2FL High Helix Ball End for Aluminum



The standard in aluminum cutting end mills, the AC2 is a great ball end cutter that produces excellent finishes. The 2 flute high helix provides less tool pressure and great chip evacuation, perfect for long reach applications.

- High helix for better shear and chip evacuation.
- Micro-polished edges and double rake flutes for incredible finishes.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AC0125258000	B0	0	0		AC0125258000B000

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

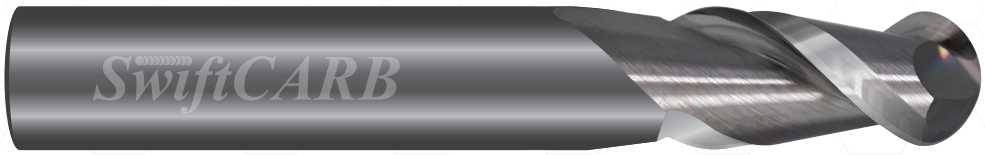
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None
0.125	2	0.250	0	1.500	AC0125258000	B0	0	0
0.125	2	0.375	0	2.000	AC012526W001			
0.125	2	0.500	0	2.000	AC012528I001			
0.187	2	0.312	0	2.000	AC0187262001	B0	0	0
0.187	2	0.562	0	2.000	AC018729C001			
0.187	2	0.625	0	2.000	AC01872A6001			
0.250	2	0.375	0	2.000	AC025026W001	B0	0	0
0.250	2	0.500	0	2.000	AC025028I001			
0.250	2	0.625	0	2.500	AC02502A6003			
0.250	2	0.750	0	2.500	AC02502BU003			
0.250	2	1.000	0	3.000	AC02502CS005			
0.250	2	1.250	0	3.000	AC02502DG005			
0.250	2	1.500	0	3.000	AC02502E6005			
0.312	2	0.437	0	2.000	AC031227Q001	B0	0	0
0.312	2	0.500	0	2.000	AC031228I001			
0.312	2	0.750	0	2.500	AC03122BU003			
0.312	2	0.812	0	2.500	AC03122C2003			
0.312	2	1.000	0	3.000	AC03122CS005			
0.312	2	1.250	0	3.000	AC03122DG005			
0.312	2	1.750	0	3.500	AC03122EW007			
0.312	2	2.125	0	4.000	AC03122FW009			
0.375	2	0.500	0	2.000	AC037528I001	B0	0	0
0.375	2	0.750	0	2.500	AC03752BU003			
0.375	2	1.000	0	2.500	AC03752CS003			
0.375	2	1.250	0	3.000	AC03752DG005			
0.375	2	1.500	0	3.500	AC03752E6007			
0.375	2	1.750	0	3.500	AC03752EW007			
0.375	2	2.000	0	4.000	AC03752FK009			
0.375	2	2.250	0	4.000	AC03752G6009			
0.375	2	2.500	0	5.000	AC03752GS00E			
0.437	2	0.562	0	2.750	AC043729C004	B0	0	0
0.437	2	0.750	0	2.750	AC04372BU004			
0.437	2	1.000	0	2.750	AC04372CS004			
0.437	2	1.250	0	3.500	AC04372DG007			
0.437	2	1.500	0	3.500	AC04372E6007			
0.437	2	1.750	0	4.000	AC04372EW009			
0.437	2	2.000	0	4.000	AC04372FK009			
0.437	2	2.625	0	5.000	AC04372H200E			

Non-standard lengths, diameters and radius sizes available upon request.

AC2 BALL SERIES -Continued-

2FL High Helix Ball End for Aluminum



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AC05002A6003	B0	0	0		AC05002A6003B000

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

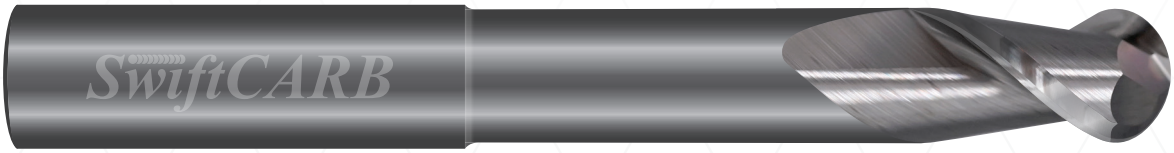
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Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None
0.500	2	0.625	0	2.500	AC05002A6003	B0	0	0
0.500	2	1.000	0	3.000	AC05002CS005			
0.500	2	1.250	0	3.000	AC05002DG005			
0.500	2	1.500	0	3.500	AC05002E6007			
0.500	2	1.625	0	3.500	AC05002EI007			
0.500	2	1.750	0	4.000	AC05002EW009			
0.500	2	2.000	0	4.000	AC05002FK009			
0.500	2	2.250	0	5.000	AC05002G600E			
0.500	2	2.500	0	5.000	AC05002GS00E			
0.500	2	2.750	0	5.000	AC05002HC00E			
0.500	2	3.000	0	5.000	AC05002HY00E			
0.500	2	3.125	0	5.000	AC05002I800E			
0.500	2	3.250	0	6.000	AC05002II00I			
0.500	2	3.500	0	6.000	AC05002J400I			
0.625	2	0.750	0	3.000	AC06252BU005	B0	0	0
0.625	2	1.250	0	3.500	AC06252DG007			
0.625	2	1.625	0	4.000	AC06252EI009			
0.625	2	1.875	0	4.000	AC06252F8009			
0.625	2	2.000	0	4.000	AC06252FK009			
0.625	2	2.250	0	5.000	AC06252G600E			
0.625	2	2.500	0	5.000	AC06252GS00E			
0.625	2	2.750	0	5.000	AC06252HC00E			
0.625	2	3.500	0	6.000	AC06252J400I			
0.625	2	3.750	0	6.000	AC06252JQ00I			
0.625	2	4.625	0	7.000	AC06252LS00L			
0.750	2	0.750	0	3.000	AC07502BU005	B0	0	0
0.750	2	1.000	0	4.000	AC07502CS009			
0.750	2	1.375	0	4.000	AC07502DU009			
0.750	2	1.625	0	4.000	AC07502EI009			
0.750	2	2.250	0	5.000	AC07502G600E			
0.750	2	2.500	0	5.000	AC07502GS00E			
0.750	2	3.250	0	6.000	AC07502II00I			
0.750	2	3.500	0	6.000	AC07502J400I			
0.750	2	4.000	0	6.500	AC07502KA00K			
0.750	2	4.500	0	7.000	AC07502LG00L			
1.000	2	1.000	0	3.500	AC10002CS007	B0	0	0
1.000	2	1.250	0	4.000	AC10002DG009			
1.000	2	1.500	0	4.000	AC10002E6009			
1.000	2	2.000	0	4.500	AC10002FK00B			
1.000	2	2.500	0	5.000	AC10002GS00E			
1.000	2	2.625	0	5.000	AC10002H200E			
1.000	2	3.000	0	6.000	AC10002HY00I			
1.000	2	3.250	0	6.000	AC10002II00I			
1.000	2	3.500	0	6.000	AC10002J400I			
1.000	2	4.125	0	7.000	AC10002KK00L			
1.000	2	4.500	0	7.000	AC10002LG00L			
1.000	2	5.250	0	8.000	AC10002N800P			
1.250	2	1.000	0	4.000	AC12502CS009	B0	0	0
1.250	2	2.000	0	4.500	AC12502FK00B			
1.250	2	2.625	0	5.500	AC12502H200G			
1.250	2	3.250	0	6.000	AC12502II00I			
1.250	2	4.250	0	7.500	AC12502KW00N			
1.250	2	5.000	0	7.500	AC12502MM00N			

Non-standard lengths, diameters and radius sizes available upon request.

ACEL2 BALL SERIES

2FL High Helix Ball End for Aluminum Necked XL



As the standard in aluminum cutting end mills, the ACEL2 is a great ball end cutter that produces excellent finishes. The 2 flute high helix provides less tool pressure and great chip evacuation, perfect for long reach applications.

- High helix for better shear and chip evacuation.
- Micro-polished edges and double rake flutes for incredible finishes.
- Manufacturing tolerances far above industry standards.
  Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AC0125258810	B0	0	0		AC01252588I0B000

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

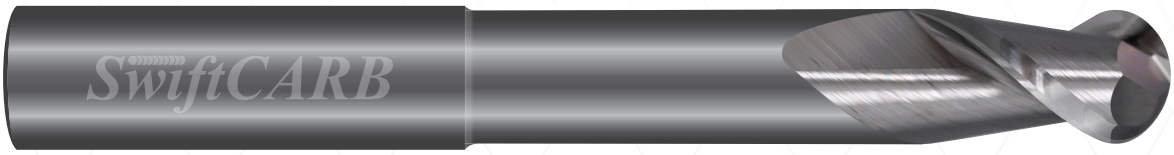
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Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None
0.125	2	0.250	0.500	1.500	AC0125258810	B0	0	0
0.125	2	0.250	0.750	2.000	AC0125258BU1			
0.125	2	0.250	1.000	2.000	AC0125258CS1			
0.125	2	0.250	1.250	2.500	AC0125258DG3			
0.187	2	0.312	0.500	2.000	AC01872628I1	B0	0	0
0.187	2	0.312	0.750	3.000	AC0187262BU5			
0.187	2	0.312	1.000	3.000	AC0187262CS5			
0.187	2	0.312	1.250	3.000	AC0187262DG5			
0.187	2	0.312	1.500	3.000	AC0187262E65			
0.187	2	0.312	1.750	3.000	AC0187262EW5			
0.250	2	0.375	0.750	2.000	AC025026WBU1	B0	0	0
0.250	2	0.375	1.000	2.500	AC025026WCS3			
0.250	2	0.375	1.250	2.500	AC025026WDG3			
0.250	2	0.375	1.500	3.000	AC025026WE65			
0.250	2	0.375	1.750	3.000	AC025026WEW5			
0.250	2	0.375	2.000	3.500	AC025026WFK7			
0.250	2	0.375	2.250	3.500	AC025026WG67			
0.250	2	0.375	2.500	4.000	AC025026WGS9			
0.312	2	0.437	0.750	2.000	AC031227QBU1	B0	0	0
0.312	2	0.437	1.000	2.500	AC031227QCS3			
0.312	2	0.437	1.250	2.500	AC031227QDG3			
0.312	2	0.437	1.500	3.000	AC031227QE65			
0.312	2	0.437	1.750	3.000	AC031227QEW5			
0.312	2	0.437	2.000	3.500	AC031227QFK7			
0.312	2	0.437	2.250	3.500	AC031227QG67			
0.312	2	0.437	2.500	4.000	AC031227QGS9			
0.312	2	0.437	3.125	6.000	AC031227QI8I			
0.312	2	0.437	4.000	6.000	AC031227QKAI			
0.375	2	0.500	1.000	2.500	AC037528ICS3	B0	0	0
0.375	2	0.500	1.250	3.000	AC037528IDG5			
0.375	2	0.500	1.500	3.000	AC037528IE65			
0.375	2	0.500	2.000	3.500	AC037528IFK7			
0.375	2	0.500	2.250	4.000	AC037528IG69			
0.375	2	0.500	2.500	4.500	AC037528IGSB			
0.375	2	0.500	3.000	5.000	AC037528IHYE			
0.375	2	0.500	3.500	5.500	AC037528IJ4G			
0.375	2	0.500	3.750	6.000	AC037528IJQI			
0.375	2	0.500	4.000	6.000	AC037528IKAI			

Non-standard lengths, diameters and radius sizes available upon request.

ACEL2 BALL SERIES -Continued-

2FL High Helix Ball End for Aluminum Necked XL



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AC043729CCS4	B0	0	0		AC043729CCS4B000

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None
0.437	2	0.562	1.000	2.750	AC043729CCS4	B0	0	0
0.437	2	0.562	1.250	2.750	AC043729CDG4			
0.437	2	0.562	1.500	3.500	AC043729CE67			
0.437	2	0.562	2.000	4.000	AC043729CFK9			
0.437	2	0.562	2.500	4.500	AC043729CGSB			
0.437	2	0.562	3.000	5.000	AC043729CHYE			
0.437	2	0.562	3.500	5.500	AC043729CJ4G			
0.437	2	0.562	4.000	6.000	AC043729CKAI			
0.500	2	0.625	1.000	3.000	AC05002A6CS5	B0	0	0
0.500	2	0.625	1.375	3.500	AC05002A6DU7			
0.500	2	0.625	1.500	3.500	AC05002A6E67			
0.500	2	0.625	2.000	4.000	AC05002A6FK9			
0.500	2	0.625	2.250	4.000	AC05002A6G69			
0.500	2	0.625	2.500	4.500	AC05002A6GSB			
0.500	2	0.625	3.000	5.000	AC05002A6HYE			
0.500	2	0.625	3.500	5.500	AC05002A6J4G			
0.500	2	0.625	4.000	6.000	AC05002A6KAI			
0.500	2	0.625	4.500	6.500	AC05002A6LGK			
0.500	2	0.625	5.000	7.000	AC05002A6MML			
0.625	2	0.750	1.000	3.000	AC06252BUCS5	B0	0	0
0.625	2	0.750	1.500	3.500	AC06252BUE67			
0.625	2	0.750	1.750	4.000	AC06252BUEW9			
0.625	2	0.750	2.000	4.000	AC06252BUFK9			
0.625	2	0.750	2.375	4.625	AC06252BUGGC			
0.625	2	0.750	3.000	5.000	AC06252BUHYE			
0.625	2	0.750	3.500	5.500	AC06252BUJ4G			
0.625	2	0.750	4.000	6.000	AC06252BUKAI			
0.625	2	0.750	4.500	6.500	AC06252BULGK			
0.625	2	0.750	5.500	7.500	AC06252BUNUN			
0.625	2	0.750	6.000	8.000	AC06252BUQ0P			
0.750	2	1.000	2.000	4.000	AC07502CSFK9	B0	0	0
0.750	2	1.000	2.500	4.500	AC07502CSGSB			
0.750	2	1.000	3.000	5.000	AC07502CSHYE			
0.750	2	1.000	3.500	5.500	AC07502CSJ4G			
0.750	2	1.000	4.000	6.000	AC07502CSKAI			
0.750	2	1.000	4.500	6.500	AC07502CSLGK			
0.750	2	1.000	5.000	7.000	AC07502CSMML			
0.750	2	1.000	5.500	7.500	AC07502CSNUN			
0.750	2	1.000	6.000	8.000	AC07502CSQ0P			
1.000	2	1.000	1.500	4.000	AC10002CSE69	B0	0	0
1.000	2	1.250	2.000	4.500	AC10002DGFKB			
1.000	2	1.250	2.500	5.000	AC10002DGGSE			
1.000	2	1.250	2.750	5.500	AC10002DGHCG			
1.000	2	1.250	3.500	6.000	AC10002DGJ4I			
1.000	2	1.250	4.000	6.500	AC10002DGKAK			
1.000	2	1.250	4.500	7.000	AC10002DGLGL			
1.000	2	1.250	5.000	7.500	AC10002DGMMN			
1.000	2	1.250	5.500	8.000	AC10002DGNUP			
1.000	2	1.250	6.000	8.500	AC10002DGQ0Q			
1.000	2	1.250	6.500	9.000	AC10002DGR6R			
1.000	2	1.250	7.000	9.500	AC10002DGSCS			
1.000	2	1.250	7.500	10.000	AC10002DGTIT			

Non-standard lengths, diameters and radius sizes available upon request.

AC3 SERIES

3FL High Helix for Aluminum - Square or Radius



The AC3 is a great choice for light roughing to finishing in Aluminum and non-ferrous materials. The 3 flute high helix, double rake design, creates a smooth cut leaving an excellent surface finish.

- High helix for better shear and chip evacuation.
- Micro-polished edges & double rake flutes with a wiper flat for incredible wall and floor
- Manufacturing tolerances far above industry standards. Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AC0125358000	R6	0	0		AC0125358000R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	None	None
0.125	3	0.250	0	1.500	AC0125358000	S1	R3	R6							0	0
0.125	3	0.375	0	2.000	AC012536W001											
0.125	3	0.500	0	2.000	AC012538I001											
0.125	3	0.750	0	2.500	AC01253BU003											
0.187	3	0.312	0	2.000	AC0187362001	S1	R3	R6	RC						0	0
0.187	3	0.562	0	2.000	AC018739C001											
0.187	3	0.625	0	2.000	AC01873A6001											
0.187	3	0.750	0	2.500	AC01873BU003											
0.250	3	0.375	0	2.000	AC025036W001	S1	R3	R6	RC	RH					0	0
0.250	3	0.500	0	2.000	AC025038I001											
0.250	3	0.625	0	2.500	AC02503A6003											
0.250	3	0.750	0	2.500	AC02503BU003											
0.250	3	1.000	0	3.000	AC02503CS005											
0.250	3	1.250	0	3.000	AC02503DG005											
0.250	3	1.500	0	3.000	AC02503E6005											
0.250	3	1.750	0	3.000	AC02503EW005											
0.312	3	0.437	0	2.000	AC031237Q001	S1	R3	R6	RC	RH	RL	RM			0	0
0.312	3	0.500	0	2.000	AC031238I001											
0.312	3	0.750	0	2.500	AC03123BU003											
0.312	3	0.812	0	2.500	AC03123C2003											
0.312	3	1.000	0	3.000	AC03123CS005											
0.312	3	1.250	0	3.000	AC03123DG005											
0.312	3	1.750	0	3.500	AC03123EW007											
0.312	3	2.125	0	4.000	AC03123FW009											
0.375	3	0.500	0	2.000	AC037538I001	S1	R3	R6	RC	RH	RL	RM	RN		0	0
0.375	3	0.750	0	2.500	AC03753BU003											
0.375	3	1.000	0	2.500	AC03753CS003											
0.375	3	1.250	0	3.500	AC03753DG007											
0.375	3	1.500	0	3.500	AC03753E6007											
0.375	3	1.750	0	3.500	AC03753EW007											
0.375	3	2.000	0	4.000	AC03753FK009											
0.375	3	2.250	0	4.000	AC03753G6009											
0.375	3	2.500	0	5.000	AC03753GS00E											
0.437	3	0.562	0	2.750	AC043739C004	S1	R3	R6	RC	RH	RL	RM	RN	RQ	0	0
0.437	3	0.750	0	2.750	AC04373BU004											
0.437	3	1.000	0	2.750	AC04373CS004											
0.437	3	1.250	0	3.500	AC04373DG007											
0.437	3	1.500	0	3.500	AC04373E6007											
0.437	3	1.750	0	4.000	AC04373EW009											
0.437	3	2.000	0	4.000	AC04373FK009											
0.437	3	2.625	0	5.000	AC04373H200E											

Non-standard lengths, diameters and radius sizes available upon request.

AC3 SERIES -Continued-

3FL High Helix for Aluminum - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AC05003A6003	R6	0	0	=	AC05003A6003R600

Start Here

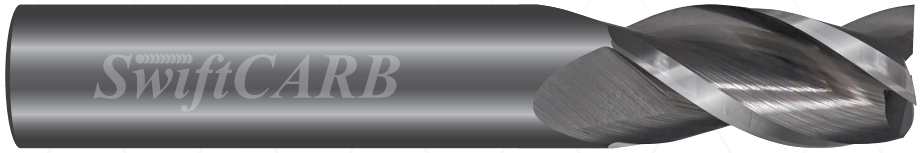
Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None
0.500	3	0.625	0	2.500	AC05003A6003	S1	R3	R6	RC	RH	RL	RM	RN	RQ		0	0
0.500	3	1.000	0	3.000	AC05003CS005												
0.500	3	1.250	0	3.000	AC05003DG005												
0.500	3	1.500	0	3.500	AC05003E6007												
0.500	3	1.625	0	3.500	AC05003EI007												
0.500	3	1.750	0	4.000	AC05003EW009												
0.500	3	2.000	0	4.000	AC05003FK009												
0.500	3	2.250	0	5.000	AC05003G600E												
0.500	3	2.500	0	5.000	AC05003GS00E												
0.500	3	2.750	0	5.000	AC05003HC00E												
0.500	3	3.000	0	5.000	AC05003HY00E												
0.500	3	3.125	0	5.000	AC05003I800E												
0.500	3	3.250	0	6.000	AC05003II00I												
0.500	3	3.500	0	6.000	AC05003J400I												
0.625	3	0.750	0	3.000	AC06253BU005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.625	3	1.250	0	3.500	AC06253DG007												
0.625	3	1.625	0	4.000	AC06253EI009												
0.625	3	1.875	0	4.000	AC06253F8009												
0.625	3	2.000	0	4.000	AC06253FK009												
0.625	3	2.250	0	5.000	AC06253G600E												
0.625	3	2.500	0	5.000	AC06253GS00E												
0.625	3	2.750	0	5.000	AC06253HC00E												
0.625	3	3.250	0	6.000	AC06253II00I												
0.625	3	3.750	0	7.000	AC06253JQ00I												
0.625	3	4.625	0	7.000	AC06253LS00L												
0.750	3	0.750	0	3.000	AC07503BU005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.750	3	1.000	0	4.000	AC07503CS009												
0.750	3	1.375	0	4.000	AC07503DU009												
0.750	3	1.625	0	4.000	AC07503EI009												
0.750	3	2.250	0	5.000	AC07503G600E												
0.750	3	2.500	0	5.000	AC07503GS00E												
0.750	3	3.250	0	6.000	AC07503II00I												
0.750	3	3.500	0	6.000	AC07503J400I												
0.750	3	4.000	0	6.500	AC07503KA00K												
0.750	3	4.500	0	7.000	AC07503LG00L												
1.000	3	1.000	0	3.000	AC10003CS005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.000	3	1.250	0	4.000	AC10003DG009												
1.000	3	2.000	0	4.500	AC10003FK00B												
1.000	3	2.625	0	5.000	AC10003H200E												
1.000	3	3.000	0	6.000	AC10003HY00I												
1.000	3	3.250	0	6.000	AC10003II00I												
1.000	3	3.500	0	6.000	AC10003J400I												
1.000	3	4.125	0	7.000	AC10003KK00L												
1.000	3	4.500	0	7.000	AC10003LG00L												
1.000	3	5.250	0	8.000	AC10003N800P												
1.250	3	1.000	0	4.000	AC12503CS009												
1.250	3	2.000	0	4.500	AC12503FK00B	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.250	3	2.625	0	5.500	AC12503H200G												
1.250	3	3.250	0	6.000	AC12503II00I												
1.250	3	4.250	0	7.500	AC12503KW00N												
1.250	3	5.500	0	9.000	AC12503NU00R												

Non-standard lengths, diameters and radius sizes available upon request.

AS3 SERIES

3FL Aluminum 35° Helix End Mill - Square or Radius



The AS3 is the all purpose tool for aluminum and other non-ferrous materials. Creating great finishes at high RPM's, this multi-application tool can be used for everything from heavy roughing to finishing. The slow helix allows for use in tight corners and long lengths.

- Moderate helix for aggressive high RPM roughing.
- Micro polished edges and flutes, plus a wiper flat for incredible finishes.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AS0125358000	R6	0	0		AS0125358000R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

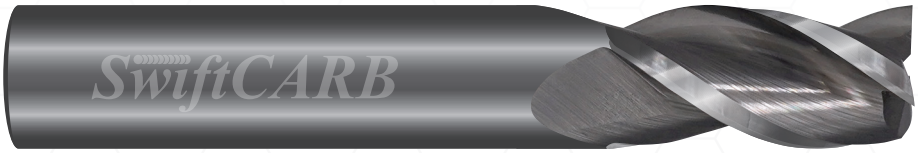
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	None	None
0.125	3	0.250	0	1.500	AS0125358000											
0.125	3	0.375	0	2.000	AS012536W001	S1	R3	R6							0	0
0.125	3	0.500	0	2.000	AS012538I001											
0.187	3	0.312	0	2.000	AS0187362001											
0.187	3	0.562	0	2.000	AS018739C001	S1	R3	R6	RC						0	0
0.250	3	0.375	0	2.000	AS025036W001											
0.250	3	0.500	0	2.000	AS025038I001											
0.250	3	0.750	0	2.500	AS02503BU003											
0.250	3	1.000	0	3.000	AS02503CS005	S1	R3	R6	RC	RH					0	0
0.250	3	1.250	0	3.000	AS02503DG005											
0.250	3	1.500	0	3.000	AS02503E6005											
0.312	3	0.437	0	2.750	AS031237Q004											
0.312	3	0.750	0	2.500	AS03123BU003											
0.312	3	1.000	0	3.000	AS03123CS005											
0.312	3	1.250	0	3.000	AS03123DG005	S1	R3	R6	RC	RH	RL	RM			0	0
0.312	3	1.500	0	3.000	AS03123E6005											
0.312	3	2.125	0	4.000	AS03123FW009											
0.375	3	0.500	0	2.000	AS037538I001											
0.375	3	0.750	0	2.500	AS03753BU003											
0.375	3	1.000	0	2.500	AS03753CS003											
0.375	3	1.250	0	3.000	AS03753DG005											
0.375	3	1.500	0	3.500	AS03753E6007	S1	R3	R6	RC	RH	RL	RM	RN		0	0
0.375	3	1.750	0	3.500	AS03753EW007											
0.375	3	2.000	0	4.000	AS03753FK009											
0.375	3	2.250	0	4.000	AS03753G6009											
0.375	3	2.500	0	5.000	AS03753GS00E											
0.437	3	0.562	0	2.750	AS043739C004											
0.437	3	0.750	0	2.750	AS04373BU004											
0.437	3	1.000	0	2.750	AS04373CS004											
0.437	3	1.250	0	3.000	AS04373DG005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	0	0
0.437	3	1.500	0	4.000	AS04373E6009											
0.437	3	1.750	0	4.000	AS04373EW009											
0.437	3	2.000	0	4.000	AS04373FK009											

Non-standard lengths, diameters and radius sizes available upon request.

AS3 SERIES -Continued-

3FL Aluminum Hyper Speed Mill - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AS05003A6003	R6	0	0		AS05003A6003R600

Start Here

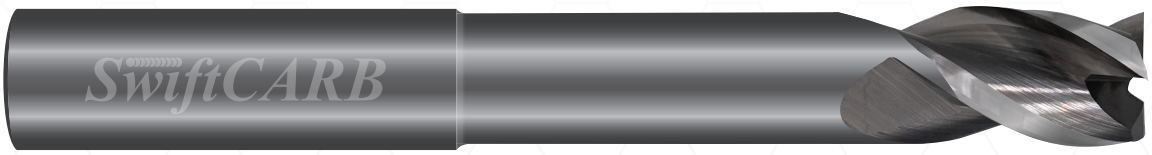
Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None
0.500	3	0.625	0	2.500	AS05003A6003	S1	R3	R6	RC	RH	RL	RM	RN	RQ		0	0
0.500	3	1.000	0	3.000	AS05003CS005												
0.500	3	1.250	0	3.000	AS05003DG005												
0.500	3	1.500	0	3.500	AS05003E6007												
0.500	3	1.625	0	3.500	AS05003EI007												
0.500	3	1.750	0	4.000	AS05003EW009												
0.500	3	2.000	0	4.000	AS05003FK009												
0.500	3	2.500	0	5.000	AS05003GS00E												
0.500	3	2.750	0	5.000	AS05003HC00E												
0.500	3	3.000	0	5.000	AS05003HY00E												
0.500	3	3.125	0	5.000	AS05003I800E												
0.625	3	0.750	0	3.000	AS06253BU005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.625	3	1.250	0	3.500	AS06253DG007												
0.625	3	1.625	0	3.500	AS06253EI007												
0.625	3	2.000	0	4.000	AS06253FK009												
0.625	3	2.125	0	4.000	AS06253FW009												
0.625	3	2.500	0	4.625	AS06253GS00C												
0.625	3	2.875	0	5.000	AS06253HM00E												
0.625	3	3.250	0	6.000	AS06253II00I												
0.625	3	3.500	0	6.000	AS06253J400I												
0.625	3	3.750	0	6.000	AS06253JQ00I												
0.750	3	0.750	0	3.000	AS0750BU005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.750	3	1.000	0	4.000	AS07503CS009												
0.750	3	1.250	0	3.500	AS07503DG007												
0.750	3	1.625	0	4.000	AS07503EI009												
0.750	3	2.250	0	5.000	AS07503G600E												
0.750	3	2.625	0	5.000	AS07503H200E												
0.750	3	3.250	0	6.000	AS07503II00I												
0.750	3	3.500	0	6.000	AS07503J400I												
0.750	3	4.000	0	6.500	AS07503KA00K												
0.750	3	4.500	0	7.000	AS07503LG00L												
1.000	3	1.000	0	3.000	AS10003CS005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.000	3	1.250	0	4.000	AS10003DG009												
1.000	3	1.500	0	4.000	AS10003E6009												
1.000	3	2.000	0	4.500	AS10003FK00B												
1.000	3	2.625	0	5.000	AS10003H200E												
1.000	3	3.125	0	6.000	AS10003I800I												
1.000	3	3.250	0	6.000	AS10003II00I												
1.000	3	3.500	0	6.000	AS10003J400I												
1.000	3	4.250	0	7.000	AS10003KW00L												
1.000	3	4.625	0	7.000	AS10003LS00L												
1.250	3	1.000	0	4.000	AS12503CS009	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.250	3	2.000	0	4.500	AS1250FK00B												
1.250	3	2.625	0	5.500	AS1250H200G												
1.250	3	3.500	0	6.000	AS1250J400I												
1.250	3	5.000	0	7.500	AS1250MM00N												

Non-standard lengths, diameters and radius sizes available upon request.

ASEL3 SERIES

3FL Aluminum Hyper Speed Mill Necked XL - Square or Radius



The ASEL3 is the all purpose tool for aluminum and other non-ferrous materials. Creating great finishes at high RPM's, this multi-application tool can be used for everything from heavy roughing to finishing. The slow helix allows for this end mill to be used in tight corners and long lengths.

- Blended neck relief reduces marks in step-down machining.
- Moderate helix for aggressive high RPM roughing.
- Micro polished edges and flutes, plus a wiper flat for incredible finishes.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Excellent tool for high speed, long reach machining.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AS0125358810	R6	0	0		AS0125358810R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

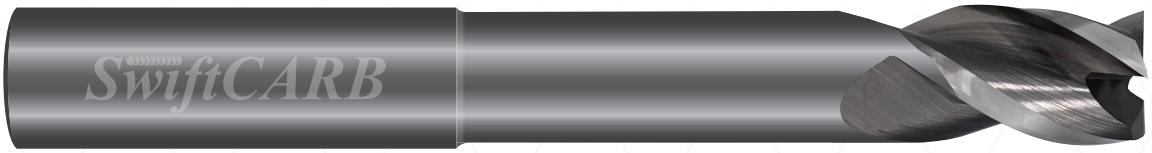
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-								Coolant	Coating
					Series, Diameter, Flutes										
DIA	#FL	LOC	LBS	OAL	LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	None	None
0.125	3	0.250	0.500	1.500	AS0125358810										
0.125	3	0.250	0.750	2.000	AS0125358BU1	S1	R3	R6						0	0
0.125	3	0.250	1.000	2.000	AS0125358CS1										
0.125	3	0.250	1.250	2.500	AS0125358DG3										
0.187	3	0.312	0.500	2.000	AS01873628I1										
0.187	3	0.312	0.750	3.000	AS0187362BU5										
0.187	3	0.312	1.000	3.000	AS0187362CS5										
0.187	3	0.312	1.250	3.000	AS0187362DG5	S1	R3	R6	RC					0	0
0.187	3	0.312	1.500	3.000	AS0187362E65										
0.187	3	0.312	1.750	3.000	AS0187362EW5										
0.250	3	0.375	0.750	2.000	AS025036WBU1										
0.250	3	0.375	1.000	2.500	AS025036WCS3										
0.250	3	0.375	1.250	2.500	AS025036WDG3										
0.250	3	0.375	1.500	3.000	AS025036WE65										
0.250	3	0.375	1.750	3.000	AS025036WEW5	S1	R3	R6	RC	RH				0	0
0.250	3	0.375	2.000	3.500	AS025036WFK7										
0.250	3	0.375	2.250	3.500	AS025036WG67										
0.250	3	0.375	2.500	4.000	AS025036WGS9										
0.312	3	0.473	0.750	2.000	AS031237QBU1										
0.312	3	0.473	1.000	2.500	AS031237QCS3										
0.312	3	0.473	1.250	2.500	AS031237QDG3										
0.312	3	0.473	1.500	3.000	AS031237QE65										
0.312	3	0.473	1.750	3.000	AS031237QEW5										
0.312	3	0.473	2.000	3.500	AS031237QFK7	S1	R3	R6	RC	RH	RL	RM		0	0
0.312	3	0.473	2.250	3.500	AS031237QG67										
0.312	3	0.473	2.500	4.000	AS031237QGS9										
0.312	3	0.473	3.125	6.000	AS031237QI8I										
0.312	3	0.473	4.000	6.000	AS031237QKAI										
0.375	3	0.500	1.000	2.500	AS037538ICS3										
0.375	3	0.500	1.250	3.000	AS037538IDG5										
0.375	3	0.500	1.500	3.000	AS037538IE65										
0.375	3	0.500	2.000	3.500	AS037538IFK7										
0.375	3	0.500	2.250	4.000	AS037538IG69										
0.375	3	0.500	2.500	4.500	AS037538IGSB	S1	R3	R6	RC	RH	RL	RM	RN	0	0
0.375	3	0.500	3.000	5.000	AS037538IHYE										
0.375	3	0.500	3.500	5.500	AS037538IJ4G										
0.375	3	0.500	3.750	6.000	AS037538IJQI										
0.375	3	0.500	4.000	6.000	AS037538IKAI										

Non-standard lengths, diameters and radius sizes available upon request.

ASEL3 SERIES -Continued-

3FL Aluminum Hyper Speed Mill Necked XL - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AS043739CCS4	R6	0	0		AS043739CCS4R600

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None
0.437	3	0.562	1.000	2.750	AS043739CCS4	S1	R3	R6	RC	RH	RL	RM	RN	RQ		0	0
0.437	3	0.562	1.250	2.750	AS043739CDG4												
0.437	3	0.562	1.500	3.500	AS043739CE67												
0.437	3	0.562	2.000	4.000	AS043739CFK9												
0.437	3	0.562	2.500	4.500	AS043739CGSB												
0.437	3	0.562	3.000	5.000	AS043739CHYE												
0.437	3	0.562	3.500	5.500	AS043739CJ4G												
0.437	3	0.562	4.000	6.000	AS043739CKAI												
0.500	3	0.625	1.000	3.000	AS05003A6CS5	S1	R3	R6	RC	RH	RL	RM	RN	RQ		0	0
0.500	3	0.625	1.375	3.500	AS05003A6DU7												
0.500	3	0.625	1.500	3.500	AS05003A6E67												
0.500	3	0.625	2.000	4.000	AS05003A6FK9												
0.500	3	0.625	2.250	4.000	AS05003A6G69												
0.500	3	0.625	2.500	4.500	AS05003A6GSB												
0.500	3	0.625	3.000	5.000	AS05003A6HYE												
0.500	3	0.625	3.500	5.500	AS05003A6J4G												
0.500	3	0.625	4.000	6.000	AS05003A6KAI												
0.500	3	0.625	4.500	6.500	AS05003A6LGK												
0.500	3	0.625	5.000	7.000	AS05003A6MML												
0.625	3	0.750	1.000	3.000	AS06253BUCS5	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.625	3	0.750	1.500	3.500	AS06253BUE67												
0.625	3	0.750	1.750	4.000	AS06253BUEW9												
0.625	3	0.750	2.000	4.000	AS06253BUFK9												
0.625	3	0.750	2.375	4.625	AS06253BUGGC												
0.625	3	0.750	3.000	5.000	AS06253BUHYE												
0.625	3	0.750	3.500	5.500	AS06253BUJ4G												
0.625	3	0.750	4.000	6.000	AS06253BUKAI												
0.625	3	0.750	4.500	6.500	AS06253BULGK												
0.625	3	0.750	5.000	7.000	AS06253BUMML												
0.625	3	0.750	5.500	7.500	AS06253BUNUN												
0.625	3	0.750	6.000	8.000	AS06253BUQ0P												
0.750	3	1.000	2.000	4.000	AS07503CSFK9	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.750	3	1.000	2.500	4.500	AS07503CSGSB												
0.750	3	1.000	3.000	5.000	AS07503CSHYE												
0.750	3	1.000	3.500	5.500	AS07503CSJ4G												
0.750	3	1.000	4.000	6.000	AS07503CSKAI												
0.750	3	1.000	4.500	6.500	AS07503CSLGK												
0.750	3	1.000	5.000	7.000	AS07503CSMML												
0.750	3	1.000	5.500	7.500	AS07503CSNUN												
0.750	3	1.000	6.000	8.000	AS07503CSQ0P												
1.000	3	1.250	1.500	4.000	AS10003CSE69	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.000	3	1.250	2.000	4.500	AS10003DGFKB												
1.000	3	1.250	2.500	5.000	AS10003DGGSE												
1.000	3	1.250	2.750	5.500	AS10003DGHCG												
1.000	3	1.250	3.500	6.000	AS10003DGJ4I												
1.000	3	1.250	4.000	6.500	AS10003DGKAK												
1.000	3	1.250	4.500	7.000	AS10003DGLGL												
1.000	3	1.250	5.000	7.500	AS10003DGMMN												
1.000	3	1.250	5.500	8.000	AS10003DGNUP												
1.000	3	1.250	6.000	8.500	AS10003DGQ0Q												
1.000	3	1.250	6.500	9.000	AS10003DGR6R												
1.000	3	1.250	7.000	9.500	AS10003DGSCS												
1.000	3	1.250	7.500	10.000	AS10003DGTIT												

Non-standard lengths, diameters and radius sizes available upon request.

AS3 BALL SERIES

3FL Aluminum Ball End Hyper Speed Mill



The AS3 Ball end mill is the all purpose tool for aluminum and other non-ferrous materials. The elliptical gash on the ball end creates great finishes at high RPM's.

- Moderate helix for aggressive high RPM roughing.
- Micro polished edges and flutes for incredible finishes.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

The AS3 has one center cutting tooth. For applications cutting to center it is recommended to use the AC2 series with two center cutting teeth on page 48.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AS0125358000	B0	0	0		AS0125358000B000

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

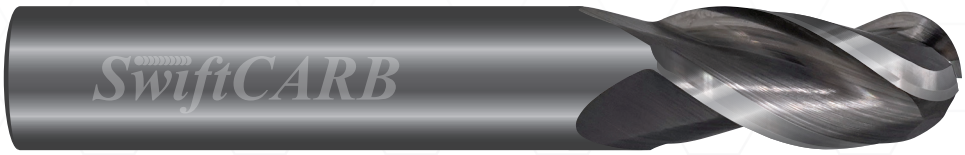
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None
0.125	3	0.250	0	1.500	AS0125358000	B0	0	0
0.125	3	0.375	0	2.000	AS012536W001			
0.125	3	0.500	0	2.000	AS012538I001			
0.187	3	0.312	0	2.000	AS0187362001	B0	0	0
0.187	3	0.562	0	2.000	AS018739C001			
0.250	3	0.375	0	2.000	AS025036W001	B0	0	0
0.250	3	0.500	0	2.000	AS025038I001			
0.250	3	0.750	0	2.500	AS02503BU003			
0.250	3	1.000	0	3.000	AS02503CS005			
0.250	3	1.250	0	3.000	AS02503DG005			
0.250	3	1.500	0	3.000	AS02503E6005			
0.312	3	0.437	0	2.000	AS031237Q001	B0	0	0
0.312	3	0.750	0	2.500	AS03123BU003			
0.312	3	1.000	0	3.000	AS03123CS005			
0.312	3	1.250	0	3.000	AS03123DG005			
0.312	3	1.500	0	3.000	AS03123E6005			
0.375	3	0.500	0	2.000	AS037538I001	B0	0	0
0.375	3	0.750	0	2.500	AS03753BU003			
0.375	3	1.000	0	2.500	AS03753CS003			
0.375	3	1.250	0	3.000	AS03753DG005			
0.375	3	1.500	0	3.500	AS03753E6007			
0.375	3	1.750	0	3.500	AS03753EW007			
0.375	3	2.000	0	4.000	AS03753FK009			
0.375	3	2.250	0	4.000	AS03753G6009			
0.437	3	0.562	0	2.750	AS043739C004	B0	0	0
0.437	3	0.750	0	2.750	AS04373BU004			
0.437	3	1.000	0	2.750	AS04373CS004			
0.437	3	1.250	0	3.000	AS04373DG005			
0.437	3	1.500	0	3.500	AS04373E6007			
0.437	3	1.750	0	4.000	AS04373EW009			
0.437	3	2.000	0	4.000	AS04373FK009			
0.500	3	0.625	0	2.500	AS05003A6003	B0	0	0
0.500	3	1.000	0	3.000	AS05003CS005			
0.500	3	1.250	0	3.000	AS05003DG005			
0.500	3	1.500	0	3.500	AS05003E6007			
0.500	3	1.625	0	3.500	AS05003EI007			
0.500	3	1.750	0	4.000	AS05003EW009			
0.500	3	2.000	0	4.000	AS05003FK009			
0.500	3	2.500	0	5.000	AS05003GS00E			
0.500	3	2.750	0	5.000	AS05003HC00E			
0.500	3	3.000	0	5.000	AS05003HY00E			

Non-standard lengths, diameters and radius sizes available upon request.

AS3 BALL SERIES -Continued-

3FL Aluminum Ball End Hyper Speed Mill



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AS06253BU005	B0	0	0		AS06253BU005B000

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None
0.625	3	0.750	0	3.000	AS06253BU005	B0	0	0
0.625	3	1.250	0	3.500	AS06253DG007			
0.625	3	1.625	0	3.500	AS06253EI007			
0.625	3	2.000	0	4.000	AS06253FK009			
0.625	3	2.500	0	4.625	AS06253GS00C			
0.625	3	2.875	0	5.000	AS06253HM00E			
0.625	3	3.500	0	6.000	AS06253J400I			
0.625	3	3.750	0	6.000	AS06253JQ00I			
0.750	3	0.750	0	3.000	AS07503BU005	B0	0	0
0.750	3	1.250	0	3.500	AS07503DG007			
0.750	3	1.625	0	4.000	AS07503EI009			
0.750	3	2.250	0	5.000	AS07503G600E			
0.750	3	2.625	0	5.000	AS07503H200E			
0.750	3	3.500	0	6.000	AS07503J400I			
0.750	3	4.500	0	7.000	AS07503LG00L			
1.000	3	1.000	0	3.000	AS10003CS005	B0	0	0
1.000	3	1.500	0	4.000	AS10003E6009			
1.000	3	2.000	0	4.500	AS10003FK00B			
1.000	3	2.625	0	5.000	AS10003H200E			
1.000	3	3.125	0	6.000	AS10003I800I			
1.000	3	3.500	0	6.000	AS10003J400I			
1.000	3	4.250	0	7.000	AS10003KW00L			
1.250	3	1.000	0	4.000	AS12503CS009	B0	0	0
1.250	3	2.000	0	4.500	AS12503FK00B			
1.250	3	2.625	0	5.500	AS12503H200G			
1.250	3	3.500	0	6.000	AS12503J400I			
1.250	3	5.000	0	7.500	AS12503MM00N			

Non-standard lengths, diameters and radius sizes available upon request.

ASEL3 BALL SERIES

3FL Aluminum Ball End Hyper Speed Mill Necked XL



The ASEL3 Ball end mill for aluminum and other non-ferrous materials. The elliptical gash on the ball end creates great finishes at high RPM's.

- Blended neck relief reduces marks in step-down machining.
- Moderate helix for aggressive high RPM roughing. Micro polished edges and flutes for incredible finishes.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

The ASEL3 has one center cutting tooth. For applications cutting to center it is recommended to use the AC2 series with two center cutting teeth on page 50.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AS0125358810	B0	0	0		AS0125358810B000

Start Here

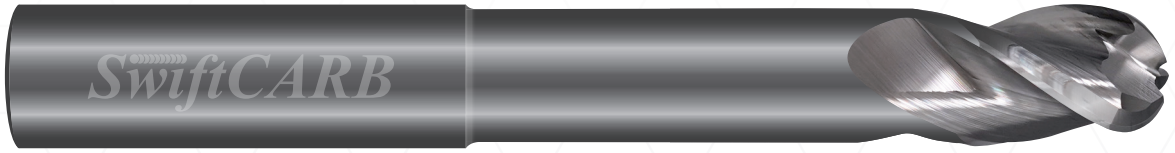
Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None
0.125	3	0.250	0.500	1.500	AS0125358810	B0	0	0
0.125	3	0.250	0.750	2.000	AS0125358BU1			
0.125	3	0.250	1.000	2.000	AS0125358CS1			
0.125	3	0.250	1.250	2.500	AS0125358DG3			
0.187	3	0.312	0.500	2.000	AS01873628I1	B0	0	0
0.187	3	0.312	0.750	3.000	AS0187362BU5			
0.187	3	0.312	1.000	3.000	AS0187362CS5			
0.187	3	0.312	1.250	3.000	AS0187362DG5			
0.187	3	0.312	1.500	3.000	AS0187362E65			
0.187	3	0.312	1.750	3.000	AS0187362EW5			
0.250	3	0.375	0.750	2.000	AS025036WBU1	B0	0	0
0.250	3	0.375	1.000	2.500	AS025036WCS3			
0.250	3	0.375	1.250	2.500	AS025036WDG3			
0.250	3	0.375	1.500	3.000	AS025036WE65			
0.250	3	0.375	1.750	3.000	AS025036WEW5			
0.250	3	0.375	2.000	3.500	AS025036WFK7			
0.250	3	0.375	2.250	3.500	AS025036WG67			
0.250	3	0.375	2.500	4.000	AS025036WGS9			
0.312	3	0.437	0.750	2.000	AS031237QBU1	B0	0	0
0.312	3	0.437	1.000	2.500	AS031237QCS3			
0.312	3	0.437	1.250	2.500	AS031237QDG3			
0.312	3	0.437	1.500	3.000	AS031237QE65			
0.312	3	0.437	1.750	3.000	AS031237QEW5			
0.312	3	0.437	2.000	3.500	AS031237QFK7			
0.312	3	0.437	2.250	3.500	AS031237QG67			
0.312	3	0.437	2.500	4.000	AS031237QGS9			
0.312	3	0.437	3.125	6.000	AS031237QI8I			
0.312	3	0.437	4.000	6.000	AS031237QKAI			
0.375	3	0.500	1.000	2.500	AS037538ICS3	B0	0	0
0.375	3	0.500	1.125	3.000	AS0375381DG5			
0.375	3	0.500	1.500	3.000	AS037538IE65			
0.375	3	0.500	2.000	3.500	AS037538IFK7			
0.375	3	0.500	2.250	4.000	AS037538IG69			
0.375	3	0.500	2.500	4.500	AS037538IGSB			
0.375	3	0.500	3.000	5.000	AS037538IHYE			
0.375	3	0.500	3.500	5.500	AS037538IJ4G			
0.375	3	0.500	3.750	6.000	AS037538IJQI			
0.375	3	0.500	4.000	6.000	AS037538IKAI			

Non-standard lengths, diameters and radius sizes available upon request.

ASEL3 BALL SERIES -Continued-

3FL Aluminum Ball End Hyper Speed Mill Necked XL



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AS043739CCS4	B0	0	0		AS043739CCS4B000

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None
0.437	3	0.562	1.000	2.750	AS043739CCS4	B0	0	0
0.437	3	0.562	1.250	2.750	AS043739CDG4			
0.437	3	0.562	1.500	3.500	AS043739CE67			
0.437	3	0.562	2.000	4.000	AS043739CFK9			
0.437	3	0.562	2.500	4.500	AS043739CGSB			
0.437	3	0.562	3.000	5.000	AS043739CHYE			
0.437	3	0.562	3.500	5.500	AS043739CJ4G			
0.437	3	0.562	4.000	6.000	AS043739CKAI			
0.500	3	0.625	1.000	3.000	AS05003A6CS5	B0	0	0
0.500	3	0.625	1.375	3.500	AS05003A6DU7			
0.500	3	0.625	1.500	3.500	AS05003A6E67			
0.500	3	0.625	2.000	4.000	AS05003A6FK9			
0.500	3	0.625	2.250	4.000	AS05003A6G69			
0.500	3	0.625	2.500	4.500	AS05003A6GSB			
0.500	3	0.625	3.000	5.000	AS05003A6HYE			
0.500	3	0.625	3.500	5.500	AS05003A6J4G			
0.500	3	0.625	4.000	6.000	AS05003A6KAI			
0.500	3	0.625	4.500	6.500	AS05003A6LGK			
0.500	3	0.625	5.000	7.000	AS05003A6MML			
0.625	3	0.750	1.000	3.000	AS06253BUCS5	B0	0	0
0.625	3	0.750	1.500	3.500	AS06253BUE67			
0.625	3	0.750	2.000	4.000	AS06253BUFK9			
0.625	3	0.750	2.375	4.625	AS06253BUGGC			
0.625	3	0.750	3.000	5.000	AS06253BUHYE			
0.625	3	0.750	3.500	5.500	AS06253BUJ4G			
0.625	3	0.750	4.000	6.000	AS06253BUKAI			
0.625	3	0.750	4.500	6.500	AS06253BULGK			
0.625	3	0.750	5.000	7.000	AS06253BUMML			
0.625	3	0.750	5.500	7.500	AS06253BUNUN			
0.625	3	0.750	6.000	8.000	AS06253BUQ0P			
0.750	3	1.000	2.000	4.000	AS07503CSFK9	B0	0	0
0.750	3	1.000	2.500	4.500	AS07503CSGSB			
0.750	3	1.000	3.000	5.000	AS07503CSHYE			
0.750	3	1.000	3.500	5.500	AS07503CSJ4G			
0.750	3	1.000	4.000	6.000	AS07503CSKAI			
0.750	3	1.000	4.500	6.500	AS07503CSLGK			
0.750	3	1.000	5.000	7.000	AS07503CSMML			
0.750	3	1.000	5.500	7.500	AS07503CSNUN			
0.750	3	1.000	6.000	8.000	AS07503CSQ0P			
1.000	3	1.000	1.500	4.000	AS10003CSE69	B0	0	0
1.000	3	1.250	2.000	4.500	AS10003DGFKB			
1.000	3	1.250	2.500	5.000	AS10003DGGSE			
1.000	3	1.250	2.750	5.500	AS10003DGHCG			
1.000	3	1.250	3.500	6.000	AS10003DGJ4I			
1.000	3	1.250	4.000	6.500	AS10003DGKAK			
1.000	3	1.250	4.500	7.000	AS10003DGLGL			
1.000	3	1.250	5.000	7.500	AS10003DGMMN			
1.000	3	1.250	5.500	8.000	AS10003DGNUP			
1.000	3	1.250	6.000	8.500	AS10003DGQ0Q			
1.000	3	1.250	6.500	9.000	AS10003DGR6R			
1.000	3	1.250	7.000	9.500	AS10003DGSCS			
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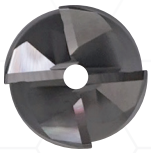
Non-standard lengths, diameters and radius sizes available upon request.

AF4 SERIES

Differential Pitch & Differential Helix

4FL Aluminum Finisher - Square or Radius





US PATENT:
9,227,253
10,335,870

The AF4 finishes faster than a 3 flute and has a differential pitch / differential helix design that reduces the harmonics that cause vibration and chatter. The AF4 is an excellent choice for light to medium engagement, producing mirror finishes in tight corners.

- Patent protected through-coolant hole gives flawless chip evacuation for unmatched finishes and tool life.
- Micro-polished edges and double rake flutes with a wiper flat for mirror wall and floor finishes.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AF0187462001	R6	0	0		AF0187462001R600

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	None	Center	None
0.187	4	0.312	0	2.000	AF0187462001	S1	R3	R6	RC						0	C	0
0.187	4	0.500	0	2.000	AF018748I001												
0.187	4	0.625	0	2.500	AF01874A6003												
0.187	4	0.750	0	2.500	AF01874BU003												
0.187	4	1.000	0	3.000	AF01874CS005										0		
0.187	4	1.250	0	3.000	AF01874DG005												
0.250	4	0.375	0	2.000	AF025046W001	S1	R3	R6	RC	RH					0	C	0
0.250	4	0.500	0	2.000	AF025048I001												
0.250	4	0.750	0	2.500	AF02504BU003												
0.250	4	1.000	0	3.000	AF02504CS005												
0.250	4	1.250	0	3.000	AF02504DG005												
0.250	4	1.500	0	3.000	AF02504E6005												
0.250	4	1.750	0	3.500	AF02504EW007										0		
0.250	4	2.000	0	3.500	AF02504FK007												
0.312	4	0.500	0	2.000	AF031248I001	S1	R3	R6	RC	RH	RL	RM			0	C	0
0.312	4	0.750	0	2.500	AF03124BU003												
0.312	4	1.000	0	2.500	AF03124CS003												
0.312	4	1.250	0	3.000	AF03124DG005												
0.312	4	1.500	0	3.000	AF03124E6005												
0.312	4	1.750	0	3.500	AF03124EW007												
0.312	4	2.000	0	3.500	AF03124FK007												
0.375	4	0.500	0	2.000	AF037548I001	S1	R3	R6	RC	RH	RL	RM	RN		0	C	0
0.375	4	0.750	0	2.500	AF03754BU003												
0.375	4	1.000	0	2.500	AF03754CS003												
0.375	4	1.250	0	3.000	AF03754DG005												
0.375	4	1.500	0	3.500	AF03754E6007												
0.375	4	1.750	0	3.500	AF03754EW007												
0.375	4	2.000	0	4.000	AF03754FK009												
0.375	4	2.250	0	4.000	AF03754G6009												
0.375	4	2.500	0	5.000	AF03754GS00E												
0.375	4	3.000	0	5.000	AF03754HY00E												
0.437	4	0.750	0	2.750	AF04374BU004	S1	R3	R6	RC	RH	RL	RM	RN	RQ	0	C	0
0.437	4	1.000	0	2.750	AF04374CS004												
0.437	4	1.250	0	3.000	AF04374DG005												
0.437	4	1.750	0	4.000	AF04374EW009												
0.437	4	2.000	0	4.000	AF04374FK009												
0.437	4	2.500	0	5.000	AF04374GS00E												
0.437	4	3.000	0	5.000	AF04374HY00E												
0.500	4	0.625	0	2.500	AF05004A6003	S1	R3	R6	RC	RH	RL	RM	RN	RQ	0	C	0
0.500	4	1.000	0	3.000	AF05004CS005												
0.500	4	1.250	0	3.000	AF05004DG005												
0.500	4	1.500	0	3.500	AF05004E6007												
0.500	4	1.625	0	3.500	AF05004EI007												

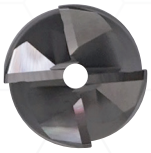
Non-standard lengths, diameters and radius sizes available upon request.

CALL 800-227-9876 FOR YOUR NEAREST DISTRIBUTOR

AF4 SERIES -Continued-

Differential Pitch & Differential Helix
4FL Aluminum Finisher - Square or Radius





US PATENT:
9,227,253
10,335,870

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AF05004EW009	R6	0	0		AF05004EW009R600

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None
0.500	4	1.750	0	4.000	AF05004EW009	S1	R3	R6	RC	RH	RL	RM	RN	RQ		0	0
0.500	4	2.000	0	4.000	AF05004FK009												
0.500	4	2.250	0	5.000	AF05004G600E												
0.500	4	2.500	0	5.000	AF05004GS00E												
0.500	4	2.750	0	5.000	AF05004HC00E												
0.500	4	3.000	0	5.000	AF05004HY00E												
0.500	4	3.125	0	5.000	AF05004I800E												
0.500	4	3.250	0	6.000	AF05004II00I												
0.500	4	3.500	0	6.000	AF05004J400I												
0.500	4	4.000	0	6.000	AF05004KA00I												
0.562	4	1.500	0	3.500	AF05624E6007	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.562	4	2.000	0	4.000	AF05624FK009												
0.562	4	3.000	0	5.000	AF05624HY00E												
0.625	4	0.750	0	3.000	AF06254BU005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.625	4	1.250	0	3.500	AF06254DG007												
0.625	4	1.625	0	3.500	AF06254EI007												
0.625	4	1.875	0	4.000	AF06254F8009												
0.625	4	2.000	0	4.000	AF06254FK009												
0.625	4	2.250	0	5.000	AF06254G600E												
0.625	4	2.500	0	5.000	AF06254GS00E												
0.625	4	2.750	0	5.000	AF06254HC00E												
0.625	4	3.250	0	6.000	AF06254II00I												
0.625	4	3.750	0	6.000	AF06254JQ00I												
0.625	4	4.500	0	7.000	AF06254LG00L												
0.750	4	0.750	0	3.000	AF07504BU005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.750	4	1.000	0	3.000	AF07504CS005												
0.750	4	1.625	0	4.000	AF07504EI009												
0.750	4	2.250	0	5.000	AF07504G600E												
0.750	4	2.500	0	5.000	AF07504GS00E												
0.750	4	3.250	0	6.000	AF07504II00I												
0.750	4	3.500	0	6.000	AF07504J400I												
0.750	4	4.000	0	6.500	AF07504KA00K												
0.750	4	4.625	0	7.000	AF07504LS00L												
0.875	4	1.625	0	4.000	AF08754EI009	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.875	4	2.750	0	5.000	AF08754HC00E												
0.875	4	3.750	0	6.000	AF08754JQ00I												
0.875	4	5.000	0	8.000	AF08754MM00P												
1.000	4	1.000	0	3.000	AF10004CS005	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.000	4	1.250	0	4.000	AF10004DG009												
1.000	4	1.500	0	4.000	AF10004E6009												
1.000	4	2.000	0	4.500	AF10004FK00B												
1.000	4	2.625	0	5.000	AF10004H200E												
1.000	4	3.000	0	6.000	AF10004HY00I												
1.000	4	3.250	0	6.000	AF10004II00I												
1.000	4	3.500	0	6.000	AF10004J400I												
1.000	4	4.125	0	7.000	AF10004KK00L												
1.000	4	4.500	0	7.000	AF10004LG00L												
1.000	4	5.250	0	8.000	AF10004N800P												
1.250	4	2.000	0	4.500	AF12504FK00B	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.250	4	2.625	0	5.500	AF12504H200G												
1.250	4	3.250	0	6.000	AF12504II00I												
1.250	4	4.250	0	7.500	AF12504KW00N												
1.250	4	5.000	0	7.500	AF12504MM00N												
1.250	4	5.500	0	9.000	AF12504NU00R												

Non-standard lengths, diameters and radius sizes available upon request.

AF4 BALL SERIES

Differential Pitch & Differential Helix
4FL Aluminum Finisher - Ball End



The AF4 series differential pitch / differential helix 4 flute ball end is our newest offering in ultra high performance aluminum finishing. The AF4 flute ball allows for higher feed rates while producing excellent finishes. This is our best choice for finishing and profiling applications in aluminum and other non-ferrous materials requiring a ball end.

- **Manufactured using premium carbide blanks holding tolerances well above industry standard.**
- **Premium carbide blanks and eccentric relief with micro-polished edge for superior strength and wear resistance.**

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AF0187462001	B0	0	0		AF0187462001B000

Start Here

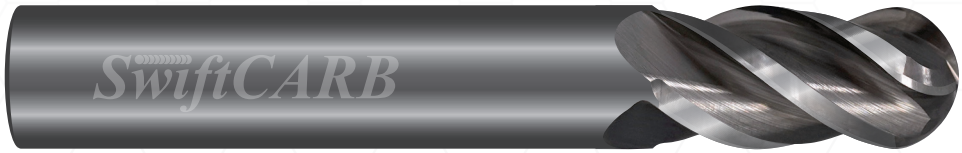
Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None
0.187	4	0.312	0	2.000	AF0187462001	B0	0	0
0.187	4	0.500	0	2.000	AF018748I001			
0.187	4	0.625	0	2.500	AF01874A6003			
0.187	4	0.750	0	2.500	AF01874BU003			
0.187	4	1.000	0	3.000	AF01874CS005			
0.187	4	1.250	0	3.000	AF01874DG005			
0.250	4	0.375	0	2.000	AF025046W001	B0	0	0
0.250	4	0.500	0	2.000	AF025048I001			
0.250	4	0.750	0	2.500	AF02504BU003			
0.250	4	1.000	0	3.000	AF02504CS005			
0.250	4	1.250	0	3.000	AF02504DG005			
0.250	4	1.500	0	3.000	AF02504E6005			
0.250	4	1.750	0	3.500	AF02504EW007			
0.250	4	2.000	0	3.500	AF02504FK007			
0.312	4	0.500	0	2.000	AF031248I001	B0	0	0
0.312	4	0.750	0	2.500	AF03124BU003			
0.312	4	1.000	0	2.500	AF03124CS003			
0.312	4	1.250	0	3.000	AF03124DG005			
0.312	4	1.500	0	3.000	AF03124E6005			
0.312	4	1.750	0	3.500	AF03124EW007			
0.312	4	2.000	0	3.500	AF03124FK007			
0.375	4	0.500	0	2.000	AF037548I001	B0	0	0
0.375	4	0.750	0	2.500	AF03754BU003			
0.375	4	1.000	0	2.500	AF03754CS003			
0.375	4	1.250	0	3.000	AF03754DG005			
0.375	4	1.500	0	3.500	AF03754E6007			
0.375	4	1.750	0	3.500	AF03754EW007			
0.375	4	2.000	0	4.000	AF03754FK009			
0.375	4	2.250	0	4.000	AF03754G6009			
0.375	4	2.500	0	5.000	AF03754GS00E			
0.375	4	3.000	0	5.000	AF03754HY00E			
0.437	4	0.750	0	2.750	AF04374BU004	B0	0	0
0.437	4	1.000	0	2.750	AF04374CS004			
0.437	4	1.250	0	3.000	AF04374DG005			
0.437	4	1.750	0	4.000	AF04374EW009			
0.437	4	2.000	0	4.000	AF04374FK009			
0.437	4	2.500	0	5.000	AF04374GS00E			
0.437	4	3.000	0	5.000	AF04374HY00E			
0.500	4	0.625	0	2.500	AF05004A6003	B0	0	0
0.500	4	1.000	0	3.000	AF05004CS005			
0.500	4	1.250	0	3.000	AF05004DG005			
0.500	4	1.500	0	3.500	AF05004E6007			
0.500	4	1.625	0	3.500	AF05004EI007			

Non-standard lengths, diameters and radius sizes available upon request.

AF4 BALL SERIES -Continued-

Differential Pitch & Differential Helix
4FL Aluminum Finisher - Ball End



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AF05004EW009	B0	0	0		AF05004EW009B000

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None
0.500	4	1.750	0	4.000	AF05004EW009	B0	0	0
0.500	4	2.000	0	4.000	AF05004FK009			
0.500	4	2.250	0	5.000	AF05004G600E			
0.500	4	2.500	0	5.000	AF05004GS00E			
0.500	4	2.750	0	5.000	AF05004HC00E			
0.500	4	3.000	0	5.000	AF05004HY00E			
0.500	4	3.125	0	5.000	AF05004I800E			
0.500	4	3.250	0	6.000	AF05004II00I			
0.500	4	3.500	0	6.000	AF05004J400I			
0.500	4	4.000	0	6.000	AF05004KA00I			
0.562	4	1.500	0	3.500	AF05624E6007	B0	0	0
0.562	4	2.000	0	4.000	AF05624FK009			
0.562	4	3.000	0	5.000	AF05624HY00E			
0.625	4	0.750	0	3.000	AF06254BU005	B0	0	0
0.625	4	1.250	0	3.500	AF06254DG007			
0.625	4	1.625	0	3.500	AF06254EI007			
0.625	4	1.875	0	4.000	AF06254F8009			
0.625	4	2.000	0	4.000	AF06254FK009			
0.625	4	2.250	0	5.000	AF06254G600E			
0.625	4	2.500	0	5.000	AF06254GS00E			
0.625	4	2.750	0	5.000	AF06254HC00E			
0.625	4	3.250	0	6.000	AF06254II00I			
0.625	4	3.750	0	6.000	AF06254JQ00I			
0.625	4	4.500	0	7.000	AF06254LG00L			
0.750	4	0.750	0	3.000	AF07504BU005	B0	0	0
0.750	4	1.000	0	3.000	AF07504CS005			
0.750	4	1.625	0	4.000	AF07504EI009			
0.750	4	2.250	0	5.000	AF07504G600E			
0.750	4	2.500	0	5.000	AF07504GS00E			
0.750	4	3.250	0	6.000	AF07504II00I			
0.750	4	3.500	0	6.000	AF07504J400I			
0.750	4	4.000	0	6.500	AF07504KA00K			
0.750	4	4.625	0	7.000	AF07504LS00L			
0.875	4	1.625	0	4.000	AF08754EI009	B0	0	0
0.875	4	2.750	0	5.000	AF08754HC00E			
0.875	4	3.750	0	6.000	AF08754JQ00I			
0.875	4	5.000	0	8.000	AF08754MM00P			
1.000	4	1.000	0	3.000	AF10004CS005	B0	0	0
1.000	4	1.250	0	4.000	AF10004DG009			
1.000	4	1.500	0	4.000	AF10004E6009			
1.000	4	2.000	0	4.500	AF10004FK00B			
1.000	4	2.625	0	5.000	AF10004H200E			
1.000	4	3.000	0	6.000	AF10004HY00I			
1.000	4	3.250	0	6.000	AF10004II00I			
1.000	4	3.500	0	6.000	AF10004J400I			
1.000	4	4.125	0	7.000	AF10004KK00L			
1.000	4	4.500	0	7.000	AF10004LG00L			
1.000	4	5.250	0	8.000	AF10004N800P			
1.250	4	2.000	0	4.500	AF12504FK00B	B0	0	0
1.250	4	2.625	0	5.500	AF12504H200G			
1.250	4	3.250	0	6.000	AF12504II00I			
1.250	4	4.250	0	7.500	AF12504KW00N			
1.250	4	5.000	0	7.500	AF12504MM00N			
1.250	4	5.500	0	9.000	AF12504NU00R			

Non-standard lengths, diameters and radius sizes available upon request.

AF5 SERIES

5FL Aluminum Finisher - Square or Radius





US PATENT:
9,227,253
10,335,870

The AF5 is the ultimate tool for fast, clean finishes in aluminum.

- Patent protected through-coolant hole gives flawless chip evacuation for unmatched finishes and tool life.
- Micro-polished edges and double rake flutes with a wiper flat for mirror wall and floor finishes.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AF025056W001	R6	0	0		AF025056W001R60M

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	None	Center	MDC
0.250	5	0.375	0	2.000	AF025056W001	S1	R3	R6	RC						0	C	0
0.250	5	0.500	0	2.000	AF025058I001												
0.250	5	0.750	0	2.500	AF02505BU003												
0.250	5	1.000	0	3.000	AF02505CS005												
0.250	5	1.250	0	3.000	AF02505DG005												
0.250	5	1.500	0	3.000	AF02505E6005												
0.250	5	1.750	0	3.500	AF02505EW007										0		
0.250	5	2.000	0	3.500	AF02505FK007												
0.312	5	0.500	0	2.000	AF031258I001	S1	R3	R6	RC	RH					0	C	0
0.312	5	0.750	0	2.500	AF03125BU003												
0.312	5	1.000	0	2.500	AF03125CS003												
0.312	5	1.250	0	3.000	AF03125DG005												
0.312	5	1.500	0	3.000	AF03125E6005												
0.312	5	1.750	0	3.500	AF03125EW007												
0.312	5	2.000	0	3.500	AF03125FK007												
0.375	5	0.500	0	2.000	AF037558I001	S1	R3	R6	RC	RH	RL	RM			0	C	0
0.375	5	0.750	0	2.500	AF03755BU003												
0.375	5	1.000	0	2.500	AF03755CS003												
0.375	5	1.250	0	3.000	AF03755DG005												
0.375	5	1.500	0	3.500	AF03755E6007												
0.375	5	1.750	0	3.500	AF03755EW007												
0.375	5	2.000	0	4.000	AF03755FK009												
0.375	5	2.250	0	4.000	AF03755G6009												
0.375	5	2.500	0	5.000	AF03755GS00E												
0.375	5	3.000	0	5.000	AF03755HY00E												
0.437	5	0.750	0	2.750	AF04375BU004	S1	R3	R6	RC	RH	RL	RM	RN		0	C	0
0.437	5	1.000	0	2.750	AF04375CS004												
0.437	5	1.250	0	3.000	AF04375DG005												
0.437	5	1.750	0	4.000	AF04375EW009												
0.437	5	2.000	0	4.000	AF04375FK009												
0.437	5	2.500	0	5.000	AF04375GS00E												
0.437	5	3.000	0	5.000	AF04375HY00E												
0.500	5	0.625	0	2.500	AF05005A6003	S1	R3	R6	RC	RH	RL	RM	RN	RQ	0	C	0
0.500	5	1.000	0	3.000	AF05005CS005												
0.500	5	1.250	0	3.000	AF05005DG005												
0.500	5	1.500	0	3.500	AF05005E6007												
0.500	5	1.625	0	3.500	AF05005EI007												
0.500	5	1.750	0	4.000	AF05005EW009												
0.500	5	2.000	0	4.000	AF05005FK009												
0.500	5	2.250	0	5.000	AF05005G600E												
0.500	5	2.500	0	5.000	AF05005GS00E												
0.500	5	2.750	0	5.000	AF05005HC00E												
0.500	5	3.000	0	5.000	AF05005HY00E												
0.500	5	3.125	0	5.000	AF05005I800E												
0.500	5	3.250	0	6.000	AF05005II00I												

Non-standard lengths, diameters and radius sizes available upon request.

AF5 SERIES -Continued-

5FL Aluminum Finisher - Square or Radius





US PATENT:
9,227,253
10,335,870

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AF05005II00I	R6	0	0		AF05005II00IR600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

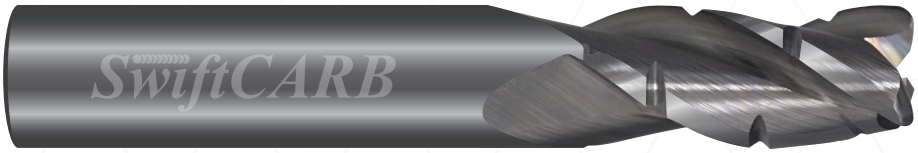
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square With Wiper	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	Center	None
0.500	5	3.250	0	6.000	AF05005II00I													
0.500	5	3.500	0	6.000	AF05005J400I	S1	R3	R6	RC	RH	RL	RM	RN	RQ		0	C	0
0.500	5	4.000	0	6.000	AF05005KA00I													
0.562	5	1.500	0	3.500	AF05625E6007													
0.562	5	2.000	0	4.000	AF05625FK009	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	0
0.562	5	3.000	0	5.000	AF05625HY00E													
0.625	5	0.750	0	3.000	AF06255BU005													
0.625	5	1.250	0	3.500	AF06255DG007													
0.625	5	1.625	0	3.500	AF06255EI007													
0.625	5	1.875	0	4.000	AF06255F8009													
0.625	5	2.000	0	4.000	AF06255FK009													
0.625	5	2.250	0	5.000	AF06255G600E	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	0
0.625	5	2.500	0	5.000	AF06255GS00E													
0.625	5	2.750	0	5.000	AF06255HC00E													
0.625	5	3.250	0	6.000	AF06255II00I													
0.625	5	3.750	0	6.000	AF06255JQ00I													
0.625	5	4.500	0	7.000	AF06255LG00L													
0.750	5	0.750	0	3.000	AF07505BU005													
0.750	5	1.000	0	3.000	AF07505CS005													
0.750	5	1.625	0	4.000	AF07505EI009													
0.750	5	2.250	0	5.000	AF07505G600E													
0.750	5	2.500	0	5.000	AF07505GS00E	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	0
0.750	5	3.250	0	6.000	AF07505II00I													
0.750	5	3.500	0	6.000	AF07505J400I													
0.750	5	4.000	0	6.500	AF07505KA00K													
0.750	5	4.625	0	7.000	AF07505LS00L													
0.875	5	1.625	0	4.000	AF08755EI009													
0.875	5	2.750	0	5.000	AF08755HC00E													
0.875	5	3.750	0	6.000	AF08755JQ00I	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	0
0.875	5	5.000	0	8.000	AF08755MM00P													
1.000	5	1.000	0	3.000	AF10005CS005													
1.000	5	1.250	0	4.000	AF10005DG009													
1.000	5	1.500	0	4.000	AF10005E6009													
1.000	5	2.000	0	4.500	AF10005FK00B													
1.000	5	2.625	0	5.000	AF10005H200E													
1.000	5	3.000	0	6.000	AF10005HY00I	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	0
1.000	5	3.250	0	6.000	AF10005II00I													
1.000	5	3.500	0	6.000	AF10005J400I													
1.000	5	4.125	0	7.000	AF10005KK00L													
1.000	5	4.500	0	7.000	AF10005LG00L													
1.000	5	5.250	0	8.000	AF10005N800P													
1.250	5	2.000	0	4.500	AF12505FK00B													
1.250	5	2.625	0	5.500	AF12505H200G													
1.250	5	3.250	0	6.000	AF12505II00I	S1	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	C	0
1.250	5	4.250	0	7.500	AF12505KW00N													
1.250	5	5.000	0	7.500	AF12505MM00N													
1.250	5	5.500	0	9.000	AF12505NU00R													

Non-standard lengths, diameters and radius sizes available upon request.

AR3 SERIES

3FL Aluminum V-Notch Heavy Rougher



The AR3 is designed to remove the maximum material per HP available. The free cutting proprietary V-notch design breaks up sine waves and makes small, manageable chips. Center cutting geometry for plunging, the AR3 is also available with large corner radii.

- Large chip gullets and eccentric relief allows for maximum chip loads.
- Proprietary V-notch prevents chatter and produces short manageable chips.
- Excellent tool for long axial engagement cuts.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Micro-polished edges and staggered V-notch design creates a great finish with a true rougher.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AR025036W001	R6	0	0		AR025036W001R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

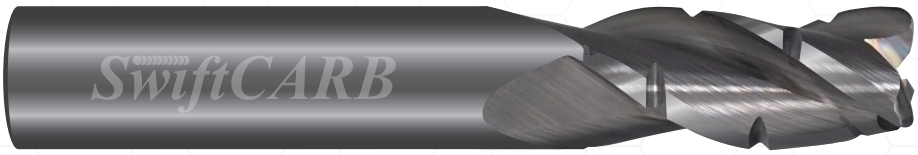
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant	Coating
					Series, Diameter, Flutes												
DIA	#FL	LOC	LBS	OAL	LOC, LBS & OAL	Standard Roughing Radius	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None
0.250	3	0.375	0	2.000	AR025036W001	T6 (.030)	R3	R6	RC	RH						0	0
0.250	3	0.500	0	2.000	AR025038I001												
0.250	3	0.750	0	2.500	AR02503BU003												
0.250	3	1.000	0	3.000	AR02503CS005												
0.250	3	1.250	0	3.000	AR02503DG005												
0.250	3	1.500	0	3.000	AR02503E6005												
0.250	3	1.750	0	3.000	AR02503EW005												
0.375	3	0.500	0	2.000	AR037538I001	T6 (.030)	R3	R6	RC	RH	RL	RM	RN			0	0
0.375	3	0.750	0	2.500	AR03753BU003												
0.375	3	1.000	0	2.500	AR03753CS003												
0.375	3	1.250	0	3.000	AR03753DG005												
0.375	3	1.500	0	3.500	AR03753E6007												
0.375	3	1.750	0	3.500	AR03753EW007												
0.375	3	2.000	0	4.000	AR03753FK009												
0.375	3	2.500	0	4.000	AR03753GS009												
0.500	3	0.625	0	2.500	AR05003A6003	TC (.060)	R3	R6	RC	RH	RL	RM	RN	RQ		0	0
0.500	3	1.000	0	3.000	AR05003CS005												
0.500	3	1.250	0	3.000	AR05003DG005												
0.500	3	1.625	0	3.500	AR05003EI007												
0.500	3	2.000	0	4.000	AR05003FK009												
0.500	3	2.500	0	5.000	AR05003GS00E												
0.500	3	3.000	0	5.000	AR05003HY00E												
0.500	3	3.500	0	6.000	AR05003J400I												
0.625	3	0.750	0	3.000	AR06253BU005	TC (.060)	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.625	3	1.250	0	3.000	AR06253DG005												
0.625	3	1.625	0	3.500	AR06253EI007												
0.625	3	2.000	0	4.000	AR06253FK009												
0.625	3	2.250	0	4.000	AR06253G6009												
0.625	3	2.500	0	5.000	AR06253GS00E												
0.625	3	3.250	0	5.000	AR06253II00E												
0.625	3	3.500	0	6.000	AR06253J400I												
0.625	3	3.750	0	6.000	AR06253JQ00I												
0.625	3	4.000	0	6.000	AR06253KA00I												

Non-standard lengths, diameters and radius sizes available upon request.

AR3 SERIES -Continued-

3FL Aluminum V-Notch Heavy Rougher



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AR07503BU005	R6	0	0		AR07503BU005R600

Start Here

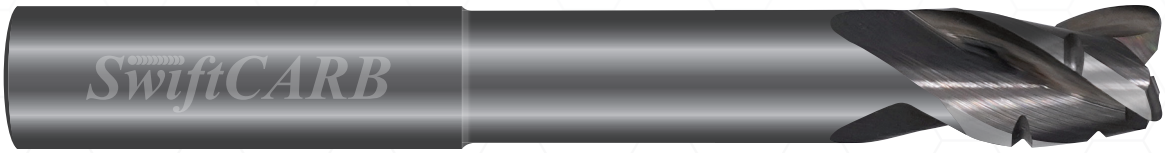
Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None
0.750	3	0.750	0	3.000	AR07503BU005	TC (.060)	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.750	3	1.125	0	3.500	AR07503D4007												
0.750	3	1.625	0	4.000	AR07503EI009												
0.750	3	2.250	0	5.000	AR07503G600E												
0.750	3	2.625	0	5.000	AR07503H200E												
0.750	3	3.250	0	6.000	AR07503II00I												
0.750	3	3.625	0	6.000	AR07503JE00I												
0.750	3	4.000	0	6.500	AR10003KA00K												
0.750	3	4.500	0	7.000	AR10003LG00L												
1.000	3	1.000	0	3.000	AR10003CS005	TC (.060)	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.000	3	1.500	0	4.000	AR10003E6009												
1.000	3	2.000	0	4.500	AR10003FK00B												
1.000	3	2.625	0	5.000	AR10003H200E												
1.000	3	3.250	0	6.000	AR10003II00I												
1.000	3	4.250	0	7.000	AR10003KW00L												
1.000	3	5.375	0	8.000	AR10003NI00P												
1.250	3	1.000	0	4.000	AR12503CS009	TC (.060)	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.250	3	2.000	0	4.500	AR12503FK00B												
1.250	3	2.625	0	5.500	AR12503H200G												
1.250	3	3.250	0	6.000	AR12503II00I												
1.250	3	4.250	0	7.500	AR12503KW00N												
1.250	3	5.000	0	7.500	AR12503MM00N												
1.250	3	6.250	0	9.000	AR12503QK00R												

Non-standard lengths, diameters and radius sizes available upon request.

AREL3 SERIES

3FL Aluminum V-Notch Heavy Rougher Necked XL



The AREL3 is designed to remove the maximum material in long reach roughing applications. The free cutting proprietary V-notch design breaks up sine waves and makes small, manageable chips. Center cutting geometry allows plunging, the AREL3 is an excellent tool for long axial engagement cuts and is available with large corner radii.

- Large chip gullets and eccentric relief allows for maximum chip loads, blended neck relief reduces marks in step-down machining.
- Proprietary V-notch prevents chatter and produces short manageable chips.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Micro-polished edges and staggered V-notch design creates a great finish with a true rougher.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AR025036WBU1	R6	0	0		AR025036WBU1R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None
0.250	3	0.375	0.750	2.000	AR025036WBU1	T6 (.030)	R3	R6	RC	RH						0	0
0.250	3	0.375	1.000	3.000	AR025036WCS5												
0.250	3	0.375	1.250	3.000	AR025036WDG5												
0.250	3	0.375	1.500	3.000	AR025036WE65												
0.250	3	0.375	1.750	3.500	AR025036WEW7												
0.250	3	0.375	2.000	3.500	AR025036WFK7												
0.250	3	0.375	2.250	3.500	AR025036WG67												
0.250	3	0.375	2.500	4.000	AR025036WGS9												
0.375	3	0.500	1.000	2.500	AR037538ICS3	T6 (.030)	R3	R6	RC	RH	RL	RM	RN			0	0
0.375	3	0.500	1.250	3.000	AR037538IDG5												
0.375	3	0.500	1.500	3.000	AR037538IE65												
0.375	3	0.500	2.000	3.500	AR037538IFK7												
0.375	3	0.500	2.250	4.000	AR037538IG69												
0.375	3	0.500	2.500	4.000	AR037538IGS9												
0.375	3	0.500	3.000	5.000	AR037538IHYE												
0.375	3	0.500	3.500	5.000	AR037538IJ4E												
0.375	3	0.500	3.750	5.000	AR037538IJQE												
0.375	3	0.500	4.000	6.000	AR037538IKAI												
0.500	3	0.625	1.000	3.000	AR05003A6CS5	TC (.060)	R3	R6	RC	RH	RL	RM	RN	RQ		0	0
0.500	3	0.625	1.375	3.000	AR05003A6DU5												
0.500	3	0.625	1.500	3.500	AR05003A6E67												
0.500	3	0.625	2.000	4.000	AR05003A6FK9												
0.500	3	0.625	2.250	4.000	AR05003A6G69												
0.500	3	0.625	2.500	4.500	AR05003A6GSB												
0.500	3	0.625	3.000	5.000	AR05003A6HYE												
0.500	3	0.625	3.500	5.500	AR05003A6J4G												
0.500	3	0.625	4.000	6.000	AR05003A6KAI												
0.500	3	0.625	4.500	6.500	AR05003A6LGK												
0.500	3	0.625	5.000	7.000	AR05003A6MML												
0.625	3	0.750	1.000	3.000	AR06253BUCS5	TC (.060)	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.625	3	0.750	1.500	3.500	AR06253BUE67												
0.625	3	0.750	1.750	4.000	AR06253BUEW9												
0.625	3	0.750	2.000	4.000	AR06253BUFK9												
0.625	3	0.750	2.375	4.625	AR06253BUGGC												
0.625	3	0.750	3.000	5.000	AR06253BUHYE												
0.625	3	0.750	3.500	5.500	AR06253BUJ4G												
0.625	3	0.750	4.000	6.000	AR06253BUKAI												
0.625	3	0.750	4.500	6.500	AR06253BULGK												
0.625	3	0.750	5.000	7.000	AR06253BUMML												
0.625	3	0.750	5.500	7.500	AR06253BUNUN												

Non-standard lengths, diameters and radius sizes available upon request.

AREL3 SERIES -Continued-

3FL Aluminum V-Notch Heavy Rougher Necked XL



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AR07503CSFK9	R6	0	0		AR07503CSFK9R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

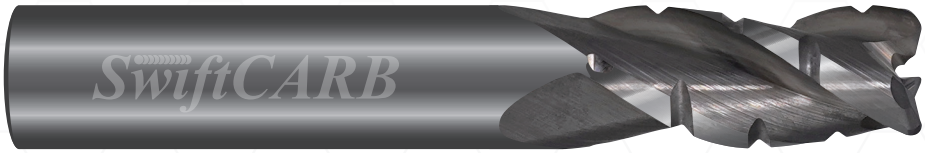
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None
0.750	3	1.000	2.000	4.000	AR07503CSFK9	TC (.060)	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
0.750	3	1.000	2.500	4.500	AR07503CSGSB												
0.750	3	1.000	3.000	5.000	AR07503CSHYE												
0.750	3	1.000	3.500	5.500	AR07503CSJ4G												
0.750	3	1.000	4.000	6.000	AR07503CSKAI												
0.750	3	1.000	4.500	6.500	AR07503CSLGK												
0.750	3	1.000	5.000	7.000	AR07503CSMML												
0.750	3	1.000	5.500	7.500	AR07503CSNUN												
0.750	3	1.000	6.000	8.000	AR07503CSQ0P												
1.000	3	1.000	1.500	4.000	AR10003CSE69	TC (.060)	R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0
1.000	3	1.250	2.000	4.500	AR10003DGFKB												
1.000	3	1.250	2.500	5.000	AR10003DGGSE												
1.000	3	1.250	2.750	5.500	AR10003DGHCG												
1.000	3	1.250	3.500	6.000	AR10003DGJ4I												
1.000	3	1.250	4.000	6.500	AR10003DGKAK												
1.000	3	1.250	4.500	7.000	AR10003DGLGL												
1.000	3	1.250	5.000	7.500	AR10003DGMMN												
1.000	3	1.250	5.500	8.000	AR10003DGNUP												
1.000	3	1.250	6.000	8.500	AR10003DGQ0Q												
1.000	3	1.250	6.500	9.000	AR10003DGR6R												
1.000	3	1.250	7.000	9.500	AR10003DGSCS												
1.000	3	1.250	7.500	10.000	AR10003DGTIT												

Non-standard lengths, diameters and radius sizes available upon request.

AV3 SERIES

3FL Aluminum V-Notch RampMill





US PATENT:
9,227,253
10,335,870

The AV3 RampMill is designed for use with Controlled Radial Engagement / High Efficiency Milling cutter paths. The AV3 achieves a much higher material removal rate than standard carbide end mills. Available with center through coolant for superior chip evacuation and excellent tool life. The non-center cutting end design allows ramping at 5 to 9 times greater ramp angles than a standard end mill. The RampMill can enter material by helically ramping holes nearly as fast as they can be drilled.

- Outperforms all other tools using High Efficiency Milling cutter paths.
- RampMill's end geometry allows for ramping at 12-17° in aluminum.
- Core designed for optimum strength to handle the highest tool loads, truncated radius adds corner strength.
- Center coolant hole delivers coolant or air blasting chips away eliminating re-cutting, dramatically increasing tool life.

For Center Cutting 3 flute aluminum rougher with multiple corner radius options, see AR series on page 68.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AV0125358000	T3	0	0		AV0125358000T300

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	Pick One None	Pick One Center	None
0.125	3	0.250	0	1.500	AV0125358000	T3 (.015)	0		0
0.125	3	0.375	0	2.000	AV012536W001				
0.125	3	0.500	0	2.000	AV012538I001				
0.187	3	0.187	0	2.000	AV018734E001	T3 (.015)	0	C	0
0.187	3	0.281	0	2.000	AV018735M001				
0.187	3	0.375	0	2.000	AV018736W001				
0.187	3	0.468	0	2.000	AV0187384001				
0.187	3	0.562	0	2.000	AV018739C001				
0.187	3	0.656	0	2.000	AV01873AK001				
0.187	3	0750	0	2.500	AV01873BU003				
0.250	3	0.250	0	2.000	AV0250358001	T6 (.030)	0	C	0
0.250	3	0.375	0	2.000	AV025036W001				
0.250	3	0.500	0	2.000	AV025038I001				
0.250	3	0.625	0	2.000	AV02503A6001				
0.250	3	0.750	0	2.500	AV02503BU003				
0.250	3	0.875	0	2.500	AV02503CA003				
0.250	3	1.000	0	3.000	AV02503CS005				
0.312	3	0.312	0	2.000	AV0312362001	T6 (.030)	0	C	0
0.312	3	0.468	0	2.000	AV0312384001				
0.312	3	0.625	0	2.500	AV03123A6003				
0.312	3	0.781	0	2.500	AV03123BY003				
0.312	3	0.937	0	2.500	AV03123CI003				
0.312	3	1.100	0	3.000	AV03123D2005				
0.312	3	1.250	0	3.000	AV03123DG005				
0.375	3	0.375	0	2.000	AV037536W001	T6 (.030)	0	C	0
0.375	3	0.562	0	2.500	AV037539C003				
0.375	3	0.750	0	2.500	AV03753BU003				
0.375	3	0.937	0	2.500	AV03753CI003				
0.375	3	1.125	0	3.000	AV03753D4005				
0.375	3	1.312	0	3.000	AV03753DM005				
0.375	3	1.500	0	3.000	AV03753E6005				

Non-standard lengths, diameters and radius sizes available upon request.

AV3 SERIES -Continued-

3FL Aluminum V-Notch RampMill





US PATENT:
9,227,253
10,335,870

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AV043737Q004	TC	0	0		AV043737Q004TC00

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

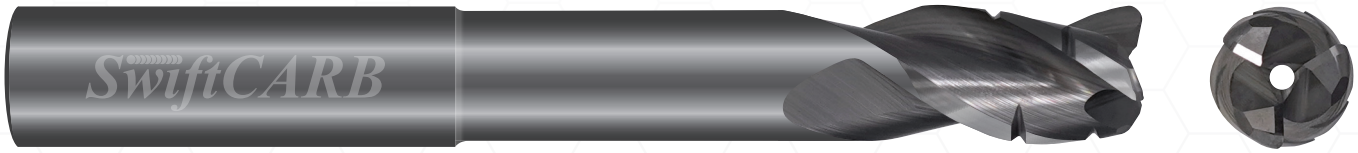
Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant Pick One		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	None	Center	None
0.437	3	0.437	0	2.750	AV043737Q004	TC (.060)	0	C	0
0.437	3	0.656	0	2.750	AV04373AK004				
0.437	3	0.875	0	3.000	AV04373CA005				
0.437	3	1.100	0	3.000	AV04373D2005				
0.437	3	1.312	0	3.500	AV04373DM007				
0.437	3	1.550	0	3.500	AV04373EA007				
0.437	3	1.750	0	4.000	AV04373EW009				
0.500	3	0.500	0	2.500	AV050038I003	TC (.060)	0	C	0
0.500	3	0.750	0	3.000	AV05003BU005				
0.500	3	1.000	0	3.000	AV05003CS005				
0.500	3	1.250	0	3.000	AV05003DG005				
0.500	3	1.500	0	3.500	AV05003E6007				
0.500	3	1.750	0	3.500	AV05003EW007				
0.500	3	2.000	0	4.000	AV05003FK009				
0.625	3	0.625	0	3.000	AV06253A6005	TC (.060)	0	C	0
0.625	3	0.937	0	3.000	AV06253CI005				
0.625	3	1.250	0	3.500	AV06253DG007				
0.625	3	1.563	0	3.500	AV06253EC007				
0.625	3	1.875	0	4.000	AV06253F8009				
0.625	3	2.200	0	4.000	AV06253G2009				
0.625	3	2.500	0	5.000	AV06253GS00E				
0.750	3	0.750	0	3.000	AV07503BU005	TC (.060)	0	C	0
0.750	3	1.125	0	3.500	AV07503D4007				
0.750	3	1.500	0	4.000	AV07503E6009				
0.750	3	1.875	0	5.000	AV07503F800E				
0.750	3	2.250	0	5.000	AV07503G600E				
0.750	3	2.625	0	5.000	AV07503H200E				
0.750	3	3.000	0	6.000	AV07503HY00I				
0.875	3	0.875	0	4.000	AV08753CA009	TC (.060)	0	C	0
0.875	3	1.312	0	4.000	AV08753DM009				
0.875	3	1.750	0	4.000	AV08753EW009				
1.000	3	1.000	0	4.000	AV10003CS009	TC (.060)	0	C	0
1.000	3	1.500	0	4.000	AV10003E6009				
1.000	3	2.000	0	4.500	AV10003FK00B				
1.000	3	2.500	0	5.000	AV10003GS00E				
1.000	3	3.000	0	6.000	AV10003HY00I				
1.000	3	3.500	0	6.000	AV10003J400I				
1.000	3	4.000	0	7.000	AV10003KA00L				

Non-standard lengths, diameters and radius sizes available upon request.

US PATENT:
9,227,253
10,335,870

AVEL3 SERIES

3FL Aluminum V-Notch RampMill Necked XL



The AVEL3 RampMill is designed for long reach applications using Controlled Radial Engagement / High Efficiency Milling cutter paths. The AVEL3 achieves a much higher material removal rate than standard carbide end mills. Available with center through coolant for superior chip evacuation and excellent tool life. The non-center cutting end design allows ramping at 5 to 9 times greater ramp angles than a standard end mill. The RampMill can enter material by helically ramping holes nearly as fast as they can be drilled.

- Outperforms all other tools using High Efficiency Milling cutter paths.
- RampMill's end geometry allows for ramping at 12-17° in aluminum.
- Core designed for optimum strength to handle the highest tool loads. The truncated radius adds corner strength.
- Center coolant hole delivers coolant or air blasting chips away eliminating re-cutting, dramatically increasing tool life.

For Center Cutting 3 flute aluminum rougher with multiple corner radius options, see AR series on page 68.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AV037539CBU3	T6	0	0	=	AV037539CBU3T600

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	Pick One None	Pick One Center	None
0.375	3	0.562	0.750	2.500	AV037539CBU3	T6 (.030)	0	C	0
0.375	3	0.562	1.000	2.500	AV037539CCS3				
0.375	3	0.562	1.500	3.000	AV037539CE65				
0.375	3	0.562	2.000	3.500	AV037539CFK7				
0.375	3	0.375	2.500	4.000	AV037536WGS9				
0.375	3	0.375	3.000	4.500	AV037536WHYB				
0.375	3	0.375	3.500	5.000	AV037536WJ4E				
0.375	3	0.375	4.000	5.500	AV037536WKAG				
0.500	3	0.750	1.500	3.500	AV05003BUE67	TC (.060)	0	C	0
0.500	3	0.750	2.000	4.000	AV05003BUFK9				
0.500	3	0.750	2.500	4.500	AV05003BUGSB				
0.500	3	0.500	3.000	5.000	AV050038IHYE				
0.500	3	0.500	3.500	5.500	AV050038IJ4G				
0.500	3	0.500	4.000	6.000	AV050038IKAI				
0.500	3	0.500	4.500	6.500	AV050038ILGK				
0.500	3	0.500	5.000	7.000	AV050038IMML				
0.625	3	0.937	1.500	3.500	AV06253CIE67	TC (.060)	0	C	0
0.625	3	0.937	2.000	4.000	AV06253CIFK9				
0.625	3	0.937	2.500	4.500	AV06253CIGSB				
0.625	3	0.937	3.000	5.000	AV06253CIHYE				
0.625	3	0.937	3.500	5.500	AV06253CIJ4G				
0.625	3	0.625	4.000	6.000	AV06253A6KAI				
0.625	3	0.625	4.500	6.500	AV06253A6LGK				
0.625	3	0.625	5.000	7.000	AV06253A6MML				
0.625	3	0.625	5.500	7.500	AV06253A6NUN				
0.625	3	0.625	6.000	8.000	AV06253A6Q0P				
0.750	3	1.125	2.000	4.000	AV07503D4FK9	TC (.060)	0	C	0
0.750	3	1.125	2.500	4.500	AV07503D4GSB				
0.750	3	1.125	3.000	5.000	AV07503D4HYE				
0.750	3	1.125	3.500	5.500	AV07503D4J4G				
0.750	3	1.125	4.000	6.000	AV07503D4KAI				
0.750	3	0.750	4.500	6.500	AV07503BULGK				
0.750	3	0.750	5.000	7.000	AV07503BUMML				
0.750	3	0.750	5.500	7.500	AV07503BUNUN				
0.750	3	0.750	6.000	8.000	AV07503BUQ0P				
0.750	3	0.750	6.500	8.500	AV07503BUR6Q				
0.750	3	0.750	7.000	9.000	AV07503BUSCR				
0.750	3	0.750	7.500	10.000	AV07503BUTIT				

Non-standard lengths, diameters and radius sizes available upon request.

AVEL3 SERIES -Continued-

3FL Aluminum V-Notch RampMill Necked XL

US PATENT:
9,227,253
10,335,870





How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
AV10003E6GSE	TC	0	0		AV10003E6GSETC00

Start Here

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry	Coolant		Coating
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Standard Roughing Radius	Pick One None	Pick One Center	None
1.000	3	1.500	2.500	5.000	AV10003E6GSE	TC (.060)	0	C	0
1.000	3	1.500	3.000	5.500	AV10003E6HYG				
1.000	3	1.500	3.500	6.000	AV10003E6J4I				
1.000	3	1.500	4.000	6.500	AV10003E6KAK				
1.000	3	1.500	4.500	7.000	AV10003E6LGL				
1.000	3	1.500	5.000	7.500	AV10003E6MMN				
1.000	3	1.500	5.500	8.000	AV10003E6NUP				
1.000	3	1.500	6.000	8.500	AV10003E6Q0Q				
1.000	3	1.500	6.500	9.000	AV10003E6R6R				
1.000	3	1.500	7.000	9.500	AV10003E6SCS				
1.000	3	1.500	7.500	10.000	AV10003E6TIT				

Non-standard lengths, diameters and radius sizes available upon request.

GM2 SERIES

2FL General Purpose End Mill - Square or Radius



The GM2 general purpose series has a standard geometry making it capable of cutting a wide range of materials. Its rigidity and design make it an excellent choice for general cutting from aluminum to steel, even some alloys.

- 30° helix allows for solid cutting in most materials.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
GM006324E000	R3	0	0		GM006324E000R300

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating Pick One		
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square .000	.015	.030	.060	.090	.120	.125	.156	.187	None	None	MDC	AlTiN
0.063	2	0.187	0	1.500	GM006324E000	S0	R3								0	0	M	
0.078	2	0.250	0	1.500	GM0078258000													
0.093	2	0.250	0	1.500	GM0093258000													
0.109	2	0.375	0	1.500	GM010926W000													
0.125	2	0.500	0	1.500	GM012528I000	S0	R3	R6							0	0	M	
0.125	2	0.750	0	2.250	GM01252BU002													
0.125	2	1.000	0	3.000	GM01252CS005													
0.140	2	0.562	0	2.000	GM014029C001													
0.156	2	0.562	0	2.000	GM015629C001													
0.172	2	0.625	0	2.000	GM01722A6001													
0.187	2	0.625	0	2.000	GM01872A6001	S0	R3	R6	RC						0	0	M	
0.187	2	0.750	0	2.500	GM01872BU003													
0.187	2	1.125	0	2.500	GM01872D4003													
0.203	2	0.625	0	2.500	GM02032A6003													
0.218	2	0.625	0	2.500	GM02182A6003													
0.234	2	0.750	0	2.500	GM02342BU003													
0.250	2	0.750	0	2.500	GM02502BU003	S0	R3	R6	RC	RH					0	0	M	
0.250	2	1.125	0	3.000	GM02502D4005													
0.250	2	1.500	0	3.000	GM02502E6005													
0.265	2	0.750	0	2.500	GM02652BU003										0	0	M	2
0.281	2	0.750	0	2.500	GM02812BU003													
0.297	2	0.812	0	2.500	GM02972C2003													
0.312	2	0.812	0	2.500	GM03122C2003													
0.312	2	1.125	0	3.000	GM03122D4005	S0	R3	R6	RC	RH	RL	RM			0	0	M	2
0.312	2	1.625	0	3.500	GM03122EI007													
0.328	2	0.875	0	2.500	GM03282CA003													
0.343	2	1.000	0	2.500	GM03432CS003													
0.359	2	0.875	0	2.500	GM03592CA003													
0.375	2	1.000	0	2.500	GM03752CS003													
0.375	2	1.125	0	3.000	GM03752D4005	S0	R3	R6	RC	RH	RL	RM	RN		0	0	M	2
0.375	2	1.750	0	3.500	GM03752EW007													
0.391	2	0.875	0	2.500	GM03912CA003													
0.406	2	1.000	0	2.750	GM04062CS004													
0.422	2	0.875	0	2.500	GM04222CA003	S0	R3	R6	RC	RH	RL	RM	RN	RQ	0	0	M	2
0.437	2	1.000	0	2.750	GM04372CS004													
0.437	2	2.000	0	4.000	GM04372FK009													

Non-standard lengths, diameters and radius sizes available upon request.

GM2 SERIES -Continued-

2FL General Purpose End Mill - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
GM04532CS005	R6	0	0		GM04532CS005R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant	Coating Pick One		
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None	MDC	AlTiN
0.453	2	1.000	0	3.000	GM04532CS005															
0.468	2	1.250	0	3.000	GM04682DG005															
0.484	2	1.000	0	3.000	GM04842CS005															
0.500	2	1.000	0	3.000	GM05002CS005		S0	R3	R6	RC	RH	RL	RM	RN	RQ		0	0	M	2
0.500	2	2.000	0	4.000	GM05002FK009															
0.500	2	3.000	0	5.000	GM05002HY00E															
0.562	2	1.250	0	3.000	GM05622DG005															
0.625	2	1.250	0	3.500	GM06252DG007															
0.625	2	2.250	0	4.625	GM06252G600C															
0.625	2	3.000	0	5.000	GM06252HY00E															
0.750	2	1.500	0	4.000	GM07502E6009															
0.750	2	2.250	0	5.000	GM07502G600E															
0.750	2	3.000	0	6.000	GM07502HY00I															
0.812	2	1.500	0	4.000	GM08122E6009															
0.875	2	1.500	0	4.000	GM08752E6009															
0.875	2	2.250	0	5.000	GM08752G600E															
0.875	2	3.000	0	6.000	GM08752HY00I															
1.000	2	1.500	0	4.000	GM10002E6009															
1.000	2	2.250	0	5.000	GM10002G600E															
1.000	2	3.000	0	6.000	GM10002HY00I															
1.250	2	1.500	0	4.000	GM12502E6009															

Non-standard lengths, diameters and radius sizes available upon request.

GME2 SERIES

2FL General Purpose Extended Length End Mill

Square or Radius



The GME2 has a longer reach and a neck relief can be added for step-down machining. As part of the general purpose series, the GME2 has a standard geometry making it capable of cutting a wide range of materials. Its rigidity and design make it an excellent choice for general cutting from aluminum to steel, even some alloys.

- 30° helix allows for solid cutting in most materials.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
GM025028I005	R6	0	0		GM025028I005R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

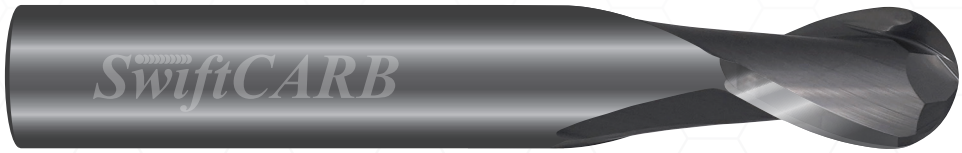
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant	Coating Pick One	
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None	MDC
0.250	2	0.500	0	3.000	GM025028I005	S0		R3	R6	RC	RH						0	0	M
0.250	2	0.500	0	3.500	GM025028I007	S0		R3	R6	RC	RH						0	0	M
0.250	2	0.750	0	4.000	GM02502BU009	S0		R3	R6	RC	RH						0	0	M
0.250	2	1.000	0	6.000	GM02502CS00I	S0		R3	R6	RC	RH						0	0	M
0.312	2	0.500	0	3.000	GM031228I005	S0		R3	R6	RC	RH	RL	RM				0	0	M
0.312	2	0.500	0	3.500	GM031228I007	S0		R3	R6	RC	RH	RL	RM				0	0	M
0.312	2	0.750	0	4.000	GM03122BU009	S0		R3	R6	RC	RH	RL	RM				0	0	M
0.312	2	1.000	0	6.000	GM03122CS00I	S0		R3	R6	RC	RH	RL	RM				0	0	M
0.375	2	0.500	0	3.000	GM037528I005	S0		R3	R6	RC	RH	RL	RM	RN			0	0	M
0.375	2	0.750	0	4.000	GM03752BU009	S0		R3	R6	RC	RH	RL	RM	RN			0	0	M
0.375	2	1.000	0	5.000	GM03752CS00E	S0		R3	R6	RC	RH	RL	RM	RN			0	0	M
0.375	2	1.500	0	6.000	GM03752E600I	S0		R3	R6	RC	RH	RL	RM	RN			0	0	M
0.437	2	0.500	0	2.750	GM043728I004	S0		R3	R6	RC	RH	RL	RM	RN	RQ		0	0	M
0.437	2	0.750	0	4.000	GM04372BU009	S0		R3	R6	RC	RH	RL	RM	RN	RQ		0	0	M
0.437	2	1.000	0	6.000	GM04372CS00I	S0		R3	R6	RC	RH	RL	RM	RN	RQ		0	0	M
0.500	2	0.500	0	3.000	GM050028I005	S0		R3	R6	RC	RH	RL	RM	RN	RQ		0	0	M
0.500	2	0.750	0	4.000	GM05002BU009	S0		R3	R6	RC	RH	RL	RM	RN	RQ		0	0	M
0.500	2	1.000	0	5.000	GM05002CS00E	S0		R3	R6	RC	RH	RL	RM	RN	RQ		0	0	M
0.500	2	1.500	0	6.000	GM05002E600I	S0		R3	R6	RC	RH	RL	RM	RN	RQ		0	0	M
0.562	2	0.750	0	4.000	GM05622BU009	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
0.562	2	1.500	0	6.000	GM05622E600I	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
0.625	2	0.750	0	4.000	GM06252BU009	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
0.625	2	1.000	0	5.000	GM06252CS00E	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
0.625	2	1.500	0	6.000	GM06252E600I	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
0.750	2	1.000	0	4.000	GM07502CS009	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
0.750	2	1.250	0	5.000	GM07502DG00E	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
0.750	2	1.500	0	6.000	GM07502E600I	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
0.875	2	1.000	0	4.000	GM08752CS009	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
0.875	2	1.500	0	6.000	GM08752E600I	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
1.000	2	1.250	0	5.000	GM10002DG00E	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
1.000	2	1.500	0	6.000	GM10002E600I	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
1.000	2	2.000	0	7.000	GM10002FK00L	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
1.250	2	1.250	0	5.500	GM12502DG00G	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
1.250	2	1.500	0	6.000	GM12502E600I	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M
1.250	2	2.000	0	7.500	GM12502FK00N	S0		R3	R6	RC	RH	RL	RM	RN	RQ	RV	0	0	M

Non-standard lengths, diameters and radius sizes available upon request.

GM2 BALL SERIES

2FL General Purpose Ball End Mill



The GM2 has an elliptical gash on the ball end and 2 flutes to create an exceptional finish. When used with our MDC coating, it's the most effective 2 flute ball end tool for steel and exotic alloys.

- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Manufacturing tolerances far above industry standards.
- 30° helix allows for solid cutting in most materials.
- Eccentric relief for superior strength and wear resistance.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
GM006324E000	B0	0	0	=	GM006324E000B000

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-	Coolant	Coating Pick One		
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None	MDC	AlTiN
0.063	2	0.187	0	1.500	GM006324E000	B0	0	0	M	
0.078	2	0.250	0	1.500	GM0078258000					
0.093	2	0.375	0	1.500	GM009326W000					
0.109	2	0.375	0	1.500	GM010926W000					
0.125	2	0.500	0	1.500	GM012528I000					
0.141	2	0.562	0	2.000	GM014129C001					
0.156	2	0.562	0	2.000	GM015629C001					
0.172	2	0.625	0	2.000	GM01722A6001					
0.187	2	0.625	0	2.000	GM01872A6001					
0.203	2	0.625	0	2.500	GM02032A6003					
0.218	2	0.625	0	2.500	GM02182A6003					
0.234	2	0.750	0	2.500	GM02342BU003					
0.250	2	0.750	0	2.500	GM02502BU003					
0.265	2	0.750	0	2.500	GM02652BU003	B0	0	0	M	2
0.281	2	0.750	0	2.500	GM02812BU003					
0.296	2	0.812	0	2.500	GM02962C2003					
0.312	2	0.812	0	2.500	GM03122C2003					
0.328	2	0.875	0	2.500	GM03282CA003					
0.343	2	0.875	0	2.500	GM03432CA003					
0.359	2	0.875	0	2.500	GM03592CA003					
0.375	2	1.000	0	2.500	GM03752CS003					
0.391	2	0.875	0	2.500	GM03912CA003					
0.406	2	0.875	0	2.750	GM04062CA004					
0.421	2	0.875	0	2.500	GM04212CA003					
0.437	2	1.000	0	2.750	GM04372CS004					
0.453	2	1.000	0	3.000	GM04532CS005					
0.468	2	1.250	0	3.000	GM04682DG005					
0.484	2	1.000	0	3.000	GM04842CS005					
0.500	2	1.000	0	3.000	GM05002CS005					
0.562	2	1.250	0	3.000	GM05622DG005					
0.625	2	1.250	0	3.500	GM06252DG007					
0.750	2	1.500	0	4.000	GM07502E6009					
0.875	2	1.500	0	4.000	GM08752E6009					
1.000	2	1.500	0	4.000	GM10002E6009					

Non-standard lengths, diameters and radius sizes available upon request.

GME2 BALL SERIES

2FL General Purpose Extended Length Ball End Mill



The GME2 has a longer reach and a neck relief can be added for step-down machining. The GME2 has an elliptical gash on the ball end and 2 flutes making it one of the best contouring cutters. When used with our MDC coating, it's the most effective 2 flute ball end tool for steel exotic alloys.

- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- 30° helix allows for solid cutting in most materials.
- Manufacturing tolerances far above industry standards.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
GM025028I005	B0	0	0	=	GM025028I005B000

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-	Coolant	Coating Pick One		
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None	MDC	AlTiN
0.250	2	0.500	0	3.000	GM025028I005	B0	0	0	M	2
0.250	2	0.500	0	3.500	GM025028I007					
0.250	2	0.750	0	4.000	GM02502BU009					
0.250	2	1.000	0	6.000	GM02502CS00I					
0.312	2	0.500	0	3.000	GM031228I005					
0.312	2	0.500	0	3.500	GM031228I007					
0.312	2	0.750	0	4.000	GM03122BU009					
0.312	2	1.000	0	6.000	GM03122CS00I					
0.375	2	0.500	0	3.000	GM037528I005					
0.375	2	0.500	0	3.500	GM037528I007					
0.375	2	0.750	0	4.000	GM03752BU009					
0.375	2	1.000	0	5.000	GM03752CS00E					
0.375	2	1.500	0	6.000	GM03752E600I					
0.437	2	0.500	0	2.750	GM043728I004					
0.437	2	0.750	0	4.000	GM04372BU009					
0.437	2	0.750	0	6.000	GM04372BU00I					
0.500	2	0.500	0	3.000	GM050028I005					
0.500	2	0.750	0	4.000	GM05002BU009					
0.500	2	1.000	0	5.000	GM05002CS00E					
0.500	2	1.500	0	6.000	GM05002E600I					
0.562	2	0.750	0	4.000	GM05622BU009					
0.562	2	1.500	0	6.000	GM05622E600I					
0.625	2	0.750	0	4.000	GM06252BU009					
0.625	2	1.000	0	5.000	GM06252CS00E					
0.625	2	1.500	0	6.000	GM06252E600I					
0.750	2	1.000	0	4.000	GM07502CS009					
0.750	2	1.250	0	5.000	GM07502DG00E					
0.750	2	1.500	0	6.000	GM07502E600I					
0.875	2	1.000	0	4.000	GM08752CS009					
0.875	2	1.500	0	6.000	GM08752E600I					
1.000	2	1.250	0	5.000	GM10002DG00E					
1.000	2	1.500	0	6.000	GM10002E600I					
1.000	2	2.000	0	7.000	GM10002FK00L					
1.250	2	1.250	0	5.500	GM12502DG00G					
1.250	2	1.500	0	6.000	GM12502E600I					
1.250	2	2.000	0	7.500	GM12502FK00N					

Non-standard lengths, diameters and radius sizes available upon request.

GM4 SERIES

4FL General Purpose End Mill - Square or Radius



The GM4 general purpose series has standard geometry making it capable of cutting a wide range of materials. Its rigidity and design make it an excellent choice for general cutting from aluminum to steel, even some alloys.

- 30° helix allows for solid cutting in most materials.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
GM006344E000	R3	0	0	=	GM006344E000R300

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-									Coolant	Coating Pick One		
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	None	None	MDC	AlTiN
0.063	4	0.187	0	1.500	GM006344E000	S0		R3								0	0	M	
0.078	4	0.235	0	1.500	GM0078452000														
0.093	4	0.187	0	1.500	GM009344E000														
0.093	4	0.375	0	1.500	GM009346W000														
0.125	4	0.500	0	1.500	GM012548I000	S0		R3	R6							0	0	M	
0.125	4	0.750	0	2.250	GM01254BU002														
0.125	4	1.000	0	3.000	GM01254CS005														
0.140	4	0.562	0	2.000	GM014049C001														
0.172	4	0.625	0	2.000	GM01724A6001	S0		R3	R6	RC						0	0	M	
0.187	4	0.750	0	2.500	GM01874BU003														
0.187	4	1.125	0	2.500	GM01874D4003														
0.203	4	0.625	0	2.500	GM02034A6003														
0.234	4	0.750	0	2.500	GM02344BU003														
0.250	4	0.750	0	4.000	GM02504BU009	S0		R3	R6	RC	RH					0	0	M	
0.250	4	1.125	0	3.000	GM02504D4005														
0.250	4	1.500	0	3.250	GM02504E6006														
0.265	4	0.750	0	2.500	GM02654BU003	S0		R3	R6	RC	RH	RL				0	0	M	2
0.297	4	0.812	0	2.500	GM02974C2003														
0.312	4	1.125	0	3.000	GM03124D4005	S0		R3	R6	RC	RH	RL	RM			0	0	M	2
0.312	4	1.625	0	3.500	GM03124EI007														
0.328	4	0.875	0	2.500	GM03284CA003														
0.343	4	1.000	0	2.500	GM03434CS003														
0.359	4	0.875	0	2.500	GM03594CA003														
0.375	4	1.000	0	2.500	GM03754CS003	S0		R3	R6	RC	RH	RL	RM	RN		0	0	M	2
0.375	4	1.125	0	3.000	GM03754D4005														
0.375	4	1.750	0	3.500	GM03754EW007														
0.391	4	0.875	0	2.500	GM03914CA003														
0.406	4	1.000	0	2.750	GM04064CS004	S0		R3	R6	RC	RH	RL	RM	RN	RN	0	0	M	2
0.422	4	0.875	0	2.500	GM04224CA003														

Non-standard lengths, diameters and radius sizes available upon request.

GM4 SERIES -Continued-

4FL General Purpose End Mill - Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
GM04374CS004	R6	0	0		GM04374CS004R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant	Coating		
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None	MDC	AlTiN
0.437	4	1.000	0	2.750	GM04374CS004	S0	R3	R6	RC	RH	RL	RM	RN	RQ			0	0	M	2
0.437	4	2.000	0	4.000	GM04374FK009															
0.437	4	3.000	0	6.000	GM04374HY00I															
0.453	4	1.000	0	3.000	GM04534CS005															
0.468	4	1.250	0	3.000	GM04684DG005															
0.484	4	1.000	0	3.000	GM04844CS005															
0.500	4	2.000	0	4.000	GM05004FK009															
0.500	4	3.000	0	5.000	GM05004HY00E															
0.562	4	1.250	0	3.000	GM05624DG005															
0.562	4	1.500	0	6.000	GM05624E600I															
0.625	4	1.250	0	3.500	GM06254DG007	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	0	M	2
0.625	4	2.250	0	4.625	GM06254G600C															
0.625	4	3.000	0	5.000	GM06254HY00E															
0.750	4	1.500	0	4.000	GM07504E6009															
0.750	4	2.250	0	5.000	GM07504G600E															
0.750	4	3.000	0	6.000	GM07504HY00I															
0.875	4	1.500	0	4.000	GM08754E6009															
0.875	4	2.250	0	5.000	GM08754G600E															
0.875	4	3.000	0	6.000	GM08754HY00I															
1.000	4	1.500	0	4.000	GM10004E6009															
1.000	4	2.250	0	5.000	GM10004G600E															
1.000	4	3.000	0	6.000	GM10004HY00I															
1.250	4	1.500	0	4.000	GM12504E6009															

Non-standard lengths, diameters and radius sizes available upon request.

GME4 SERIES

4FL General Purpose Extended Length End Mill

Square or Radius



How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
GM025048I005	R6	0	0		GM025048I005R600

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-										Coolant	Coating Pick One	
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Square	.000	.015	.030	.060	.090	.120	.125	.156	.187	.250	None	None	MDC
0.250	4	0.500	0	3.000	GM025048I005	S0	R3	R6	RC	RH							0	0	M
0.250	4	0.500	0	3.500	GM025048I007														
0.250	4	0.750	0	4.000	GM02504BU009														
0.250	4	1.000	0	6.000	GM02504CS00I														
0.312	4	0.500	0	3.000	GM031248I005	S0	R3	R6	RC	RH	RL	RM					0	0	M
0.312	4	0.500	0	3.500	GM031248I007														
0.312	4	0.750	0	4.000	GM03124BU009														
0.312	4	1.000	0	6.000	GM03124CS00I														
0.375	4	0.500	0	3.000	GM037548I005	S0	R3	R6	RC	RH	RL	RM	RN				0	0	M
0.375	4	0.750	0	4.000	GM03754BU009														
0.375	4	1.000	0	5.000	GM03754CS00E														
0.375	4	1.500	0	6.000	GM03754E6001														
0.437	4	0.500	0	2.750	GM043748I004	S0	R3	R6	RC	RH	RL	RM	RN	RQ			0	0	M
0.437	4	0.750	0	4.000	GM04374BU009														
0.437	4	1.000	0	6.000	GM04374CS00I														
0.500	4	0.500	0	3.000	GM050048I005														
0.500	4	0.750	0	4.000	GM05004BU009														
0.500	4	1.000	0	5.000	GM05004CS00E														
0.500	4	1.500	0	6.000	GM05004E600I														
0.562	4	0.750	0	4.000	GM05624BU009														
0.562	4	1.500	0	6.000	GM05624E600I														
0.625	4	0.750	0	4.000	GM06254BU009	S0	R3	R6	RC	RH	RL	RM	RN	RQ	RV		0	0	M
0.625	4	1.000	0	5.000	GM06254CS00E														
0.625	4	1.500	0	6.000	GM06254E600I														
0.750	4	1.000	0	4.000	GM07504CS009														
0.750	4	1.250	0	5.000	GM07504DG00E														
0.750	4	1.500	0	6.000	GM07504E600I														
0.875	4	1.000	0	4.000	GM08754CS009														
0.875	4	1.500	0	6.000	GM08754E600I														
1.000	4	1.250	0	5.000	GM10004DG00E														
1.000	4	1.500	0	6.000	GM10004E600I														
1.000	4	2.000	0	7.000	GM10004FK00L														
1.250	4	1.250	0	5.500	GM12504DG00G														
1.250	4	1.500	0	6.000	GM12504E600I														
1.250	4	2.000	0	7.500	GM12504FK00N														

Non-standard lengths, diameters and radius sizes available upon request.

GM4 BALL SERIES

4FL General Purpose Ball End Mill



The GM4 is an excellent value line 4 flute ball end mill.

- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- Eccentric relief for superior strength and wear resistance.
- 30° helix allows for solid cutting in most materials.
- Manufacturing tolerances far above industry standards.

For a high performance 4 flute ball end mill see the 5D series 4 flute ball on page 21.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
GM006344E000	B0	0	0		GM006344E000B000

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-	Coolant	Coating Pick One		
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None	MDC	AlTiN
0.063	4	0.187	0	1.500	GM006344E000	B0	0	0	M	
0.078	4	0.187	0	1.500	GM007844E000					
0.125	4	0.500	0	1.500	GM012548I000					
0.141	4	0.562	0	2.000	GM014149C001					
0.156	4	0.562	0	2.000	GM015649C001					
0.161	4	0.250	0	2.000	GM0161458001					
0.172	4	0.625	0	2.000	GM01724A6001					
0.187	4	0.625	0	2.000	GM01874A6001					
0.203	4	0.625	0	2.500	GM02034A6003					
0.218	4	0.625	0	2.500	GM02184A6003					
0.234	4	0.750	0	2.500	GM02344BU003					
0.250	4	0.750	0	2.500	GM02504BU003					
0.265	4	0.750	0	2.500	GM02654BU003	B0	0	0	M	2
0.281	4	0.750	0	2.500	GM02814BU003					
0.296	4	0.812	0	2.500	GM02964C2003					
0.312	4	0.812	0	2.500	GM03124C2003					
0.328	4	0.875	0	2.500	GM03284CA003					
0.343	4	0.875	0	2.500	GM03434CA003					
0.359	4	0.875	0	2.500	GM03594CA003					
0.375	4	1.000	0	2.500	GM03754CS003					
0.391	4	0.875	0	2.500	GM03914CA003					
0.406	4	0.875	0	2.750	GM04064CA004					
0.421	4	0.875	0	2.500	GM04214CA003					
0.437	4	1.000	0	2.750	GM04374CS004					
0.453	4	1.000	0	3.000	GM04534CS005					
0.468	4	1.250	0	3.000	GM04684DG005					
0.484	4	1.000	0	3.000	GM04844CS005					
0.500	4	1.000	0	3.000	GM05004CS005					
0.562	4	1.250	0	3.000	GM05624DG005					
0.625	4	1.250	0	3.500	GM06254DG007					
0.750	4	1.500	0	4.000	GM07504E6009					
0.875	4	1.500	0	4.000	GM08754E6009					
1.000	4	1.500	0	4.000	GM10004E6009					

Non-standard lengths, diameters and radius sizes available upon request.

GME4 BALL SERIES

4FL General Purpose Extended Length Ball End Mill



The GME4 is an excellent value line 4 flute ball end mill.

- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.
- 30° helix allows for solid cutting in most materials.
- Manufacturing tolerances far above industry standards.

For a high performance 4 flute ball end mill see the 5D series 4 flute ball on page 21.

How To Build Your 16 Character Part Number

First 12	End Geo	Coolant	Coating	=	Part # To Order
GM025048I005	B0	0	0		GM025048I005B000

Your Part Number must include entries from all 4 color coded columns for a total of 16 characters.

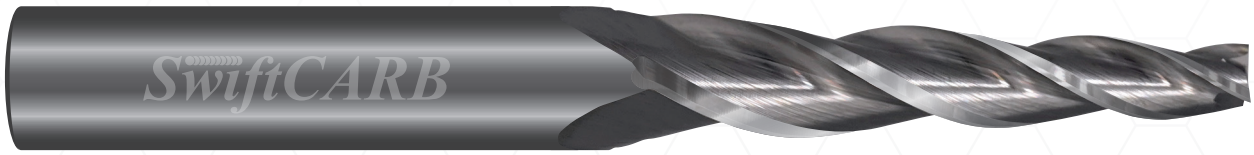
Start Here

Pick a row below to determine your first 12 characters					First 12 Characters	End Geometry -Radius-	Coolant	Coating Pick One		
DIA	#FL	LOC	LBS	OAL	Series, Diameter, Flutes LOC, LBS & OAL	Ball Nose	None	None	MDC	AlTiN
0.250	4	0.500	0	3.000	GM025048I005	B0	0	0	M	2
0.250	4	0.500	0	3.500	GM025048I007					
0.250	4	0.750	0	4.000	GM02504BU009					
0.250	4	1.000	0	6.000	GM02504CS00I					
0.312	4	0.500	0	3.000	GM031248I005					
0.312	4	0.500	0	3.500	GM031248I007					
0.312	4	0.750	0	4.000	GM03124BU009					
0.312	4	1.000	0	6.000	GM03124CS00I					
0.375	4	0.500	0	3.000	GM037548I005					
0.375	4	0.500	0	3.500	GM037548I007					
0.375	4	0.750	0	4.000	GM03754BU009					
0.375	4	1.000	0	5.000	GM03754CS00E					
0.375	4	1.500	0	6.000	GM03754E600I					
0.437	4	0.500	0	2.750	GM043748I004					
0.437	4	0.750	0	4.000	GM04374BU009					
0.437	4	0.750	0	6.000	GM04374BU00I					
0.500	4	0.500	0	3.000	GM050048I005					
0.500	4	0.750	0	4.000	GM05004BU009					
0.500	4	1.000	0	5.000	GM05004CS00E					
0.500	4	1.500	0	6.000	GM05004E600I					
0.562	4	0.750	0	4.000	GM05624BU009					
0.562	4	1.500	0	6.000	GM05624E600I					
0.625	4	0.750	0	4.000	GM06254BU009					
0.625	4	1.000	0	5.000	GM06254CS00E					
0.625	4	1.500	0	6.000	GM06254E600I					
0.750	4	1.000	0	4.000	GM07504CS009					
0.750	4	1.250	0	5.000	GM07504DG00E					
0.750	4	1.500	0	6.000	GM07504E600I					
0.875	4	1.000	0	4.000	GM08754CS009					
0.875	4	1.500	0	6.000	GM08754E600I					
1.000	4	1.250	0	5.000	GM10004DG00E					
1.000	4	1.500	0	6.000	GM10004E600I					
1.000	4	2.000	0	7.000	GM10004FK00L					
1.250	4	1.250	0	5.500	GM12504DG00G					
1.250	4	1.500	0	6.000	GM12504E600I					
1.250	4	2.000	0	7.500	GM12504FK00N					

Non-standard lengths, diameters and radius sizes available upon request.

TM SERIES

3FL Square End Tapermill



The TM3 has the most common draft angles available.
Constant helix provides solid cutting action and creates smooth wall finishes.

- Moderate helix produces smooth wall finishes and works very well for general cuts in most materials.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

Uncoated Number	MDC Coated Number	Per Side	Tip Diameter	Flutes	LOC	OAL	Shank
TM1D08163CB	TM1D08163CBMDC	1°	0.125	3	1.500	3.000	0.250
TM1D12243CB	TM1D12243CBMDC	1°	0.187	3	1.750	3.500	0.375
TM1D16323CB	TM1D16323CBMDC	1°	0.250	3	2.000	4.000	0.500
TM1.5D08163CB	TM1.5D08163CBMDC	1.5°	0.125	3	1.500	3.000	0.250
TM1.5D12243CB	TM1.5D12243CBMDC	1.5°	0.187	3	1.750	3.500	0.375
TM1.5D16323CB	TM1.5D16323CBMDC	1.5°	0.250	3	2.000	4.000	0.500
TM2D08163CB	TM2D08163CBMDC	2°	0.125	3	1.250	3.000	0.250
TM2D12243CB	TM2D12243CBMDC	2°	0.187	3	1.750	3.500	0.375
TM2D16323CB	TM2D16323CBMDC	2°	0.250	3	2.000	4.000	0.500
TM3D08163CB	TM3D08163CBMDC	3°	0.125	3	1.000	3.000	0.250
TM3D10243CB	TM3D10243CBMDC	3°	0.156	3	1.750	3.500	0.375
TM3D16323CB	TM3D16323CBMDC	3°	0.250	3	2.000	4.000	0.500
TM5D08163CB	TM5D08163CBMDC	5°	0.125	3	0.750	3.000	0.250
TM5D08243CB	TM5D08243CBMDC	5°	0.125	3	1.500	3.500	0.375
TM5D16323CB	TM5D16323CBMDC	5°	0.250	3	1.375	4.000	0.500
TM7D08163CB	TM7D08163CBMDC	7°	0.125	3	0.500	3.000	0.250
TM7D08243CB	TM7D08243CBMDC	7°	0.125	3	1.000	3.500	0.375
TM7D12323CB	TM7D12323CBMDC	7°	0.187	3	1.250	4.000	0.500
TM10D06163CB	TM10D06163CBMDC	10°	0.093	3	0.500	3.000	0.250
TM10D08243CB	TM10D08243CBMDC	10°	0.125	3	0.750	3.500	0.375
TM10D08323CB	TM10D08323CBMDC	10°	0.125	3	1.000	4.000	0.500

Non-standard lengths, diameters and radius sizes available upon request.

TB BALL SERIES

3FL Ball End Tapermill



The TB3 Tapered Ball has the most common draft angles available.
Constant helix provides solid cutting action and creates smooth wall finishes.

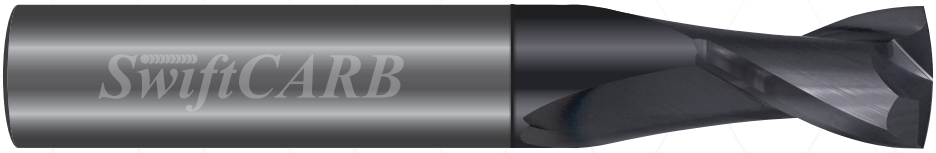
- Moderate helix produces smooth wall finishes and works very well for general cuts in most materials.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks and eccentric relief provide superior strength and increased wear resistance.

Uncoated Number	MDC Coated Number	Per Side	Tip Diameter	Flutes	LOC	OAL	Shank
TB1D08163CB	TB1D08163CBMDC	1°	0.125	3	1.500	3.000	0.250
TB1D12243CB	TB1D12243CBMDC	1°	0.187	3	1.750	3.500	0.375
TB1D16323CB	TB1D16323CBMDC	1°	0.250	3	2.000	4.000	0.500
TB1.5D08163CB	TB1.5D08163CBMDC	1.5°	0.125	3	1.500	3.000	0.250
TB1.5D12243CB	TB1.5D12243CBMDC	1.5°	0.187	3	1.750	3.500	0.375
TB1.5D16323CB	TB1.5D16323CBMDC	1.5°	0.250	3	2.000	4.000	0.500
TB2D08163CB	TB2D08163CBMDC	2°	0.125	3	1.250	3.000	0.250
TB2D12243CB	TB2D12243CBMDC	2°	0.187	3	1.750	3.500	0.375
TB2D16323CB	TB2D16323CBMDC	2°	0.250	3	2.000	4.000	0.500
TB3D08163CB	TB3D08163CBMDC	3°	0.125	3	1.000	3.000	0.250
TB3D10243CB	TB3D10243CBMDC	3°	0.156	3	1.750	3.500	0.375
TB3D16323CB	TB3D16323CBMDC	3°	0.250	3	2.000	4.000	0.500
TB5D08163CB	TB5D08163CBMDC	5°	0.125	3	0.750	3.000	0.250
TB5D08243CB	TB5D08243CBMDC	5°	0.125	3	1.500	3.500	0.375
TB5D16323CB	TB5D16323CBMDC	5°	0.250	3	1.375	4.000	0.500
TB7D08163CB	TB7D08163CBMDC	7°	0.125	3	0.500	3.000	0.250
TB7D08243CB	TB7D08243CBMDC	7°	0.125	3	1.000	3.500	0.375
TB7D12323CB	TB7D12323CBMDC	7°	0.187	3	1.250	4.000	0.500
TB10D06163CB	TB10D06163CBMDC	10°	0.093	3	0.500	3.000	0.250
TB10D08243CB	TB10D08243CBMDC	10°	0.125	3	0.750	3.500	0.375
TB10D08323CB	TB10D08323CBMDC	10°	0.125	3	1.000	4.000	0.500

Non-standard lengths, diameters and radius sizes available upon request.

HMS 3D CONTOURING CUTTER

2FL - 30° Helix Hemstitching / Surface Profiling



One of the best designed cutting tools for machining three dimensional contour shapes, the HMS series features oversized radii to allow for a larger step over that will produce a smaller scallop height compared to a standard ball end mill. The HMS series has an elliptical gash starting past center that follows the helix of the tool for the length of the radii. This allows the HMS to cut all the way to center and gives the radius shear for smooth cutting and excellent finishes.

- **Premium micrograin carbide for superior wear resistance.**
- **Elliptical gash on radii creates smooth cutting and excellent finishes.**
- **Available with MDC coating for unmatched performance and tool life.**

Uncoated Number	MDC Coated Number	DIA	Flutes	Radius	LOC	OAL	DOC
HMS162PR187X	HMS162PR187XMDC	0.250	2	0.187	0.500	2.000	0.047
HMS162PR250X	HMS162PR250XMDC	0.250	2	0.250	0.500	2.000	0.033
HMS162PR375X	HMS162PR375XMDC	0.250	2	0.375	0.500	2.000	0.021
HMS162PR500X	HMS162PR500XMDC	0.250	2	0.500	0.500	2.000	0.015
HMS242PR250X	HMS242PR250XMDC	0.375	2	0.250	0.500	2.000	0.084
HMS242PR375X	HMS242PR375XMDC	0.375	2	0.375	0.500	2.000	0.050
HMS242PR500X	HMS242PR500XMDC	0.375	2	0.500	0.500	2.000	0.036
HMS242PR750X	HMS242PR750XMDC	0.375	2	0.750	0.500	2.000	0.023
HMS282PR312X	HMS282PR312XMDC	0.437	2	0.312	0.625	2.750	0.089
HMS282PR437X	HMS282PR437XMDC	0.437	2	0.437	0.625	2.750	0.058
HMS282PR625X	HMS282PR625XMDC	0.437	2	0.625	0.625	2.750	0.039
HMS282PR875X	HMS282PR875XMDC	0.437	2	0.875	0.625	2.750	0.027
HMS322PR375X	HMS322PR375XMDC	0.500	2	0.375	0.750	3.000	0.095
HMS322PR500X	HMS322PR500XMDC	0.500	2	0.500	0.750	3.000	0.066
HMS322PR750X	HMS322PR750XMDC	0.500	2	0.750	0.750	3.000	0.042
HMS322PR1.00X	HMS322PR1.00XMDC	0.500	2	1.000	0.750	3.000	0.031
HMS402PR500X	HMS402PR500XMDC	0.625	2	0.500	0.750	3.000	0.109
HMS402PR625X	HMS402PR625XMDC	0.625	2	0.625	0.750	3.000	0.083
HMS402PR875X	HMS402PR875XMDC	0.625	2	0.875	0.750	3.000	0.057
HMS402PR1.25X	HMS402PR1.25XMDC	0.625	2	1.250	0.750	3.000	0.039
HMS482PR625X	HMS482PR625XMDC	0.750	2	0.625	0.750	3.000	0.125
HMS482PR750X	HMS482PR750XMDC	0.750	2	0.750	0.750	3.000	0.100
HMS482PR1.00X	HMS482PR1.00XMDC	0.750	2	1.000	0.750	3.000	0.073
HMS482PR1.50X	HMS482PR1.50XMDC	0.750	2	1.500	0.750	3.000	0.047

HMS 3D CONTOURING CUTTER

4FL - 30° Helix Hemstitching / Surface Profiling



One of the best designed cutting tools for machining three dimensional contour shapes, the HMS series features oversized radii to allow for a larger step over that will produce a smaller scallop height compared to a standard ball end mill. The HMS series has an elliptical gash starting past center that follows the helix of the tool for the length of the radii. This allows the HMS to cut all the way to center and gives the radius shear for smooth cutting and excellent finishes.

- Premium micrograin carbide for superior wear resistance.
- Elliptical gash on radii creates smooth cutting and excellent finishes.
- Available with MDC coating for unmatched performance and tool life.

Uncoated Number	MDC Coated Number	DIA	Flutes	Radius	LOC	OAL	DOC
HMS164PR187X	HMS164PR187XMDC	0.250	4	0.187	0.500	2.000	0.047
HMS164PR250X	HMS164PR250XMDC	0.250	4	0.250	0.500	2.000	0.033
HMS164PR375X	HMS164PR375XMDC	0.250	4	0.375	0.500	2.000	0.021
HMS164PR500X	HMS164PR500XMDC	0.250	4	0.500	0.500	2.000	0.015
HMS244PR250X	HMS244PR250XMDC	0.375	4	0.250	0.500	2.000	0.084
HMS244PR375X	HMS244PR375XMDC	0.375	4	0.375	0.500	2.000	0.050
HMS244PR500X	HMS244PR500XMDC	0.375	4	0.500	0.500	2.000	0.036
HMS244PR750X	HMS244PR750XMDC	0.375	4	0.750	0.500	2.000	0.023
HMS284PR312X	HMS284PR312XMDC	0.437	4	0.312	0.625	2.750	0.089
HMS284PR437X	HMS284PR437XMDC	0.437	4	0.437	0.625	2.750	0.058
HMS284PR625X	HMS284PR625XMDC	0.437	4	0.625	0.625	2.750	0.039
HMS284PR875X	HMS284PR875XMDC	0.437	4	0.875	0.625	2.750	0.027
HMS324PR375X	HMS324PR375XMDC	0.500	4	0.375	0.750	3.000	0.095
HMS324PR500X	HMS324PR500XMDC	0.500	4	0.500	0.750	3.000	0.066
HMS324PR750X	HMS324PR750XMDC	0.500	4	0.750	0.750	3.000	0.042
HMS324PR1.00X	HMS324PR1.00XMDC	0.500	4	1.000	0.750	3.000	0.031
HMS404PR500X	HMS404PR500XMDC	0.625	4	0.500	0.750	3.000	0.109
HMS404PR625X	HMS404PR625XMDC	0.625	4	0.625	0.750	3.000	0.083
HMS404PR875X	HMS404PR875XMDC	0.625	4	0.875	0.750	3.000	0.057
HMS404PR1.25X	HMS404PR1.25XMDC	0.625	4	1.250	0.750	3.000	0.039
HMS484PR625X	HMS484PR625XMDC	0.750	4	0.625	0.750	3.000	0.125
HMS484PR750X	HMS484PR750XMDC	0.750	4	0.750	0.750	3.000	0.100
HMS484PR1.00X	HMS484PR1.00XMDC	0.750	4	1.000	0.750	3.000	0.073
HMS484PR1.50X	HMS484PR1.50XMDC	0.750	4	1.500	0.750	3.000	0.047

DNC SERIES

NC Spot Drill - Standard Length



- Proprietary S-point and heavy edge prep give smooth results.
- Premium carbide blanks provide superior strength and increased wear resistance.
- Manufacturing tolerances far above industry standards.
- Available with MDC coating for unmatched performance and tool life.

Uncoated Number	MDC Coated Number	Drill Point	Diameter	Flutes	LOC	OAL	Shank
DNC.1875CB82	DNC.1875CB82MDC	82°	0.187	2	0.187	2.000	0.187
DNC.2500CB82	DNC.2500CB82MDC	82°	0.250	2	0.250	2.500	0.250
DNC.3750CB82	DNC.3750CB82MDC	82°	0.375	2	0.375	2.500	0.375
DNC.4375CB82	DNC.4375CB82MDC	82°	0.437	2	0.437	2.750	0.437
DNC.5000CB82	DNC.5000CB82MDC	82°	0.500	2	0.500	3.000	0.500
DNC.6250CB82	DNC.6250CB82MDC	82°	0.625	2	0.625	3.000	0.625
DNC.7500CB82	DNC.7500CB82MDC	82°	0.750	2	0.750	3.000	0.750
DNC.1250CB90	DNC.1250CB90MDC	90°	0.125	2	0.125	1.500	0.125
DNC.1875CB90	DNC.1875CB90MDC	90°	0.187	2	0.187	2.000	0.187
DNC.2500CB90	DNC.2500CB90MDC	90°	0.250	2	0.250	2.500	0.250
DNC.3750CB90	DNC.3750CB90MDC	90°	0.375	2	0.375	2.500	0.375
DNC.4375CB90	DNC.4375CB90MDC	90°	0.437	2	0.437	2.750	0.437
DNC.5000CB90	DNC.5000CB90MDC	90°	0.500	2	0.500	3.000	0.500
DNC.6250CB90	DNC.6250CB90MDC	90°	0.625	2	0.625	3.000	0.625
DNC.7500CB90	DNC.7500CB90MDC	90°	0.750	2	0.750	3.000	0.750
DNC.1250CB100	DNC.1250CB100MDC	100°	0.125	2	0.125	1.500	0.125
DNC.1875CB100	DNC.1875CB100MDC	100°	0.187	2	0.187	2.000	0.187
DNC.2500CB100	DNC.2500CB100MDC	100°	0.250	2	0.250	2.500	0.250
DNC.3750CB100	DNC.3750CB100MDC	100°	0.375	2	0.375	2.500	0.375
DNC.4375CB100	DNC.4375CB100MDC	100°	0.437	2	0.437	2.750	0.437
DNC.5000CB100	DNC.5000CB100MDC	100°	0.500	2	0.500	3.000	0.500
DNC.6250CB100	DNC.6250CB100MDC	100°	0.625	2	0.625	3.000	0.625
DNC.7500CB100	DNC.7500CB100MDC	100°	0.750	2	0.750	3.000	0.750
DNC.1875CB120	DNC.1875CB120MDC	120°	0.187	2	0.187	2.000	0.187
DNC.2500CB120	DNC.2500CB120MDC	120°	0.250	2	0.250	2.500	0.250
DNC.3750CB120	DNC.3750CB120MDC	120°	0.375	2	0.375	2.500	0.375
DNC.4375CB120	DNC.4375CB120MDC	120°	0.437	2	0.437	2.750	0.437
DNC.5000CB120	DNC.5000CB120MDC	120°	0.500	2	0.500	3.000	0.500
DNC.6250CB120	DNC.6250CB120MDC	120°	0.625	2	0.625	3.000	0.625
DNC.7500CB120	DNC.7500CB120MDC	120°	0.750	2	0.750	3.000	0.750
DNC.1875CB140	DNC.1875CB140MDC	140°	0.187	2	0.187	2.000	0.187
DNC.2500CB140	DNC.2500CB140MDC	140°	0.250	2	0.250	2.500	0.250
DNC.3750CB140	DNC.3750CB140MDC	140°	0.375	2	0.375	2.500	0.375
DNC.4375CB140	DNC.4375CB140MDC	140°	0.437	2	0.437	2.750	0.437
DNC.5000CB140	DNC.5000CB140MDC	140°	0.500	2	0.500	3.000	0.500
DNC.6250CB140	DNC.6250CB140MDO	140°	0.625	2	0.625	3.000	0.625
DNC.7500CB140	DNC.7500CB140MDC	140°	0.750	2	0.750	3.000	0.750
DNC.1875CB152	DNC.1875CB152MDC	152°	0.187	2	0.187	2.000	0.187
DNC.2500CB152	DNC.2500CB152MDC	152°	0.250	2	0.250	2.500	0.250
DNC.3750CB152	DNC.3750CB152MDC	152°	0.375	2	0.375	2.500	0.375
DNC.4375CB152	DNC.4375CB152MDC	152°	0.437	2	0.437	2.750	0.437
DNC.5000CB152	DNC.5000CB152MDC	152°	0.500	2	0.500	3.000	0.500
DNC.6250CB152	DNC.6250CB152MDC	152°	0.625	2	0.625	3.000	0.625
DNC.7500CB152	DNC.7500CB152MDC	152°	0.750	2	0.750	3.000	0.750

Non-standard lengths, diameters and radius sizes available upon request.

DNCX SERIES
NC Spot Drill XL



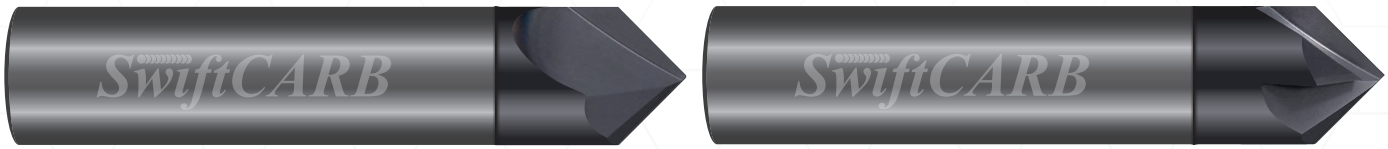
- Long length for spotting deeper holes. Manufacturing tolerances far above industry standards.
- Proprietary S-point and heavy edge prep give smooth results.
- Premium carbide blanks provide superior strength and increased wear resistance.
- Available with MDC coating for unmatched performance and tool life.

Uncoated Number	MDC Coated Number	Drill Point	Diameter	Flutes	LOC	OAL	Shank
DNCX.1875CB82	DNCX.1875CB82MDC	82°	0.187	2	0.187	4.000	0.187
DNCX.2500CB82	DNCX.2500CB82MDC	82°	0.250	2	0.250	4.000	0.250
DNCX.3750CB82	DNCX.3750CB82MDC	82°	0.375	2	0.375	4.000	0.375
DNCX.5000CB82	DNCX.5000CB82MDC	82°	0.500	2	0.500	6.000	0.500
DNCX.6250CB82	DNCX.6250CB82MDC	82°	0.625	2	0.625	6.000	0.625
DNCX.7500CB82	DNCX.7500CB82MDC	82°	0.750	2	0.750	6.000	0.750
DNCX.1250CB90	DNCX.1250CB90MDC	90°	0.125	2	0.125	4.000	0.125
DNCX.1875CB90	DNCX.1875CB90MDC	90°	0.187	2	0.187	4.000	0.187
DNCX.2500CB90	DNCX.2500CB90MDC	90°	0.250	2	0.250	4.000	0.250
DNCX.3750CB90	DNCX.3750CB90MDC	90°	0.375	2	0.375	4.000	0.375
DNCX.5000CB90	DNCX.5000CB90MDC	90°	0.500	2	0.500	6.000	0.500
DNCX.6250CB90	DNCX.6250CB90MDC	90°	0.625	2	0.625	6.000	0.625
DNCX.7500CB90	DNCX.7500CB90MDC	90°	0.750	2	0.750	6.000	0.750
DNCX.1250CB100	DNCX.1250CB100MDC	100°	0.125	2	0.125	4.000	0.125
DNCX.1875CB100	DNCX.1875CB100MDC	100°	0.187	2	0.187	4.000	0.187
DNCX.2500CB100	DNCX.2500CB100MDC	100°	0.250	2	0.250	4.000	0.250
DNCX.3750CB100	DNCX.3750CB100MDC	100°	0.375	2	0.375	4.000	0.375
DNCX.5000CB100	DNCX.5000CB100MDC	100°	0.500	2	0.500	6.000	0.500
DNCX.6250CB100	DNCX.6250CB100MDC	100°	0.625	2	0.625	6.000	0.625
DNCX.7500CB100	DNCX.7500CB100MDC	100°	0.750	2	0.750	6.000	0.750
DNCX.1875CB120	DNCX.1875CB120MDC	120°	0.187	2	0.187	4.000	0.187
DNCX.2500CB120	DNCX.2500CB120MDC	120°	0.250	2	0.250	4.000	0.250
DNCX.3750CB120	DNCX.3750CB120MDC	120°	0.375	2	0.375	4.000	0.375
DNCX.5000CB120	DNCX.5000CB120MDC	120°	0.500	2	0.500	6.000	0.500
DNCX.6250CB120	DNCX.6250CB120MDC	120°	0.625	2	0.625	6.000	0.625
DNCX.7500CB120	DNCX.7500CB120MDC	120°	0.750	2	0.750	6.000	0.750
DNCX.1875CB140	DNCX.1875CB140MDC	140°	0.187	2	0.187	4.000	0.187
DNCX.2500CB140	DNCX.2500CB140MDC	140°	0.250	2	0.250	4.000	0.250
DNCX.3750CB140	DNCX.3750CB140MDC	140°	0.375	2	0.375	4.000	0.375
DNCX.5000CB140	DNCX.5000CB140MDC	140°	0.500	2	0.500	6.000	0.500
DNCX.6250CB140	DNCX.6250CB140MDO	140°	0.625	2	0.625	6.000	0.625
DNCX.7500CB140	DNCX.7500CB140MDC	140°	0.750	2	0.750	6.000	0.750

Non-standard lengths, diameters and radius sizes available upon request.

CHMR2 & CHMR4 SERIES

2FL & 4FL General Purpose Chamfer Mills



- 2FL for larger chip loads in aluminum and non-ferrous materials, 4FL for faster speeds.
- Positive flute geometry allows for more aggressive feed rates and cleaner finishes.
- Manufacturing tolerances far above industry standards.
- Premium carbide blanks provide superior strength and increased wear resistance.
- Available with MDC coating for unmatched performance and tool life

Uncoated 2FL	MDC Coated 2FL	Uncoated 4FL	MDC Coated 4FL	DIA	OAL	Inc. Angle	Shank
CHMR08260CB	CHMR08260CBMDC			0.125	1.500	60°	0.125
CHMR12260CB	CHMR12260CBMDC			0.187	2.000	60°	0.187
CHMR16260CB	CHMR16260CBMDC	CHMR16460CB	CHMR16460CBMDC	0.250	2.500	60°	0.250
CHMR24260CB	CHMR24260CBMDC	CHMR24460CB	CHMR24460CBMDC	0.375	2.500	60°	0.375
CHMR32260CB	CHMR32260CBMDC	CHMR32460CB	CHMR32460CBMDC	0.500	3.000	60°	0.500
CHMR48260CB	CHMR48260CBMDC	CHMR48460CB	CHMR48460CBMDC	0.750	3.000	60°	0.750
CHMR64260CB	CHMR64260CBMDC	CHMR64460CB	CHMR64460CBMDC	1.000	3.000	60°	1.000
CHMR12282CB	CHMR12282CBMDC			0.187	2.000	82°	0.187
CHMR16282CB	CHMR16282CBMDC	CHMR16482CB	CHMR16482CBMDC	0.250	2.500	82°	0.250
CHMR24282CB	CHMR24282CBMDC	CHMR24482CB	CHMR24482CBMDC	0.375	2.500	82°	0.375
CHMR32282CB	CHMR32282CBMDC	CHMR32482CB	CHMR32482CBMDC	0.500	3.000	82°	0.500
CHMR48282CB	CHMR48282CBMDC	CHMR48482CB	CHMR48482CBMDC	0.750	3.000	82°	0.750
CHMR64282CB	CHMR64282CBMDC	CHMR64482CB	CHMR64482CBMDC	1.000	3.000	82°	1.000
CHMR08290CB	CHMR08290CBMDC			0.125	1.500	90°	0.125
CHMR12290CB	CHMR12290CBMDC			0.187	2.000	90°	0.187
CHMR16290CB	CHMR16290CBMDC	CHMR16490CB	CHMR16490CBMDC	0.250	2.500	90°	0.250
CHMR24290CB	CHMR24290CBMDC	CHMR24490CB	CHMR24490CBMDC	0.375	2.500	90°	0.375
CHMR32290CB	CHMR32290CBMDC	CHMR32490CB	CHMR32490CBMDC	0.500	3.000	90°	0.500
CHMR48290CB	CHMR48290CBMDC	CHMR48490CB	CHMR48490CBMDC	0.750	3.000	90°	0.750
CHMR64290CB	CHMR64290CBMDC	CHMR64490CB	CHMR64490CBMDC	1.000	3.000	90°	1.000
CHMR082100CB	CHMR082100CBMDC			0.125	1.500	100°	0.125
CHMR122100CB	CHMR122100CBMDC			0.187	2.000	100°	0.187
CHMR162100CB	CHMR162100CBMDC	CHMR164100CB	CHMR164100CBMDC	0.250	2.500	100°	0.250
CHMR242100CB	CHMR242100CBMDC	CHMR244100CB	CHMR244100CBMDC	0.375	2.500	100°	0.375
CHMR322100CB	CHMR322100CBMDC	CHMR324100CB	CHMR324100CBMDC	0.500	3.000	100°	0.500
CHMR482100CB	CHMR482100CBMDC	CHMR484100CB	CHMR484100CBMDC	0.750	3.000	100°	0.750
CHMR642100CB	CHMR642100CBMDC	CHMR644100CB	CHMR644100CBMDC	1.000	3.000	100°	1.000
CHMR082120CB	CHMR082120CBMDC			0.125	1.500	120°	0.125
CHMR122120CB	CHMR122120CBMDC			0.187	2.000	120°	0.187
CHMR162120CB	CHMR162120CBMDC	CHMR164120CB	CHMR164120CBMDC	0.250	2.500	120°	0.250
CHMR242120CB	CHMR242120CBMDC	CHMR244120CB	CHMR244120CBMDC	0.375	2.500	120°	0.375
CHMR322120CB	CHMR322120CBMDC	CHMR324120CB	CHMR324120CBMDC	0.500	3.000	120°	0.500
CHMR482120CB	CHMR482120CBMDC	CHMR484120CB	CHMR484120CBMDC	0.750	3.000	120°	0.750
CHMR642120CB	CHMR642120CBMDC	CHMR644120CB	CHMR644120CBMDC	1.000	3.000	120°	1.000

Non-standard lengths, diameters and radius sizes available upon request.

CHMR HP SERIES 3FL

VARIABLE HELIX - UNCOATED



- 3 flute design for high performance chamfering of aluminum and non-ferrous materials.
- Helical flutes with positive high shear design for reduced cutting forces producing better finishes and increased tool life.
- Premium carbide blanks provide superior strength and increased wear resistance.
- Flute design for excellent chip evacuation in soft materials.

	Part #	DIA	Included Angle	Flutes	LOC	Tip Diameter +/- .002	OAL	Coating
60°	CHMRHP16360CB	0.250	60°	3	0.163	0.060	2.50	Uncoated
	CHMRHP24360CB	0.375	60°		0.262	0.070	2.50	
	CHMRHP32360CB	0.500	60°		0.362	0.080	3.00	
	CHMRHP40360CB	0.625	60°		0.461	0.090	3.00	
	CHMRHP48360CB	0.750	60°		0.561	0.100	3.00	
90°	CHMRHP16390CB	0.250	90°		0.093	0.060	2.50	
	CHMRHP24390CB	0.500	90°		0.151	0.070	2.50	
	CHMRHP32390CB	0.500	90°		0.208	0.080	3.00	
	CHMRHP40390CB	0.625	90°		0.266	0.090	3.00	
	CHMRHP48390CB	0.750	90°		0.323	0.100	3.00	
120°	CHMRHP163120CB	0.250	120°		0.053	0.060	2.50	
	CHMRHP243120CB	0.375	120°		0.086	0.070	2.50	
	CHMRHP323120CB	0.500	120°		0.119	0.080	3.00	
	CHMRHP403120CB	0.625	120°		0.152	0.090	3.00	
	CHMRHP483120CB	0.750	120°		0.186	0.100	3.00	

Non-standard lengths, diameters and radius sizes available upon request.

CHMR HP SERIES 5FL
VARIABLE HELIX - MDC COATED



- 5 flute geometry for high performance chamfering of stainless, titanium, and exotic metals.
- Helical flutes with positive high shear design for reduced cutting forces producing better finishes and increased tool life.
- Premium carbide blanks provide superior strength and increased wear resistance.
- Coated with our proprietary MDC coating for unmatched cutting performance and tool life.

	Part #	DIA	Included Angle	Flutes	LOC	Tip Diameter +/- .002	OAL	Coating
60°	CHMRHP16560CBMDC	0.250	60°	5	0.163	0.060	2.50	MDC
	CHMRHP24560CBMDC	0.375	60°		0.262	0.070	2.50	
	CHMRHP32560CBMDC	0.500	60°		0.362	0.080	3.00	
	CHMRHP40560CBMDC	0.625	60°		0.461	0.090	3.00	
	CHMRHP48560CBMDC	0.750	60°		0.561	0.100	3.00	
90°	CHMRHP16590CBMDC	0.250	90°		0.093	0.060	2.50	
	CHMRHP24590CBMDC	0.500	90°		0.151	0.070	2.50	
	CHMRHP32590CBMDC	0.500	90°		0.208	0.080	3.00	
	CHMRHP40590CBMDC	0.625	90°		0.266	0.090	3.00	
	CHMRHP48590CBMDC	0.750	90°		0.323	0.100	3.00	
120°	CHMRHP165120CBMDC	0.250	120°		0.053	0.060	2.50	
	CHMRHP245120CBMDC	0.375	120°		0.086	0.070	2.50	
	CHMRHP325120CBMDC	0.500	120°		0.119	0.080	3.00	
	CHMRHP405120CBMDC	0.625	120°		0.152	0.090	3.00	
	CHMRHP485120CBMDC	0.750	120°		0.186	0.100	3.00	

Non-standard lengths, diameters and radius sizes available upon request.

CRE SERIES

3FL Double End Corner Rounding End Mill



- Top and bottom washout eliminates mismatch and leaves a superior finish.
- Premium carbide blanks provide superior strength and increased wear resistance.
- Available with MDC coating for unmatched performance and tool life.
- Manufacturing tolerances far above industry standards.

Uncoated Part #	MDC Coated Part #	Radius	Minor Diameter	Washout	OAL	Shank	#FL
CRE.010083CB	CRE.010083CBMDC	0.010	0.075	0.015	1.500	0.1250	3
CRE.015083CB	CRE.015083CBMDC	0.015	0.065	0.015	1.500	0.1250	3
CRE.020083CB	CRE.020083CBMDC	0.020	0.055	0.015	1.500	0.1250	3
CRE.025123CB	CRE.025123CBMDC	0.025	0.108	0.015	2.000	0.1875	3
CRE.030123CB	CRE.030123CBMDC	0.030	0.098	0.015	2.000	0.1875	3
CRE.035123CB	CRE.035123CBMDC	0.035	0.088	0.015	2.000	0.1875	3
CRE.040123CB	CRE.040123CBMDC	0.040	0.078	0.015	2.000	0.1875	3
CRE.045163CB	CRE.045163CBMDC	0.045	0.130	0.015	2.000	0.2500	3
CRE.050163CB	CRE.050163CBMDC	0.050	0.120	0.015	2.000	0.2500	3
CRE.055163CB	CRE.055163CBMDC	0.055	0.110	0.015	2.000	0.2500	3
CRE.060163CB	CRE.060163CBMDC	0.060	0.100	0.015	2.000	0.2500	3
CRE.065163CB	CRE.065163CBMDC	0.065	0.090	0.015	2.000	0.2500	3
CRE.070163CB	CRE.070163CBMDC	0.070	0.080	0.015	2.000	0.2500	3
CRE.075163CB	CRE.075163CBMDC	0.075	0.070	0.015	2.000	0.2500	3
CRE.080203CB	CRE.080203CBMDC	0.080	0.123	0.015	2.500	0.3125	3
CRE.085203CB	CRE.085203CBMDC	0.085	0.113	0.015	2.500	0.3125	3
CRE.090203CB	CRE.090203CBMDC	0.090	0.103	0.015	2.500	0.3125	3
CRE.095203CB	CRE.095203CBMDC	0.095	0.093	0.015	2.500	0.3125	3
CRE.100203CB	CRE.100203CBMDC	0.100	0.083	0.015	2.500	0.3125	3
CRE.105243CB	CRE.105243CBMDC	0.105	0.135	0.015	2.500	0.3750	3
CRE.110243CB	CRE.110243CBMDC	0.110	0.125	0.015	2.500	0.3750	3
CRE.115243CB	CRE.115243CBMDC	0.115	0.115	0.015	2.500	0.3750	3
CRE.120243CB	CRE.120243CBMDC	0.120	0.105	0.015	2.500	0.3750	3
CRE.125243CB	CRE.125243CBMDC	0.125	0.095	0.015	2.500	0.3750	3
CRE.130243CB	CRE.130243CBMDC	0.130	0.085	0.015	2.500	0.3750	3
CRE.140283CB	CRE.140283CBMDC	0.140	0.128	0.015	2.500	0.4375	3
CRE.150283CB	CRE.150283CBMDC	0.150	0.108	0.015	2.500	0.4375	3
CRE.156323CB	CRE.156323CBMDC	0.156	0.096	0.015	2.500	0.4375	3
CRE.160323CB	CRE.160323CBMDC	0.160	0.150	0.015	2.500	0.5000	3
CRE.170323CB	CRE.170323CBMDC	0.170	0.130	0.015	2.500	0.5000	3
CRE.180323CB	CRE.180323CBMDC	0.180	0.110	0.015	2.500	0.5000	3
CRE.187323CB	CRE.187323CBMDC	0.187	0.096	0.015	2.500	0.5000	3
CRE.190323CB	CRE.190323CBMDC	0.190	0.090	0.015	2.500	0.5000	3
CRE.200363CB	CRE.200363CBMDC	0.200	0.133	0.015	3.000	0.5625	3
CRE.210363CB	CRE.210363CBMDC	0.210	0.113	0.015	3.000	0.5625	3
CRE.220403CB	CRE.220403CBMDC	0.220	0.155	0.015	3.000	0.6250	3
CRE.236403CB	CRE.236403CBMDC	0.236	0.123	0.015	3.000	0.6250	3
CRE.250483CB	CRE.250483CBMDC	0.250	0.220	0.015	3.000	0.7500	3

Non-standard lengths, diameters and radius sizes available upon request.

CREL SERIES

3FL Double End Corner Rounding Long Length End Mill



- Top and bottom washout eliminates mismatch and leaves a superior finish.
- Premium carbide blanks provide superior strength and increased wear resistance.
- Available with MDC coating for unmatched performance and tool life.
- Manufacturing tolerances far above industry standards.

Uncoated Part #	MDC Coated Part #	Radius	Minor Diameter	Washout	OAL	Shank	#FL
CREL.010163CB	CREL.010163CBMDC	0.010	0.200	0.015	4.000	0.250	3
CREL.015163CB	CREL.015163CBMDC	0.015	0.190	0.015	4.000	0.250	3
CREL.020163CB	CREL.020163CBMDC	0.020	0.180	0.015	4.000	0.250	3
CREL.025163CB	CREL.025163CBMDC	0.025	0.170	0.015	4.000	0.250	3
CREL.030163CB	CREL.030163CBMDC	0.030	0.160	0.015	4.000	0.250	3
CREL.035163CB	CREL.035163CBMDC	0.035	0.150	0.015	4.000	0.250	3
CREL.040163CB	CREL.040163CBMDC	0.040	0.140	0.015	4.000	0.250	3
CREL.050163CB	CREL.050163CBMDC	0.050	0.120	0.015	4.000	0.250	3
CREL.060163CB	CREL.060163CBMDC	0.060	0.100	0.015	4.000	0.250	3
CREL.070243CB	CREL.070243CBMDC	0.070	0.205	0.015	4.000	0.375	3
CREL.080243CB	CREL.080243CBMDC	0.080	0.185	0.015	4.000	0.375	3
CREL.090243CB	CREL.090243CBMDC	0.090	0.165	0.015	4.000	0.375	3
CREL.100243CB	CREL.100243CBMDC	0.100	0.145	0.015	4.000	0.375	3
CREL.110243CB	CREL.110243CBMDC	0.110	0.125	0.015	4.000	0.375	3
CREL.120243CB	CREL.120243CBMDC	0.120	0.105	0.015	4.000	0.375	3
CREL.125243CB	CREL.125243CBMDC	0.125	0.095	0.015	4.000	0.375	3

Non-standard lengths, diameters and radius sizes available upon request.

TECHNICAL SECTION
SPEEDS AND FEEDS

The following section contains speeds and feeds for our high performance end mills followed by RampMills in the next section.

While the speeds and feeds are a very reliable starting point. Try our free calculator at swiftcarb.com to make adjustments and help dial in the best criteria for your application.



www.swiftcarb.com

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Request a Quote

Tool Diameter	0.500
Depth of Cut	1.250
Flutes	3

Program Feed Rates (Enter one value in both areas)

Speed		Feed	
RPM	10695	IPM	270.5
SFM	1400	IPT	0.0084

Actual Cutting Characteristics

Radial Engagement		Chip Thickness	
Stepover (IN)	0.2282	Material	ALUMINUM
Stepover % DIA	45.64	Est. Finish	318
Tool Engagement Angle	85.000	Chip Thickness	0.0084

Material Removal Rate



MRR	77.1601
Machine Type	RATED AT SPINDLE

Approximate Power Required

HP | HP 19.29

RampMilling Values

Imput Values		Computed Values	
Ramp Angle	10.0	Step Down	0.4875
Hole Radius	0.440	Hole DIA (IN)	0.880
Spindle RPM %	100.0	RPM	10695
Feed %	70.0	IPM	189.4

If you need further assistance, please contact SwiftCARB's Technical department: sales@swiftcarb.com, 800-227-9876

SwiftCARB High Performance Speeds & Feeds for Aluminum Cutters -Uncoated-

AR3 Series — ISO — N

AR3 Series Feeds and Speeds -Uncoated-

Aluminum Wrought Alloy & Aluminum Cast Alloy < 12% Si 6061-T6, 7075, Plastic

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/4"	0.250	0.0024	0.0033	0.0042	0.0051	0.0060	640	880	1120	1360	1600
5/16"	0.312	0.0028	0.0039	0.0049	0.0060	0.0070	720	990	1260	1530	1800
3/8"	0.375	0.0032	0.0044	0.0056	0.0068	0.0080	740	1018	1295	1573	1850
7/16"	0.437	0.0036	0.0050	0.0063	0.0077	0.0090	760	1045	1330	1615	1900
1/2"	0.500	0.0048	0.0066	0.0084	0.0102	0.0120	800	1100	1400	1700	2000
5/8"	0.625	0.0056	0.0077	0.0098	0.0119	0.0140	800	1100	1400	1700	2000
3/4"	0.750	0.0064	0.0088	0.0112	0.0136	0.0160	800	1100	1400	1700	2000
7/8"	0.875	0.0072	0.0099	0.0126	0.0153	0.0180	800	1100	1400	1700	2000
1"	1.000	0.0080	0.0110	0.0140	0.0170	0.0200	800	1100	1400	1700	2000
1-1/4"	1.250	0.0088	0.0121	0.0154	0.0187	0.0220	800	1100	1400	1700	2000

AF4 Series — ISO — N

AF4 Series Feeds and Speeds -Uncoated-

Aluminum Wrought Alloy & Aluminum Cast Alloy < 12% Si 6061-T6, 7075, Plastic

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/4"	0.250	Not Advised	0.0022	0.0028	0.0034	0.0040	672	924	1176	1428	1680
5/16"	0.312	Not Advised	0.0028	0.0035	0.0043	0.0050	720	990	1260	1530	1800
3/8"	0.375	Not Advised	0.0033	0.0042	0.0051	0.0060	768	1056	1344	1632	1920
7/16"	0.437	Not Advised	0.0044	0.0056	0.0068	0.0080	864	1188	1512	1836	2160
1/2"	0.500	Not Advised	0.0055	0.0070	0.0085	0.0100	960	1320	1680	2040	2400
5/8"	0.625	Not Advised	0.0061	0.0077	0.0094	0.0110	960	1320	1680	2040	2400
3/4"	0.750	Not Advised	0.0066	0.0084	0.0102	0.0120	960	1320	1680	2040	2400
7/8"	0.875	Not Advised	0.0072	0.0091	0.0111	0.0130	960	1320	1680	2040	2400
1"	1.000	Not Advised	0.0077	0.0098	0.0119	0.0140	960	1320	1680	2040	2400
1-1/4"	1.250	Not Advised	0.0088	0.0112	0.0136	0.0160	960	1320	1680	2040	2400

AF5 Series — ISO — N

AF5 Series Feeds and Speeds -Uncoated-

Aluminum Wrought Alloy & Aluminum Cast Alloy < 12% Si 6061-T6, 7075, Plastic

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/4"	0.250	Not Advised	Not Advised	0.0028	0.0034	0.0040	672	924	1176	1428	1680
5/16"	0.312	Not Advised	Not Advised	0.0035	0.0043	0.0050	720	990	1260	1530	1800
3/8"	0.375	Not Advised	Not Advised	0.0042	0.0051	0.0060	768	1056	1344	1632	1920
7/16"	0.437	Not Advised	Not Advised	0.0056	0.0068	0.0080	864	1188	1512	1836	2160
1/2"	0.500	Not Advised	Not Advised	0.0070	0.0085	0.0100	960	1320	1680	2040	2400
5/8"	0.625	Not Advised	Not Advised	0.0077	0.0094	0.0110	960	1320	1680	2040	2400
3/4"	0.750	Not Advised	Not Advised	0.0084	0.0102	0.0120	960	1320	1680	2040	2400
7/8"	0.875	Not Advised	Not Advised	0.0091	0.0111	0.0130	960	1320	1680	2040	2400
1"	1.000	Not Advised	Not Advised	0.0098	0.0119	0.0140	960	1320	1680	2040	2400
1-1/4"	1.250	Not Advised	Not Advised	0.0112	0.0136	0.0160	960	1320	1680	2040	2400

AS3 Series — ISO — N

AS3 Series Feeds and Speeds -Uncoated-

Aluminum Wrought Alloy & Aluminum Cast Alloy < 12% Si 6061-T6, 7075, Plastic

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0010	0.0014	0.0018	0.0021	0.0025	480	660	840	1020	1200
3/16"	0.187	0.0012	0.0017	0.0021	0.0026	0.0030	576	792	1008	1224	1440
1/4"	0.250	0.0020	0.0028	0.0035	0.0043	0.0050	640	880	1120	1360	1600
5/16"	0.312	0.0026	0.0036	0.0046	0.0055	0.0065	720	990	1260	1530	1800
3/8"	0.375	0.0030	0.0041	0.0053	0.0064	0.0075	760	1045	1330	1615	1900
7/16"	0.437	0.0040	0.0055	0.0070	0.0085	0.0100	800	1100	1400	1700	2000
1/2"	0.500	0.0048	0.0066	0.0084	0.0102	0.0120	880	1210	1540	1870	2200
5/8"	0.625	0.0052	0.0072	0.0091	0.0111	0.0130	880	1210	1540	1870	2200
3/4"	0.750	0.0056	0.0077	0.0098	0.0119	0.0140	880	1210	1540	1870	2200
7/8"	0.875	0.0060	0.0083	0.0105	0.0128	0.0150	880	1210	1540	1870	2200
1"	1.000	0.0064	0.0088	0.0112	0.0136	0.0160	880	1210	1540	1870	2200
1 1/4"	1.250	0.0072	0.0099	0.0126	0.0153	0.0180	880	1210	1540	1870	2200

SwiftCARB High Performance Speeds & Feeds for Aluminum Cutters -Uncoated-

AC2/3 Series — ISO — AC2/ AC3 Series Feeds and Speeds -Uncoated- — N

Aluminum Wrought Alloy & Aluminum Cast Alloy < 12% Si 6061-T6, 7075, Plastic

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0010	0.0014	0.0018	0.0021	0.0025	480	660	840	1020	1200
3/16"	0.187	0.0012	0.0017	0.0021	0.0026	0.0030	576	792	1008	1224	1440
1/4"	0.250	0.0018	0.0025	0.0032	0.0038	0.0045	640	880	1120	1360	1600
5/16"	0.312	0.0022	0.0030	0.0038	0.0047	0.0055	720	990	1260	1530	1800
3/8"	0.375	0.0028	0.0039	0.0049	0.0060	0.0070	760	1045	1330	1615	1900
7/16"	0.437	0.0036	0.0050	0.0063	0.0077	0.0090	800	1100	1400	1700	2000
1/2"	0.500	0.0040	0.0055	0.0070	0.0085	0.0100	880	1210	1540	1870	2200
5/8"	0.625	0.0048	0.0066	0.0084	0.0102	0.0120	880	1210	1540	1870	2200
3/4"	0.750	0.0052	0.0072	0.0091	0.0111	0.0130	880	1210	1540	1870	2200
7/8"	0.875	0.0056	0.0077	0.0098	0.0119	0.0140	880	1210	1540	1870	2200
1"	1.000	0.0060	0.0083	0.0105	0.0128	0.0150	880	1210	1540	1870	2200
1 1/4"	1.250	0.0064	0.0088	0.0112	0.0136	0.0160	880	1210	1540	1870	2200

AR3 Series — ISO — AR3 Series Feeds and Speeds -Uncoated- — N

Aluminum > 12% Si and Copper Alloys, Brass & Bronze

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/4"	0.250	0.0024	0.0033	0.0042	0.0051	0.0060	320	440	560	680	800
5/16"	0.312	0.0028	0.0039	0.0049	0.0060	0.0070	360	495	630	765	900
3/8"	0.375	0.0032	0.0044	0.0056	0.0068	0.0080	370	509	648	786	925
7/16"	0.437	0.0036	0.0050	0.0063	0.0077	0.0090	380	523	665	808	950
1/2"	0.500	0.0048	0.0066	0.0084	0.0102	0.0120	400	550	700	850	1000
5/8"	0.625	0.0056	0.0077	0.0098	0.0119	0.0140	400	550	700	850	1000
3/4"	0.750	0.0064	0.0088	0.0112	0.0136	0.0160	400	550	700	850	1000
7/8"	0.875	0.0072	0.0099	0.0126	0.0153	0.0180	400	550	700	850	1000
1"	1.000	0.0080	0.0110	0.0140	0.0170	0.0200	400	550	700	850	1000
1-1/4"	1.250	0.0088	0.0121	0.0154	0.0187	0.0220	400	550	700	850	1000

AF4 Series — ISO — AF4 Series Feeds and Speeds -Uncoated- — N

Aluminum > 12% Si and Copper Alloys, Brass & Bronze

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/4"	0.250	Not Advised	0.0022	0.0028	0.0034	0.0040	336	462	588	714	840
5/16"	0.312	Not Advised	0.0028	0.0035	0.0043	0.0050	384	528	672	816	960
3/8"	0.375	Not Advised	0.0033	0.0042	0.0051	0.0060	432	594	756	918	1080
7/16"	0.437	Not Advised	0.0044	0.0056	0.0068	0.0080	440	605	770	935	1100
1/2"	0.500	Not Advised	0.0055	0.0070	0.0085	0.0100	480	660	840	1020	1200
5/8"	0.625	Not Advised	0.0061	0.0077	0.0094	0.0110	480	660	840	1020	1200
3/4"	0.750	Not Advised	0.0066	0.0084	0.0102	0.0120	480	660	840	1020	1200
7/8"	0.875	Not Advised	0.0072	0.0091	0.0111	0.0130	480	660	840	1020	1200
1"	1.000	Not Advised	0.0077	0.0098	0.0119	0.0140	480	660	840	1020	1200
1-1/4"	1.250	Not Advised	0.0088	0.0112	0.0136	0.0160	480	660	840	1020	1200

AF5 Series — ISO — AF5 Series Feeds and Speeds -Uncoated- — N

Aluminum > 12% Si and Copper Alloys, Brass & Bronze

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/4"	0.250	Not Advised	Not Advised	0.0028	0.0034	0.0040	336	462	588	714	840
5/16"	0.312	Not Advised	Not Advised	0.0035	0.0043	0.0050	384	528	672	816	960
3/8"	0.375	Not Advised	Not Advised	0.0042	0.0051	0.0060	432	594	756	918	1080
7/16"	0.437	Not Advised	Not Advised	0.0056	0.0068	0.0080	440	605	770	935	1100
1/2"	0.500	Not Advised	Not Advised	0.0070	0.0085	0.0100	480	660	840	1020	1200
5/8"	0.625	Not Advised	Not Advised	0.0077	0.0094	0.0110	480	660	840	1020	1200
3/4"	0.750	Not Advised	Not Advised	0.0084	0.0102	0.0120	480	660	840	1020	1200
7/8"	0.875	Not Advised	Not Advised	0.0091	0.0111	0.0130	480	660	840	1020	1200
1"	1.000	Not Advised	Not Advised	0.0098	0.0119	0.0140	480	660	840	1020	1200
1-1/4"	1.250	Not Advised	Not Advised	0.0112	0.0136	0.0160	480	660	840	1020	1200

SwiftCARB High Performance Speeds & Feeds for Aluminum Cutters -Uncoated-

AS3 Series — ISO — AS3 Series Feeds and Speeds -Uncoated- — N

Aluminum > 12% Si and Copper Alloys, Brass & Bronze

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0010	0.0014	0.0018	0.0021	0.0025	240	330	420	510	600
3/16"	0.187	0.0012	0.0017	0.0021	0.0026	0.0030	288	396	504	612	720
1/4"	0.250	0.0020	0.0028	0.0035	0.0043	0.0050	336	462	588	714	840
5/16"	0.312	0.0026	0.0036	0.0046	0.0055	0.0065	384	528	672	816	960
3/8"	0.375	0.0030	0.0041	0.0053	0.0064	0.0075	432	594	756	918	1080
7/16"	0.437	0.0040	0.0055	0.0070	0.0085	0.0100	440	605	770	935	1100
1/2"	0.500	0.0048	0.0066	0.0084	0.0102	0.0120	480	660	840	1020	1200
5/8"	0.625	0.0052	0.0072	0.0091	0.0111	0.0130	480	660	840	1020	1200
3/4"	0.750	0.0056	0.0077	0.0098	0.0119	0.0140	480	660	840	1020	1200
7/8"	0.875	0.0060	0.0083	0.0105	0.0128	0.0150	480	660	840	1020	1200
1"	1.000	0.0064	0.0088	0.0112	0.0136	0.0160	480	660	840	1020	1200
1 1/4"	1.250	0.0072	0.0099	0.0126	0.0153	0.0180	480	660	840	1020	1200

AC2/3 Series — ISO — AC2/ AC3 Series Feeds and Speeds -Uncoated- — N

Aluminum > 12% Si and Copper Alloys, Brass & Bronze

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0010	0.0014	0.0018	0.0021	0.0025	240	330	420	510	600
3/16"	0.187	0.0012	0.0017	0.0021	0.0026	0.0030	288	396	504	612	720
1/4"	0.250	0.0018	0.0025	0.0032	0.0038	0.0045	320	440	560	680	800
5/16"	0.312	0.0022	0.0030	0.0038	0.0047	0.0055	360	495	630	765	900
3/8"	0.375	0.0028	0.0039	0.0049	0.0060	0.0070	380	523	665	808	950
7/16"	0.437	0.0036	0.0050	0.0063	0.0077	0.0090	400	550	700	850	1000
1/2"	0.500	0.0040	0.0055	0.0070	0.0085	0.0100	440	605	770	935	1100
5/8"	0.625	0.0048	0.0066	0.0084	0.0102	0.0120	440	605	770	935	1100
3/4"	0.750	0.0052	0.0072	0.0091	0.0111	0.0130	440	605	770	935	1100
7/8"	0.875	0.0056	0.0077	0.0098	0.0119	0.0140	440	605	770	935	1100
1"	1.000	0.0060	0.0083	0.0105	0.0128	0.0150	440	605	770	935	1100
1 1/4"	1.250	0.0064	0.0088	0.0112	0.0136	0.0160	440	605	770	935	1100

SwiftCARB Speeds & Feeds for Industry Standard Tools AlTiN Coated

SS SM SF SD SH GM TM TB Series — ISO — SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -AlTiN Coated- — P

Non-Alloy Steel, Cast Steel, Free Cutting Steel 1018, 1020, A36, 8620

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0009	0.0011	0.0014	0.0016	184	253	322	391	460
5/32"	0.156	0.0007	0.0010	0.0013	0.0015	0.0018	216	297	378	459	540
3/16"	0.187	0.0008	0.0012	0.0015	0.0018	0.0021	232	319	406	493	580
7/32"	0.218	0.0010	0.0013	0.0017	0.0020	0.0024	240	330	420	510	600
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	256	352	448	544	640
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	264	363	462	561	660
5/16"	0.312	0.0013	0.0018	0.0022	0.0027	0.0032	272	374	476	578	680
11/32"	0.343	0.0014	0.0019	0.0024	0.0029	0.0034	280	385	490	595	700
3/8"	0.375	0.0014	0.0020	0.0025	0.0031	0.0036	288	396	504	612	720
7/16"	0.437	0.0016	0.0022	0.0028	0.0034	0.0040	296	407	518	629	740
1/2"	0.500	0.0018	0.0025	0.0032	0.0038	0.0045	304	418	532	646	760
5/8"	0.625	0.0022	0.0030	0.0039	0.0047	0.0055	304	418	532	646	760
3/4"	0.750	0.0024	0.0033	0.0042	0.0051	0.0060	304	418	532	646	760
7/8"	0.875	0.0026	0.0036	0.0046	0.0055	0.0065	304	418	532	646	760
1"	1.000	0.0028	0.0039	0.0049	0.0060	0.0070	304	418	532	646	760
1 1/4"	1.250	0.0030	0.0041	0.0052	0.0063	0.0074	304	418	532	646	760

SwiftCARB Speeds & Feeds for Industry Standard Tools AlTiN Coated

SS SM SF SD SH GM TM TB Series — ISO — SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -AlTiN Coated- — P

Low Alloy Steel, Cast Steel 4130, 4140, 8620, 4330, 4340

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0008	0.0010	0.0012	0.0014	144	198	252	306	360
5/32"	0.156	0.0006	0.0009	0.0011	0.0013	0.0016	152	209	266	323	380
3/16"	0.187	0.0007	0.0010	0.0013	0.0015	0.0018	160	220	280	340	400
7/32"	0.218	0.0009	0.0012	0.0015	0.0019	0.0022	168	231	294	357	420
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	176	242	308	374	440
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	184	253	322	391	460
5/16"	0.312	0.0013	0.0018	0.0023	0.0028	0.0033	192	264	336	408	480
11/32"	0.343	0.0014	0.0020	0.0025	0.0031	0.0036	200	275	350	425	500
3/8"	0.375	0.0016	0.0021	0.0027	0.0033	0.0039	208	286	364	442	520
7/16"	0.437	0.0016	0.0022	0.0029	0.0035	0.0041	216	297	378	459	540
1/2"	0.500	0.0018	0.0024	0.0031	0.0037	0.0044	224	308	392	476	560
5/8"	0.625	0.0021	0.0029	0.0036	0.0044	0.0052	224	308	392	476	560
3/4"	0.750	0.0022	0.0031	0.0039	0.0048	0.0056	224	308	392	476	560
7/8"	0.875	0.0024	0.0033	0.0042	0.0051	0.0060	224	308	392	476	560
1"	1.000	0.0025	0.0035	0.0044	0.0054	0.0063	224	308	392	476	560
1 1/4"	1.250	0.0026	0.0036	0.0046	0.0055	0.0065	224	308	392	476	560

SS SM SF SD SH GM TM TB Series — ISO — SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -AlTiN Coated- — P

Die & Mold Steels P20, A-2, D-2, M2, M42, T15

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	120	165	210	255	300
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	128	176	224	272	320
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	136	187	238	289	340
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	140	193	245	298	350
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	144	198	252	306	360
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	152	209	266	323	380
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	156	215	273	332	390
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	160	220	280	340	400
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	164	226	287	349	410
7/16"	0.437	0.0013	0.0018	0.0023	0.0028	0.0033	168	231	294	357	420
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	176	242	308	374	440
5/8"	0.625	0.0015	0.0021	0.0027	0.0032	0.0038	176	242	308	374	440
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	176	242	308	374	440
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	176	242	308	374	440
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	176	242	308	374	440
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	176	242	308	374	440

SS SM SF SD SH GM TM TB Series — ISO — SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -AlTiN Coated- — K

Nodular Cast Iron, Grey Cast Iron, Malleable Cast Iron

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0009	0.0011	0.0014	0.0016	192	264	336	408	480
5/32"	0.156	0.0007	0.0010	0.0013	0.0015	0.0018	196	270	343	417	490
3/16"	0.187	0.0008	0.0012	0.0015	0.0018	0.0021	200	275	350	425	500
7/32"	0.218	0.0010	0.0013	0.0017	0.0020	0.0024	204	281	357	434	510
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	208	286	364	442	520
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	212	292	371	451	530
5/16"	0.312	0.0013	0.0018	0.0022	0.0027	0.0032	216	297	378	459	540
11/32"	0.343	0.0014	0.0019	0.0024	0.0029	0.0034	220	303	385	468	550
3/8"	0.375	0.0014	0.0020	0.0025	0.0031	0.0036	224	308	392	476	560
7/16"	0.437	0.0016	0.0022	0.0028	0.0034	0.0040	228	314	399	485	570
1/2"	0.500	0.0018	0.0025	0.0032	0.0038	0.0045	240	330	420	510	600
5/8"	0.625	0.0022	0.0030	0.0039	0.0047	0.0055	240	330	420	510	600
3/4"	0.750	0.0024	0.0033	0.0042	0.0051	0.0060	240	330	420	510	600
7/8"	0.875	0.0026	0.0036	0.0046	0.0055	0.0065	240	330	420	510	600
1"	1.000	0.0028	0.0039	0.0049	0.0060	0.0070	240	330	420	510	600
1 1/4"	1.250	0.0030	0.0041	0.0052	0.0063	0.0074	240	330	420	510	600

SS SM SF SD SH GM TM TB Series — ISO — M

SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -AlTiN Coated-

Stainless Steel (Precipitation) 15-5PH, 17-4PH

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	144	198	252	306	360
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	149	205	260	316	372
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	154	211	269	326	384
7/32"	0.218	0.0008	0.0011	0.0014	0.0017	0.0020	158	218	277	337	396
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	163	224	286	347	408
9/32"	0.281	0.0011	0.0015	0.0020	0.0024	0.0028	168	231	294	357	420
5/16"	0.312	0.0012	0.0017	0.0021	0.0026	0.0030	173	238	302	367	432
11/32"	0.343	0.0013	0.0018	0.0022	0.0027	0.0032	178	244	311	377	444
3/8"	0.375	0.0014	0.0019	0.0024	0.0029	0.0034	182	251	319	388	456
7/16"	0.437	0.0015	0.0021	0.0027	0.0032	0.0038	187	257	328	398	468
1/2"	0.500	0.0017	0.0023	0.0029	0.0036	0.0042	192	264	336	408	480
5/8"	0.625	0.0019	0.0026	0.0034	0.0041	0.0048	192	264	336	408	480
3/4"	0.750	0.0021	0.0029	0.0036	0.0044	0.0052	192	264	336	408	480
7/8"	0.875	0.0022	0.0030	0.0038	0.0046	0.0054	192	264	336	408	480
1"	1.000	0.0022	0.0031	0.0039	0.0048	0.0056	192	264	336	408	480
1 1/4"	1.250	0.0023	0.0032	0.0041	0.0049	0.0058	192	264	336	408	480

SS SM SF SD SH GM TM TB Series — ISO — M

SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -AlTiN Coated-

Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	86	119	151	184	216
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	91	125	160	194	228
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	96	132	168	204	240
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	101	139	176	214	252
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	106	145	185	224	264
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	110	152	193	235	276
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	115	158	201	245	288
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	120	165	210	255	300
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	125	172	218	265	312
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	130	178	227	275	324
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	134	185	235	286	336
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	134	185	235	286	336
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	134	185	235	286	336
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	134	185	235	286	336
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	134	185	235	286	336
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	134	185	235	286	336

SS SM SF SD SH GM TM TB Series — ISO — S

SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -AlTiN Coated-

High Temp Alloys, Titanium Alloys Ti-6AL4V

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	58	79	101	122	144
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	62	86	109	133	156
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	67	92	118	143	168
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	72	99	126	153	180
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	77	106	134	163	192
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	82	112	143	173	204
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	86	119	151	184	216
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	91	125	160	194	228
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	96	132	168	204	240
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	101	139	176	214	252
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	106	145	185	224	264
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	106	145	185	224	264
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	106	145	185	224	264
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	106	145	185	224	264
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	106	145	185	224	264
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	106	145	185	224	264

SwiftCARB Speeds & Feeds for Industry Standard Tools AlTiN Coated

SS SM SF SD SH GM TM TB Series | **ISO** | *SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -AlTiN Coated-* | **S**

High Temp Alloys (Nickel and Cobalt Based) Monel 400, Hastelloy, Nimonic 75, Inconel 625, 718

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	17	23	29	36	42
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	17	23	29	36	42
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	17	23	29	36	42
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	19	26	34	41	48
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	19	26	34	41	48
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	19	26	34	41	48
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	24	33	42	51	60
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	24	33	42	51	60
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	24	33	42	51	60
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	24	33	42	51	60
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	29	40	50	61	72
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	29	40	50	61	72
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	29	40	50	61	72
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	29	40	50	61	72
1"	1.000	0.0018	0.0024	0.0031	0.0037	0.0044	29	40	50	61	72
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	29	40	50	61	72

SwiftCARB Speeds & Feeds for Premium Tools MDC Coated

SS SM SF SD SH GM TM TB Series | **ISO** | *SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -MDC Coated-* | **P**

Non-Alloy Steel, Cast Steel, Free Cutting Steel 1018, 1020, A36, 8620

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0009	0.0011	0.0014	0.0016	212	291	370	450	529
5/32"	0.156	0.0007	0.0010	0.0013	0.0015	0.0018	248	342	435	528	621
3/16"	0.187	0.0008	0.0012	0.0015	0.0018	0.0021	267	367	467	567	667
7/32"	0.218	0.0010	0.0013	0.0017	0.0020	0.0024	276	380	483	587	690
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	294	405	515	626	736
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	304	417	531	645	759
5/16"	0.312	0.0013	0.0018	0.0022	0.0027	0.0032	313	430	547	665	782
11/32"	0.343	0.0014	0.0019	0.0024	0.0029	0.0034	322	443	564	684	805
3/8"	0.375	0.0014	0.0020	0.0025	0.0031	0.0036	331	455	580	704	828
7/16"	0.437	0.0016	0.0022	0.0028	0.0034	0.0040	340	468	596	723	851
1/2"	0.500	0.0018	0.0025	0.0032	0.0038	0.0045	350	481	612	743	874
5/8"	0.625	0.0022	0.0030	0.0039	0.0047	0.0055	350	481	612	743	874
3/4"	0.750	0.0024	0.0033	0.0042	0.0051	0.0060	350	481	612	743	874
7/8"	0.875	0.0026	0.0036	0.0046	0.0055	0.0065	350	481	612	743	874
1"	1.000	0.0028	0.0039	0.0049	0.0060	0.0070	350	481	612	743	874
1 1/4"	1.250	0.0030	0.0041	0.0052	0.0063	0.0074	350	481	612	743	874

SS SM SF SD SH GM TM TB Series | **ISO** | *SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -MDC Coated-* | **P**

Low Alloy Steel, Cast Steel 4130, 4140, 8620, 4330, 4340

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0008	0.0010	0.0012	0.0014	166	228	290	352	414
5/32"	0.156	0.0006	0.0009	0.0011	0.0013	0.0016	175	240	306	371	437
3/16"	0.187	0.0007	0.0010	0.0013	0.0015	0.0018	184	253	322	391	460
7/32"	0.218	0.0009	0.0012	0.0015	0.0019	0.0022	193	266	338	411	483
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	202	278	354	430	506
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	212	291	370	450	529
5/16"	0.312	0.0013	0.0018	0.0023	0.0028	0.0033	221	304	386	469	552
11/32"	0.343	0.0014	0.0020	0.0025	0.0031	0.0036	230	316	403	489	575
3/8"	0.375	0.0016	0.0021	0.0027	0.0033	0.0039	239	329	419	508	598
7/16"	0.437	0.0016	0.0022	0.0029	0.0035	0.0041	248	342	435	528	621
1/2"	0.500	0.0018	0.0024	0.0031	0.0037	0.0044	258	354	451	547	644
5/8"	0.625	0.0021	0.0029	0.0036	0.0044	0.0052	258	354	451	547	644
3/4"	0.750	0.0022	0.0031	0.0039	0.0048	0.0056	258	354	451	547	644
7/8"	0.875	0.0024	0.0033	0.0042	0.0051	0.0060	258	354	451	547	644
1"	1.000	0.0025	0.0035	0.0044	0.0054	0.0063	258	354	451	547	644
1 1/4"	1.250	0.0026	0.0036	0.0046	0.0055	0.0065	258	354	451	547	644

SS SM SF SD SH GM TM TB Series — ISO — P

SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -MDC Coated-

Die & Mold Steels P20, A-2, D-2, M2, M42, T15

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	138	190	242	293	345
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	147	202	258	313	368
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	156	215	274	332	391
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	161	221	282	342	403
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	166	228	290	352	414
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	175	240	306	371	437
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	179	247	314	381	449
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	184	253	322	391	460
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	189	259	330	401	472
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	193	266	338	411	483
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	202	278	354	430	506
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	202	278	354	430	506
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	202	278	354	430	506
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	202	278	354	430	506
1"	1.000	0.0018	0.0024	0.0031	0.0037	0.0044	202	278	354	430	506
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	202	278	354	430	506

SS SM SF SD SH GM TM TB Series — ISO — K

SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -MDC Coated-

Nodular Cast Iron, Grey Cast Iron, Malleable Cast Iron

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0009	0.0011	0.0014	0.0016	221	304	386	469	552
5/32"	0.156	0.0007	0.0010	0.0013	0.0015	0.0018	225	310	394	479	564
3/16"	0.187	0.0008	0.0012	0.0015	0.0018	0.0021	230	316	403	489	575
7/32"	0.218	0.0010	0.0013	0.0017	0.0020	0.0024	235	323	411	499	587
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	239	329	419	508	598
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	244	335	427	518	610
5/16"	0.312	0.0013	0.0018	0.0022	0.0027	0.0032	248	342	435	528	621
11/32"	0.343	0.0014	0.0019	0.0024	0.0029	0.0034	253	348	443	538	633
3/8"	0.375	0.0014	0.0020	0.0025	0.0031	0.0036	258	354	451	547	644
7/16"	0.437	0.0016	0.0022	0.0028	0.0034	0.0040	262	361	459	557	656
1/2"	0.500	0.0018	0.0025	0.0032	0.0038	0.0045	276	380	483	587	690
5/8"	0.625	0.0022	0.0030	0.0039	0.0047	0.0055	276	380	483	587	690
3/4"	0.750	0.0024	0.0033	0.0042	0.0051	0.0060	276	380	483	587	690
7/8"	0.875	0.0026	0.0036	0.0046	0.0055	0.0065	276	380	483	587	690
1"	1.000	0.0028	0.0039	0.0049	0.0060	0.0070	276	380	483	587	690
1 1/4"	1.250	0.0030	0.0041	0.0052	0.0063	0.0074	276	380	483	587	690

SS SM SF SD SH GM TM TB Series — ISO — M

SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -MDC Coated-

Stainless Steel (Precipitation) 15-5PH, 17-4PH

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	166	228	290	352	414
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	171	235	299	364	428
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	177	243	309	375	442
7/32"	0.218	0.0008	0.0011	0.0014	0.0017	0.0020	182	250	319	387	455
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	188	258	328	399	469
9/32"	0.281	0.0011	0.0015	0.0020	0.0024	0.0028	193	266	338	411	483
5/16"	0.312	0.0012	0.0017	0.0021	0.0026	0.0030	199	273	348	422	497
11/32"	0.343	0.0013	0.0018	0.0022	0.0027	0.0032	204	281	357	434	511
3/8"	0.375	0.0014	0.0019	0.0024	0.0029	0.0034	210	288	367	446	524
7/16"	0.437	0.0015	0.0021	0.0027	0.0032	0.0038	215	296	377	457	538
1/2"	0.500	0.0017	0.0023	0.0029	0.0036	0.0042	221	304	386	469	552
5/8"	0.625	0.0019	0.0026	0.0034	0.0041	0.0048	221	304	386	469	552
3/4"	0.750	0.0021	0.0029	0.0036	0.0044	0.0052	221	304	386	469	552
7/8"	0.875	0.0022	0.0030	0.0038	0.0046	0.0054	221	304	386	469	552
1"	1.000	0.0022	0.0031	0.0039	0.0048	0.0056	221	304	386	469	552
1 1/4"	1.250	0.0023	0.0032	0.0041	0.0049	0.0058	221	304	386	469	552

SS SM SF SD SH GM TM TB Series — ISO — SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -MDC Coated- — M

Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	99	137	174	211	248
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	105	144	184	223	262
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	110	152	193	235	276
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	116	159	203	246	290
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	121	167	213	258	304
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	127	175	222	270	317
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	132	182	232	282	331
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	138	190	242	293	345
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	144	197	251	305	359
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	149	205	261	317	373
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	155	213	270	328	386
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	155	213	270	328	386
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	155	213	270	328	386
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	155	213	270	328	386
1"	1.000	0.0018	0.0024	0.0031	0.0037	0.0044	155	213	270	328	386
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	155	213	270	328	386

SS SM SF SD SH GM TM TB Series — ISO — SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -MDC Coated- — S

High Temp Alloys, Titanium Alloys Ti-6AL4V

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	66	91	116	141	166
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	72	99	126	152	179
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	77	106	135	164	193
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	83	114	145	176	207
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	88	121	155	188	221
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	94	129	164	199	235
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	99	137	174	211	248
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	105	144	184	223	262
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	110	152	193	235	276
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	116	159	203	246	290
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	121	167	213	258	304
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	121	167	213	258	304
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	121	167	213	258	304
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	121	167	213	258	304
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	121	167	213	258	304
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	121	167	213	258	304

SS SM SF SD SH GM TM TB Series — ISO — SS, SM, SF, SD, SH, GM TM, TB Feeds and Speeds -MDC Coated- — S

High Temp Alloys (Nickel and Cobalt Based) Monel 400, Hastelloy, Nimonic 75, Inconel 625, 718

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	19	27	34	41	48
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	19	27	34	41	48
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	19	27	34	41	48
7/32"	0.218	0.0007	0.0010	0.0013	0.0017	0.0018	22	30	39	47	55
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	22	30	39	47	55
9/32"	0.281	0.0010	0.0014	0.0018	0.0024	0.0026	22	30	39	47	55
5/16"	0.312	0.0011	0.0015	0.0020	0.0026	0.0028	28	38	48	59	69
11/32"	0.343	0.0012	0.0016	0.0020	0.0027	0.0029	28	38	48	59	69
3/8"	0.375	0.0012	0.0017	0.0021	0.0029	0.0030	28	38	48	59	69
7/16"	0.437	0.0013	0.0018	0.0022	0.0032	0.0032	28	38	48	59	69
1/2"	0.500	0.0014	0.0020	0.0025	0.0036	0.0036	33	46	58	70	83
5/8"	0.625	0.0015	0.0020	0.0026	0.0041	0.0038	33	46	58	70	83
3/4"	0.750	0.0017	0.0023	0.0029	0.0044	0.0042	33	46	58	70	83
7/8"	0.875	0.0018	0.0024	0.0031	0.0046	0.0044	33	46	58	70	83
1"	1.000	0.0018	0.0024	0.0031	0.0048	0.0044	33	46	58	70	83
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0049	0.0050	33	46	58	70	83

XM Series — ISO P

XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-

Non-Alloy Steel, Cast Steel, Free Cutting Steel 1018, 1020, A36, 8620

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0009	0.0011	0.0014	0.0016	245	336	428	520	612
5/32"	0.156	0.0007	0.0010	0.0013	0.0015	0.0018	287	395	503	610	718
3/16"	0.187	0.0008	0.0012	0.0015	0.0018	0.0021	309	424	540	656	771
7/32"	0.218	0.0010	0.0013	0.0017	0.0020	0.0024	319	439	559	678	798
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	340	468	596	724	851
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	351	483	614	746	878
5/16"	0.312	0.0013	0.0018	0.0022	0.0027	0.0032	362	497	633	769	904
11/32"	0.343	0.0014	0.0019	0.0024	0.0029	0.0034	372	512	652	791	931
3/8"	0.375	0.0014	0.0020	0.0025	0.0031	0.0036	383	527	670	814	958
7/16"	0.437	0.0016	0.0022	0.0028	0.0034	0.0040	394	541	689	837	984
1/2"	0.500	0.0018	0.0025	0.0032	0.0038	0.0045	404	556	708	859	1011
5/8"	0.625	0.0022	0.0030	0.0039	0.0047	0.0055	404	556	708	859	1011
3/4"	0.750	0.0024	0.0033	0.0042	0.0051	0.0060	404	556	708	859	1011
7/8"	0.875	0.0026	0.0036	0.0046	0.0055	0.0065	404	556	708	859	1011
1"	1.000	0.0028	0.0039	0.0049	0.0060	0.0070	404	556	708	859	1011
1 1/4"	1.250	0.0030	0.0041	0.0052	0.0063	0.0074	404	556	708	859	1011

XM Series — ISO P

XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-

Low Alloy Steel, Cast Steel 4130, 4140, 8620, 4330, 4340

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0008	0.0010	0.0012	0.0014	192	263	335	407	479
5/32"	0.156	0.0006	0.0009	0.0011	0.0013	0.0016	202	278	354	430	505
3/16"	0.187	0.0007	0.0010	0.0013	0.0015	0.0018	213	293	372	452	532
7/32"	0.218	0.0009	0.0012	0.0015	0.0019	0.0022	223	307	391	475	559
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	234	322	410	497	585
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	245	336	428	520	612
5/16"	0.312	0.0013	0.0018	0.0023	0.0028	0.0033	255	351	447	543	638
11/32"	0.343	0.0014	0.0020	0.0025	0.0031	0.0036	266	366	466	565	665
3/8"	0.375	0.0016	0.0021	0.0027	0.0033	0.0039	277	380	484	588	692
7/16"	0.437	0.0016	0.0022	0.0029	0.0035	0.0041	287	395	503	610	718
1/2"	0.500	0.0018	0.0024	0.0031	0.0037	0.0044	298	410	521	633	745
5/8"	0.625	0.0021	0.0029	0.0036	0.0044	0.0052	298	410	521	633	745
3/4"	0.750	0.0022	0.0031	0.0039	0.0048	0.0056	298	410	521	633	745
7/8"	0.875	0.0024	0.0033	0.0042	0.0051	0.0060	298	410	521	633	745
1"	1.000	0.0025	0.0035	0.0044	0.0054	0.0063	298	410	521	633	745
1 1/4"	1.250	0.0026	0.0036	0.0046	0.0055	0.0065	298	410	521	633	745

XM Series — ISO P

XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-

Die & Mold Steels P20, A-2, D-2, M2, M42, T15

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	160	219	279	339	399
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	170	234	298	362	426
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	181	249	317	384	452
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	186	256	326	396	466
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	192	263	335	407	479
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	202	278	354	430	505
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	207	285	363	441	519
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	213	293	372	452	532
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	218	300	382	464	545
7/16"	0.437	0.0013	0.0018	0.0023	0.0028	0.0033	223	307	391	475	559
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	234	322	410	497	585
5/8"	0.625	0.0015	0.0021	0.0027	0.0032	0.0038	234	322	410	497	585
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	234	322	410	497	585
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	234	322	410	497	585
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	234	322	410	497	585
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	234	322	410	497	585

XM Series — ISO K

XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-

Nodular Cast Iron, Grey Cast Iron, Malleable Cast Iron

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0009	0.0011	0.0014	0.0016	255	351	447	543	638
5/32"	0.156	0.0007	0.0010	0.0013	0.0015	0.0018	261	358	456	554	652
3/16"	0.187	0.0008	0.0012	0.0015	0.0018	0.0021	266	366	466	565	665
7/32"	0.218	0.0010	0.0013	0.0017	0.0020	0.0024	271	373	475	577	678
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	277	380	484	588	692
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	282	388	493	599	705
5/16"	0.312	0.0013	0.0018	0.0022	0.0027	0.0032	287	395	503	610	718
11/32"	0.343	0.0014	0.0019	0.0024	0.0029	0.0034	293	402	512	622	732
3/8"	0.375	0.0014	0.0020	0.0025	0.0031	0.0036	298	410	521	633	745
7/16"	0.437	0.0016	0.0022	0.0028	0.0034	0.0040	303	417	531	644	758
1/2"	0.500	0.0018	0.0025	0.0032	0.0038	0.0045	319	439	559	678	798
5/8"	0.625	0.0022	0.0030	0.0039	0.0047	0.0055	319	439	559	678	798
3/4"	0.750	0.0024	0.0033	0.0042	0.0051	0.0060	319	439	559	678	798
7/8"	0.875	0.0026	0.0036	0.0046	0.0055	0.0065	319	439	559	678	798
1"	1.000	0.0028	0.0039	0.0049	0.0060	0.0070	319	439	559	678	798
1 1/4"	1.250	0.0030	0.0041	0.0052	0.0063	0.0074	319	439	559	678	798

XM Series — ISO M

XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-

Stainless Steel (Precipitation) 15-5PH, 17-4PH

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	192	263	335	407	479
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	198	272	346	421	495
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	204	281	358	434	511
7/32"	0.218	0.0008	0.0011	0.0014	0.0017	0.0020	211	290	369	448	527
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	217	298	380	461	543
9/32"	0.281	0.0011	0.0015	0.0020	0.0024	0.0028	223	307	391	475	559
5/16"	0.312	0.0012	0.0017	0.0021	0.0026	0.0030	230	316	402	488	575
11/32"	0.343	0.0013	0.0018	0.0022	0.0027	0.0032	236	325	413	502	591
3/8"	0.375	0.0014	0.0019	0.0024	0.0029	0.0034	243	334	425	516	606
7/16"	0.437	0.0015	0.0021	0.0027	0.0032	0.0038	249	342	436	529	622
1/2"	0.500	0.0017	0.0023	0.0029	0.0036	0.0042	255	351	447	543	638
5/8"	0.625	0.0019	0.0026	0.0034	0.0041	0.0048	255	351	447	543	638
3/4"	0.750	0.0021	0.0029	0.0036	0.0044	0.0052	255	351	447	543	638
7/8"	0.875	0.0022	0.0030	0.0038	0.0046	0.0054	255	351	447	543	638
1"	1.000	0.0022	0.0031	0.0039	0.0048	0.0056	255	351	447	543	638
1 1/4"	1.250	0.0023	0.0032	0.0041	0.0049	0.0058	255	351	447	543	638

XM Series — ISO M

XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-

Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	115	158	201	244	287
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	121	167	212	258	303
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	128	176	223	271	319
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	134	184	235	285	335
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	140	193	246	298	351
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	147	202	257	312	367
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	153	211	268	326	383
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	160	219	279	339	399
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	166	228	290	353	415
7/16"	0.437	0.0013	0.0018	0.0023	0.0028	0.0033	172	237	302	366	431
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	179	246	313	380	447
5/8"	0.625	0.0015	0.0021	0.0027	0.0032	0.0038	179	246	313	380	447
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	179	246	313	380	447
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	179	246	313	380	447
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	179	246	313	380	447
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	179	246	313	380	447

XM Series — ISO S

XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-

High Temp Alloys, Titanium Alloys Ti-6AL4V

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	77	105	134	163	192
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	83	114	145	176	207
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	89	123	156	190	223
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	96	132	168	203	239
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	102	140	179	217	255
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	109	149	190	231	271
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	115	158	201	244	287
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	121	167	212	258	303
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	128	176	223	271	319
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	134	184	235	285	335
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	140	193	246	298	351
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	140	193	246	298	351
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	140	193	246	298	351
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	140	193	246	298	351
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	140	193	246	298	351
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	140	193	246	298	351

XM Series — ISO S

XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-

High Temp Alloys (Nickel and Cobalt Based) Monel 400, Hastelloy, Nimonic 75, Inconel 625, 718

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	22	31	39	47	56
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	22	31	39	47	56
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	22	31	39	47	56
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	26	35	45	54	64
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	26	35	45	54	64
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	26	35	45	54	64
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	32	44	56	68	80
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	32	44	56	68	80
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	32	44	56	68	80
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	32	44	56	68	80
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	38	53	67	81	96
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	38	53	67	81	96
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	38	53	67	81	96
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	38	53	67	81	96
1"	1.000	0.0018	0.0024	0.0031	0.0037	0.0044	38	53	67	81	96
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	38	53	67	81	96

XM Series — ISO H

XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-

Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L

Axial Depth		1x DIA	1.5x DIA	2x DIA	2x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	45	62	78	95	112
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	51	70	90	109	128
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	58	79	101	122	144
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	64	88	112	136	160
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	64	88	112	136	160
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	70	97	123	150	176
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	70	97	123	150	176
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	77	106	134	163	192
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	77	106	134	163	192
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	77	106	134	163	192
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	83	114	146	177	208
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	83	114	146	177	208
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	83	114	146	177	208
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	83	114	146	177	208
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	83	114	146	177	208
1 1/4"	1.250	0.0019	0.0026	0.0034	0.0041	0.0048	83	114	146	177	208

RAMPMILL SPEEDS AND FEEDS



Helical Ramp Entry Hole Size

Tool Diameter		Entry Hole Diameter	
		Coolant-Through	Flood only
3/16”	0.187	0.262	0.345
1/4”	0.250	0.339	0.440
5/16”	0.312	0.427	0.565
3/8”	0.375	0.504	0.690
7/16”	0.437	0.591	0.815
1/2”	0.500	0.700	0.880
5/8”	0.625	0.853	1.130
3/4”	0.750	1.039	1.380
7/8”	0.875	1.193	1.630
1”	1.000	1.346	1.880

RPM & feed rate must be reduced during ramp entry. Refer to the following pages for specific reductions based on each material and geometry.

WARNING: Using helical ramp parameters outside the guidelines listed above will result in poor tool life and can cause tool breakage.

RAMPMILL

The feeds and speeds in this section are based on using controlled engagement tool paths.

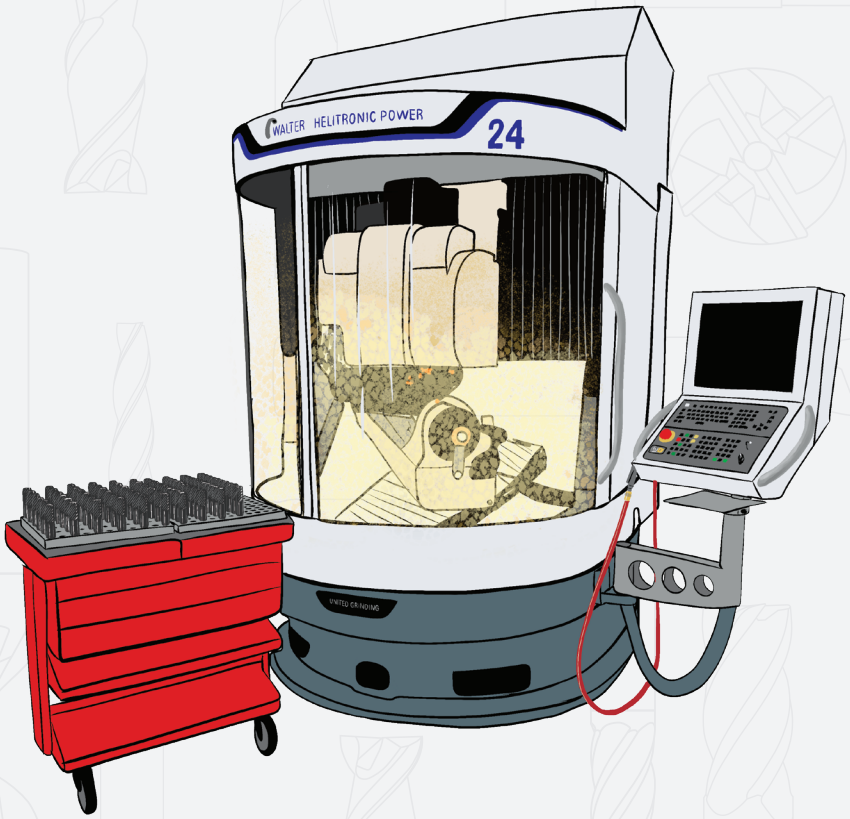
The recommenations are guidelines for finding where to start on your machine.

It is necessary to use the SWIFTCALC calculator to aid in making adjustments to your program.

For more help on speeds and feeds, go to:
www.swiftcarb.com or call 800-227-9876

AV3 Series			ISO	AV3 Series Feeds and Speeds -Uncoated-							N
				Aluminum Wrought Alloy & Aluminum Alloy <12% Si, 6061-T6, 7075							
Diameter		#FL	TEA-105	TEA-85	TEA-65	MAX AXIAL DOC	105°	85°	65°	When ramping, reduce program to	
			Chip Thickness at TEA				Surface Feet Per Min				
							Min	Mid	Max	RPM = 100%	Feed = 70%
1/4”	0.250	3	0.0031	0.0036	0.0051	0.500	800	1120	1600	10-15°	
3/8”	0.375	3	0.0041	0.0048	0.0068	0.750	900	1260	1800	10-15°	
1/2”	0.500	3	0.0072	0.0084	0.0120	1.000	1000	1400	2000	12-17°	
5/8”	0.625	3	0.0072	0.0084	0.0120	1.250	1000	1400	2000	12-17°	
3/4”	0.750	3	0.0084	0.0098	0.0140	1.500	1000	1400	2000	12-17°	
1”	1.000	3	0.0102	0.0119	0.0170	2.000	1000	1400	2000	12-17°	
1-1/4”	1.250	3	0.0114	0.0133	0.0190	2.500	1000	1400	2000	12-17°	

AV3 Series			ISO	AV3 Series Feeds and Speeds -Uncoated-							N
				Aluminum Wrought Alloy & Aluminum Alloy >12% Si, Copper, Brass, Bronze							
Diameter		#FL	TEA-105	TEA-85	TEA-65	MAX AXIAL DOC	105°	85°	65°	When ramping, reduce program to	
			Chip Thickness at TEA				Surface Feet Per Min				
							Min	Mid	Max	RPM = 100%	Feed = 70%
1/4”	0.250	3	0.0031	0.0036	0.0051	0.500	400	560	800	10-15°	
3/8”	0.375	3	0.0041	0.0048	0.0068	0.750	450	630	900	10-15°	
1/2”	0.500	3	0.0072	0.0084	0.0120	1.000	500	700	1000	12-17°	
5/8”	0.625	3	0.0072	0.0084	0.0120	1.250	500	700	1000	12-17°	
3/4”	0.750	3	0.0084	0.0098	0.0140	1.500	500	700	1000	12-17°	
1”	1.000	3	0.0102	0.0119	0.0170	2.000	500	700	1000	12-17°	
1-1/4”	1.250	3	0.0114	0.0133	0.0190	2.500	500	700	1000	12-17°	



XD4 Series — ISO P

XD4 Series Feeds and Speeds -MDC Coated-

Non-Alloy Steel, Cast Steel, Free Cutting Steel 1018, 1020, A36, 8622

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-50	TEA-40	TEA-30		50°	40°	30°		
							Min	Mid	Max	RPM = 80%	Feed = 50%
3/16”	0.187	4	0.0015	0.0018	0.0021	0.375	540	656	771	Helical Ramp Angle 5 - 8° Over 5° for Coolant-Through Only	
1/4”	0.250	4	0.0018	0.0022	0.0026	0.500	596	724	851		
5/16”	0.312	4	0.0022	0.0027	0.0032	0.625	633	769	904		
3/8”	0.375	4	0.0025	0.0031	0.0036	0.750	670	814	958		
7/16”	0.437	4	0.0028	0.0034	0.0040	0.875	689	837	1011		
1/2”	0.500	4	0.0032	0.0038	0.0045	1.000	708	859	1011		
5/8”	0.625	4	0.0039	0.0047	0.0055	1.250	708	859	1011		
3/4”	0.750	4	0.0042	0.0051	0.0060	1.500	708	859	1011		
7/8”	0.875	4	0.0046	0.0055	0.0065	1.750	708	859	1011		
1”	1.000	4	0.0049	0.0060	0.0070	2.000	708	859	1011		

XD4 Series — ISO P

XD4 Series Feeds and Speeds -MDC Coated-

Low Alloy Steel, Cast Steel 4130, 4140, 8620, 4330, 4340

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-55	TEA-45	TEA-35		55°	45°	35°		
							Min	Mid	Max	RPM = 80%	Feed = 50%
3/16”	0.187	4	0.0013	0.0015	0.0018	0.375	372	452	532	Helical Ramp Angle 5 - 8° Over 5° for Coolant-Through Only	
1/4”	0.250	4	0.0018	0.0022	0.0026	0.500	410	497	585		
5/16”	0.312	4	0.0023	0.0028	0.0033	0.625	447	543	638		
3/8”	0.375	4	0.0027	0.0033	0.0039	0.750	484	588	692		
7/16”	0.437	4	0.0029	0.0035	0.0041	0.875	503	610	718		
1/2”	0.500	4	0.0031	0.0037	0.0044	1.000	521	633	745		
5/8”	0.625	4	0.0036	0.0044	0.0052	1.250	521	633	745		
3/4”	0.750	4	0.0039	0.0048	0.0056	1.500	521	633	745		
7/8”	0.875	4	0.0042	0.0051	0.0060	1.750	521	633	745		
1”	1.000	4	0.0044	0.0054	0.0063	2.000	521	633	745		

XD4 Series — ISO P

XD4 Series Feeds and Speeds -MDC Coated-

Die & Mold Steels P20, A-2, D-2, M2, M42, T15

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-45	TEA-35	TEA-28		45°	35°	28°		
							Min	Mid	Max	RPM = 80%	Feed = 40%
3/16”	0.187	4	0.0011	0.0014	0.0016	0.375	317	384	452	Helical Ramp Angle 5 - 8° Over 5° for Coolant-Through Only	
1/4”	0.250	4	0.0017	0.0020	0.0024	0.500	335	407	479		
5/16”	0.312	4	0.0020	0.0024	0.0028	0.625	363	441	519		
3/8”	0.375	4	0.0021	0.0026	0.0030	0.750	382	464	545		
7/16”	0.437	4	0.0023	0.0028	0.0033	0.875	391	475	559		
1/2”	0.500	4	0.0025	0.0031	0.0036	1.000	410	497	585		
5/8”	0.625	4	0.0027	0.0032	0.0038	1.250	410	497	585		
3/4”	0.750	4	0.0029	0.0036	0.0042	1.500	410	497	585		
7/8”	0.875	4	0.0031	0.0037	0.0044	1.750	410	497	585		
1”	1.000	4	0.0032	0.0039	0.0046	2.000	410	497	585		

XD4 Series — ISO K

XD4 Series Feeds and Speeds -MDC Coated-

Nodular Cast Iron, Grey Cast Iron, Malleable Cast Iron

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-45	TEA-35	TEA-28		45°	35°	28°		
							Min	Mid	Max	RPM = 80%	Feed = 50%
3/16”	0.187	4	0.0015	0.0018	0.0021	0.375	466	565	665	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only	
1/4”	0.250	4	0.0018	0.0022	0.0026	0.500	484	588	692		
5/16”	0.312	4	0.0022	0.0027	0.0032	0.625	503	610	718		
3/8”	0.375	4	0.0025	0.0031	0.0036	0.750	521	633	745		
7/16”	0.437	4	0.0028	0.0034	0.0040	0.875	531	644	758		
1/2”	0.500	4	0.0032	0.0038	0.0045	1.000	559	678	798		
5/8”	0.625	4	0.0039	0.0047	0.0055	1.250	559	678	798		
3/4”	0.750	4	0.0042	0.0051	0.0060	1.500	559	678	798		
7/8”	0.875	4	0.0046	0.0055	0.0065	1.750	559	678	798		
1”	1.000	4	0.0049	0.0060	0.0070	2.000	559	678	798		

XD4 Series — ISO M — XD4 Series Feeds and Speeds -MDC Coated-

Stainless Steel (Precipitation) 15-5PH, 17-4PH

Diameter		#FL	Chip Thickness at TEA: TEA-32	TEA-28	TEA-24	MAX AXIAL DOC	Surface Feet Per Min: 32° Min	28° Mid	24° Max
3/16”	0.187	4	0.0011	0.0014	0.0016	0.375	329	400	470
1/4”	0.250	4	0.0017	0.0020	0.0024	0.500	350	425	500
5/16”	0.312	4	0.0021	0.0026	0.0030	0.625	370	450	529
3/8”	0.375	4	0.0024	0.0029	0.0034	0.750	390	473	557
7/16”	0.437	4	0.0027	0.0032	0.0038	0.875	400	486	572
1/2”	0.500	4	0.0029	0.0036	0.0042	1.000	410	498	586
5/8”	0.625	4	0.0034	0.0041	0.0048	1.250	410	498	586
3/4”	0.750	4	0.0036	0.0044	0.0052	1.500	410	498	586
7/8”	0.875	4	0.0038	0.0046	0.0054	1.750	410	498	586
1”	1.000	4	0.0039	0.0048	0.0056	2.000	410	498	586

When ramping, reduce program to: RPM = 80% | Feed = 40%

Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only

XD4 Series — ISO M — XD4 Series Feeds and Speeds -MDC Coated-

Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L

Diameter		#FL	Chip Thickness at TEA: TEA-30	TEA-27	TEA-24	MAX AXIAL DOC	Surface Feet Per Min: 30° Min	27° Mid	24° Max
3/16”	0.187	4	0.0011	0.0014	0.0016	0.375	223	271	319
1/4”	0.250	4	0.0017	0.0020	0.0024	0.500	246	298	351
5/16”	0.312	4	0.0020	0.0024	0.0028	0.625	268	326	383
3/8”	0.375	4	0.0021	0.0026	0.0030	0.750	290	353	415
7/16”	0.437	4	0.0022	0.0027	0.0032	0.875	302	366	431
1/2”	0.500	4	0.0025	0.0031	0.0036	1.000	313	380	447
5/8”	0.625	4	0.0027	0.0032	0.0038	1.250	313	380	447
3/4”	0.750	4	0.0029	0.0036	0.0042	1.500	313	380	447
7/8”	0.875	4	0.0031	0.0037	0.0044	1.750	313	380	447
1”	1.000	4	0.0032	0.0039	0.0046	2.000	313	380	447

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only

XD4 Series — ISO S — XD4 Series Feeds and Speeds -MDC Coated-

High Temp Alloys, Titanium Alloys Ti-6AL4V

Diameter		#FL	Chip Thickness at TEA: TEA-32	TEA-28	TEA-24	MAX AXIAL DOC	Surface Feet Per Min: 32° Min	28° Mid	24° Max
3/16”	0.187	4	0.0011	0.0014	0.0016	0.375	156	190	223
1/4”	0.250	4	0.0017	0.0020	0.0024	0.500	179	217	255
5/16”	0.312	4	0.0020	0.0024	0.0028	0.625	201	244	287
3/8”	0.375	4	0.0021	0.0026	0.0030	0.750	223	271	319
7/16”	0.437	4	0.0022	0.0027	0.0032	0.875	235	285	335
1/2”	0.500	4	0.0024	0.0029	0.0034	1.000	246	298	351
5/8”	0.625	4	0.0025	0.0030	0.0035	1.250	246	298	351
3/4”	0.750	4	0.0025	0.0031	0.0036	1.500	246	298	351
7/8”	0.875	4	0.0027	0.0032	0.0038	1.750	246	298	351
1”	1.000	4	0.0027	0.0032	0.0038	2.000	246	298	351

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only

XD4 Series — ISO S — XD4 Series Feeds and Speeds -MDC Coated-

High Temp Alloys (Nickel & Cobalt Based) Monel 400, Hastelloy, Nimonic 75, Inconel 625, 718

Diameter		#FL	Chip Thickness at TEA: TEA-30	TEA-26	TEA-22	MAX AXIAL DOC	Surface Feet Per Min: 30° Min	26° Mid	22° Max
3/16”	0.187	4	0.0011	0.0014	0.0016	0.375	39	47	56
1/4”	0.250	4	0.0017	0.0020	0.0024	0.500	45	54	64
5/16”	0.312	4	0.0020	0.0024	0.0028	0.625	56	68	80
3/8”	0.375	4	0.0021	0.0026	0.0030	0.750	56	68	80
7/16”	0.437	4	0.0022	0.0027	0.0032	0.875	56	68	80
1/2”	0.500	4	0.0024	0.0029	0.0034	1.000	67	81	96
5/8”	0.625	4	0.0025	0.0030	0.0035	1.250	67	81	96
3/4”	0.750	4	0.0025	0.0031	0.0036	1.500	67	81	96
7/8”	0.875	4	0.0027	0.0032	0.0038	1.750	67	81	96
1”	1.000	4	0.0027	0.0032	0.0038	2.000	67	81	96

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only

XD4 Series

ISO H — XD4 Series Feeds and Speeds -MDC Coated-

Hardened Steels (55-60HRC)

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-30	TEA-26	TEA-22		30°	26°	22°
							Min	Mid	Max
3/16”	0.187	4	0.0011	0.0014	0.0016	0.375	101	122	144
1/4”	0.250	4	0.0017	0.0020	0.0024	0.500	112	136	160
5/16”	0.312	4	0.0020	0.0024	0.0028	0.625	123	150	176
3/8”	0.375	4	0.0021	0.0026	0.0030	0.750	134	163	192
7/16”	0.437	4	0.0022	0.0027	0.0032	0.875	134	163	192
1/2”	0.500	4	0.0024	0.0029	0.0034	1.000	146	177	208
5/8”	0.625	4	0.0025	0.0030	0.0035	1.250	146	177	208
3/4”	0.750	4	0.0025	0.0031	0.0036	1.500	146	177	208
7/8”	0.875	4	0.0027	0.0032	0.0038	1.750	146	177	208
1”	1.000	4	0.0027	0.0032	0.0038	2.000	146	177	208

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 3 - 5°
Over 3° for Coolant-Through Only

XT5 Series

ISO P — XT5 Series Feeds and Speeds -MDC Coated-

Non-Alloy Steel, Cast Steel, Free Cutting Steel 1018, 1020, A36, 8620

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-50	TEA-40	TEA-30		50°	40°	30°
							Min	Mid	Max
3/16”	0.187	5	0.0015	0.0018	0.0021	0.375	540	656	771
1/4”	0.250	5	0.0018	0.0022	0.0026	0.500	596	724	851
5/16”	0.312	5	0.0022	0.0027	0.0032	0.625	633	769	904
3/8”	0.375	5	0.0025	0.0031	0.0036	0.750	670	814	958
7/16”	0.437	5	0.0028	0.0034	0.0040	0.875	689	837	984
1/2”	0.500	5	0.0032	0.0038	0.0045	1.000	708	859	1011
5/8”	0.625	5	0.0039	0.0047	0.0055	1.250	708	859	1011
3/4”	0.750	5	0.0042	0.0051	0.0060	1.500	708	859	1011
7/8”	0.875	5	0.0046	0.0055	0.0065	1.750	708	859	1011
1”	1.000	5	0.0049	0.0060	0.0070	2.000	708	859	1011

When ramping, reduce program to: RPM = 80% | Feed = 50%

Helical Ramp Angle 5 - 8°
Over 5° for Coolant-Through Only

XT5 Series

ISO P — XT5 Series Feeds and Speeds -MDC Coated-

Low Alloy Steel, Cast Steel 4130, 4140, 8620, 4330, 4340

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-50	TEA-40	TEA-30		50°	40°	30°
							Min	Mid	Max
3/16”	0.187	5	0.0013	0.0015	0.0018	0.375	372	452	532
1/4”	0.250	5	0.0018	0.0022	0.0026	0.500	410	497	585
5/16”	0.312	5	0.0023	0.0028	0.0033	0.625	447	543	638
3/8”	0.375	5	0.0027	0.0033	0.0039	0.750	484	588	692
7/16”	0.437	5	0.0029	0.0035	0.0041	0.875	503	610	718
1/2”	0.500	5	0.0031	0.0037	0.0044	1.000	521	633	745
5/8”	0.625	5	0.0036	0.0044	0.0052	1.250	521	633	745
3/4”	0.750	5	0.0039	0.0048	0.0056	1.500	521	633	745
7/8”	0.875	5	0.0042	0.0051	0.0060	1.750	521	633	745
1”	1.000	5	0.0044	0.0054	0.0063	2.000	521	633	745

When ramping, reduce program to: RPM = 80% | Feed = 50%

Helical Ramp Angle 5 - 8°
Over 5° for Coolant-Through Only

XT5 Series

ISO P — XT5 Series Feeds and Speeds -MDC Coated-

Die & Mold Steels P20, A-2, D-2, M2, M42, T15

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-50	TEA-40	TEA-30		50°	40°	30°
							Min	Mid	Max
3/16”	0.187	5	0.0011	0.0014	0.0016	0.375	317	384	452
1/4”	0.250	5	0.0017	0.0020	0.0024	0.500	335	407	479
5/16”	0.312	5	0.0020	0.0024	0.0028	0.625	363	441	519
3/8”	0.375	5	0.0021	0.0026	0.0030	0.750	382	464	545
7/16”	0.437	5	0.0023	0.0028	0.0033	0.875	391	475	559
1/2”	0.500	5	0.0025	0.0031	0.0036	1.000	410	497	585
5/8”	0.625	5	0.0027	0.0032	0.0038	1.250	410	497	585
3/4”	0.750	5	0.0029	0.0036	0.0042	1.500	410	497	585
7/8”	0.875	5	0.0031	0.0037	0.0044	1.750	410	497	585
1”	1.000	5	0.0032	0.0039	0.0046	2.000	410	497	585

When ramping, reduce program to: RPM = 80% | Feed = 40%

Helical Ramp Angle 5 - 8°
Over 5° for Coolant-Through Only

XT5 Series — ISO K

XT5 Series Feeds and Speeds -MDC Coated-

Nodular Cast Iron, Grey Cast Iron, Malleable Cast Iron

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-50	TEA-40	TEA-30		50°	40°	30°
							Min	Mid	Max
3/16”	0.187	5	0.0015	0.0018	0.0021	0.375	466	565	665
1/4”	0.250	5	0.0018	0.0022	0.0026	0.500	484	588	692
5/16”	0.312	5	0.0022	0.0027	0.0032	0.625	503	610	718
3/8”	0.375	5	0.0025	0.0031	0.0036	0.750	521	633	745
7/16”	0.437	5	0.0028	0.0034	0.0040	0.875	531	644	758
1/2”	0.500	5	0.0032	0.0038	0.0045	1.000	559	678	798
5/8”	0.625	5	0.0039	0.0047	0.0055	1.250	559	678	798
3/4”	0.750	5	0.0042	0.0051	0.0060	1.500	559	678	798
7/8”	0.875	5	0.0046	0.0055	0.0065	1.750	559	678	798
1”	1.000	5	0.0049	0.0060	0.0070	2.000	559	678	798

When ramping, reduce program to: RPM = 80% | Feed = 50%

Helical Ramp Angle 3 - 5°
Over 3° for Coolant-Through Only

XT5 Series — ISO M

XT5 Series Feeds and Speeds -MDC Coated-

Stainless Steel (Precipitation) 15-5PH, 17-4PH

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-32	TEA-28	TEA-24		32°	28°	24°
							Min	Mid	Max
3/16”	0.187	5	0.0011	0.0014	0.0016	0.375	329	400	470
1/4”	0.250	5	0.0017	0.0020	0.0024	0.500	350	425	500
5/16”	0.312	5	0.0021	0.0026	0.0030	0.625	370	450	529
3/8”	0.375	5	0.0024	0.0029	0.0034	0.750	390	473	557
7/16”	0.437	5	0.0027	0.0032	0.0038	0.875	400	486	572
1/2”	0.500	5	0.0029	0.0036	0.0042	1.000	410	498	586
5/8”	0.625	5	0.0034	0.0041	0.0048	1.250	410	498	586
3/4”	0.750	5	0.0036	0.0044	0.0052	1.500	410	498	586
7/8”	0.875	5	0.0038	0.0046	0.0054	1.750	410	498	586
1”	1.000	5	0.0039	0.0048	0.0056	2.000	410	498	586

When ramping, reduce program to: RPM = 80% | Feed = 40%

Helical Ramp Angle 3 - 5°
Over 3° for Coolant-Through Only

XT5 Series — ISO M

XT5 Series Feeds and Speeds -MDC Coated-

Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-30	TEA-27	TEA-24		30°	27°	24°
							Min	Mid	Max
3/16”	0.187	5	0.0011	0.0014	0.0016	0.375	223	271	319
1/4”	0.250	5	0.0017	0.0020	0.0024	0.500	246	298	351
5/16”	0.312	5	0.0020	0.0024	0.0028	0.625	268	326	383
3/8”	0.375	5	0.0021	0.0026	0.0030	0.750	290	353	415
7/16”	0.437	5	0.0022	0.0027	0.0032	0.875	302	366	431
1/2”	0.500	5	0.0025	0.0031	0.0036	1.000	313	380	447
5/8”	0.625	5	0.0027	0.0032	0.0038	1.250	313	380	447
3/4”	0.750	5	0.0029	0.0036	0.0042	1.500	313	380	447
7/8”	0.875	5	0.0031	0.0037	0.0044	1.750	313	380	447
1”	1.000	5	0.0032	0.0039	0.0046	2.000	313	380	447

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 3 - 5°
Over 3° for Coolant-Through Only

XT5 Series — ISO S

XT5 Series Feeds and Speeds -MDC Coated-

High Temp Alloys, Titanium Alloys Ti-6AL4V

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-32	TEA-28	TEA-24		32°	28°	24°
							Min	Mid	Max
3/16”	0.187	5	0.0011	0.0014	0.0016	0.375	156	190	223
1/4”	0.250	5	0.0017	0.0020	0.0024	0.500	179	217	255
5/16”	0.312	5	0.0020	0.0024	0.0028	0.625	201	244	287
3/8”	0.375	5	0.0021	0.0026	0.0030	0.750	223	271	319
7/16”	0.437	5	0.0022	0.0027	0.0032	0.875	235	285	335
1/2”	0.500	5	0.0024	0.0029	0.0034	1.000	246	298	351
5/8”	0.625	5	0.0025	0.0030	0.0035	1.250	246	298	351
3/4”	0.750	5	0.0025	0.0031	0.0036	1.500	246	298	351
7/8”	0.875	5	0.0027	0.0032	0.0038	1.750	246	298	351
1”	1.000	5	0.0027	0.0032	0.0038	2.000	246	298	351

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 3 - 5°
Over 3° for Coolant-Through Only

XT5 Series

ISO — XT5 Series Feeds and Speeds -MDC Coated- — **S**

High Temp Alloys (Nickel & Cobalt Based) Monel 400, Hastelloy, Nimonic 75, Inconel 625, 718

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-30	TEA-26	TEA-22		30°	26°	22°		
							Min	Mid	Max	RPM = 70%	Feed = 30%
3/16”	0.187	5	0.0011	0.0014	0.0016	0.375	39	47	56	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only	
1/4”	0.250	5	0.0017	0.0020	0.0024	0.500	45	54	64		
5/16”	0.312	5	0.0020	0.0024	0.0028	0.625	56	68	80		
3/8”	0.375	5	0.0021	0.0026	0.0030	0.750	56	68	80		
7/16”	0.437	5	0.0022	0.0027	0.0032	0.875	56	68	80		
1/2”	0.500	5	0.0024	0.0029	0.0034	1.000	67	81	96		
5/8”	0.625	5	0.0025	0.0030	0.0035	1.250	67	81	96		
3/4”	0.750	5	0.0025	0.0031	0.0036	1.500	67	81	96		
7/8”	0.875	5	0.0027	0.0032	0.0038	1.750	67	81	96		
1”	1.000	5	0.0027	0.0032	0.0038	2.000	67	81	96		

XT5 Series

ISO — XT5 Series Feeds and Speeds -MDC Coated- — **H**

Hardened Steels (55-60HRC)

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-30	TEA-26	TEA-22		30°	26°	22°		
							Min	Mid	Max	RPM = 70%	Feed = 30%
3/16”	0.187	5	0.0011	0.0014	0.0016	0.375	101	122	144	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only	
1/4”	0.250	5	0.0017	0.0020	0.0024	0.500	112	136	160		
5/16”	0.312	5	0.0020	0.0024	0.0028	0.625	123	150	176		
3/8”	0.375	5	0.0021	0.0026	0.0030	0.750	134	163	192		
7/16”	0.437	5	0.0022	0.0027	0.0032	0.875	134	163	192		
1/2”	0.500	5	0.0024	0.0029	0.0034	1.000	146	177	208		
5/8”	0.625	5	0.0025	0.0030	0.0035	1.250	146	177	208		
3/4”	0.750	5	0.0025	0.0031	0.0036	1.500	146	177	208		
7/8”	0.875	5	0.0027	0.0032	0.0038	1.750	146	177	208		
1”	1.000	5	0.0027	0.0032	0.0038	2.000	146	177	208		

XT7 Series

ISO — XT7 Series Feeds and Speeds -MDC Coated- — **P**

Non-Alloy Steel, Cast Steel, Free Cutting Steel 1018, 1020, A36, 8620

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-45	TEA-35	TEA-30		45°	35°	30°		
							Min	Mid	Max	RPM = 80%	Feed = 50%
3/16”	0.187	7	0.0015	0.0018	0.0021	0.375	540	656	771	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only	
1/4”	0.250	7	0.0018	0.0022	0.0026	0.500	596	724	851		
5/16”	0.312	7	0.0022	0.0027	0.0032	0.625	633	769	904		
3/8”	0.375	7	0.0025	0.0031	0.0036	0.750	670	814	958		
7/16”	0.437	7	0.0028	0.0034	0.0040	0.875	689	837	984		
1/2”	0.500	7	0.0032	0.0038	0.0045	1.000	708	859	1011		
5/8”	0.625	7	0.0039	0.0047	0.0055	1.250	708	859	1011		
3/4”	0.750	7	0.0042	0.0051	0.0060	1.500	708	859	1011		
7/8”	0.875	7	0.0046	0.0055	0.0065	1.750	708	859	1011		
1”	1.000	7	0.0049	0.0060	0.0070	2.000	708	859	1011		

XT7 Series

ISO — XT7 Series Feeds and Speeds -MDC Coated- — **P**

Low Alloy Steel, Cast Steel 4130, 4140, 8620, 4330, 4340

Diameter		#FL	Feed (Inch Per Tooth)			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			.60x D	TEA-35	TEA-30		.60x DIA	Mid	Max		
										RPM = 80%	Feed = 50%
3/16”	0.187	7	0.0013	0.0015	0.0018	0.375	372	452	532	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only	
1/4”	0.250	7	0.0018	0.0022	0.0026	0.500	410	497	585		
5/16”	0.312	7	0.0023	0.0028	0.0033	0.625	447	543	638		
3/8”	0.375	7	0.0027	0.0033	0.0039	0.750	484	588	692		
7/16”	0.437	7	0.0029	0.0035	0.0041	0.875	503	610	718		
1/2”	0.500	7	0.0031	0.0037	0.0044	1.000	521	633	745		
5/8”	0.625	7	0.0036	0.0044	0.0052	1.250	521	633	745		
3/4”	0.750	7	0.0039	0.0048	0.0056	1.500	521	633	745		
7/8”	0.875	7	0.0042	0.0051	0.0060	1.750	521	633	745		
1”	1.000	7	0.0044	0.0054	0.0063	2.000	521	633	745		

XT7 Series — ISO P

XT7 Series Feeds and Speeds -MDC Coated-

Die & Mold Steels P20, A-2, D-2, M2, M42, T15

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-45	TEA-35	TEA-30		45°	35°	30°		
							Min	Mid	Max	RPM = 80%	Feed = 40%
3/16”	0.187	7	0.0011	0.0014	0.0016	0.375	317	384	452	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only	
1/4”	0.250	7	0.0017	0.0020	0.0024	0.500	335	407	479		
5/16”	0.312	7	0.0020	0.0024	0.0028	0.625	363	441	519		
3/8”	0.375	7	0.0021	0.0026	0.0030	0.750	382	464	545		
7/16”	0.437	7	0.0023	0.0028	0.0033	0.875	391	475	559		
1/2”	0.500	7	0.0025	0.0031	0.0036	1.000	410	497	585		
5/8”	0.625	7	0.0027	0.0032	0.0038	1.250	410	497	585		
3/4”	0.750	7	0.0029	0.0036	0.0042	1.500	410	497	585		
7/8”	0.875	7	0.0031	0.0037	0.0044	1.750	410	497	585		
1”	1.000	7	0.0032	0.0039	0.0046	2.000	410	497	585		

XT7 Series — ISO K

XT7 Series Feeds and Speeds -MDC Coated-

Nodular Cast Iron, Grey Cast Iron, Malleable Cast Iron

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-45	TEA-35	TEA-30		45°	35°	30°		
							Min	Mid	Max	RPM = 80%	Feed = 50%
3/16”	0.187	7	0.0015	0.0018	0.0021	0.375	TEA-24	565	665	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
1/4”	0.250	7	0.0018	0.0022	0.0026	0.500	466	588	692		
5/16”	0.312	7	0.0022	0.0027	0.0032	0.625	484	610	718		
3/8”	0.375	7	0.0025	0.0031	0.0036	0.750	503	633	745		
7/16”	0.437	7	0.0028	0.0034	0.0040	0.875	521	644	758		
1/2”	0.500	7	0.0032	0.0038	0.0045	1.000	531	678	798		
5/8”	0.625	7	0.0039	0.0047	0.0055	1.250	559	678	798		
3/4”	0.750	7	0.0042	0.0051	0.0060	1.500	559	678	798		
7/8”	0.875	7	0.0046	0.0055	0.0065	1.750	559	678	798		
1”	1.000	7	0.0049	0.0060	0.0070	2.000	559	678	798		

XT7 Series — ISO M

XT7 Series Feeds and Speeds -MDC Coated-

Stainless Steel (Precipitation) 15-5PH, 17-4PH

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-32	TEA-28	TEA-24		32°	28°	24°		
							Min	Mid	Max	RPM = 80%	Feed = 40%
3/16”	0.187	7	0.0011	0.0014	0.0016	0.375	329	400	470	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
1/4”	0.250	7	0.0017	0.0020	0.0024	0.500	350	425	500		
5/16”	0.312	7	0.0021	0.0026	0.0030	0.625	370	450	529		
3/8”	0.375	7	0.0024	0.0029	0.0034	0.750	390	473	557		
7/16”	0.437	7	0.0027	0.0032	0.0038	0.875	400	486	572		
1/2”	0.500	7	0.0029	0.0036	0.0042	1.000	410	498	586		
5/8”	0.625	7	0.0034	0.0041	0.0048	1.250	410	498	586		
3/4”	0.750	7	0.0036	0.0044	0.0052	1.500	410	498	586		
7/8”	0.875	7	0.0038	0.0046	0.0054	1.750	410	498	586		
1”	1.000	7	0.0039	0.0048	0.0056	2.000	410	498	586		

XT7 Series — ISO M

XT7 Series Feeds and Speeds -MDC Coated-

Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-30	TEA-27	TEA-24		30°	27°	24°		
							Min	Mid	Max	RPM = 70%	Feed = 30%
3/16”	0.187	7	0.0011	0.0014	0.0016	0.375	223	271	319	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
1/4”	0.250	7	0.0017	0.0020	0.0024	0.500	246	298	351		
5/16”	0.312	7	0.0020	0.0024	0.0028	0.625	268	326	383		
3/8”	0.375	7	0.0021	0.0026	0.0030	0.750	290	353	415		
7/16”	0.437	7	0.0022	0.0027	0.0032	0.875	302	366	431		
1/2”	0.500	7	0.0025	0.0031	0.0036	1.000	313	380	447		
5/8”	0.625	7	0.0027	0.0032	0.0038	1.250	313	380	447		
3/4”	0.750	7	0.0029	0.0036	0.0042	1.500	313	380	447		
7/8”	0.875	7	0.0031	0.0037	0.0044	1.750	313	380	447		
1”	1.000	7	0.0032	0.0039	0.0046	2.000	313	380	447		

XT7 Series

ISO — XT7 Series Feeds and Speeds -MDC Coated- — **S**

High Temp Alloys, Titanium Alloys Ti-6AL4V

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-32	TEA-28	TEA-24		32°	28°	24°
							Min	Mid	Max
3/16”	0.187	7	0.0011	0.0014	0.0016	0.375	156	190	223
1/4”	0.250	7	0.0017	0.0020	0.0024	0.500	179	217	255
5/16”	0.312	7	0.0020	0.0024	0.0028	0.625	201	244	287
3/8”	0.375	7	0.0021	0.0026	0.0030	0.750	223	271	319
7/16”	0.437	7	0.0022	0.0027	0.0032	0.875	235	285	335
1/2”	0.500	7	0.0024	0.0029	0.0034	1.000	246	298	351
5/8”	0.625	7	0.0025	0.0030	0.0035	1.250	246	298	351
3/4”	0.750	7	0.0025	0.0031	0.0036	1.500	246	298	351
7/8”	0.875	7	0.0027	0.0032	0.0038	1.750	246	298	351
1”	1.000	7	0.0027	0.0032	0.0038	2.000	246	298	351

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 2 - 3°
Over 2° for Coolant-Through Only

XT7 Series

ISO — XT7 Series Feeds and Speeds -MDC Coated- — **S**

High Temp Alloys (Nickel & Cobalt Based) Monel 400, Hastelloy, Nimonic 75, Inconel 625, 718

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-30	TEA-26	TEA-22		30°	26°	22°
							Min	Mid	Max
3/16”	0.187	7	0.0011	0.0014	0.0016	0.375	39	47	56
1/4”	0.250	7	0.0017	0.0020	0.0024	0.500	45	54	64
5/16”	0.312	7	0.0020	0.0024	0.0028	0.625	56	68	80
3/8”	0.375	7	0.0021	0.0026	0.0030	0.750	56	68	80
7/16”	0.437	7	0.0022	0.0027	0.0032	0.875	56	68	80
1/2”	0.500	7	0.0024	0.0029	0.0034	1.000	67	81	96
5/8”	0.625	7	0.0025	0.0030	0.0035	1.250	67	81	96
3/4”	0.750	7	0.0025	0.0031	0.0036	1.500	67	81	96
7/8”	0.875	7	0.0027	0.0032	0.0038	1.750	67	81	96
1”	1.000	7	0.0027	0.0032	0.0038	2.000	67	81	96

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 2 - 3°
Over 2° for Coolant-Through Only

XT7 Series

ISO — XT7 Series Feeds and Speeds -MDC Coated- — **H**

Hardened Steels (55-60HRC)

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-30	TEA-26	TEA-22		30°	26°	22°
							Min	Mid	Max
3/16”	0.187	7	0.0011	0.0014	0.0016	0.375	101	122	144
1/4”	0.250	7	0.0017	0.0020	0.0024	0.500	112	136	160
5/16”	0.312	7	0.0020	0.0024	0.0028	0.625	123	150	176
3/8”	0.375	7	0.0021	0.0026	0.0030	0.750	134	163	192
7/16”	0.437	7	0.0022	0.0027	0.0032	0.875	134	163	192
1/2”	0.500	7	0.0024	0.0029	0.0034	1.000	146	177	208
5/8”	0.625	7	0.0025	0.0030	0.0035	1.250	146	177	208
3/4”	0.750	7	0.0025	0.0031	0.0036	1.500	146	177	208
7/8”	0.875	7	0.0027	0.0032	0.0038	1.750	146	177	208
1”	1.000	7	0.0027	0.0032	0.0038	2.000	146	177	208

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 2 - 3°
Over 2° for Coolant-Through Only

XT9 Series

ISO — XT9 Series Feeds and Speeds -MDC Coated- — **P**

Non-Alloy Steel, Cast Steel, Free Cutting Steel 1018, 1020, A36, 8620

Diameter		#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min		
			TEA-40	TEA-30	TEA-20		40°	30°	20°
							Min	Mid	Max
3/16”	0.187	9	0.0015	0.0018	0.0021	0.375	540	656	771
1/4”	0.250	9	0.0018	0.0022	0.0026	0.500	596	724	851
5/16”	0.312	9	0.0022	0.0027	0.0032	0.625	633	769	904
3/8”	0.375	9	0.0025	0.0031	0.0036	0.750	670	814	958
7/16”	0.437	9	0.0028	0.0034	0.0040	0.875	689	837	984
1/2”	0.500	9	0.0032	0.0038	0.0045	1.000	708	859	1011
5/8”	0.625	9	0.0039	0.0047	0.0055	1.250	708	859	1011
3/4”	0.750	9	0.0042	0.0051	0.0060	1.500	708	859	1011
7/8”	0.875	9	0.0046	0.0055	0.0065	1.750	708	859	1011
1”	1.000	9	0.0049	0.0060	0.0070	2.000	708	859	1011

When ramping, reduce program to: RPM = 80% | Feed = 50%

Helical Ramp Angle 3 - 5°
Over 3° for Coolant-Through Only

XT9 Series — ISO P — XT9 Series Feeds and Speeds -MDC Coated-

Low Alloy Steel, Cast Steel 4130, 4140, 8620, 4330, 4340

Diameter		#FL	TEA-40 Chip Thickness at TEA	TEA-30 Chip Thickness at TEA	TEA-20 Chip Thickness at TEA	MAX AXIAL DOC	40° Surface Feet Per Min Min	30° Surface Feet Per Min Mid	20° Surface Feet Per Min Max
3/16”	0.187	9	0.0013	0.0015	0.0018	0.375	372	452	532
1/4”	0.250	9	0.0018	0.0022	0.0026	0.500	410	497	585
5/16”	0.312	9	0.0023	0.0028	0.0033	0.625	447	543	638
3/8”	0.375	9	0.0027	0.0033	0.0039	0.750	484	588	692
7/16”	0.437	9	0.0029	0.0035	0.0041	0.875	503	610	718
1/2”	0.500	9	0.0031	0.0037	0.0044	1.000	521	633	745
5/8”	0.625	9	0.0036	0.0044	0.0052	1.250	521	633	745
3/4”	0.750	9	0.0039	0.0048	0.0056	1.500	521	633	745
7/8”	0.875	9	0.0042	0.0051	0.0060	1.750	521	633	745
1”	1.000	9	0.0044	0.0054	0.0063	2.000	521	633	745

When ramping, reduce program to: RPM = 80% | Feed = 50%

Helical Ramp Angle 3 - 5°
Over 3° for Coolant-Through Only

XT9 Series — ISO P — XT9 Series Feeds and Speeds -MDC Coated-

Die & Mold Steels P20, A-2, D-2, M2, M42, T15

Diameter		#FL	TEA-40 Chip Thickness at TEA	TEA-30 Chip Thickness at TEA	TEA-20 Chip Thickness at TEA	MAX AXIAL DOC	40° Surface Feet Per Min Min	30° Surface Feet Per Min Mid	20° Surface Feet Per Min Max
3/16”	0.187	9	0.0011	0.0014	0.0016	0.375	317	384	452
1/4”	0.250	9	0.0017	0.0020	0.0024	0.500	335	407	479
5/16”	0.312	9	0.0020	0.0024	0.0028	0.625	363	441	519
3/8”	0.375	9	0.0021	0.0026	0.0030	0.750	382	464	545
7/16”	0.437	9	0.0023	0.0028	0.0033	0.875	391	475	559
1/2”	0.500	9	0.0025	0.0031	0.0036	1.000	410	497	585
5/8”	0.625	9	0.0027	0.0032	0.0038	1.250	410	497	585
3/4”	0.750	9	0.0029	0.0036	0.0042	1.500	410	497	585
7/8”	0.875	9	0.0031	0.0037	0.0044	1.750	410	497	585
1”	1.000	9	0.0032	0.0039	0.0046	2.000	410	497	585

When ramping, reduce program to: RPM = 80% | Feed = 40%

Helical Ramp Angle 3 - 5°
Over 3° for Coolant-Through Only

XT9 Series — ISO K — XT9 Series Feeds and Speeds -MDC Coated-

Nodular Cast Iron, Grey Cast Iron, Malleable Cast Iron

Diameter		#FL	TEA-40 Chip Thickness at TEA	TEA-30 Chip Thickness at TEA	TEA-20 Chip Thickness at TEA	MAX AXIAL DOC	40° Surface Feet Per Min Min	30° Surface Feet Per Min Mid	20° Surface Feet Per Min Max
3/16”	0.187	9	0.0015	0.0018	0.0021	0.375	466	565	665
1/4”	0.250	9	0.0018	0.0022	0.0026	0.500	484	588	692
5/16”	0.312	9	0.0022	0.0027	0.0032	0.625	503	610	718
3/8”	0.375	9	0.0025	0.0031	0.0036	0.750	521	633	745
7/16”	0.437	9	0.0028	0.0034	0.0040	0.875	531	644	758
1/2”	0.500	9	0.0032	0.0038	0.0045	1.000	559	678	798
5/8”	0.625	9	0.0039	0.0047	0.0055	1.250	559	678	798
3/4”	0.750	9	0.0042	0.0051	0.0060	1.500	559	678	798
7/8”	0.875	9	0.0046	0.0055	0.0065	1.750	559	678	798
1”	1.000	9	0.0049	0.0060	0.0070	2.000	559	678	798

When ramping, reduce program to: RPM = 80% | Feed = 50%

Helical Ramp Angle 2 - 3°
Over 2° for Coolant-Through Only

XT9 Series — ISO M — XT9 Series Feeds and Speeds -MDC Coated-

Stainless Steel (Precipitation) 15-5PH, 17-4PH

Diameter		#FL	TEA-32 Chip Thickness at TEA	TEA-28 Chip Thickness at TEA	TEA-24 Chip Thickness at TEA	MAX AXIAL DOC	32° Surface Feet Per Min Min	28° Surface Feet Per Min Mid	24° Surface Feet Per Min Max
3/16”	0.187	9	0.0011	0.0014	0.0016	0.375	329	400	470
1/4”	0.250	9	0.0017	0.0020	0.0024	0.500	350	425	500
5/16”	0.312	9	0.0021	0.0026	0.0030	0.625	370	450	529
3/8”	0.375	9	0.0024	0.0029	0.0034	0.750	390	473	557
7/16”	0.437	9	0.0027	0.0032	0.0038	0.875	400	486	572
1/2”	0.500	9	0.0029	0.0036	0.0042	1.000	410	498	586
5/8”	0.625	9	0.0034	0.0041	0.0048	1.250	410	498	586
3/4”	0.750	9	0.0036	0.0044	0.0052	1.500	410	498	586
7/8”	0.875	9	0.0038	0.0046	0.0054	1.750	410	498	586
1”	1.000	9	0.0039	0.0048	0.0056	2.000	410	498	586

When ramping, reduce program to: RPM = 80% | Feed = 40%

Helical Ramp Angle 2 - 3°
Over 2° for Coolant-Through Only

XT9 Series — ISO M

XT9 Series Feeds and Speeds with MDC Coating

Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L

Diameter		#FL	Chip Thickness at TEA (TEA-32)	Chip Thickness at TEA (TEA-28)	Chip Thickness at TEA (TEA-24)	MAX AXIAL DOC	Surface Feet Per Min (32°) Min	Surface Feet Per Min (28°) Mid	Surface Feet Per Min (24°) Max
3/16”	0.187	9	0.0011	0.0014	0.0016	0.375	223	271	319
1/4”	0.250	9	0.0017	0.0020	0.0024	0.500	246	298	351
5/16”	0.312	9	0.0020	0.0024	0.0028	0.625	268	326	383
3/8”	0.375	9	0.0021	0.0026	0.0030	0.750	290	353	415
7/16”	0.437	9	0.0022	0.0027	0.0032	0.875	302	366	431
1/2”	0.500	9	0.0025	0.0031	0.0036	1.000	313	380	447
5/8”	0.625	9	0.0027	0.0032	0.0038	1.250	313	380	447
3/4”	0.750	9	0.0029	0.0036	0.0042	1.500	313	380	447
7/8”	0.875	9	0.0031	0.0037	0.0044	1.750	313	380	447
1”	1.000	9	0.0032	0.0039	0.0046	2.000	313	380	447

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 2 - 3°
Over 2° for Coolant-Through Only

XT9 Series — ISO S

XT9 Series Feeds and Speeds with MDC Coating

High Temp Alloys, Titanium Alloys Ti-6AL4V

Diameter		#FL	Chip Thickness at TEA (TEA-32)	Chip Thickness at TEA (TEA-28)	Chip Thickness at TEA (TEA-24)	MAX AXIAL DOC	Surface Feet Per Min (32°) Min	Surface Feet Per Min (28°) Mid	Surface Feet Per Min (24°) Max
3/16”	0.187	9	0.0011	0.0014	0.0016	0.375	156	190	223
1/4”	0.250	9	0.0017	0.0020	0.0024	0.500	179	217	255
5/16”	0.312	9	0.0020	0.0024	0.0028	0.625	201	244	287
3/8”	0.375	9	0.0021	0.0026	0.0030	0.750	223	271	319
7/16”	0.437	9	0.0022	0.0027	0.0032	0.875	235	285	335
1/2”	0.500	9	0.0024	0.0029	0.0034	1.000	246	298	351
5/8”	0.625	9	0.0025	0.0030	0.0035	1.250	246	298	351
3/4”	0.750	9	0.0025	0.0031	0.0036	1.500	246	298	351
7/8”	0.875	9	0.0027	0.0032	0.0038	1.750	246	298	351
1”	1.000	9	0.0027	0.0032	0.0038	2.000	246	298	351

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 2 - 3°
Over 2° for Coolant-Through Only

XT9 Series — ISO S

XT9 Series Feeds and Speeds with MDC Coating

High Temp Alloys (Nickel & Cobalt Based) Monel 400, Hastelloy, Nimonic 75, Inconel 625, 718

Diameter		#FL	Chip Thickness at TEA (TEA-32)	Chip Thickness at TEA (TEA-28)	Chip Thickness at TEA (TEA-24)	MAX AXIAL DOC	Surface Feet Per Min (30°) Min	Surface Feet Per Min (26°) Mid	Surface Feet Per Min (22°) Max
3/16”	0.187	9	0.0011	0.0014	0.0016	0.375	39	47	56
1/4”	0.250	9	0.0017	0.0020	0.0024	0.500	45	54	64
5/16”	0.312	9	0.0020	0.0024	0.0028	0.625	56	68	80
3/8”	0.375	9	0.0021	0.0026	0.0030	0.750	56	68	80
7/16”	0.437	9	0.0022	0.0027	0.0032	0.875	56	68	80
1/2”	0.500	9	0.0024	0.0029	0.0034	1.000	67	81	96
5/8”	0.625	9	0.0025	0.0030	0.0035	1.250	67	81	96
3/4”	0.750	9	0.0025	0.0031	0.0036	1.500	67	81	96
7/8”	0.875	9	0.0027	0.0032	0.0038	1.750	67	81	96
1”	1.000	9	0.0027	0.0032	0.0038	2.000	67	81	96

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 2 - 3°
Over 2° for Coolant-Through Only

XT9 Series — ISO H

XT9 Series Feeds and Speeds with MDC Coating

Hardened Steels (55-60HRC)

Diameter		#FL	Chip Thickness at TEA (TEA-32)	Chip Thickness at TEA (TEA-28)	Chip Thickness at TEA (TEA-24)	MAX AXIAL DOC	Surface Feet Per Min (30°) Min	Surface Feet Per Min (26°) Mid	Surface Feet Per Min (22°) Max
3/16”	0.187	9	0.0011	0.0014	0.0016	0.375	101	122	144
1/4”	0.250	9	0.0017	0.0020	0.0024	0.500	112	136	160
5/16”	0.312	9	0.0020	0.0024	0.0028	0.625	123	150	176
3/8”	0.375	9	0.0021	0.0026	0.0030	0.750	134	163	192
7/16”	0.437	9	0.0022	0.0027	0.0032	0.875	134	163	192
1/2”	0.500	9	0.0024	0.0029	0.0034	1.000	146	177	208
5/8”	0.625	9	0.0025	0.0030	0.0035	1.250	146	177	208
3/4”	0.750	9	0.0025	0.0031	0.0036	1.500	146	177	208
7/8”	0.875	9	0.0027	0.0032	0.0038	1.750	146	177	208
1”	1.000	9	0.0027	0.0032	0.0038	2.000	146	177	208

When ramping, reduce program to: RPM = 70% | Feed = 30%

Helical Ramp Angle 2 - 3°
Over 2° for Coolant-Through Only



XD4
XDEL4



XT5
XTEL5



XT7
XTEL7



XT9



XM5



XM7



XM9



XM11



SD4
SDEL4



SD4 BALL
SDEL4 BALL



SD5
SDEL5



SD6
SDEL6



SD7
SDEL7



SH4
SHEL4



SM5



SS3



AC2
ACEL2



AC2 BALL
ACEL2 BALL



AC3



AS3
ASEL3



AS3 BALL
ASEL3 BALL



AF4, AF5



AF4 BALL



AR3
AREL3



AV3
AVEL3



GM2
GME2



GM2 BALL
GME2 BALL



GM4
GME4



GM4 BALL
GME4 BALL



TM3, TB3



HEMSTITCH
2FL 4FL



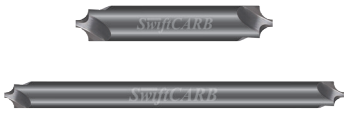
DNCR
DNCX



CHAMFER
2FL 4FL



HP CHAMFER
3FL 5FL

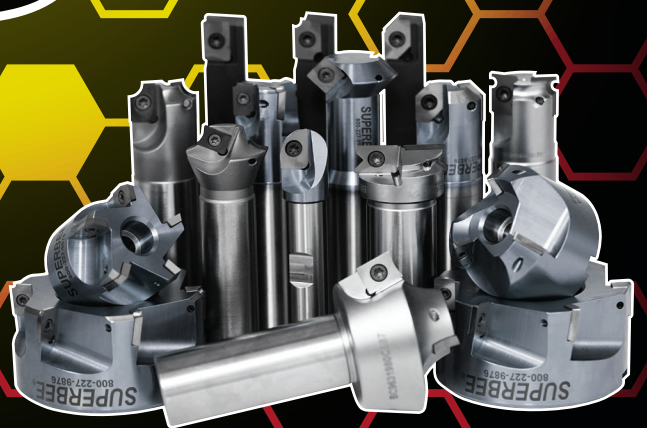


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SUPERBEE

Indexable Carbide Form Cutters



2026

SUPERBEE

Recommended Cutting Conditions

Material	ISO	Hardness	Grade	Cutting Speed Feet/ Min	Feed In/Tooth
Non-Alloy Steel	P	< 25 HRC	T5700 / 520	500-800	.003-.006
Low Alloy Steel	P	~30 HRC	T5700 / 520	400-650	.003-.005
Die & Mold Steel	P	< 33 HRC	T5700 / 520	400-500	.003-.005
Stainless Steel (PH)	M	< 33 HRC	T5700 / 520	400-500	.003-.004
Stainless Steel (AS)	M	< 35 HRC	T5700 / 520	350-450	.003-.004
Cast Iron	K	~30 HRC	T5700 / 520	400-500	.003-.005
Aluminum - Low Si	N	B60	NT33	900-2500	.003-.007
Aluminum - High Si	N	B80	NT33	900-2500	.003-.006
Titanium Alloy	S	< 38 HRC	T5700 / 520	300-400	.003-.004
High Temp Alloy	S	< 44 HRC	T5700 / 520	80-120	.003-.004
Hardened Steel	H	> 50 HRC	T5700 / 520	150-250	.003-.004

E T5700

The T5700 proprietary **MDC** coating on NT56 is the ultimate in heat and wear resistance and lubricity. The T5700 out performs all other coatings in steel, stainless steel and exotics. Upgrading to T5700 from AlTiN will increase SFPM by at least 15%, feeds & speeds increased up to 30%, and tool life increased up to 200%.

E T520

The T520 **AlTiN** coating on NT56 is a high performance coating which excels machining abrasive and hard to machine materials such as cast iron, aluminum alloys, tool steels and nickel alloys. Its superior oxidation resistance provides unparalleled performance in high temp machining. This coating is best for applications that generate the high heat at the tools cutting edge.

E NT5T

The NT5T **TiCN-TiN** coating on NT56 is designed for added wear resistance when milling steel, stainless steel and cast iron.

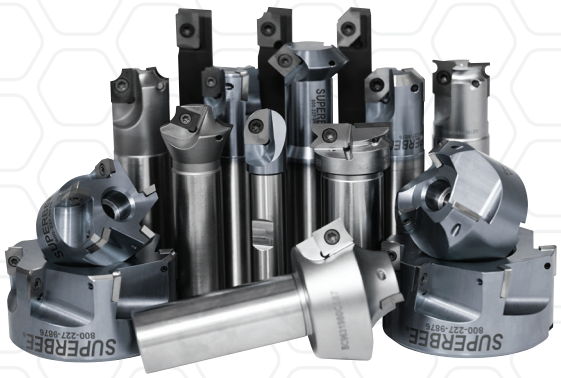
F NT33

The NT33 **Uncoated** grade for general purpose milling of aluminum, brass, cast iron and all non-ferrous materials. It has excellent strength and wear resistance.

E NT56

The NT56 **Uncoated** carbide with extreme edge strength is designed for general purpose milling of steel and cast iron. It is ideal for stainless steel and difficult machining conditions such as interrupted cutting.

E =Honed **F** =Sharp



SwiftCARB

Tips for BC large concave corner rounders:

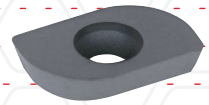
- **For best insert life use a 45 degree chamfer mill for the first pass leaving around .025 of material from the center of the finish radius, then do a final pass with the BC large concave corner rounder.**
- **It is important when setting feed rate to remember that the BC series are single flute effective, with each insert cutting a segment of the finish radius.**

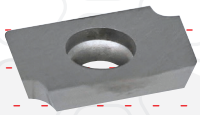
SUPERBEE

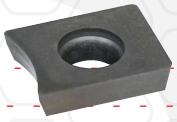
INDEXABLE CARBIDE FORM CUTTERS

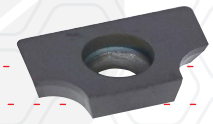
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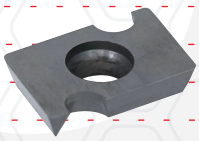
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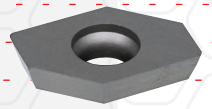


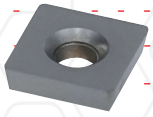


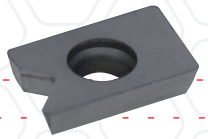


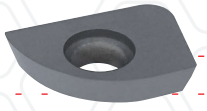










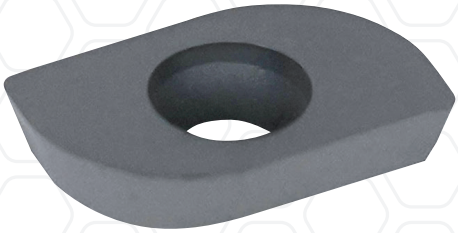


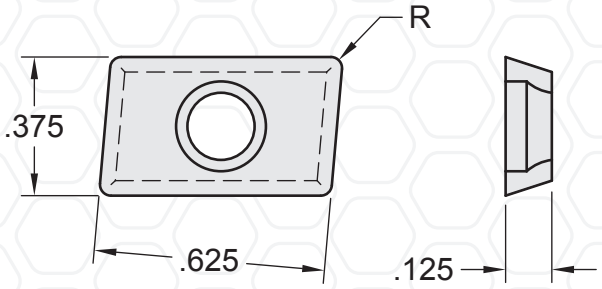


EM15 CONVEX FILLET RADIUS SERIES

Convex fillet radii range from .007" to .375", available in both fractional and metric sizes. Choose from either integral shank or shell mill cutter bodies, each designed for optimal performance. Both feature postive geometry for enhanced cutting speeds and a proprietary pocket design that ensures unmatched repeatability.

- Superbee inserts are precision ground on all surfaces ensuring the tightest tolerances possible. This provides a stronger edge with better wear characteristics than a pressed insert.
- The T5700 grade provides superior lubricity and heat resistance, delivering up to 30% higher SFM and up to 70% longer tool life in steel, stainless and exotic materials.





To build your insert, choose a Part Number in Red from each column. Example: EM15007ET5700

Range	Part Number	Radius	Fraction/ Metric
R1	EM15007	0.007	
	EM15015	0.015	1/64
	EM15020	0.020	
	EM15030	0.030	1/32
	EM15040	0.040	1MM
	EM15050	0.050	
	EM15060	0.060	1/16
R2	EM15070	0.070	
	EM15080	0.080	
	EM15090	0.090	
	EM15100	0.100	
	EM15110	0.110	7/64
	EM15120	0.120	3MM
	EM15125	0.125	1/8
	EM15130	0.130	
R3	EM15140	0.140	9/64
	EM15150	0.150	
	EM15156	0.156	5/32, 4MM
	EM15160	0.160	
	EM15170	0.170	
	EM15187	0.187	3/16
	EM15190	0.190	
R4	EM15200	0.200	
	EM15210	0.210	
	EM15220	0.220	
	EM15250	0.250	1/4
✳ R5	EM15312	0.312	5/16
R6	EM15375	0.375	3/8

Double Corner

Single Corner

Edge Prep + Coating + Substrate					
Honed	Honed	Honed	Honed	Honed	Sharp
MDC	AlTiN	TiCN-TiN	None	None	None
C5	C5	C5	C5	C2	C2
ET5700	ET520	ENT5T	ENT56	ENT33	FNT33

RECOMMENDED INSERTS BY MATERIAL TYPE

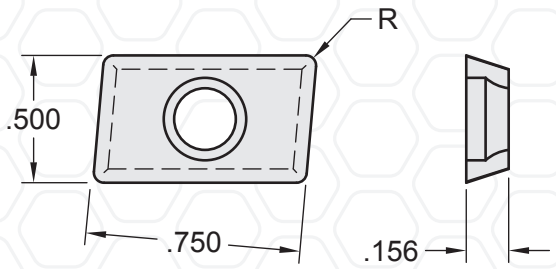
P			Non-Alloy Steel, Non Alloy Cast Steel
P			Low Alloy Steel, Low Alloy Cast Steel
P			High Alloy Steel, High Alloy Cast Steel
M			Austenitic Stainless Steel
M			Super Austenitic, Duplex Stainless Steel
K			Cast Iron
K			Wrought Alloy, Cast Alloyed Aluminum
N			Copper Alloys, Non Metallic Materials
S			High Temp Alloys Fe, Ni, or Co Based
S			Titanium and Ti Alloys
H			Hardened Steel, Chilled/ Hardened Cast Iron

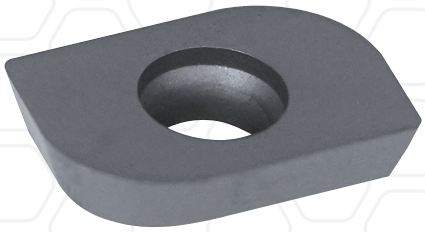
Special shapes, forms and sizes are available upon request.

EM19 CONVEX FILLET RADIUS SERIES

Convex fillet radii range from .007" to .500", available in both fractional and metric sizes. Choose from either integral shank or shell mill cutter bodies, each designed for optimal performance. Both feature postive geometry for enhanced cutting speeds and a proprietary pocket design that ensures unmatched repeatability.

- Superbee inserts are precision ground on all surfaces ensuring the tightest tolerances possible.
- The T5700 grade provides superior lubricity and heat resistance, delivering up to 30% higher SFM and up to 70% better tool life in steel, stainless and exotic materials.





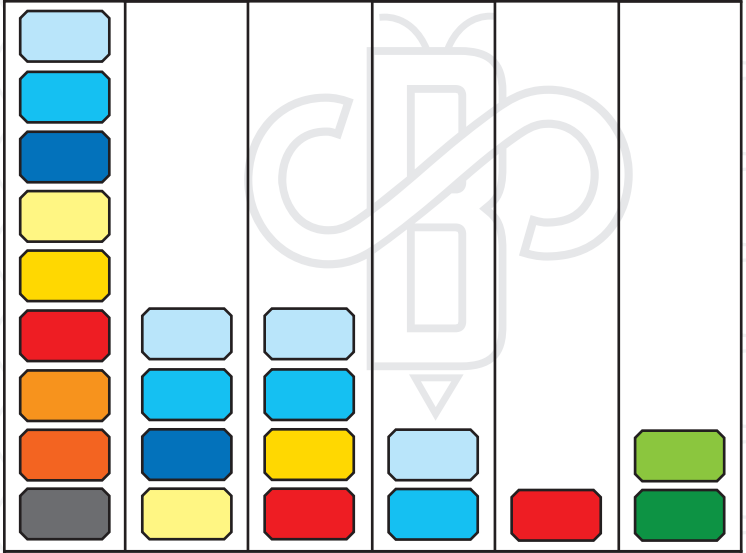
To build your insert, choose a Part Number in Red from each column. Example: EM19007ET5700

Double Corner

Range	Part Number	Radius	Fraction/ Metric
R1	EM19007	0.007	
	EM19015	0.015	1/64
	EM19020	0.020	
	EM19030	0.030	1/32
	EM19040	0.040	1MM
	EM19050	0.050	
	EM19060	0.060	1/16
R2	EM19070	0.070	
	EM19080	0.080	
	EM19090	0.090	
	EM19100	0.100	
	EM19110	0.110	7/64
	EM19120	0.120	3MM
	EM19125	0.125	1/8
	EM19130	0.130	
R3	EM19140	0.140	9/64
	EM19150	0.150	
	EM19156	0.156	5/32, 4MM
	EM19160	0.160	
	EM19170	0.170	
	EM19187	0.187	3/16
	EM19190	0.190	
R4	EM19200	0.200	
	EM19210	0.210	
	EM19220	0.220	
	EM19250	0.250	1/4
R5	EM19312	0.312	5/16
R6	EM19375	0.375	3/8
R7	EM19437	0.437	7/16
✳ R8	EM19500	0.500	1/2

✳ **Single Corner**

Edge Prep + Coating + Substrate					
Honed	Honed	Honed	Honed	Honed	Sharp
MDC	AlTiN	TiCN-TiN	None	None	None
C5	C5	C5	C5	C2	C2
ET5700	ET520	ENT5T	ENT56	ENT33	FNT33



RECOMMENDED INSERTS BY MATERIAL TYPE

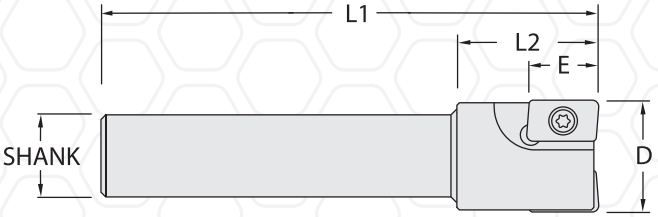
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	P		Low Alloy Steel, Low Alloy Cast Steel
	P		High Alloy Steel, High Alloy Cast Steel
	M		Austenitic Stainless Steel
	M		Super Austenitic, Duplex Stainless Steel
	K		Cast Iron
	N		Wrought Alloy, Cast Alloyed Aluminum
	N		Copper Alloys, Non Metallic Materials
	S		High Temp Alloys Fe, Ni, or Co Based
	S		Titanium and Ti Alloys
	H		Hardened Steel, Chilled/ Hardened Cast Iron

Special shapes, forms and sizes are available upon request.

BE CONVEX FILLET RADIUS CUTTER

End mill style integral shank indexable cutter body with positive geometry for more aggressive cutting action, proprietary pocket design provides unmatched repeatability and better finishes.





EM15 Convex Radius .007-.375

Refer to page 1 for the full range of EM15 convex radius inserts

Begin by choosing a cutter body

Part Number	D	Shank	L1	L2	FL	E	Insert Type
BE4011540	0.625	0.625	3.375	1.000	1	0.625	EM15
BE4411548	0.687	0.750	4.000	1.250	1		
BE4811548	0.750	0.750	4.000	1.250	1		
BE6421548	1.000	0.750	4.500	1.250	2		
BE6421564	1.000	1.000	4.500	1.250	2		
BE8031580	1.250	1.250	5.000	1.750	3		
BE9631580	1.500	1.250	5.000	1.750	3		

Then choose a radius Example: BE4011540R1

.007-.060	.070-.130	.140-.190	.200-.250	.312	.375
R1	R2	R3	R4	R5	R6

Double Corner

EM19 Convex Radius .007-.500

Refer to page 2 for the full range of EM19 convex radius inserts

Begin by choosing a cutter body

Part Number	D	Shank	L1	L2	FL	E	Insert Type
BE5611948	0.875	0.750	4.500	1.250	1	0.750	EM19
BE5611964	0.875	1.000	4.500	1.250	1		
BE6411948	1.000	0.750	4.500	1.250	1		
BE6411964	1.000	1.000	4.500	1.250	1		
BE8021980	1.250	1.250	5.000	1.750	2		
BE9621980	1.500	1.250	5.000	1.750	2		

Then choose a radius Example: BE5611948R1

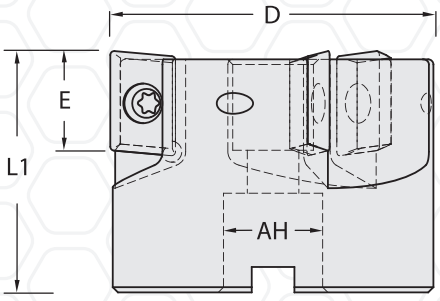
.007-.060	.070-.130	.140-.190	.200-.250	.312	.375	.437	.500
R1	R2	R3	R4	R5	R6	R7	R8

Double Corner | **Single Corner**

SUPERBEE

BE SHELL MILL CONVEX FILLET RADIUS CUTTER





Shell mill-style cutter bodies feature positive geometry for more aggressive cutting action. The proprietary pocket design ensures unmatched repeatability, minimizing runout and delivering superior surface finishes.

EM15 Convex Radius .007-.375

Refer to page 1 for the full range of EM15 convex radius inserts

Begin by choosing a shell mill

Part Number	D	AH	L1	FL	E	Insert Type
BE12851548	2.000	0.750	1.825	5	0.625	EM15
BE14451548	2.250	0.750		5		
BE16051548	2.500	0.750		5		
BE19261564	3.000	1.000		6		
BE22461580	3.500	1.250		6		

Then choose a radius Example: BE12851548R1

.007-.060	.070-.130	.140-.190	.200-.250	.312	.375
R1	R2	R3	R4	R5	R6

Double Corner

EM19 Convex Radius .007-.500

Refer to page 2 for the full range of EM15 convex radius inserts

Begin by choosing a shell mill

Part Number	D	AH	L1	FL	E	Insert Type
BE12831948	2.000	0.750	1.825	3	0.625	EM19
BE16031948	2.500				0.750	

Then choose a radius Example: BE12831948R1

.007-.060	.070-.130	.140-.190	.200-.250	.312	.375	.437	.500
R1	R2	R3	R4	R5	R6	R7	R8

Double Corner | **Single Corner**

Special shapes, forms and sizes are available upon request.

Spare Parts:
EM15 Screw: BS15
EM19 Screw: BS19
EM15 Wrench: BW15
EM19 Wrench: BW19

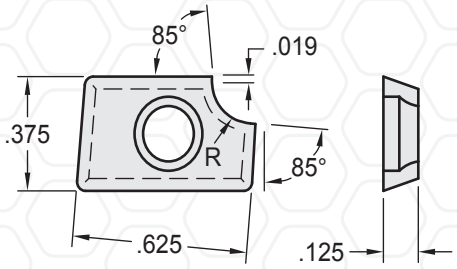
SwiftCARB

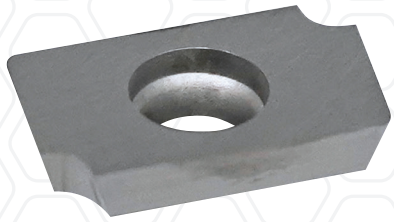
WWW.SWIFTCARB.COM

EM15 CONCAVE CORNER ROUNDING RADIUS SERIES

Concave corner rounding radii stocked between .010"- .125" including fractional and metric sizes. Choose from either integral shank or shell mill cutter bodies, each designed for optimal performance. Featuring positive geometry for enhanced cutting speeds and a proprietary pocket design that ensures unmatched repeatability.

- **SUPERBEE inserts are precision ground on all surfaces ensuring the tightest tolerances possible. This provides a stronger edge with better wear characteristics than a pressed insert.**
- **The T5700 grade provides superior lubricity and heat resistance, delivering up to 30% higher SFM and up to 70% longer tool life in steel, stainless and exotic materials.**





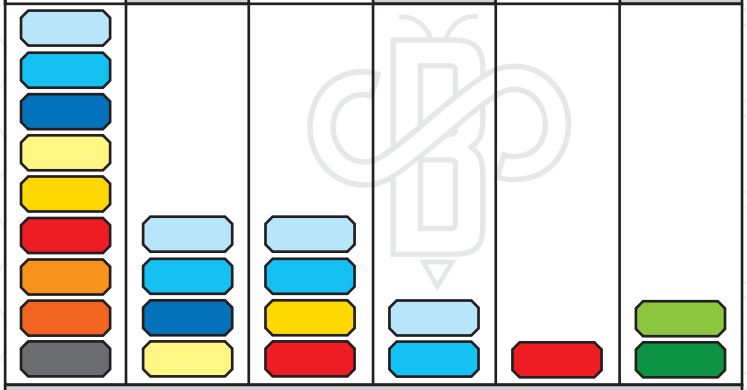
To build your insert, choose a Part Number in Red from each column. Example: EM15C010ET5700

Double Corner

Range	Part Number	Radius	Fraction/ Metric
C1	EM15C010	0.010	
	EM15C015	0.015	1/64
	EM15C020	0.020	
	EM15C030	0.030	1/32
	EM15C0393	0.039	1MM
	EM15C040	0.040	1MM
	EM15C050	0.050	
	EM15C060	0.060	1/16
C2	EM15C070	0.070	
	EM15C0787	0.079	5/64, 2MM
	EM15C080	0.080	
	EM15C090	0.090	
	EM15C100	0.100	
	EM15C110	0.110	7/64
	EM15C118	0.118	3MM
	EM15C120	0.120	3MM
	EM15C125	0.125	1/8

Edge Prep + Coating + Substrate

Honed	Honed	Honed	Honed	Honed	Sharp
MDC	AlTiN	TiCN-TiN	None	None	None
C5	C5	C5	C5	C2	C2
ET5700	ET520	ENT5T	ENT56	ENT33	FNT33



RECOMMENDED INSERTS BY MATERIAL TYPE

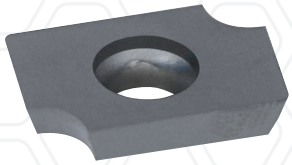
	P		Non-Alloy Steel, Non Alloy Cast Steel
	P		Low Alloy Steel, Low Alloy Cast Steel
	P		High Alloy Steel, High Alloy Cast Steel
	M		Austenitic Stainless Steel
	M		Super Austenitic, Duplex Stainless Steel
	K		Cast Iron
	N		Wrought Alloy, Cast Alloyed Aluminum
	N		Copper Alloys, Non Metallic Materials
	S		High Temp Alloys Fe, Ni, or Co Based
	S		Titanium and Ti Alloys
	H		Hardened Steel, Chilled/ Hardened Cast Iron

Special shapes, forms and sizes are available upon request.

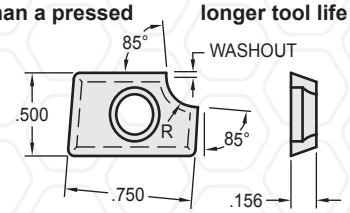
EM19 CONCAVE CORNER ROUNDING RADIUS SERIES

Concave corner rounding radii stocked between .010"- .250", including fractional and metric sizes. Choose from either integral shank or shell mill cutter bodies, each designed for optimal performance.

- **SUPERBEE inserts are precision ground on all surfaces ensuring the tightest tolerances possible. This provides a stronger edge with better wear characteristics than a pressed insert.**



- **The T5700 grade provides superior lubricity and heat resistance, delivering up to 30% higher SFM and up to 70% longer tool life in steel, stainless and exotic materials.**



WASHOUT
0.010-0.220 radius washout: 0.019
0.236 radius washout: 0.010
0250 radius washout: 0.005

To build your insert, choose a Part Number in Red from each column. Example: EM19C010ET5700

	Range	Part Number	Radius	Fraction/ Metric
Double Corner	C1	EM19C010	0.010	
		EM19C015	0.015	1/64
		EM19C020	0.020	
		EM19C030	0.030	1/32
		EM19C0393	0.039	1MM
		EM19C040	0.040	1MM
		EM19C050	0.050	
		EM19C060	0.060	1/16
	C2	EM19C070	0.070	
		EM19C0787	0.079	5/64, 2MM
		EM19C080	0.080	
		EM19C090	0.090	
		EM19C100	0.100	
		EM19C110	0.110	7/64
		EM19C118	0.118	3MM
		EM19C120	0.120	3MM
		EM19C125	0.125	1/8
	C3	EM19C130	0.130	
		EM19C140	0.140	9/64
		EM19C150	0.150	
		EM19C156	0.156	5/32, 4MM
		EM19C157	0.157	5/32, 4MM
		EM19C160	0.160	
Single Corner	C4	EM19C170	0.170	
		EM19C180	0.180	
		EM19C187	0.187	3/16
		EM19C190	0.190	
	C5	EM19C197	0.197	5MM
		EM19C200	0.200	
		EM19C210	0.210	
		EM19C220	0.220	
	C6	EM19C236	0.236	15/64,6MM
		EM19C250	0.250	1/4

Edge Prep + Coating + Substrate

Honed	Honed	Honed	Honed	Honed	Sharp
MDC	AlTiN	TiCN-TiN	None	None	None
C5	C5	C5	C5	C2	C2
ET5700	ET520	ENT5T	ENT56	ENT33	FNT33

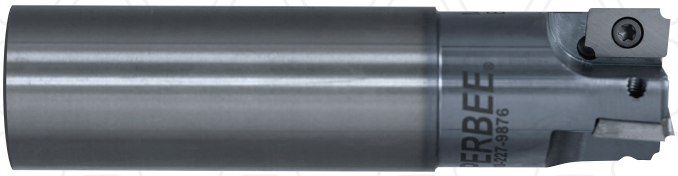
RECOMMENDED INSERTS BY MATERIAL TYPE

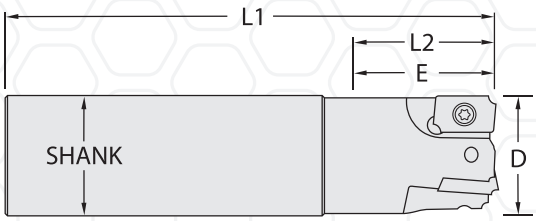
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P		Low Alloy Steel, Low Alloy Cast Steel	
P		High Alloy Steel, High Alloy Cast Steel	
M		Austenitic Stainless Steel	
M		Super Austenitic, Duplex Stainless Steel	
K		Cast Iron	
N		Wrought Alloy, Cast Alloyed Aluminum	
N		Copper Alloys, Non Metallic Materials	
S		High Temp Alloys Fe, Ni, or Co Based	
S		Titanium and Ti Alloys	
H		Hardened Steel, Chilled/ Hardened Cast Iron	

Special shapes, forms and sizes are available upon request.

BE CONCAVE CORNER ROUNDING CUTTER

End mill style integral shank indexable cutter bodies relieved for EM15 or EM19 concave corner rounding inserts. Designed with positive geometry for more aggressive cutting action and a proprietary pocket design providing unmatched repeatability and quality finishes.





EM15 Concave Radius .010-.125

Refer to page 4 for the full range of EM15 convex radii inserts

Begin by choosing a cutter body

Part Number	D	Shank	L1	L2	FL	E	Insert Type
BE4011540	0.625	0.625	3.375	1.000	1	0.625	EM15
BE4411548	0.687	0.750	4.000	1.250	1		
BE4811548	0.750	0.750	4.000	1.250	1		
BE6421548	1.000	0.750	4.500	0.750	2		
BE6421564	1.000	1.000	4.500	1.000	2		
BE8031580	1.250	1.250	5.000	1.750	3		
BE9631580	1.500	1.250	5.000	1.750	3		

Then choose a radius Example: BE4011540C1

.010-.060	.070-.125
C1	C2

Double Corner

EM19 Concave Radius .010-.250

Refer to page 5 for the full range of EM19 concave radii inserts

Begin by choosing a cutter body

Part Number	D	Shank	L1	L2	FL	E	Insert Type
BE5611948	0.875	0.750	4.500	1.250	1	0.750	EM19
BE5611964	0.875	1.000	4.500	1.250	1		
BE6411948	1.000	0.750	4.500	1.250	1		
BE6411964	1.000	1.000	4.500	1.250	1		
BE8021980	1.250	1.250	5.000	1.750	2		
BE9621980	1.500	1.250	5.000	1.750	2		

Then choose a radius Example: BE5611948C1

.010-.060	.070-.125	.130-.160	.170-.190	.197-.220	.236-.250
C1	C2	C3	C4	C5	C6

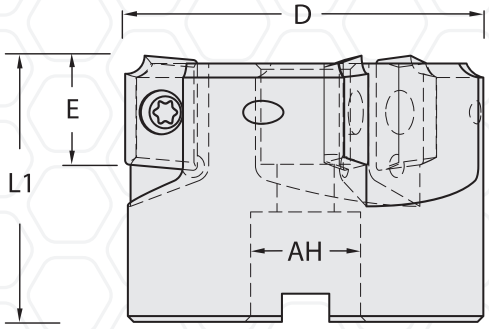
Double Corner **Single Corner**

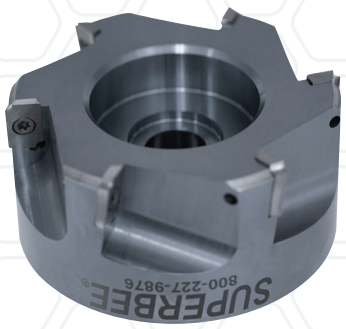
Spare Parts:
EM15 Screw: BS15
EM19 Screw: BS19
EM15 Wrench: BW15
EM19 Wrench: BW19

SUPERBEE

BE SHELL MILL CONCAVE CORNER ROUNDING CUTTER

Shell mill-style indexable cutter bodies precision-relieved for EM15 or EM19 concave corner rounding inserts. Designed with positive geometry for more aggressive cutting action, they feature a proprietary pocket design that ensures unmatched repeatability and superior surface finishes.





EM15 Concave Radius .010-.125

Refer to page 4 for the full range of EM15 concave radii inserts

Begin by choosing a shell mill

Part Number	D	AH	L1	FL	E	Insert Type
BE12851548	2.000	0.750	1.825	5	0.550	EM15
BE14451548	2.250	0.750		5		
BE16051548	2.500	0.750		5		
BE19261564	3.000	1.000		6		
BE22461580	3.500	1.250		6		

Then choose a radius Example: BE12851548R3

.010-.060	.070-.125
R3	R4

Double Corner

EM19 Concave Radius .010-.250

Refer to page 5 for the full range of EM15 concave radii inserts

Begin by choosing a shell mill

Part Number	D	AH	L1	FL	E	Insert Type
BE12831948	2.000	0.750	1.825	3	0.650	EM19
BE16031948	2.500					

Then choose a radius Example: BE12831948C1

.010-.060	.070-.125	.130-.160	.170-.190	.197-.220	.236-.250
C1	C2	C3	C4	C5	C6

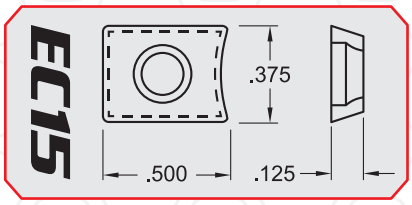
Double Corner **Single Corner**

Special shapes, forms and sizes are available upon request.

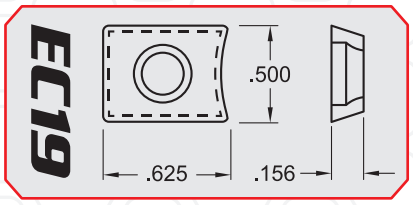
EC CORNER ROUNDING SERIES

Large Corner Rounding Concave Inserts

The fastest way to cut large radii, our design segments the cut, reducing tool pressure and minimizing chatter for higher feed rates. Available in both fractional and metric sizes from .250" - 1.00".







To build your insert, choose a Part Number in Red from each column. Example: EC15C250ET5700

Range	Part Number	Radius	Fraction/ Metric
EC15	EC15C250	0.250	1/4
	EC15C275	0.275	7MM
	EC15C281	0.281	9/32
	EC15C312	0.312	5/16
	EC15C315	0.315	8MM
	EC15C343	0.343	11/32
	EC15C354	0.354	9MM
	EC15C375	0.375	3/8
	EC15C393	0.393	10MM
EC19	EC19C406	0.406	13/32
	EC19C433	0.433	11MM
	EC19C437	0.437	7/16
	EC19C468	0.468	15/32
	EC19C472	0.472	12MM
	EC19C500	0.500	1/2
	EC19C512	0.512	13MM
EC15	EC15C531	0.531	17/32
	EC15C551	0.551	14MM
	EC15C562	0.562	9/16
	EC15C590	0.590	15MM
	EC15C625	0.625	5/8
	EC15C629	0.629	16MM
EC19	EC19C656	0.656	21/32
	EC19C669	0.669	17MM
	EC19C687	0.687	11/16
	EC19C708	0.708	18MM
	EC19C718	0.718	23/32
	EC19C748	0.748	19MM
	EC19C750	0.750	3/4
	EC19C781	0.781	25/32
	EC19C787	0.787	20MM
	EC19C812	0.812	13/16
	EC19C875	0.875	7/8
	EC19C906	0.906	29/32,23MM
	EC19C968	0.968	31/32
	EC19C984	0.984	63/64, 25MM
	EC19C100	1.000	1

Edge Prep + Coating + Substrate

Honed	Honed	Honed	Honed	Honed	Sharp
MDC	AlTiN	TiCN-TiN	None	None	None
C5	C5	C5	C5	C2	C2
ET5700	ET520	ENT5T	ENT56	ENT33	FNT33

RECOMMENDED INSERTS BY MATERIAL TYPE

P		Non-Alloy Steel, Non Alloy Cast Steel	
P		Low Alloy Steel, Low Alloy Cast Steel	
P		High Alloy Steel, High Alloy Cast Steel	
M		Austenitic Stainless Steel	
M		Super Austenitic, Duplex Stainless Steel	
K		Cast Iron	
N		Wrought Alloy, Cast Alloyed Aluminum	
N		Copper Alloys, Non Metallic Materials	
S		High Temp Alloys Fe, Ni, or Co Based	
S		Titanium and Ti Alloys	
H		Hardened Steel, Chilled/ Hardened Cast Iron	

Special shapes, forms and sizes are available upon request.

BC LARGE CONCAVE CORNER ROUNDING RADIUS CUTTER

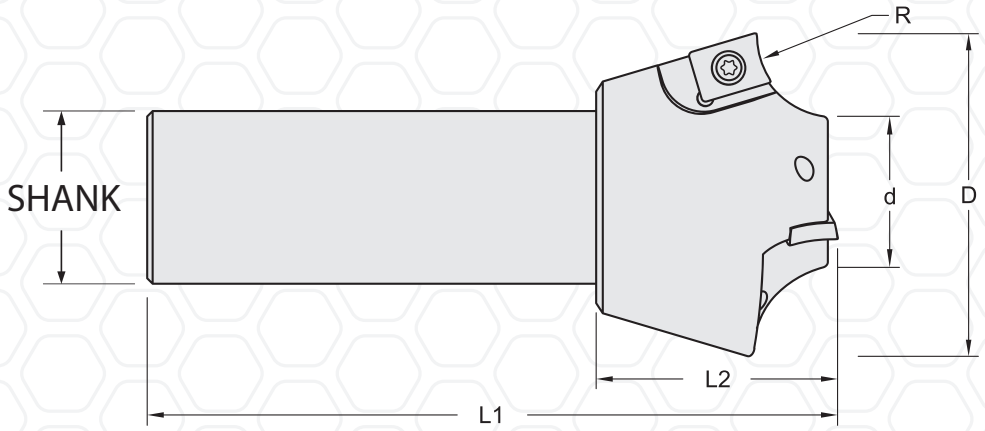
Integral shank large concave cutter bodies offer the fastest way to cut large radii. Our design segments the cut, reducing tool pressure and minimizing chatter, allowing for higher feed rates and improved performance.



Spare Parts:
EM15 Screw: BS15
EM19 Screw: BS19
EM15 Wrench: BW15
EM19 Wrench: BW19

.250-1.000 Radius Cutter Body

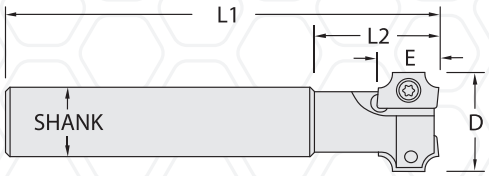
Part Number	Radius Range	D	d	Shank	L1	L2	FL	
BC4821564C250	.250 -.280	1.409	0.748	1.000	4.500	0.850	2	EC15
BC4821564C281	.281 -.311	1.454	0.745			0.910		
BC4821564C312	.312 -.342	1.480	0.745			1.000		
BC4821564C343	.343 -.374	1.522	0.748			1.000		
BC4821564C375	.375 -.405	1.550	0.748			1.100		
BC5621980C406	.406 -.436	1.846	0.883	1.250	5.000	1.250	2	EC19
BC5621980C437	.437 -.467	1.883	0.872			1.346		
BC5621980C468	.468 -.499	1.812	0.776			1.750		
BC5621980C500	.500 -.530	1.957	0.876			1.465		
BC8031580C531	.531 -.561	2.399	1.249	1.250	5.000	1.800	3	EC15
BC8031580C562	.562 -.592	2.375	1.200			1.750		
BC8031580C625	.625 -.655	2.538	1.245			1.814		
BC9631980C656	.656 -.686	2.943	1.496	1.250	5.000	1.800	3	EC19
BC9631980C687	.687 -.717	2.877	1.386			1.750		
BC9631980C718	.718 -.749	3.023	1.494			1.805		
BC9631980C750	.750 -.780	3.059	1.500			1.800		
BC9631980C781	.781 -.811	3.130	1.491			1.800		
BC9631980C812	.812 -.842	3.164	1.498			1.790		
BC11241980C875	.875 -905	3.601	1.750	1.250	5.250	2.066	4	
BC11241980C906	.906 -936	3.687	1.751			2.051		
BC11241980C968	.968 -.999	3.756	1.697			2.026		
BC11241980C1.000	1.000	3.800	1.800			2.000		



BE TOP & BOTTOM 90° CORNER ROUNDING CUTTER

End mill style indexable cutter body for 90° top and bottom corner rounding, cuts a radius on the top, bottom, or both corners of your part. Positive geometry for more aggressive cutting action, and proprietary pocket design provides unmatched repeatability, reducing runout and producing far better finishes.





Spare Parts:
EM15 Screw: BS15
EM19 Screw: BS19
EM15 Wrench: BW15
EM19 Wrench: BW19

EM15 .030-.125 Radius Cutter Body

Begin by choosing a Top & Bottom cutter body

Part Number	D	Shank	L1	L2	FL	E	Insert Type
BE6421548TB	1.000	0.750	4.500	1.250	2	0.625	EM15
BE6421564TB	1.000	1.000	4.500	1.250	2		
BE8031580TB	1.250	1.250	5.000	1.750	3		

Then choose a radius range — Example: BE6421548TBC1

.030-.060	.079-.125
C1	C2

EM19 .156-.250 Radius Cutter Body

Begin by choosing a Top & Bottom cutter body

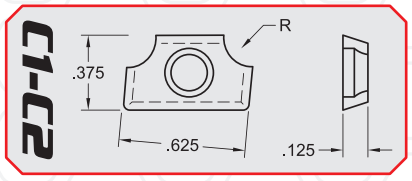
Part Number	D	Shank	L1	L2	FL	E	Insert Type
BE8021980TB	1.250	1.250	5.000	1.750	2	0.750	EM19

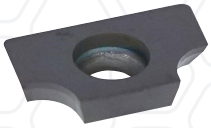
Then choose a radius range — Example: BE8021980TBC3

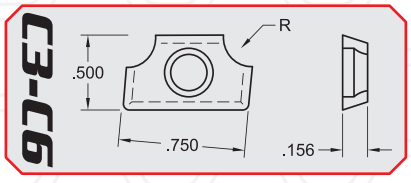
.156-.157	.187	.197	.236-.250
C3	C4	C5	C6

EM TOP & BOTTOM 90° CORNER ROUNDING SERIES

The EM top and bottom corner rounding inserts effortlessly cut a 90° radius on the top, bottom, or both corners of your part. Available from .030" - .250".







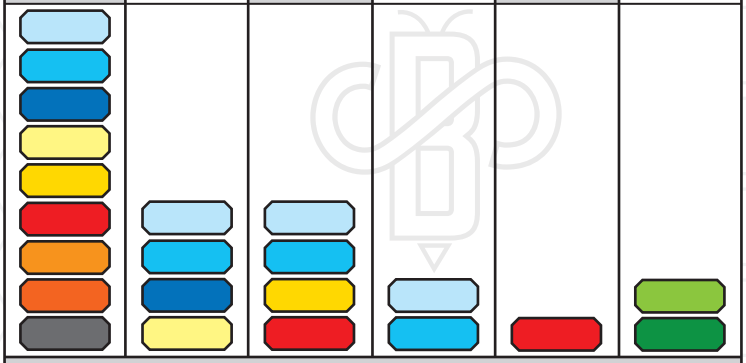
P	Non-Alloy Steel	
P	Low Alloy Steel	
P	High Alloy Steel	
M	Stainless Steel (PH)	
M	Stainless Steel (AS)	
K	Cast Irons	
N	Aluminum - Low Si	
N	Copper Alloy, Plastic	
S	High Temp Alloys	
S	Titanium Alloys	
H	Hardened Steels	

To build your insert, choose a Part Number in Red from each column. Example: EM15C030TBET5700

Range	Part Number	Radius	Fraction/ Metric
C1	EM15C030TB	0.030	1/32
	EM15C0393TB	0.039	1MM
	EM15C060TB	0.060	1/16
C2	EM15C0787TB	0.079	5/64, 2MM
	EM15C090TB	0.090	
	EM15C118TB	0.118	3MM
	EM15C120TB	0.120	3MM
	EM15C125TB	0.125	1/8
C3	EM19C156TB	0.156	5/32, 4MM
	EM19C157TB	0.157	5/32, 4MM
C4	EM19C187TB	0.187	3/16
C5	EM19C197TB	0.197	5MM
C6	EM19C236TB	0.236	15/64, 6MM
	EM19C250TB	0.250	1/4

Edge Prep + Coating + Substrate

Honed	Honed	Honed	Honed	Honed	Sharp
MDC	AlTiN	TiCN-TiN	None	None	None
C5	C5	C5	C5	C2	C2
ET5700	ET520	ENT5T	ENT56	ENT33	FNT33

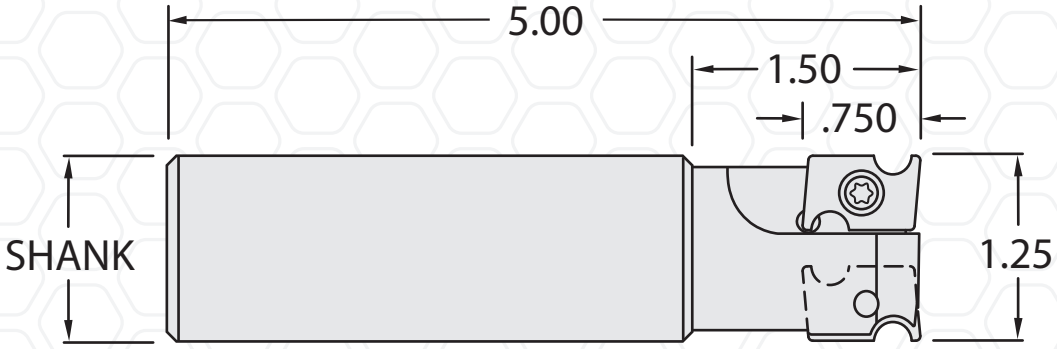


RECOMMENDED INSERTS BY MATERIAL TYPE

Special shapes, forms and sizes are available upon request.

180° CORNER ROUNDING CUTTER

The 180° corner rounding series. All surfaces are precision ground for excellent repeatability from insert to insert. Incredible time savings for all applications requiring a 180 degree radius. Sizes not listed in the table between .031-.125 radius can be quoted upon request.



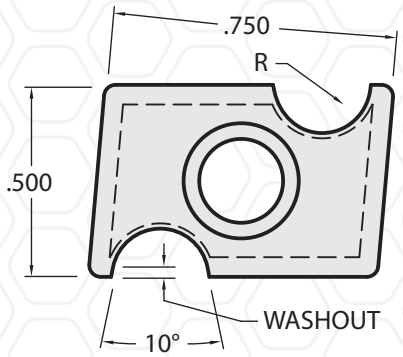


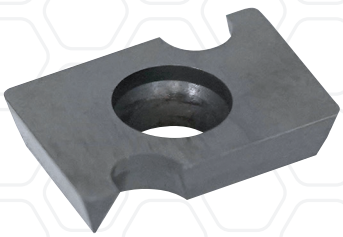
Cutter Body Part Number	Radius Range	DIA	Shank DIA	OAL	Flutes
BE8021980180DEGC1	.031-.062	1.250	1.250	5.000	2
BE8021980180DEGC2	.079-.125				

Spare Parts:
EM19 Screw: BS19
EM19 Wrench: BW19

SUPERBEE

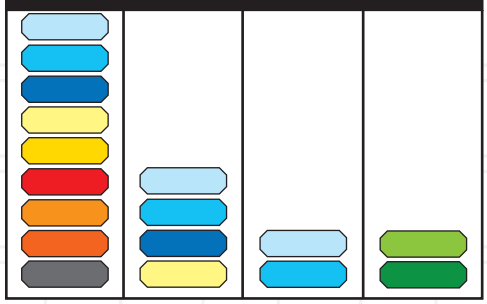
180° CORNER ROUNDING INSERTS





Insert Part Number	R	Washout
EM19180DEGC031	0.031	0.015
EM19180DEGC039	0.039	0.015
EM19180DEGC047	0.047	0.015
EM19180DEGC062	0.062	0.015
EM19180DEGC079	0.079	0.015
EM19180DEGC093	0.093	0.015
EM19180DEGC099	0.099	0.015
EM19180DEGC118	0.118	0.015
EM19180DEGC125	0.125	0.005

Edge Prep + Coating + Substrate			
Honed	Honed	Honed	Sharp
MDC	AlTiN	None	None
C5	C5	C5	C2
ET5700	ET520	ENT56	FNT33

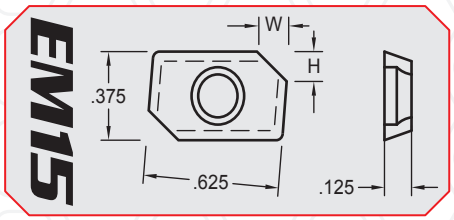


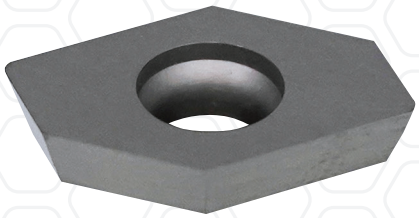
	P		Non-Alloy Steel, Non Alloy Cast Steel
	P		Low Alloy Steel, Low Alloy Cast Steel
	P		High Alloy Steel, High Alloy Cast Steel
	M		Austenitic Stainless Steel
	M		Super Austenitic, Duplex Stainless Steel
	K		Cast Iron
	N		Wrought Alloy, Cast Alloyed Aluminum
	N		Copper Alloys, Non Metallic Materials
	S		High Temp Alloys Fe, Ni, or Co Based
	S		Titanium and Ti Alloys
	H		Hardened Steel, Chilled/ Hardened Cast Iron

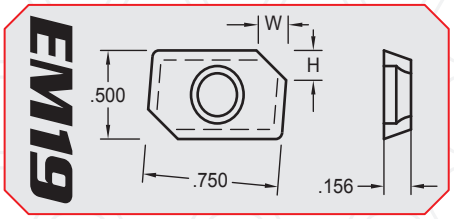
EM CHAMFER SERIES

Available in 9 different chamfer angles. Choose from either integral shank or shell mill cutter bodies, each designed for optimal performance. Positive geometry for more aggressive cutting action.

- **SUPERBEE inserts are precision ground on all surfaces ensuring the tightest tolerances possible. This provides a stronger edge with better wear characteristics than a pressed insert.**
- **T5700 grade provides superior lubricity and heat resistance, delivering up to 30% higher SFM and up to 70% longer tool life in steel, stainless and exotic materials.**







To build your insert, choose a Part Number in Red from each column. Example: **EM1510250ET5700**

EM15 CHAMFER WIDTH UP TO .200

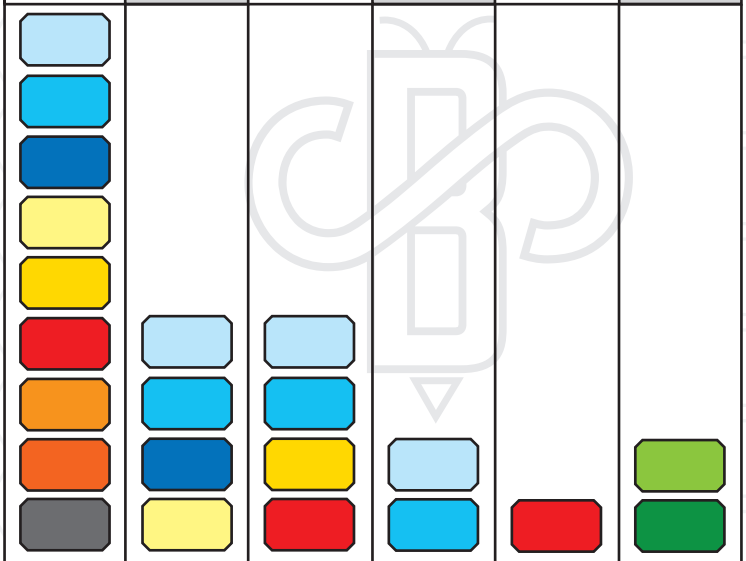
Part Number	Angle	H	W
EM1510250	10°	0.044	0.250
EM1515250	15°	0.067	0.250
EM1520250	20°	0.091	0.250
EM1525250	25°	0.117	0.250
EM1530200	30°	0.115	0.200
EM1541200	41°	0.174	0.200
EM1545200	45°	0.200	0.200
EM1550200	50°	0.200	0.168
EM1560200	60°	0.200	0.115

EM19 CHAMFER WIDTH UP TO .250

Part Number	Angle	H	W
EM1910300	10°	0.052	0.300
EM1915300	15°	0.080	0.300
EM1920300	20°	0.109	0.300
EM1925300	25°	0.140	0.300
EM1930250	30°	0.144	0.250
EM1941250	41°	0.217	0.250
EM1945250	45°	0.250	0.250
EM1950250	50°	0.250	0.210
EM1960250	60	0.250	0.144

Edge Prep + Coating + Substrate

Honed	Honed	Honed	Honed	Honed	Sharp
MDC	AlTiN	TiCN-TiN	None	None	None
C5	C5	C5	C5	C2	C2
ET5700	ET520	ENT5T	ENT56	ENT33	FNT33



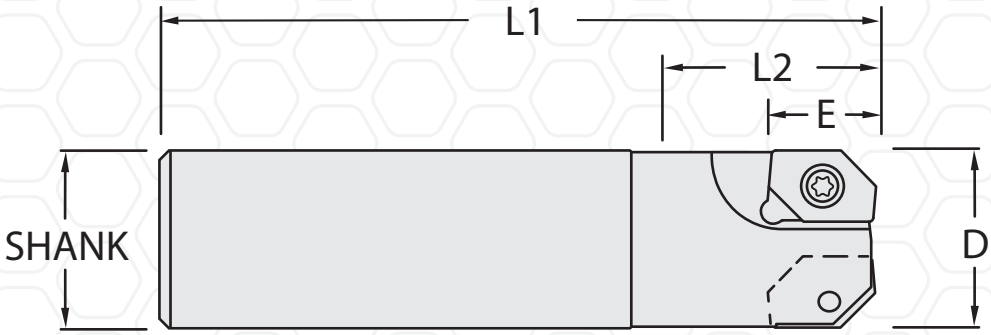
RECOMMENDED INSERTS BY MATERIAL TYPE

P	Non-Alloy Steel, Non Alloy Cast Steel
P	Low Alloy Steel, Low Alloy Cast Steel
P	High Alloy Steel, High Alloy Cast Steel
M	Austenitic Stainless Steel
M	Super Austenitic, Duplex Stainless Steel
K	Cast Iron
N	Wrought Alloy, Cast Alloyed Aluminum
N	Copper Alloys, Non Metallic Materials
S	High Temp Alloys Fe, Ni, or Co Based
S	Titanium and Ti Alloys
H	Hardened Steel, Chilled/ Hardened Cast Iron

Special shapes, forms and sizes are available upon request.

BE CHAMFER CUTTER

The end mill-style integral shank indexable cutter body features positive geometry for more aggressive cutting action. Its proprietary pocket design ensures unmatched repeatability, delivering superior finishes on chamfered corners.



EM15 CHAMFER WIDTH UP TO .200

Refer to page 10 for the full range of chamfer widths

Begin by choosing a cutter body

Part Number	D	Shank	L1	L2	FL	E	Insert Type
BE4011540	0.625	0.625	3.375	1.000	1	0.625	EM15
BE4411548	0.687	0.750	4.000	1.250	1		
BE4811548	0.750	0.750	4.000	1.250	1		
BE6421548	1.000	0.750	4.500	1.250	2		
BE6421564	1.000	1.000	4.500	1.250	2		
BE8031580	1.250	1.250	5.000	1.750	3		
BE9631580	1.500	1.250	5.000	1.750	3		

Then choose an angle Example: BE4011540A10

10°	15°	20°	25°	30°	41°	45°	50°	60°
A10	A15	A20	A25	A30	A41	A45	A50	A60

EM19 CHAMFER WIDTH UP TO .250

Refer to page 10 for the full range of chamfer widths

Begin by choosing a cutter body

Part Number	D	Shank	L1	L2	FL	E	Insert Type
BE5611948	0.875	0.750	4.500	1.250	1	0.750	EM19
BE5611964	0.875	1.000	4.500	1.250	1		
BE6411948	1.000	0.750	4.500	1.250	1		
BE6411964	1.000	1.000	4.500	1.250	1		
BE8021980	1.250	1.250	5.000	1.750	2		
BE9621980	1.500	1.250	5.000	1.750	2		

Then choose an angle Example: BE5611948A10

10°	15°	20°	25°	30°	41°	45°	50°	60°
A10	A15	A20	A25	A30	A41	A45	A50	A60



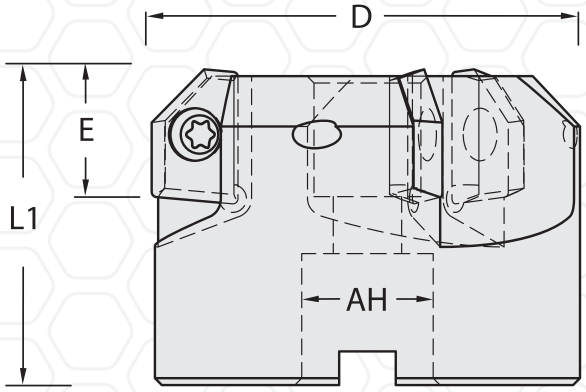
Spare Parts:
EM15 Screw: BS15
EM19 Screw: BS19
EM15 Wrench: BW15
EM19 Wrench: BW19

Special shapes, forms and sizes are available upon request.

BE SHELL MILL CHAMFER CUTTER



Shell mill-style indexable cutter body features positive geometry for more aggressive cutting action. Its proprietary pocket design ensures unmatched repeatability, delivering superior finishes on chamfered corners.



EM15 CHAMFER WIDTH UP TO .200

Refer to page 10 for the full range of chamfer widths

Begin by choosing a shell mill

Part Number	D	AH	L1	FL	E	Insert Type
BE12851548	2.000	0.750		5		EM15
BE14451548	2.250	0.750		5		
BE16051548	2.500	0.750	1.825	5	0.625	
BE19261564	3.000	1.000		6		
BE22461580	3.500	1.250		6		

Then choose an angle Example: BE12851548A10

10°	15°	20°	25°	30°	41°	45°	50°	60°
A10	A15	A20	A25	A30	A41	A45	A50	A60

EM19 CHAMFER WIDTH UP TO .250

Refer to page 10 for the full range of chamfer widths

Begin by choosing a shell mill

Part Number	D	AH	L1	FL	E	Insert Type
BE12831948	2.000	0.750	1.825	3	0.750	EM19
BE16031948	2.500	0.750				

Then choose an angle Example: BE12831948A10

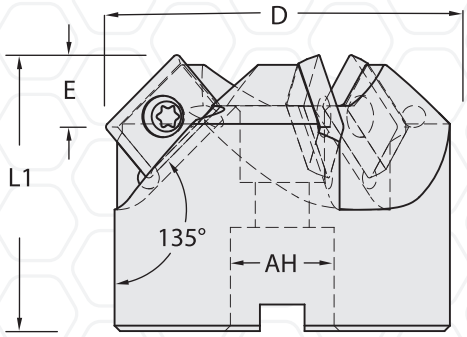
10°	15°	20°	25°	30°	41°	45°	50°	60°
A10	A15	A20	A25	A30	A41	A45	A50	A60

Spare Parts:
EM15 Screw: BS15
EM19 Screw: BS19
EM15 Wrench: BW15
EM19 Wrench: BW19

SUPERBEE

BE 45° SHELL MILL CHAMFER CUTTER

The ideal choice for larger 45° chamfers.This cutter body holds a standard EM15 or EM19 insert at a 45° angle, delivering a longer length of cut than the BE Chamfer series.





EM15 CHAMFER .400 WIDTH

Part Number	Angle	D	d	L1	AH	FL	E	Insert
CM963154845	45°	2.352	1.500	1.825	0.750	3	0.400	EM15

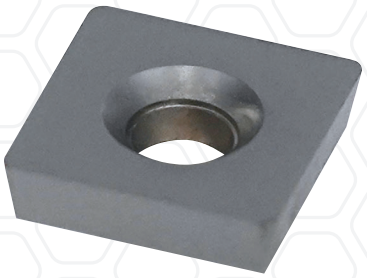
EM19 CHAMFER .490 WIDTH

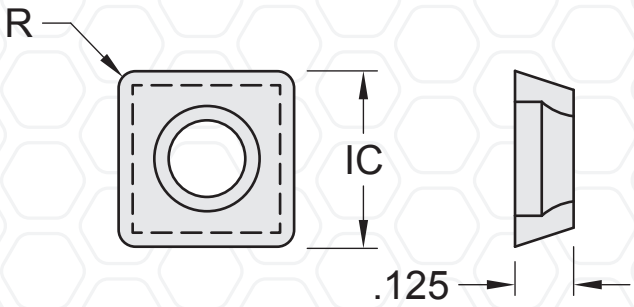
Part Number	Angle	D	d	L1	AH	FL	E	Insert
CM963194845	45°	2.530	1.500	1.825	0.750	3	0.400	EM19

SP SQUARE INSERT SERIES

Square four cornered inserts available with corner radii between .010" - .090".

- SUPERBEE inserts are precision ground on all surfaces ensuring the tightest tolerances possible. This provides a stronger edge with better wear characteristics than a pressed insert.
- T5700 grade provides superior lubricity and heat resistance, delivering up to 30% higher SFM and up to 70% longer tool life in steel, stainless and exotic materials.





To build your insert, choose a Part Number in Red from each column. Example: SP32010ET5700

SP32 Inserts

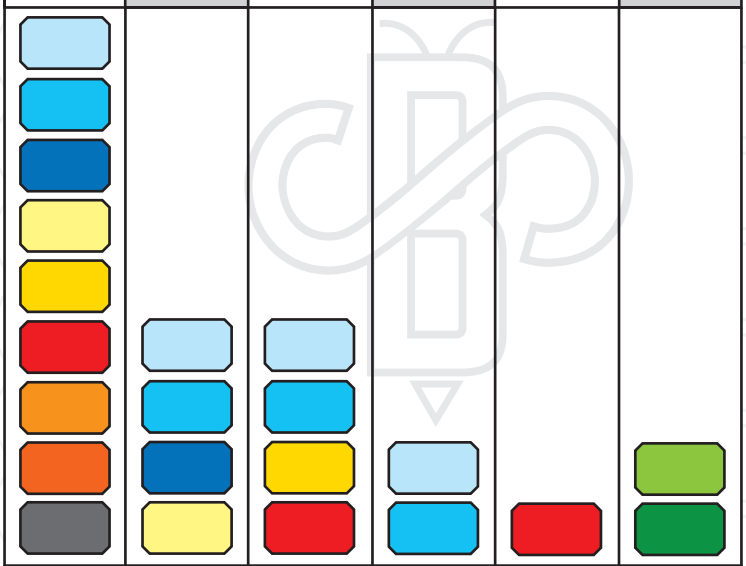
Part Number	Radius	IC	T
SP32010	0.010	0.375	0.125
SP32015	0.015	0.375	0.125
SP32030	0.030	0.375	0.125
SP32060	0.060	0.375	0.125
SP32090	0.090	0.375	0.125

SP42 Inserts

Part Number	Radius	IC	T
SP42010	0.010	0.500	0.125
SP42015	0.015	0.500	0.125
SP42030	0.030	0.500	0.125
SP42060	0.060	0.500	0.125
SP42090	0.090	0.500	0.125

Edge Prep + Coating + Substrate

Honed	Honed	Honed	Honed	Honed	Sharp
MDC	AlTiN	TiCN-TiN	None	None	None
C5	C5	C5	C5	C2	C2
ET5700	ET520	ENT5T	ENT56	ENT33	FNT33



RECOMMENDED INSERTS BY MATERIAL TYPE

	P		Non-Alloy Steel, Non Alloy Cast Steel
	P		Low Alloy Steel, Low Alloy Cast Steel
	P		High Alloy Steel, High Alloy Cast Steel
	M		Austenitic Stainless Steel
	M		Super Austenitic, Duplex Stainless Steel
	K		Cast Iron
	N		Wrought Alloy, Cast Alloyed Aluminum
	N		Copper Alloys, Non Metallic Materials
	S		High Temp Alloys Fe, Ni, or Co Based
	S		Titanium and Ti Alloys
	H		Hardened Steel, Chilled/ Hardened Cast Iron

Special shapes, forms and sizes are available upon request.

Spare Parts:

SP3 Screw: CS5

SP4 Screw: CS6

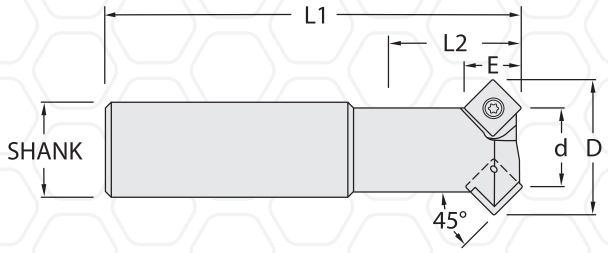
SP3 Wrench: NT9

SP4 Wrench: NT15



CMS 45° TOP & BOTTOM CHAMFER CUTTER

Ideal for cutting a 45° on the top or bottom of a part, utilizing a square 4 cornered insert, and stocked with 5 different radii. The positive geometry allows for more aggressive cutting action, while the proprietary pocket design provides unmatched repeatability and reduced runout.



CMS Chamfer .375-.400 WIDTH

Refer to page 13 for the full range of insert sizes

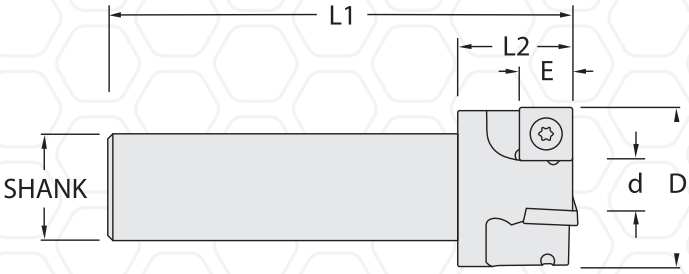
Part Number	D	d	Shank	L1	L2	FL	E	Insert
CMS4014264A45	0.989	0.312	1.000	5.000	1.750	1	0.500	SP42
CMS4814264A45	1.304	0.625	1.000	5.250	2.000	1	0.500	SP42
CMS6433280A45	1.504	1.000	1.250	5.500	2.250	3	0.375	SP32
CMS6424280A45	1.680	1.000	1.250	5.500	2.250	2	0.500	SP42
CMS8034280A45	1.931	1.250	1.250	5.500	2.250	3	0.500	SP42
CMS9634280A45	2.056	1.375	1.250	5.500	2.250	3	0.500	SP42

SUPERBEE

CB COUNTERBORE CUTTER BODY

Designed for efficient counterboring, this cutter delivers a precise flat-bottom cut utilizing the SP Series square, four-cornered insert, available in five different radii.

Spare Parts:
- SP3 Screw: CS5
- SP4 Screw: CS6
- SP3 Wrench: NT9
- SP4 Wrench: NT15





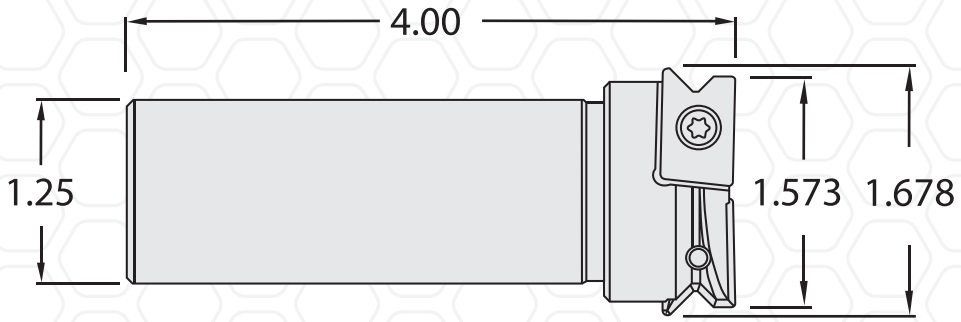
Counterbore .594-1.50 Diameter

Refer to page 13 for the full range of insert sizes

Part Number	D	d	Shank	L1	L2	FL	E	Insert
CB3813240	0.594	0.125	0.625	3.250	1.000	1	0.370	SP32
CB4013240	0.625	0.125	0.625	3.250		1	0.370	SP32
CB4413248	0.687	0.125	0.750	3.250		1	0.370	SP32
CB5013248	0.781	0.125	0.750	3.250		1	0.370	SP32
CB6423248	1.000	0.290	0.750	3.250		2	0.370	SP32
CB6823248	1.062	0.352	0.750	3.250		2	0.370	SP32
CB7633264	1.187	0.477	1.000	4.250		3	0.370	SP32
CB8033264	1.250	0.540	1.000	4.250		3	0.370	SP32
CB8834264	1.375	0.415	1.000	4.250		3	0.495	SP42
CB9634264	1.500	0.540	1.000	4.250		3	0.495	SP42

PICATINNY / NATO RAIL CUTTER

Introducing the new Picatinny / NATO accessory rail indexable milling cutter. It is designed in accordance with the STANAG 4694 standardization agreement. Each surface is precision ground to ensure exceptional repeatability from insert to insert, delivering incredible time and cost savings for any application requiring a Picatinny / NATO accessory rail.



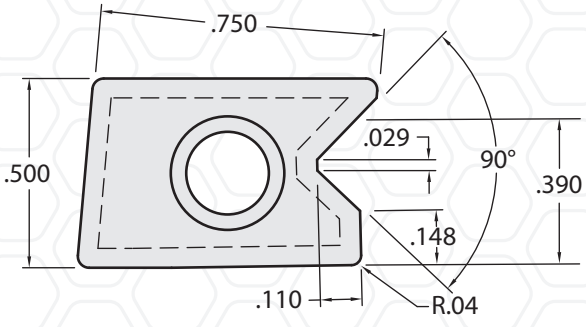


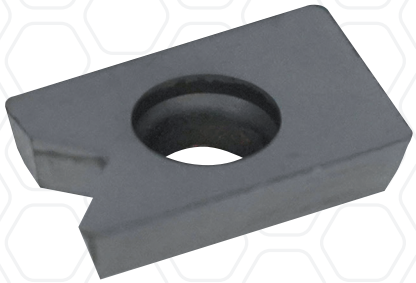
Cutter Body Part Number	DIA	Shank DIA	OAL	Flutes
BESTANAG4694	1.573	1.250	4.000	2

SUPERBEE

PICATINNY / NATO RAIL CUTTING INSERTS

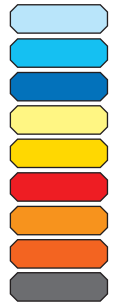
Spare Parts:
EM19 Screw: BS19
EM19 Wrench: BW19





	P		Non-Alloy Steel, Non Alloy Cast Steel
	P		Low Alloy Steel, Low Alloy Cast Steel
	P		High Alloy Steel, High Alloy Cast Steel
	M		Austenitic Stainless Steel
	M		Super Austenitic, Duplex Stainless Steel
	K		Cast Iron
	N		Wrought Alloy, Cast Alloyed Aluminum
	N		Copper Alloys, Non Metallic Materials
	S		High Temp Alloys Fe, Ni, or Co Based
	S		Titanium and Ti Alloys
	H		Hardened Steel, Chilled/ Hardened Cast Iron

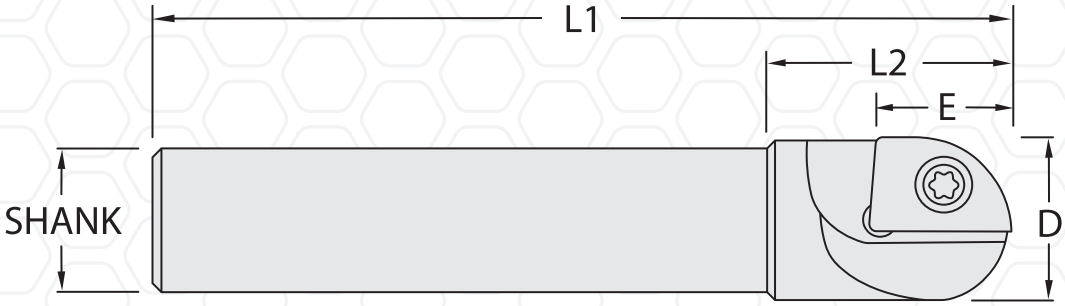
Insert Part Number	
EM19STANAG4694	
Edge Prep, Coating, Substrate	
Honed	Sharp
MDC	None
C5	C2
ET5700	FNT33



BB BALL END CUTTER BODY



Positive geometry for more aggressive cutting action. The proprietary pocket design provides unmatched repeatability reducing runout and producing far better finishes.



Ball End .375-.500 Radius

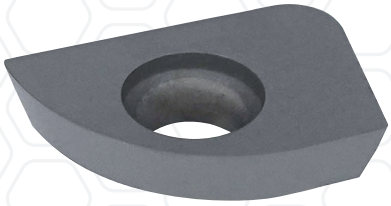
Part Number	Ball Size	D	Shank	L1	L2	FL	E	Insert
BB4011440	5/8	0.625	0.625	3.375	1.000	1	0.625	EB14
BB4811548	3/4	0.750	0.750	4.000	1.250		0.625	EB15
BB5611948	7/8	0.875	0.750	4.500	1.250		0.750	EB19
BB5611964	7/8	0.875	1.000	4.500	1.250		0.750	EB19
BB6411948	1	1.000	0.750	4.500	1.250		0.750	EB19
BB6411964	1	1.000	1.000	4.500	1.250		0.750	EB19

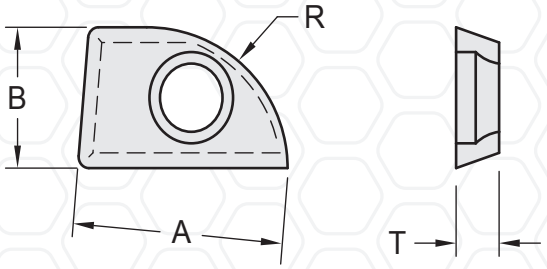
SUPERBEE

EM BALL END SERIES

P		Non-Alloy Steel
P		Low Alloy Steel
P		High Alloy Steel
M		Stainless Steel (PH)
M		Stainless Steel (AS)
K		Cast Irons
N		Aluminum - Low Si
N		Copper Alloy, Plastic
S		High Temp Alloys
S		Titanium Alloys
H		Hardened Steels

Positive geometry for more aggressive cutting action, while the proprietary pocket design provides unmatched repeatability reducing runout and producing far better finishes.





To build your insert, choose a Part Number in Red from each column. Example: EB1458ET5700

Part Number	R	Fraction	A	B	T
EB1458	0.625	5/8	0.625	0.375	0.125
EB1534	0.750	3/4	0.625	0.375	0.125
EB1978	0.875	7/8	0.750	0.500	0.156
EB191	1.000	1	0.750	0.500	0.156

Edge Prep + Coating + Substrate

Honed	Honed	Honed	Honed	Honed	Sharp
MDC	AlTiN	TiCN-TiN	None	None	None
C5	C5	C5	C5	C2	C2
ET5700	ET520	ENT5T	ENT56	ENT33	FNT33

RECOMMENDED INSERTS BY MATERIAL TYPE

Spare Parts:

EB14 Screw: **BS15**	EB14 Wrench: **BW15**
EB15 Screw: **BS15**	EM15 Wrench: **BW15**
EB19 Screw: **BS19**	EB19 Wrench: **BW19**

Special shapes, forms and sizes are available upon request.

DE SERIES 3/4 X 3/4 TURNING HOLDER

Indexable .750 X .750 turning holder for fillet, corner round & angle. Square
Fits all EM 19 inserts. Can be used with chamfers, convex and concave radii.



EM19 Concave Insert Holder

Part Number	R Range	Shank
DEMCLNR1219C1	C1	0.750
DEMCLNR1219C2	C2	
DEMCLNR1219C3	C3	
DEMCLNR1219C4	C4	
DEMCLNR1219C5	C5	
DEMCLNR1219C6	C6	



EM19 Convex Insert Holder

Part Number	R Range	Shank
DEMCLNR1219R1	R1	0.750
DEMCLNR1219R2	R2	
DEMCLNR1219R3	R3	
DEMCLNR1219R4	R4	
DEMCLNR1219R5	R5	
DEMCLNR1219R6	R6	
DEMCLNR1219R7	R7	
DEMCLNR1219R8	R8	



EM19 Chamfer Insert Holder

Part Number	R Range	Shank
DEMCLNR1219A10	A10	0.750
DEMCLNR1219A15	A15	
DEMCLNR1219A20	A20	
DEMCLNR1219A25	A25	
DEMCLNR1219A30	A30	
DEMCLNR1219A41	A41	
DEMCLNR1219A45	A45	
DEMCLNR1219A50	A50	
DEMCLNR1219A60	A60	

SUPERBEE
TOOLS & SCREWS



Cutter Body Screwdriver:
BW15 (T15)
BW19 (T19)



Cutter Body Flag Wrench:
NT8 (T8)
NT9 (T9)
NT15 (T15)
NT19 (T19)



Screws:
BS15 | CS5
BS19 | CS6