



FULLERTON

Tool Company Inc.

Quality and Service Since 1942

Your most complete source for
quality solid carbide round cutting tools.



CELEBRATING 69 YEARS

2011 Catalog

FULLERTON

Tool Company Inc.

CONTINUOUS IMPROVEMENT IN QUALITY AND SERVICE SINCE 1942

For over 69 years Fullerton Tool Company has built a reputation of exceptional quality and service in the manufacturing of advanced performance round solid carbide and PCD tipped cutting tools. Today Fullerton Tool continues to build on this reputation and has emerged as a world class leader with one of the industries most diverse product offering of standard advanced performance tools. The 2009 catalog continues to build on this reputation with the addition of many items and product lines including a dramatic increase in our stock metric tool selection.



Fullerton Tool's F.A.S.T. concept applies both Internally and Externally. Internally dedicated to lean principles and continuous improvement. Externally dedicated to listening to and responding to our customers. The fingerprint in the logo represents our dedication to each customer, each order and each tool.

As part of the company's commitment to customers, Fullerton Tool has also established itself as a committed specialist in the design and manufacturing of custom to blueprint cutting tools for today's most demanding applications. Fullerton Tool has a rich history of making uniquely engineered tools produced on the latest technology by experienced operators. This commitment is illustrated by the continued investment in a fully equipped Research & Development Lab. The R&D Lab enables our F.A.S.T. (Fullerton Advanced Solutions Team) staff to assist our end users in maximizing the benefits of using and applying Fullerton tools.



Fullerton Tool uses the latest in production machinery from the best manufacturers in the business to produce groundbreaking cutting tools that provide our customers with a competitive advantage.



Fullerton Tool utilizes the latest in production machinery from the best manufacturers. This allows Fullerton Tool machinists to consistently produce groundbreaking cutting tools.

The strong foundation of continuous improvement, reinvestment, and commitment to innovation allows Fullerton Tool to provide solutions to help our customers obtain their goals of optimal process parameters and become lean, efficient and profitable manufacturers.

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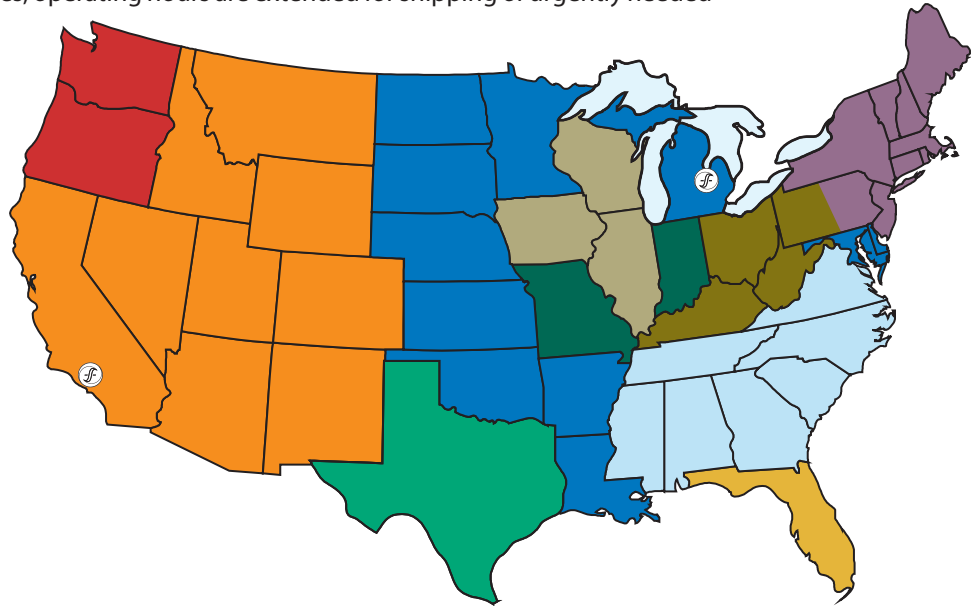
UNITED STATES FACTORY REPRESENTATIVES

AND REGIONAL SHIPPING WAREHOUSES

Fullerton Tool presents its products to end users via distributors throughout the country both with factory specialists and by working through selected factory representatives. Fullerton Tool is proud to work with the representatives below. The color coded map matches representatives to their areas. All areas in blue are currently areas Fullerton Tool works directly with distribution.

For our customer's convenience, Fullerton Tool maintains inventory of standard catalog items with some of our factory sales representatives indicated on the map by Fullerton Logos. These locations will reduce shipping costs and speed availability of standard products. CR Kinsman and Associates in Texas and MC Sales in California are both open later than our Saginaw Facility and can ship in-stock items directly to you.

*Note: By using our other warehouses, operating hours are extended for shipping of urgently needed products.



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FL

GLOBAL REPRESENTATIVES

Competing in a Global Community

The Fullerton team understands the ever growing competition in the world of manufacturing. We know our tooling can provide you with a competitive advantage. With our partners in distribution and our quality representation throughout the world, we are willing to tackle your most demanding manufacturing processes. If you are ready to conquer your challenges, allow the Fullerton team to put you on the right path to success.



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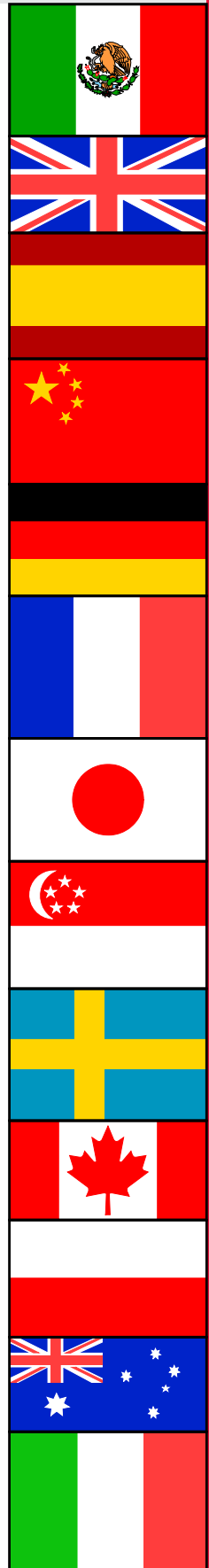
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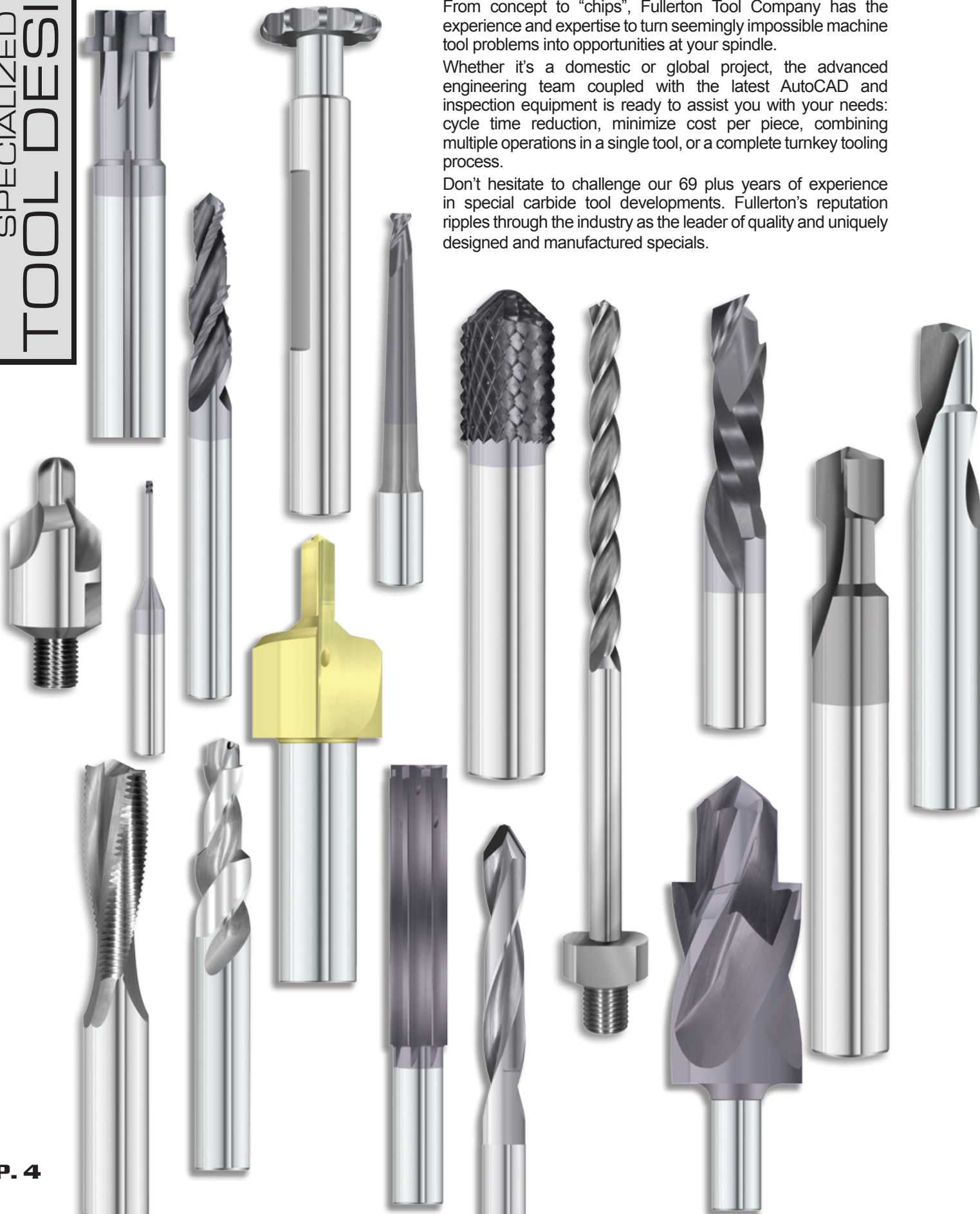
SPECIAL TOOL DESIGN AND MANUFACTURING

FULLERTON DELIVERS WHAT YOU NEED

From concept to “chips”, Fullerton Tool Company has the experience and expertise to turn seemingly impossible machine tool problems into opportunities at your spindle.

Whether it's a domestic or global project, the advanced engineering team coupled with the latest AutoCAD and inspection equipment is ready to assist you with your needs: cycle time reduction, minimize cost per piece, combining multiple operations in a single tool, or a complete turnkey tooling process.

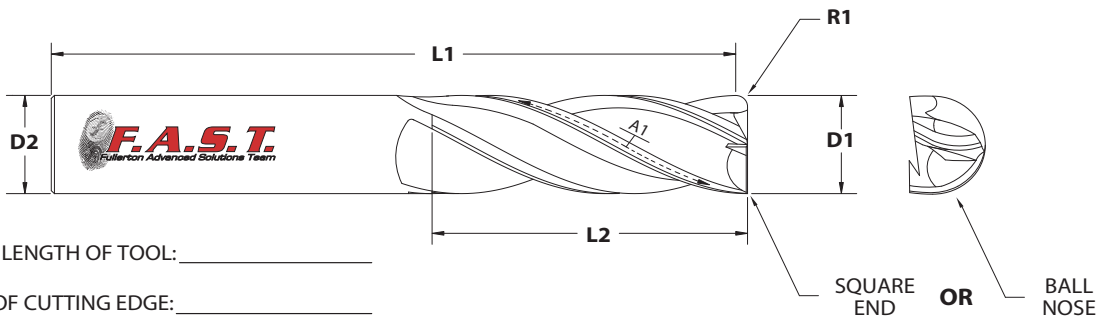
Don't hesitate to challenge our 69 plus years of experience in special carbide tool developments. Fullerton's reputation ripples through the industry as the leader of quality and uniquely designed and manufactured specials.



FULLERTON TOOL CUSTOM TOOL AIDES

Maximizing Value To Our Customers

FULLERTON F.A.S.T.

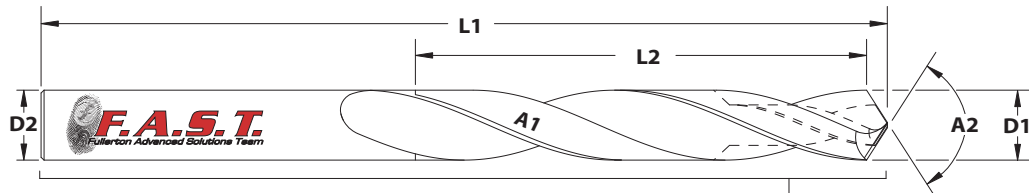


- L1** OVERALL LENGTH OF TOOL: _____
- L2** LENGTH OF CUTTING EDGE: _____
- D1** CUTTING DIAMETER: _____
- D2** SHANK DIAMETER: _____
- SQUARE END / BALL NOSE: _____
- R1** CORNER RADIUS: _____
- A1** HELIX ANGLE (RH/LH/ST) _____
- CUT: (RH OR LH) _____
- NUMBER OF FLUTES: _____
- MATERIAL TO BE CUT: _____
- COATING: _____

COMMENTS / SKETCH HERE IF NEEDED.

ENDMILL

ANY DIMENSION'S & TOLERANCES NOT SHOWN ARE TO BE TO FULLERTON TOOL CO. MANUFACTURING STANDARDS AND MAY REQUIRE PRINT APPROVAL BEFORE QUOTING AND OR MANUFACTURING



- CUT: (RH OR LH): _____
- NUMBER OF FLUTES: _____
- COOLANT HOLES: _____
- DRILL SERIES: _____
- MATERIAL TO BE CUT: _____
- COATING: _____
- L1** OVERALL LENGTH OF TOOL: _____
- L2** DEPTH OF HOLE: _____
- L3** STEP LENGTH: _____
- D1** CUTTING DIAMETER: _____
- D2** SHANK DIAMETER: _____
- D3** STEP DIAMETER: _____
- R1** CORNER RADIUS: _____
- A1** HELIX ANGLE (RH/LH/ST): _____
- A2** POINT ANGLE: _____
- A3** STEP ANGLE: _____

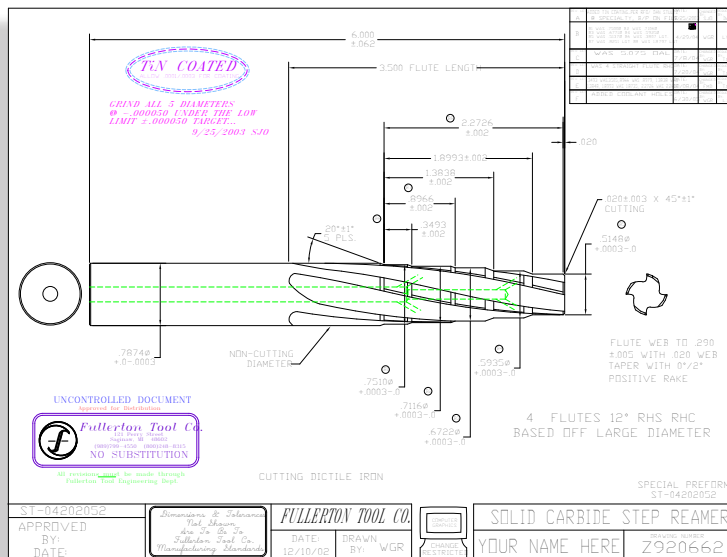
COMMENTS / SKETCH HERE IF NEEDED.

DRILL

ANY DIMENSION'S & TOLERANCES NOT SHOWN ARE TO BE TO FULLERTON TOOL CO. MANUFACTURING STANDARDS AND MAY REQUIRE PRINT APPROVAL BEFORE QUOTING AND OR MANUFACTURING



By examining your process we can match the right tool to the job. If the tool is off the shelf, a standard tool with slight alterations or a completely new tool designed specifically for your application, our staff can take care of you. Over half of our business is based on developing tools specifically suited to an application and not off the shelf pieces, so you know when Fullerton is designing a tool for you there is experience to back it. Not only can we create a custom tool, we can often design a tool that combines multiple tools and operations into a single operation.



FULLERTON ADVANCED MATERIALS

Delivering the best in Super Abrasive Tools

SUPER
ABRASIVE TOOLS

As part of our commitment to develop the right tool for the job, we have created **Fullerton Advanced Materials** to generate superabrasive cutting tools. Combining a staff with years of experience in working with the latest in superabrasive materials (PCD, PCBN and others) together with the most advanced in manufacturing and inspection equipment, the Fullerton Advanced Materials team is ready to assist in increasing your productivity and part quality with our knowledge and cutting edge products.

These tools provide significant savings in manufacturing operations in several different ways:

- High material removal rates producing decreased cycle times and providing more parts per shift.
- 2-3 times faster cutting speed capabilities relative to conventional tools.
- Improved work piece quality as a result of long tool life, excellent dimensional control and consistent finishes resulting in minimized scrap rates.
- Long tool life means increased machine up-time, which provides greater production capacity without investment in additional equipment.

Abrasion resistance and toughness are the two important properties in assessing the efficiency of cutting tool materials. Abrasion resistance is primarily a function of hardness, and in this respect diamond and cubic boron nitride are superior to all other known materials. The wear characteristics of these materials are unequalled. Furthermore, they possess high thermal conductivity and low coefficient of thermal expansion, which results in superior performance.

Fullerton Advanced Materials is committed to providing our partners a manufacturing edge. As a part of that commitment we will continue to work with new materials, methods and manufacturing techniques to provide the most advantageous tools and methods for the job.



STANDARD COATINGS

Maximizing Performance and Tool Life

Fullerton tools are all available with a variety of niche process specific coatings. Together with our world class coating suppliers we have developed the Fulcoat Family of surface enhancing treatments. In addition to the basic TiN, TiCN and TiAlN coatings, Fullerton has over 20 Fulcoat coatings available. Below is a sampling of our most common coatings. Please contact us for your particular application and current coating pricing.

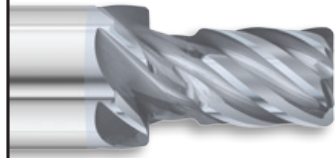
TiN - Titanium Nitride

A good general purpose coating that is excellent for iron based materials, and low and medium strength steels. It has excellent wear resistance, thermal stability and a low coefficient of friction that improves thermal transfer of heat away from the cutting edge.



TiCN - Titanium Carbonnitride

This coating has a higher hardness and is recommended for cast irons, high silicon aluminum alloys, copper and other abrasive materials. Coolant must be applied to control temperature at the cutting edge.



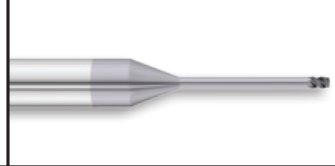
TiAlN - Titanium Aluminum Nitride

Excellent for high strength steels, hard die steels and high temperature alloys and titanium alloys. Possible for dry machining, which eliminates thermal shocks created by flood coolants.



FULCOAT 1

Thin film CVD Diamond ideal in graphite, green ceramic, (CFRP) carbon fiber reinforced plastics, (Hi silicon) fiberglass, metal matrix composites and cast aluminum alloys. Possible dry machining capabilities.



FULCOAT 2

Advance wear with increased lubricity. (DLC) Diamond Like Carbon – works well in machining of non-ferrous metals (especially aluminum with < 9% Si), composite material and plastics.



FULCOAT 4

Improved chip flow and possible dry machining or MQL (Minimum Quantity Lubricant) combines hardness with superior lubricant layers.



FULCOAT 7

Good hot hardness and high oxidation resistance outstanding frictional properties. Ideal in deep hole application.



FULCOAT 18

Terrific for levels of oxidation resistance and hot hardness. Exemplary wear resistance. Excellent in hi-speed machining parameters for milling, stainless steels, alloy steels, titanium and hardened steels.



FULCOAT 19

Outstanding self-lubricating properties. Extremely smooth, droplet-free surfaces ensure "frictionless" chip removal. Ideal for machining aluminum (Silicon content less than 10%) and titanium alloys.



DURA CARB FAMILY OF CARBIDE SUBSTRATES

THE BEST TOOLS REQUIRE THE PROPER FOUNDATION

Fullerton tools are made with the finest grades of carbide found in the industry. Fullerton has worked with key suppliers to develop our DURA CARB family of carbide substrates. These uniquely designed grades make the performance difference our customers demand. Fullerton understands Advance Performance Tooling needs continuous development in all aspects of the tool. This is why we work closely with quality carbide vendors to research and develop superior performing carbide grades. We are continuously testing newly developed grades in our R & D facility. We apply them in niche applications to create the most advanced solution with the best combination of geometry, carbide substrate and coating. The list below is just a sampling of the DURA CARB family.

Dura Carb

With its premium micrograin structure, Dura Carb is a versatile grade that can be applied in a wide range of applications.



Dura Carb II

Super Strong Substrate designed to handle High Shock Resistance. It contains a larger percentage of cobalt which increases its resistance to shock. We recommend Dura Carb II in roughing applications and to add coatings to improve tool life.



Dura Carb III

This Superior wear grade is excellent for low impact tooling. It is a long lasting substrate for ideal machining conditions.



Dura Carb IV

Special Ultra Fine carbide grade for machining hard materials. > 60RC



Dura Carb V

Special submicron grade for Hi-performance machining of steel, stainless steel and difficult to machine materials, like titanium. It has optimum toughness combined with very good wear resistance.



h6 TOLERANCING

Fullerton Tool uses the industry preferred h6 tolerance on all of its solid carbide cutting tool shanks, with noted exceptions. The h6 tolerance is generally considered the industry standard, with regard to shrink fit holders, and requires manufacturers to be consistent in their processes to adhere to this tolerance.

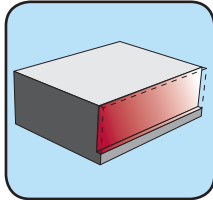
SAE		METRIC	
Diameter Range	Tolerance	Diameter Range	Tolerance
.0236" - .0374"	+0.0000" -0.00019"	0.600 - 0.950	+0.000 -0.005
.0375" - .1181"	+0.0000" -0.00023"	0.951 - 3.000	+0.000 -0.006
.1182" - .2362"	+0.0000" -0.00031"	3.001 - 6.000	+0.000 -0.008
.2363" - .3937"	+0.0000" -0.00035"	6.001 - 10.000	+0.000 -0.009
.3938" - .7086"	+0.0000" -0.00043"	10.001 - 18.000	+0.000 -0.011
.7087" - 1.1811"	+0.0000" -0.00051"	18.001 - 30.000	+0.000 -0.013
1.1812" - 1.9685"	+0.0000" -0.00062"	30.001 - 50.000	+0.000 -0.016

END MILL SELECTION GUIDE

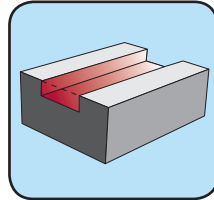
Selecting the correct tool for the application.

Milling Application Icons

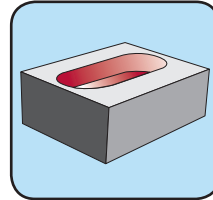
Below are icons for various milling applications and a brief description of the application. Please use these as a reference for the table on the facing page which aids in selecting the proper tool for your application. Reference both your milling application and your material to help find the proper tool for your application. The selection chart does not take into account your particular machinery or work holding.



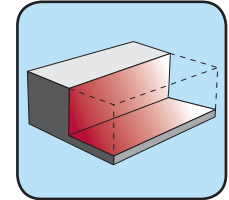
Profiling / Finishing Cut:
Use 4 or 5 Flutes.



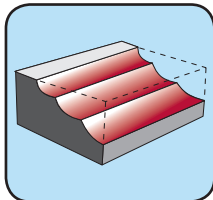
Slotting:
Use 3-Flute to resist chatter.
Use 2-Flute or roughing mill for maximum chip removal.



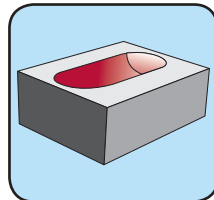
Plunge / Slot:
Use 3-Flute to resist chatter.
Use 2-Flute for maximum chip removal.



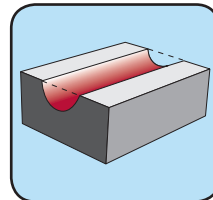
Profiling / Roughing Cut:
Use roughing mill for rapid material removal.



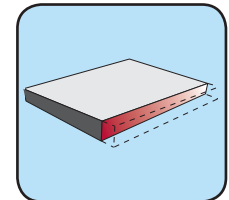
Contour Finishing:
Use 3 or 4 Flute Ball End.



Plunge / Slot Contouring:
Use 2-Flute Ball End for maximum chip removal. Use 3-Flute Ball End for improved surface finish.



Contour Slotting:
Use 3-Flute Ball End to resist chatter.
Use 2-Flute Ball End for maximum chip removal.



Profiling / Thin Material:
Use 2 or 4 straight flutes.

The guide on these pages are only general guidelines in choosing the proper end mill for the various types of material. For the very best selection of an end mill and how to apply it for your particular application, we suggest that you call our technical support staff. They will advise you in what end mill to use, the correct speeds and feeds and if a particular coating would be beneficial. You may also visit our web site (<http://www.fullertontool.com>) for the latest information regarding application and particular tools.

Call 1-800-248-8315
Mark Donze - Ext. 204 • Steve Oszust - Ext. 232
Tom McKimmy - Ext. 218

END MILL SELECTION GUIDE

Continued.

DURA-CARB
END MILLS

Wood	Fiberglass	Aluminum	Brass	Graphite	Cast Iron	Steel - Hardened	Steel	Stainless Steels	Inconel	Titanium	Machining Application	Tool Image	Tool Family
				•	•	•	•	•	•				3200 • 3290 9200 • 9290
•	•	•	•										3215 • 3295 9215 • 9295
				•	•	•	•	•	•				3300 9300
				•	•	•	•	•	•				3200B • 3290B 9200B • 9290B
•	•	•	•										3215B • 3295B 9215B • 9295B
				•	•	•	•	•	•				3300B 9300B
•	•	•											3910
		•			•	•	•	•					Twister 3800 • 9800
					•	•							Hogger 3975
					•	•	•	•	•				Hogger 3995 • 9995
		•	•										Hogger 3990 • 9990
	•	•	•	•	•	•	•	•	•				3335 3395
	•	•	•										Aluma-Mill 3835
				•	•	•	•	•	•				Falcon Finisher 3845 • 3865
	•	•	•										Aluma-Mill 3825
					•								Maximus 3615R
	•	•	•	•	•	•	•	•	•				Harmon-i-Cut 3400 • 3490 • 9400 • 9490
			•	•	•	•	•	•	•				Fantom 3410 • 3491 • 9410 • 9491
	•							•	•				The Dream 3810
								•	•				Hercules 3820

END MILL SPEED AND FEED RECOMMENDATIONS

Maximizing Performance and Tool Life

Materials			Speed SFM	Feed per Tooth (FPT)				
				1/8"	1/4"	1/2"	3/4"	1"
Non-Ferrous	Aluminum / Aluminum Alloy	1000-2000	0.001	0.001	0.002	0.004	0.006	0.008
	Aluminum Alloy +10%	700-1200	0.001	0.001	0.002	0.004	0.006	0.008
	Brass	300-450	0.001	0.001	0.002	0.003	0.004	0.005
	Bronze	250-350	0.001	0.001	0.002	0.003	0.004	0.005
	Copper / Copper Alloys	500-900	0.001	0.001	0.002	0.003	0.005	0.007
	Composites: Fiberglass	200-600	0.001	0.001	0.002	0.003	0.004	0.005
	Graphites	200-400	0.001	0.001	0.006	0.010	0.015	0.020
	Graphite / Epoxy	200-400	0.001	0.001	0.002	0.003	0.004	0.005
	Magnesium	1000 min	0.001	0.001	0.002	0.004	0.006	0.008
Stainless Steel	Free Machine	300-400	0.0005	0.001	0.001	0.002	0.004	0.006
	Work Hardening	150-300	0.0005	0.0005	0.001	0.001	0.003	0.005
High Temp Alloys	Nickel Base	200-300	0.0005	0.001	0.001	0.002	0.003	0.004
Cast Iron	Ductile	250-400	0.0005	0.0015	0.002	0.002	0.004	0.006
	Gray	350-500	0.0005	0.002	0.002	0.004	0.006	0.008
	Malleable	200-350	0.0005	0.002	0.002	0.004	0.006	0.008
Steels	Low Alloy	350-600	0.0005	0.001	0.001	0.002	0.004	0.006
	Medium Alloy	200-400	0.0005	0.001	0.001	0.002	0.004	0.006
	High Alloy Mold-Die	175-250	0.0005	0.001	0.001	0.002	0.004	0.006
	High Strength	75-150	0.0005	0.0005	0.001	0.001	0.003	0.004
Titanium	Soft	150-300	0.0005	0.001	0.001	0.002	0.004	0.006
	Hard	50-150	0.0005	0.0005	0.001	0.001	0.002	0.004

All speed and feed recommendations should be considered only as a starting point. Start with conservative speeds and feeds while analyzing the rigidity of the process. Then cautiously progress incrementally to achieve optimum performance. Contact Fullerton Tool directly for any additional support.

General Recommendations

The above suggested parameters are recommended for uncoated tools only. When various coatings are applied, SFM may be increased accordingly. These general percentages are as follows under optimal conditions:

TiN = +15% • TiCN = +25% • TiAlN = +40%

Rigidity

Maximize rigidity to reduce chatter and increase tool life. Ways to improve rigidity include, choosing the largest diameter possible to perform your milling task, use the shortest LOC (Length of Cut) available, and always use the tool holder which offers the shortest gage line (Shortest Tool Holder Length).

Chatter

If chatter is present increase feed or reduce speed.

Extra Long End Mills

For extra long end mills the SFM should be reduced by 25%.

Cutter Direction

Cutter direction should be in a climb milling direction whenever possible. Conventional tool paths may be employed when the tool is in use on older manual equipment to minimize backlash or to remove scale to reach the softer parent material underneath.

TIR or Total Indicator Runout

This condition should be held to a minimum at all times. As this value increases, the effectiveness of the tool's performance decreases thus reducing tool life.

Recutting Chips

Use a coolant or air blast to evacuate chips to avoid premature damage to your carbide cutting tool, which may occur if chips are recut.

Formulas to determine speed, feed & chip load after the type and diameter of the cutting tool is determined.

US Customary Units

D = cutter diameter (in) | T = tooth count (flute)
 IPT chip load (in/flute) = IPM ÷ RPM ÷ T
 IPR feed per revolution (in/rev) = IPM ÷ RPM
 SFM surface speed (ft/min) = 0.2618 x RPM x D
 RPM spindle speed (rev/min) = 3.82 x SFM ÷ D
 IPM feed rate (in/min) = RPM x IPT x T

SI Units

D = cutter diameter (mm) | T = tooth count (flute)
 MMPT chip load (mm/flute)
 MMPT feed per revolution (mm/rev) = MMPT ÷ RPM
 SMPM surface speed (m/min) = 0.00314 x RPM x D
 RPM spindle speed (rev/min) = 318.3 x SMPM ÷ D
 MMPT feed rate (mm/min) = RPM x MMPT x T

Feed Rate Conversion

MMPT (mm/min) = IPM (in/min) x 25.4 (mm/in)
 IPM (in/min) = MMPT (mm/min) x 0.0394 (in/mm)

Surface Speed Conversion

SMPM (m/min) = SFM (ft/min) x 0.3048 (m/ft)
 SFM (ft/min) = SMPM (m/min) x 3.2808 (ft/m)

Unit Conversion

1 in = 25.4 mm | 1 ft = 304.8 mm = 0.3048 m
 1 mm = .03937 in | 1 m = 3.2808 ft = 39.370 in

For the very best selection of an end mill and how to apply it for your particular application, we suggest that you call our technical support staff. They will advise you in what end mill to use, the correct speeds and feeds and if a particular coating would be beneficial. You may also visit our web site (<http://www.fullertontool.com>) for the latest information regarding particular tools.

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48-HOUR CHIP BREAKER SERVICE

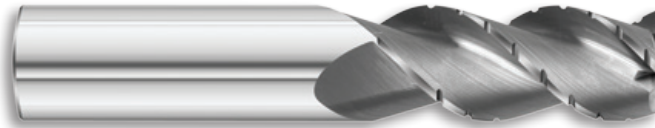
DURA-CARB
END MILLS



JUST IN TIME
48-HOUR JIT DELIVERY

END MILLS
WITH CHIP BREAKERS

**12 PIECES
OR LESS**



End Mills in this catalog can be supplied with chip breakers and shipped within 48-hours. When ordering please specify the specific EDP number for the end mill you wish to add chip breakers to.

Price per end*

To estimate cost add these prices to the list price.

Cutting Diameter	Max. Cutting Length	SE 2-5 DE 1-2	6-11 3-5	12-24 6-12	25-49 13-24	50+ 25+
.2500" - .3439"	1/2"	55.28	22.36	12.10	9.22	8.00
	1"	57.24	24.34	14.06	11.20	10.00
	1-1/2"	59.22	26.32	16.03	13.14	11.84
	2"	64.14	31.24	21.00	18.08	16.76
.3440" - .4759"	1/2"	55.28	22.36	12.10	9.22	8.00
	1"	57.24	24.34	14.06	11.20	10.00
	1-1/2"	61.18	28.30	18.00	15.13	13.80
	2"	65.00	32.22	21.94	19.06	17.76
.4760" - .6875"	3"	72.00	40.00	29.84	26.96	25.66
	1/2"	57.24	24.34	14.06	11.20	10.00
	1"	59.22	26.32	16.03	13.14	11.84
	1-1/2"	64.14	31.24	21.00	18.08	16.76
.6876" - 1.0000"	2"	69.08	36.18	25.90	23.02	21.72
	3"	78.94	46.04	35.76	32.88	31.56
	1/2"	61.18	28.30	18.00	15.13	13.80
	1"	64.14	31.24	21.00	18.08	16.76
	1-1/2"	69.08	36.18	25.90	23.02	21.72
	2"	78.94	46.04	35.76	32.88	31.56
	3"	88.08	55.92	45.64	42.76	41.44

*Note: On Double End (DE) End Mills add 2X Price shown to List Price.

CORNER RADIUS & CHAMFER END MILLS



JUST IN TIME
48-HOUR JIT DELIVERY

CORNER RADIUS END MILLS
OR CORNER CHAMFER

**12 PIECES
OR LESS**



All end mills in this catalog can be supplied with a corner radius and shipped within 48-hours. Specify the specific end mill and the radius required.

Price per end*

To estimate cost add these prices to the list price.

SE DE* Diameter	2-5 1-2	6-11 3-5	12-24 6-12	25-49 13-24	50+ 25+
3/32"	18.25	10.45	8.11	5.77	4.84
1/8"	18.25	10.45	8.11	5.77	4.84
3/16"	19.66	11.86	9.52	7.18	6.24
1/4"	19.66	11.86	9.52	7.18	6.24
5/16"	20.44	12.64	10.30	7.96	7.02
3/8"	22.00	14.20	11.86	9.52	8.58
7/16"	25.12	17.32	14.98	12.64	11.70
1/2"	26.68	18.88	16.54	14.20	13.26
9/16"	36.18	23.56	21.22	17.32	16.38
5/8"	37.98	25.12	22.78	18.88	17.94
3/4"	37.98	25.12	22.78	20.44	18.72
7/8"	41.58	26.68	24.34	22.00	21.06
1"	41.58	26.68	24.34	22.00	21.06

*Note: On Double End (DE) End Mills add 2X Price shown to List Price.

WELDON FLATS

With the use of the newer collet holders most of our end mills no longer feature a weldon flat, except where shown.

To estimate cost add these prices to the list price.



JUST IN TIME
48-HOUR JIT DELIVERY

WELDON FLAT

Shank Diameter	1-11	12+
3/16" - 1/4"	4.50	3.38
5/16" - 3/8" - 7/16" - 1/2"	4.50	4.13
9/16" - 5/8" - 3/4"	7.50	6.75
7/8" - 1" - 1-1/4"	10.00	9.00
7/8" - 1" - 1-1/4"	16.00	13.00

Single Flat
Double Weldon Flat

**Special note: We cannot guarantee or accept the return of any end mill with a flat put on by the customer.

CHECK OUT THE NEW ALUMA-MILL G3 SERIES

Information available on separate product sheets.

The 3815 Aluma-Mill series revolutionized the milling of aluminum and non-ferrous materials when it was introduced. With its aggressive flute design and corner chamfer, it produces maximum stock removal at eye opening speeds and feeds. The Aluma-Mill family has continued to grow and improve with the introduction of additional tools including the 3825 (square end) and the 3-flute 3835 (superior finish quality) tools. These tools and their 9000 series metric counterparts represent the best in aluminum milling.

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3825		3825 FC19	
1/8"	1/2"	1/8"	1-1/2"		38214		38095
3/16"	5/8"	3/16"	2"		38216		38096
1/4"	1"	1/4"	2-1/2"		38218		38097
3/8"	1"	3/8"	2-1/2"		38220		38098
1/2"	1-1/4"	1/2"	3"		38200		38099
5/8"	1-5/8"	5/8"	3-1/2"		38222		38100
3/4"	1-3/4"	3/4"	4"		38212		38101
1"	1-3/4"	1"	5"		38224		38102

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3855		3855 FC19	
1/4"	1/2"	1/4"	2"		38226		38103
3/8"	5/8"	3/8"	2-1/2"		38228		38104
1/2"	3/4"	1/2"	3"		38230		38105
5/8"	1"	5/8"	3-1/2"		38232		38106
3/4"	1"	3/4"	4"		38234		38107

Extra Long



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3825XL		3825XL FC19	
1/4"	2"	1/4"	4"		38236		38108
5/16"	1-1/8"	5/16"	3"		38238		38109
3/8"	2"	3/8"	4"		38240		38110
1/2"	2"	1/2"	4"		38242		38111
3/4"	2-1/2"	3/4"	5"		38244		38112

Tolerance: Cutter Dia.: +.0000" -.0005"
Shank Dia.: h6

DURA-CARB
END MILLS



FC-19
COATING



SERIES 3825B • 3855B • 3825XLB

Ball End • Two 45° RH Spiral RH Cut Flutes

CHECK OUT THE NEW ALUMA-MILL G3 SERIES

Information available on separate product sheets.

Standard Length



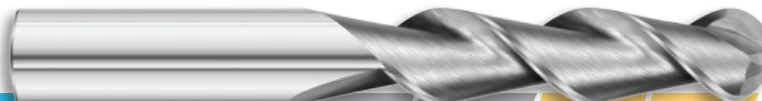
Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3825B		3825B FC19	
1/8"	1/2"	1/8"	1-1/2"		38510		38113
3/16"	5/8"	3/16"	2"		38512		38114
1/4"	1"	1/4"	2-1/2"		38514		38115
3/8"	1"	3/8"	2-1/2"		38516		38116
1/2"	1-1/4"	1/2"	3"		38518		38117
5/8"	1-5/8"	5/8"	3-1/2"		38520		38118
3/4"	1-3/4"	3/4"	4"		38522		38119
1"	1-3/4"	1"	5"		38524		38120

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3855B		3855B FC19	
1/4"	1/2"	1/4"	2"		38526		38121
3/8"	5/8"	3/8"	2-1/2"		38528		38122
1/2"	3/4"	1/2"	3"		38530		38123
5/8"	1"	5/8"	3-1/2"		38532		38124
3/4"	1"	3/4"	4"		38534		38125

Extra Long



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3825XLB		3825XLB FC19	
1/4"	2"	1/4"	4"		38536		38126
5/16"	1-1/8"	5/16"	3"		38538		38127
3/8"	2"	3/8"	4"		38540		38128
1/2"	2"	1/2"	4"		38542		38129
3/4"	2-1/2"	3/4"	5"		38544		38130

Tolerance: Cutter Dia.: +.0000" - .0005"
Shank Dia.: h6

CHECK OUT THE NEW ALUMA-MILL G3 SERIES

Information available on separate product sheets.

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Chamfer	Price	EDP Number	Price	EDP Number
					3815		3815 FC19	
1/8"	1/2"	1/8"	1-1/2"	.005" - .010" x 45°		38040		38049
3/16"	5/8"	3/16"	2"	.005" - .010" x 45°		38042		38051
1/4"	1"	1/4"	2-1/2"	.005" - .010" x 45°		38030		38053
3/8"	1"	3/8"	2-1/2"	.010" - .015" x 45°		38033		38055
1/2"	1-1/4"	1/2"	3"	.010" - .015" x 45°		38035		38059
5/8"	1-5/8"	5/8"	3-1/2"	.015" - .020" x 45°		38037		38065
3/4"	1-3/4"	3/4"	4"	.015" - .020" x 45°		38038		38075
1"	1-3/4"	1"	5"	.020" - .025" x 45°		38039		38077

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Chamfer	Price	EDP Number	Price	EDP Number
					3895		3895 FC19	
1/4"	1/2"	1/4"	2"	.005" - .010" x 45°		38041		38085
3/8"	5/8"	3/8"	2-1/2"	.010" - .015" x 45°		38043		38086
1/2"	3/4"	1/2"	3"	.010" - .015" x 45°		38045		38087
5/8"	1"	5/8"	3-1/2"	.015" - .020" x 45°		38046		38088
3/4"	1"	3/4"	4"	.015" - .020" x 45°		38047		38089

Extra Long



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Chamfer	Price	EDP Number	Price	EDP Number
					3815XL		3815XL FC19	
1/4"	2"	1/4"	4"	.005" - .010" x 45°		38031		38090
5/16"	1-1/8"	5/16"	3"	.010" - .015" x 45°		38032		38091
3/8"	2"	3/8"	4"	.010" - .015" x 45°		38034		38092
1/2"	2"	1/2"	4"	.010" - .015" x 45°		38036		38093
3/4"	2-1/2"	3/4"	5"	.015" - .020" x 45°		38048		38094

Tolerance: Cutter Dia.: +.0000" - .0005"
Shank Dia.: h6

DURA-CARB
END MILLSFC-19
COATING

ALUMA-MILL
SERIES 3835 • 3875 • 3835XL

Square End • Three 36° RH Spiral RH Cut Flutes

CHECK OUT THE NEW ALUMA-MILL G3 SERIES

Information available on separate product sheets.

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3835		3835 FC19	
1/8"	1/2"	1/8"	1-1/2"		38346		38131
3/16"	5/8"	3/16"	2"		38348		38132
1/4"	1"	1/4"	2-1/2"		38350		38133
5/16"	1"	5/16"	2-1/2"		38352		38134
3/8"	1"	3/8"	2-1/2"		38354		38135
7/16"	1"	7/16"	2-3/4"		38356		38136
1/2"	1-1/4"	1/2"	3"		38358		38137
5/8"	1-5/8"	5/8"	3-1/2"		38360		38138
3/4"	1-3/4"	3/4"	4"		38362		38139
1"	1-3/4"	1"	4"		38364		38140

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3875		3875 FC19	
1/8"	1/4"	1/8"	1-1/2"		38366		38141
3/16"	5/16"	3/16"	2"		38368		38142
1/4"	1/2"	1/4"	2"		38370		38143
5/16"	1/2"	5/16"	2-1/2"		38372		38144
3/8"	5/8"	3/8"	2-1/2"		38374		38145
7/16"	5/8"	7/16"	2-3/4"		38376		38146
1/2"	3/4"	1/2"	3"		38378		38147
5/8"	1"	5/8"	3-1/2"		38380		38148
3/4"	1"	3/4"	4"		38382		38149
1"	1-1/4"	1"	4"		38384		38151

Extra Long



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3835XL		3835XL FC19	
1/4"	2"	1/4"	4"		38386		38153
5/16"	1-1/4"	5/16"	4"		38388		38155
3/8"	2"	3/8"	4"		38390		38157
7/16"	2"	7/16"	4"		38392		38159
1/2"	2"	1/2"	4"		38394		38161
1/2"	3-1/4"	1/2"	6"		38395		38163
5/8"	2-1/2"	5/8"	5"		38396		38165
5/8"	3-1/4"	5/8"	6"		38397		38167
3/4"	2-1/2"	3/4"	5"		38398		38169
3/4"	3-1/4"	3/4"	6"		38399		38171
1"	2-1/2"	1"	5"		38400		38215
1"	3-1/4"	1"	6"		38402		38217

Tolerance: Cutter Dia.: +.0000" - .0005"
Shank Dia.: h6

ALUMA-MILL

METRIC SERIES 9835 • 9835XL

Metric • Square End • Three 36° RH Spiral RH Cut Flutes

CHECK OUT THE NEW ALUMA-MILL G3 SERIES

Information available on separate product sheets.

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9835		9835 FC19	
3.0	12.0	3.0	38.0		92467		92528
4.0	16.0	4.0	50.0		92468		92529
5.0	16.0	5.0	64.0		92469		92530
6.0	25.0	6.0	64.0		92470		92531
7.0	25.0	7.0	64.0		92471		92532
8.0	25.0	8.0	64.0		92472		92533
10.0	25.0	10.0	64.0		92473		92534
12.0	30.0	12.0	84.0		92474		92535
14.0	30.0	14.0	84.0		92475		92536
16.0	41.0	16.0	89.0		92476		92537
20.0	44.0	20.0	100.0		92477		92538
25.0	44.0	25.0	100.0		92478		92539

Extra Long



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9835XL		9835XL FC19	
6.0	50.0	6.0	100.0		92479		92540
8.0	50.0	8.0	100.0		92480		92541
10.0	50.0	10.0	100.0		92481		92542
12.0	50.0	12.0	100.0		92482		92543
14.0	57.0	14.0	125.0		92483		92544
16.0	63.0	16.0	150.0		92484		92545
20.0	63.0	20.0	150.0		92485		92546
25.0	63.0	25.0	150.0		92486		92547

DURA-CARB
END MILLS



FC-19
COATING

mm
METRIC

Tolerance: Cutter Dia.: +0.000mm -0.013mm
Shank Dia.: h6

**ALUMA-MILL
SERIES 3855LR**

Square End • Two 45° RH Spiral RH Cut Flutes

CHECK OUT THE NEW ALUMA-MILL G3 SERIES

Information available on separate product sheets.

Long Reach



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Reach	Neck Diameter	Price	EDP Number
3855LR							
1/8"	1/4"	1/8"	3"	3/4"	.1200"		38213
3/16"	5/16"	3/16"	3"	3/4"	.1800"		38211
1/4"	1/2"	1/4"	3"	1-1/8"	.2400"		38210
1/4"	1/2"	1/4"	4"	2-1/8"	.2400"		38199
3/8"	5/8"	3/8"	4"	1-1/8"	.3600"		38227
3/8"	5/8"	3/8"	6"	3-1/8"	.3600"		38221
1/2"	3/4"	1/2"	4"	2-1/4"	.4800"		38198
1/2"	3/4"	1/2"	6"	3-1/2"	.4800"		38197
3/4"	1"	3/4"	4"	2-1/4"	.7200"		38229
3/4"	1"	3/4"	6"	3-1/8"	.7200"		38231
1"	1-1/4"	1"	5"	2-1/2"	.9700"		38223
1"	1-1/4"	1"	6"	3-3/8"	.9700"		38225

Tolerance: Cutter Dia.: +.0000" -.0005"
Shank Dia.: h6

METRIC SERIES 9835LR

Metric • Square End • Three 36° RH Spiral RH Cut Flutes

Long Reach



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Reach	Neck Diameter	Price	EDP Number	Price	EDP Number
9835LR								9835LR FC19	
6.0	20.0	6.0	100.0	50.0	5.75		92487		92548
8.0	20.0	8.0	100.0	50.0	7.70		92488		92549
10.0	25.0	10.0	100.0	57.0	9.60		92489		92550
12.0	25.0	12.0	100.0	57.0	11.60		92490		92551
16.0	30.0	16.0	150.0	89.0	15.34		92491		92552
20.0	38.0	20.0	150.0	89.0	19.35		92492		92553
25.0	38.0	25.0	150.0	89.0	24.00		92493		92554

Tolerance: Cutter Dia.: +0.000mm -0.013mm
Shank Dia.: h6

Solid Dura-Carb
END MILLSFC-19
COATING

ALUMA-MILL • SERIES 3825R

Corner Radius • Standard Length • Two 45° RH Spiral RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Radius	Price	EDP Number
3825R						
1/4"	1"	1/4"	2-1/2"	.015		38600
1/4"	1"	1/4"	2-1/2"	.020		38601
1/4"	1"	1/4"	2-1/2"	.030		38602
1/4"	1"	1/4"	2-1/2"	.045		38603
3/8"	1"	3/8"	2-1/2"	.015		38604
3/8"	1"	3/8"	2-1/2"	.020		38605
3/8"	1"	3/8"	2-1/2"	.030		38606
3/8"	1"	3/8"	2-1/2"	.045		38607
1/2"	1-1/4"	1/2"	3"	.015		38608
1/2"	1-1/4"	1/2"	3"	.020		38609
1/2"	1-1/4"	1/2"	3"	.030		38610
1/2"	1-1/4"	1/2"	3"	.045		38611
1/2"	1-1/4"	1/2"	3"	.060		38612
1/2"	1-1/4"	1/2"	3"	.090		38613
1/2"	1-1/4"	1/2"	3"	.125		38614
5/8"	1-5/8"	5/8"	3-1/2"	.015		38615
5/8"	1-5/8"	5/8"	3-1/2"	.020		38616
5/8"	1-5/8"	5/8"	3-1/2"	.030		38617
5/8"	1-5/8"	5/8"	3-1/2"	.045		38618
5/8"	1-5/8"	5/8"	3-1/2"	.060		38619
5/8"	1-5/8"	5/8"	3-1/2"	.090		38620
5/8"	1-5/8"	5/8"	3-1/2"	.125		38621
3/4"	1-3/4"	3/4"	4"	.015		38622
3/4"	1-3/4"	3/4"	4"	.020		38623
3/4"	1-3/4"	3/4"	4"	.030		38624
3/4"	1-3/4"	3/4"	4"	.045		38625
3/4"	1-3/4"	3/4"	4"	.060		38626
3/4"	1-3/4"	3/4"	4"	.090		38627
3/4"	1-3/4"	3/4"	4"	.125		38628
1"	1-3/4"	1"	5"	.015		38629
1"	1-3/4"	1"	5"	.020		38630
1"	1-3/4"	1"	5"	.030		38631
1"	1-3/4"	1"	5"	.045		38632
1"	1-3/4"	1"	5"	.060		38633
1"	1-3/4"	1"	5"	.090		38634
1"	1-3/4"	1"	5"	.125		38635

Tolerance: Cutter Dia.: +.0000" - .0005"
Shank Dia.: h6

THE VICOR ALUMA-MILL • SERIES 3805

Corner Break • Standard Length • Three 36° RH Spiral RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
3805					
3/8"	1"	3/8"	2-1/2"		38480
1/2"	1-1/4"	1/2"	3"		38482
5/8"	1-5/8"	5/8"	3-1/2"		38484
3/4"	1-3/4"	3/4"	4"		38486

New and improved "Vicor", a 3-flute High-Performance Aluma-Mill with Chip Breakers and Fulcoat 15.

In addition to our standard Vicor Aluma-Mills, Vicor style chip breakers are available on the rest of our Aluma-Mill line for an additional charge.

Tolerance: Cutter Dia.: +.0000" - .0005"
Shank Dia.: h6

DURA-CARB
END MILLSSolid Dura-Carb
END MILLSFC-15
COATING



HARMON-I-CUT

SERIES 3400 • 3490

Square End • Four Variable Indexed and Individually Designed RH Cut Flutes

The Harmon-i-Cut is Fullerton Tool's revolutionary solid carbide advanced performance end mill. The Harmon-i-Cut name refers to the tool's unbelievable ability to both rough and finish mill parts at unheard-of speeds & feeds. The rates are either on the periphery or in slot milling with finishes of 15 to 20 RMS or better and are accomplished through the total elimination of harmonics in the cut.

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	Edp Number
3400					
1/8"	1/2"	1/8"	1-1/2"		34001
3/16"	5/8"	3/16"	2"		34005
1/4"	3/4"	1/4"	2-1/2"		34009
5/16"	7/8"	5/16"	2-1/2"		34013
3/8"	1"	3/8"	2-1/2"		34017
7/16"	1"	7/16"	2-3/4"		34021
1/2"	1"	1/2"	3"		34025
1/2"	1-1/4"	1/2"	3"		34027
5/8"	1-1/2"	5/8"	3-1/2"		34029
3/4"	1-1/2"	3/4"	4"		34033
1"	1-1/2"	1"	4"		34037†

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	Edp Number
3490					
1/8"	1/4"	1/8"	1-1/2"		34900
1/4"	3/8"	1/4"	2"		34902
3/8"	1/2"	3/8"	2-1/2"		34904
1/2"	5/8"	1/2"	3"		34906†
5/8"	3/4"	5/8"	3-1/2"		34908
3/4"	7/8"	3/4"	4"		34910

† = Items also stocked with Weldon Flats. Add a WF to the end of EDP number and normal Weldon pricing to the price.



Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

SERIES 3400R • 3490R • 3400LR

Corner Radius • Four Variable Indexed and Individually Designed RH Cut Flutes

END MILLS

DURA-CARB



Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price	EDP Number
3400R						
1/8"	1/2"	1/8"	1-1/2"	.010"		34041
3/16"	5/8"	3/16"	2"	.010"		34045
1/4"	3/4"	1/4"	2-1/2"	.020"		34049
5/16"	7/8"	5/16"	2-1/2"	.020"		34053
3/8"	1"	3/8"	2-1/2"	.020"		34057
3/8"	2"	3/8"	4"	.020"		34058
7/16"	1"	7/16"	2-3/4"	.020"		34061
1/2"	1"	1/2"	3"	.030"		34065†
1/2"	1-1/4"	1/2"	3"	.030"		34067
1/2"	2"	1/2"	4"	.030"		34068
5/8"	1-1/2"	5/8"	3-1/2"	.035"		34069†
5/8"	2-1/4"	5/8"	5"	.035"		34070
3/4"	1-1/2"	3/4"	4"	.035"		34073†
3/4"	2-1/4"	3/4"	5"	.035"		34074
1"	1-1/2"	1"	4"	.035"		34077†
1"	2-1/4"	1"	5"	.035"		34078

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price	EDP Number
3490R						
1/8"	1/4"	1/8"	1-1/2"	.010"		34912
1/4"	3/8"	1/4"	2"	.020"		34914
3/8"	1/2"	3/8"	2-1/2"	.020"		34916
1/2"	5/8"	1/2"	3"	.030"		34918†
5/8"	3/4"	5/8"	3-1/2"	.035"		34920†
3/4"	7/8"	3/4"	4"	.035"		34922†

Long Reach



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Reach	Neck Diameter	Corner Radius	Price	EDP Number
3400LR								
1/4"	3/4"	1/4"	3"	1-1/2"	.2200"	.020"		34198
1/4"	3/4"	1/4"	4"	2-1/4"	.2350"	.020"		34192
5/16"	3/4"	5/16"	4"	2-1/4"	.2980"	.020"		34196
3/8"	3/4"	3/8"	4"	2-1/4"	.3600"	.020"		34200
1/2"	3/4"	1/2"	4"	2-1/8"	.4800"	.030"		34204
5/8"	3/4"	5/8"	6"	3-1/2"	.6000"	.035"		34208
3/4"	3/4"	3/4"	6"	3-1/2"	.7200"	.035"		34212

† = Items also stocked with Weldon Flats. Add a WF to the end of EDP number and normal Weldon pricing to the price.



Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6



HARMON-CUT SERIES 3400B • 3490B

Ball End • Four Variable Indexed and Individually Designed RH Cut Flutes

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
3400B					
1/8"	1/2"	1/8"	1-1/2"		34081
3/16"	5/8"	3/16"	2"		34085
1/4"	3/4"	1/4"	2-1/2"		34089
5/16"	7/8"	5/16"	2-1/2"		34093
3/8"	1"	3/8"	2-1/2"		34097
7/16"	1"	7/16"	2-3/4"		34101
1/2"	1"	1/2"	3"		34105
1/2"	1-1/4"	1/2"	3"		34107
5/8"	1-1/2"	5/8"	3-1/2"		34109
3/4"	1-1/2"	3/4"	4"		34113
1"	1-1/2"	1"	4"		34117

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
3490B					
1/8"	1/4"	1/8"	1-1/2"		34924
1/4"	3/8"	1/4"	2"		34926
3/8"	1/2"	3/8"	2-1/2"		34928
1/2"	5/8"	1/2"	3"		34930
5/8"	3/4"	5/8"	3-1/2"		34932
3/4"	7/8"	3/4"	4"		34934



Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

HARMON-CUT

METRIC SERIES 9400 • 9490

Metric • Square End • Four Variable Indexed and Individually Designed RH Cut Flutes

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
9400					
3.0	12.0	3.0	38.0		92410
4.0	14.0	4.0	50.0		92494
5.0	16.0	5.0	64.0		92495
6.0	20.0	6.0	64.0		92555
6.0	20.0	6.0	76.0		92411
8.0	22.0	8.0	64.0		92556
8.0	22.0	8.0	76.0		92412
10.0	25.0	10.0	64.0		92557
10.0	25.0	10.0	89.0		92413
12.0	25.0	12.0	76.0		92558
12.0	25.0	12.0	100.0		92414
16.0	38.0	16.0	100.0		92415
20.0	38.0	20.0	100.0		92416

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
9490					
3.0	6.0	3.0	38.0		92417
6.0	10.0	6.0	50.0		92418
8.0	12.0	8.0	50.0		92419
10.0	12.0	10.0	50.0		92420
12.0	16.0	12.0	63.0		92421
16.0	20.0	16.0	89.0		92422

DURA-CARB
END MILLS



Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6



METRIC SERIES 9400R • 9490R • 9400LR

Metric • Radius End • Four Variable Indexed and Individually Designed RH Cut Flutes

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price	EDP Number
9400R						
3.0	12.0	3.0	38.0	0.2		92423
4.0	14.0	4.0	50.0	0.2		92494
5.0	16.0	5.0	64.0	0.2		92495
6.0	20.0	6.0	64.0	0.3		92559
6.0	20.0	6.0	76.0	0.3		92424
8.0	22.0	8.0	64.0	0.5		92560
8.0	22.0	8.0	76.0	0.5		92425
10.0	25.0	10.0	64.0	0.5		92561
10.0	25.0	10.0	89.0	0.5		92426
12.0	25.0	12.0	76.0	0.5		92562
12.0	25.0	12.0	100.0	0.5		92427
16.0	38.0	16.0	100.0	0.5		92428
20.0	38.0	20.0	100.0	1.0		92429
25.0	38.0	25.0	100.0	1.0		92430

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price	EDP Number
9490R						
3.0	6.0	3.0	38.0	0.2		92431
6.0	10.0	6.0	50.0	0.3		92432
8.0	12.0	8.0	50.0	0.5		92433
10.0	12.0	10.0	50.0	0.5		92434
12.0	16.0	12.0	63.0	0.5		92435
16.0	20.0	16.0	89.0	0.5		92436

Long Reach



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Reach	Neck Diameter	Corner Radius	Price	EDP Number
9400LR								
10.0	20.0	10.0	100.0	54.0	9.60	0.5		92437
12.0	20.0	12.0	100.0	54.0	11.60	0.5		92438
16.0	20.0	16.0	150.0	89.0	15.35	0.5		92439
20.0	20.0	20.0	150.0	89.0	19.35	1.0		92440



Patent Pending

Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6

SERIES 3000C • 3090C

Chamfer End • Four Uniquely Indexed RH Cut Flutes

Hi-Performance Material Removal Is Here!

- Designed for High-Temperature Alloys, Stainless Steels and Other Ferrous Materials.
- Excels in Full Slotting, Roughing and Finishing Applications

The new Intimidator excels in the machining of today's advanced High-Temperature Alloys, Stainless Steels and other Ferrous materials. The true maximum benefits of the Intimidator are realized with its ability to be used in full slotting, roughing and finishing applications. It's this "One Setup - One Tool" approach that makes the Intimidator a powerful, efficient, economical and important tool to add to your cost-cutting endeavors.

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Chamfer	Price	EDP Number
3000C						
1/8"	1/2"	1/8"	1-1/2"	0.010" x 45°		34300
3/16"	5/8"	3/16"	2"	0.010" x 45°		34301
1/4"	3/4"	1/4"	2-1/2"	0.010" x 45°		34302
5/16"	3/4"	5/16"	2-1/2"	0.010" x 45°		34303
3/8"	7/8"	3/8"	2-1/2"	0.020" x 45°		34304
1/2"	1"	1/2"	3"	0.020" x 45°		34306†
1/2"	1-1/4"	1/2"	3"	0.020" x 45°		34307†
1/2"	2"	1/2"	4"	0.020" x 45°		34308†
5/8"	1-1/4"	5/8"	3-1/2"	0.020" x 45°		34309†
5/8"	1-5/8"	5/8"	4"	0.020" x 45°		34310†
3/4"	1-1/2"	3/4"	4"	0.020" x 45°		34311†
3/4"	1-5/8"	3/4"	4"	0.020" x 45°		34314†
3/4"	1-3/4"	3/4"	4"	0.020" x 45°		34312†
1"	1-1/2"	1"	4"	0.020" x 45°		34313†
1"	2"	1"	5"	0.020" x 45°		34315†

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Chamfer	Price	EDP Number
3090C						
1/8"	1/4"	1/8"	1-1/2"	0.010" x 45°		34350
3/16"	3/8"	3/16"	2"	0.010" x 45°		34371
1/4"	3/8"	1/4"	2"	0.010" x 45°		34351
5/16"	1/2"	5/16"	2-1/2"	0.010" x 45°		34352
3/8"	1/2"	3/8"	2-1/2"	0.020" x 45°		34353
1/2"	5/8"	1/2"	3"	0.020" x 45°		34354†
5/8"	3/4"	5/8"	3-1/2"	0.020" x 45°		34355†
3/4"	7/8"	3/4"	4"	0.020" x 45°		34356†

† = All tools 1/2" and above stocked with Weldon Flats.

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

DURA-CARB
END MILLS



FC-18
COATING

**INTIMIDATOR
SERIES 3000**

Square End • Four Uniquely Indexed RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
3000					
1/8"	1/2"	1/8"	1-1/2"		34290
3/16"	5/8"	3/16"	2"		34291
1/4"	3/4"	1/4"	2-1/2"		34292
3/8"	7/8"	3/8"	2-1/2"		34293
1/2"	1"	1/2"	3"		34294
5/8"	1-1/4"	5/8"	3-1/2"		34295
5/8"	1-5/8"	5/8"	4"		34288
3/4"	1-1/2"	3/4"	4"		34296
3/4"	1-5/8"	3/4"	4"		34289
1"	1-1/2"	1"	4"		34297
1"	2"	1"	4"		34298

*The Intimidator is also available with Ball Ends on Special Quotes.

SERIES 3000R

Radius End • Four Uniquely Indexed RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	.010 RAD	.020 RAD	.030 RAD	.045 RAD	.060 RAD	.090 RAD	.125 RAD
1/8"	1/2"	1/8"	1-1/2"		34400	34401	-	-	-	-	-
3/16"	5/8"	3/16"	2"		34402	34403	34404	-	-	-	-
1/4"	3/4"	1/4"	2-1/2"		34405	34406	34407	34408	-	-	-
3/8"	7/8"	3/8"	2-1/2"		34409	34410	34411	34412	34413	-	-
1/2"	1"	1/2"	3"		34414	34415	34416	34417	34418	34419	34420
5/8"	1-1/4"	5/8"	3-1/2"		-	-	34421	-	34423	34424	34425
3/4"	1-1/2"	3/4"	4"		-	-	34426	34427	34428	34429	34430
1"	1-1/2"	1"	4"		-	-	34431	34432	34433	34434	34435

*The Intimidator is also available with Ball Ends on Special Quotes.

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

The Fantom Five Fluter is designed for high performance machining of various materials found throughout the manufacturing industry. The geometric recipe of variable indexing and eccentric relief provides a stable, robust cutter that peels heavy chip loads and leaves a superior surface finish in its path. Whether it's mold & die, automotive, medical or aerospace and the application is roughing or finishing, this tool covers the bases.

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
3410					
1/4"	3/4"	1/4"	2-1/2"		34125
5/16"	7/8"	5/16"	2-1/2"		34127
3/8"	1"	3/8"	2-1/2"		34129
7/16"	1"	7/16"	2-3/4"		34131
1/2"	1"	1/2"	3"		34133
1/2"	1-1/4"	1/2"	3"		34135
5/8"	1-1/2"	5/8"	3-1/2"		34137
5/8"	1-5/8"	5/8"	4"		34138
3/4"	1-1/2"	3/4"	4"		34139
3/4"	1-5/8"	3/4"	4"		34140
1"	1-1/2"	1"	4"		34141
1"	2"	1"	5"		34142

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
3491					
1/4"	3/8"	1/4"	2"		34150
3/8"	1/2"	3/8"	2-1/2"		34152
1/2"	5/8"	1/2"	3"		34154
5/8"	3/4"	5/8"	3-1/2"		34156
3/4"	7/8"	3/4"	4"		34158

FANTOM

Five Fluter

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

END MILLS

DURA-CARB



FC-18
COATING


FC-18
COATING

FANTOM
SERIES 3410R • 3491R
Corner Radius • Five Variable Indexed RH Spiral RH Cut Flutes
FULLERTON

The Fantom Five Fluter high performance end mill is designed for the machining of various materials throughout the manufacturing industry. The special design of the Fantom's variable indexing eccentric relief flutes provides a stable, robust cutter that peels heavy chip loads and leaves a superior surface finish in its path, whether it's mold & die, automotive, medical or aerospace. Roughing or finishing, this tool covers the bases.

Standard Length


Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price	EDP Number
3410R						
1/4"	3/4"	1/4"	2-1/2"	.020"		34106
5/16"	7/8"	5/16"	2-1/2"	.020"		34108
3/8"	1"	3/8"	2-1/2"	.020"		34110
3/8"	2"	3/8"	4"	.020"		34111
7/16"	1"	7/16"	2-3/4"	.030"		34112
1/2"	1"	1/2"	3"	.030"		34114
1/2"	1-1/4"	1/2"	3"	.030"		34115
1/2"	2"	1/2"	4"	.030"		34119
5/8"	1-1/2"	5/8"	3-1/2"	.035"		34116
5/8"	1-5/8"	5/8"	4"	.035"		34103
5/8"	2-1/4"	5/8"	5"	.035"		34121
3/4"	1-1/4"	3/4"	4"	.035"		34118
3/4"	1-1/2"	3/4"	4"	.035"		34118
3/4"	1-5/8"	3/4"	4"	.035"		34104
3/4"	2-1/4"	3/4"	5"	.035"		34122
1"	1-1/2"	1"	4"	.035"		34120
1"	2-1/4"	1"	5"	.035"		34123

Stub Length


Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price	EDP Number
3491R						
1/4"	3/8"	1/4"	2"	.020"		34160
3/8"	1/2"	3/8"	2-1/2"	.020"		34162
1/2"	5/8"	1/2"	3"	.030"		34164
5/8"	3/4"	5/8"	3-1/2"	.035"		34166
3/4"	7/8"	3/4"	4"	.035"		34168

FANTOM
Five Fluter

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

METRIC SERIES 9410 • 9491

Metric • Square End • Five Variable Indexed RH Spiral RH Cut Flutes

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
9410					
6.0	20.0	6.0	64.0		92563
6.0	20.0	6.0	76.0		92441
8.0	22.0	8.0	64.0		92564
8.0	22.0	8.0	76.0		92442
10.0	25.0	10.0	64.0		92565
10.0	25.0	10.0	89.0		92443
12.0	25.0	12.0	76.0		92566
12.0	25.0	12.0	100.0		92444
16.0	38.0	16.0	100.0		92445
20.0	38.0	20.0	100.0		92446

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
9491					
6.0	10.0	6.0	50.0		92447
8.0	12.0	8.0	50.0		92448
10.0	12.0	10.0	50.0		92449
12.0	16.0	12.0	63.0		92450
16.0	20.0	16.0	89.0		92451

DURA-CARB
END MILLSFC-18
COATINGmm
METRIC

FANTOM
Five Fluter

Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6

METRIC SERIES 9410R • 9491R • 9410LR

Metric • Corner Radius • Five Variable Indexed RH Spiral RH Cut Flutes

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price	EDP Number
9410R						
6.0	20.0	6.0	64.0	0.3		92567
6.0	20.0	6.0	76.0	0.3		92452
8.0	22.0	8.0	64.0	0.5		92568
8.0	22.0	8.0	76.0	0.5		92453
10.0	25.0	10.0	64.0	0.5		92569
10.0	25.0	10.0	89.0	0.5		92454
12.0	25.0	12.0	76.0	0.5		92570
12.0	25.0	12.0	100.0	0.5		92455
16.0	38.0	16.0	100.0	0.5		92456
20.0	38.0	20.0	100.0	1.0		92457

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price	EDP Number
9491R						
6.0	10.0	6.0	50.0	0.3		92458
8.0	12.0	8.0	50.0	0.5		92459
10.0	12.0	10.0	50.0	0.5		92460
12.0	16.0	12.0	63.0	0.5		92461
16.0	20.0	16.0	89.0	0.5		92462

Long Reach



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Reach	Neck Diameter	Corner Radius	Price	EDP Number
9410LR								
10.0	20.0	10.0	100.0	54.0	9.60	0.5		92463
12.0	20.0	12.0	100.0	54.0	11.60	0.5		92464
16.0	20.0	16.0	150.0	89.0	15.35	0.5		92465
20.0	20.0	20.0	150.0	89.0	19.35	1.0		92466

FANTOM
Five Fluter

Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6

Hi Speed Finishing of Titanium!

Fullerton Tool's new 3810 Series End Mill, The Dream, provides fantastic surface finishes at unheard of material removal rates. Special corner radius available upon request.

1" Diameter Tool:

- 400 SFM (120 M/min) @ 1528 RPM
- .003" FPT (0.08mm) @ 45 IPM
- 10 Flutes
- .035" (0.89mm) Radial Depth of Cut
- 1" (25.4mm) Axial Depth of Cut



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Reach	Corner Radius	Neck Diameter	Number of Flutes	Price	EDP Number
3/4"	1-1/8"	3/4"	4"	2-1/2"	.120"	0.720"	8	3810	37500
1"	1-1/8"	1"	4-1/2"	3"	.120"	0.960"	10		38562

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

METRIC SERIES 9810

Metric • Corner Radius



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Reach	Corner Radius	Neck Diameter	Number of Flutes	Price	EDP Number
20.0	28.0	20.0	100.0	63.0	3.0	19.22	8	9810	38565
25.0	28.0	25.0	114.0	76.0	3.0	24.23	10		38567

Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6

DURA-CARB
END MILLS



NUMBER OF FLUTES

VARY BY
DIAMETER



Solid Dura-Carb
END MILLS



NUMBER OF FLUTES

VARY BY
DIAMETER



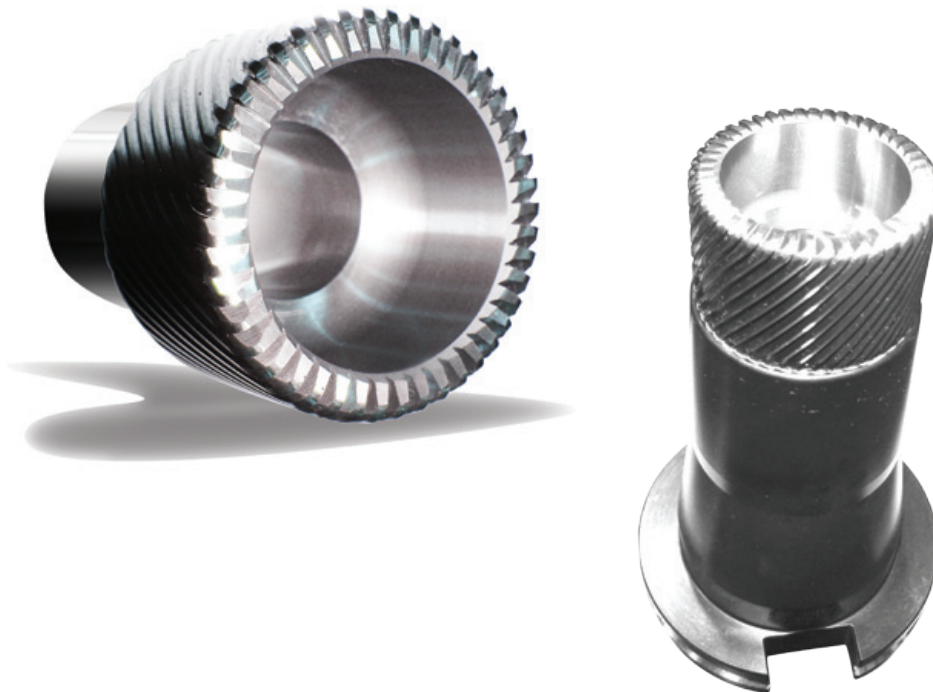
mm
METRIC

20-Flute Hi Speed Finishing of Titanium!

- 400 SFM (120 M/min) @ 764 RPM
- .003" FPT (0.08mm) @ 45 IPM
- 20 Flutes
- .035" (0.89mm) Radial Depth of Cut
- 1" (25.4mm) Axial Depth of Cut
- Productive tool for finishing parts up to 8" deep
- Plug style tool fits into long reach heat shrink holder



Cutting Diameter	Cutting Length	Shank Diameter	Shank Length	Overall Length	Corner Radius	Number of Flutes	Price	EDP Number
2"	1-1/8"	1-1/4"	1-3/4"	3"	0.120"	20	3820	92600



Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

Square End • Standard Length • Three 60° RH Cut Flutes

Designed for milling alloy steels. Tool will produce better finishes with reduced horsepower requirements.



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3800		3800 TiAIN	
1/8"	1/2"	1/8"	1-1/2"		38001		38500
3/16"	5/8"	3/16"	2"		38002		38501
1/4"	3/4"	1/4"	2-1/2"		38003		38502
5/16"	13/16"	5/16"	2-1/2"		38004		38503
3/8"	1"	3/8"	2-1/2"		38005		38504
1/2"	1"	1/2"	3"		38006		38506
5/8"	1-1/2"	5/8"	3-1/2"		38007		38507
3/4"	1-1/2"	3/4"	4"		38008		38508
1"	1-1/2"	1"	4"		38009		38509

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

DURA-CARB
END MILLS



TiAIN
COATING

METRIC SERIES 9800

Metric • Square End • Standard Length • Three 60° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
				9800 TiAIN	
3.0	12.0	3.0	38.0		92516
6.0	20.0	6.0	64.0		92517
8.0	22.0	8.0	64.0		92518
10.0	25.0	10.0	64.0		92519
12.0	25.0	12.0	76.0		92520
16.0	38.0	16.0	89.0		92521

Tolerance: Cutter Dia.: +0.00mm -0.05mm
Shank Dia.: h6

Solid Dura-Carb
END MILLS



TiAIN
COATING

mm
METRIC

SERIES 3615R • 3615LR • 3615XLR

Corner Radius • Two 12° RH Spiral Cut Flutes

The "Maximus" end mill is designed for very high speed dry machining of hardened die and tool steels. The Maximus will cut hardened die steel such as H13 at the unheard of speed of 1300 SFM and a feed rate of 180" per minute.

Its special TiAlN coating provides for excellent heat and wear resistance.

It has a .030 corner radius for increased strength. With its short flute length and extended neck diameter it can be used to mill deep pockets and cavities with minimum deflection.

DISCONTINUED

This product has been discontinued. It is still available as a special order item.
Please contact Fullerton Tool for more information on availability.



	Cutting Length	Shank Diameter	Overall Length	Reach	Neck Diameter	Corner Radius	Price	EDP Number
							3615R	
1/4"	1/2"	1/4"	2-1/2"	1"	.240"	.0300"		36100
3/8"	3/4"	3/8"	3"	1-1/4"	.360"	.0300"		36104
1/2"	3/4"	1/2"	3"	1-1/4"	.480"	.0300"		36108



	Cutting Length	Shank Diameter	Overall Length	Reach	Neck Diameter	Corner Radius	Price	EDP Number
							3615LR	
3/8"	3/4"	3/8"	4"	2-1/4"	.360"	.0300"		36112
1/2"	3/4"	1/2"	4"	2-1/8"	.480"	.0300"		36116
5/8"	3/4"	5/8"	4"	2"	.600"	.0300"		36120
3/4"	3/4"	3/4"	4"	1-7/8"	.720"	.0300"		36124



	Cutting Length	Shank Diameter	Overall Length	Reach	Neck Diameter	Corner Radius	Price	EDP Number
							3615XLR	
1/2"	3/4"	1/2"	6"	3-1/2"	.480"	.0300"		36128
5/8"	3/4"	5/8"	6"	3-1/2"	.600"	.0300"		36132
3/4"	3/4"	3/4"	6"	3-1/2"	.720"	.0300"		36136

Ball Nose Available At Additional Cost.

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

Sinusoidal Geometry • Eccentric Relief • Three 40° RH Spiral Flutes

3 Flute - 40° RH Spiral

Designed for machining aluminum and other light alloys such as brass and bronze.

Standard Weldon Flat



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price 3990	EDP Number 3990	Price 3990 FC19	EDP Number 3990 FC19
1/4"	3/4"	1/4"	2-1/2"	.0310"		39908		39622
5/16"	13/16"	5/16"	2-1/2"	.0390"		39910		39623
3/8"	1"	3/8"	2-1/2"	.0470"		39912		39624
1/2"	1"	1/2"	3"	.0625"		39913		39625
5/8"	1-1/2"	5/8"	3-1/2"	.0781"		39914		39626
3/4"	1-1/2"	3/4"	4"	.0938"		39916		39627
1"	1-1/2"	1"	4"	.1250"		39918		39628

NOTE: Weldon flats are standard on all Hogger End Mills.

Separate data sheets for correct tool operation is supplied with all Hoggers.

Tolerance: Cutter Dia.: +.000" -.003"
Shank Dia.: h6

DURA-CARB II
END MILLS**FC-19**
COATING

SERIES 3995

Fine Pitch • Sinusoidal Geometry • Eccentric Relief • 30° RH Spiral Flutes

30° RH Spiral (Number of flutes shown below)

For maximum stock removal in titanium, inconel, waspaloy and other space age materials.

Standard Weldon Flat



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Number of Flutes	Corner Radius	Price 3995 TiAIN	EDP Number 3995
1/4"	3/4"	1/4"	2-1/2"	3	.0310"		39608
5/16"	13/16"	5/16"	2-1/2"	3	.0390"		39609
3/8"	1"	3/8"	2-1/2"	3	.0470"		39610
1/2"	1"	1/2"	3"	4	.0625"		39611
5/8"	1-1/2"	5/8"	3-1/2"	4	.0781"		39612
3/4"	1-1/2"	3/4"	4"	4	.0938"		39613
1"	1-1/2"	1"	4"	5	.1250"		39614

NOTE: Weldon flats are standard on all Hogger End Mills.

Separate data sheets for correct tool operation is supplied with all Hoggers.

Tolerance: Cutter Dia.: +.000" -.003"
Shank Dia.: h6

Solid Dura-Carb II
END MILLSNUMBER OF FLUTES
VARY BY
DIAMETER**TiAIN**
COATING

METRIC SERIES 9990

Metric • Sinusoidal Geometry • Radial Relief • Three 40° RH Spiral Flutes

3 Flute - 40° RH Spiral

Designed for machining aluminum and other light alloys such as brass and bronze.

Standard Weldon Flat



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price 9990	EDP Number	Price 9990 FC19	EDP Number
6.0	20.0	6.0	64.0	0.75		92501		93501
8.0	20.0	8.0	64.0	1.00		92502		93502
10.0	25.0	10.0	73.0	1.25		92503		93503
12.0	25.0	12.0	84.0	1.50		92504		93504
14.0	30.0	14.0	84.0	1.75		92505		93505
16.0	30.0	16.0	89.0	2.00		92506		93506
20.0	38.0	20.0	100.0	2.50		92507		93507

NOTE: Weldon flats are standard on all Hogger End Mills.

Separate data sheets for correct tool operation is supplied with all Hoggers.

Tolerance: Cutter Dia. +0.00 -0.07mm
Shank Dia. h6

METRIC SERIES 9995

Metric • Fine Pitch • Sinusoidal Geometry • Radial Relief • 30° RH Spiral Flutes

30° RH Spiral (Number of flutes shown below)

For maximum stock removal in titanium, inconel, waspaloy and other space age materials.

Standard Weldon Flat



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Number of Flutes	Corner Radius	Price 9995 TiAlN	EDP Number
6.0	20.0	6.0	64.0	3	0.75		92508
8.0	20.0	8.0	64.0	3	1.00		92509
10.0	25.0	10.0	73.0	3	1.25		92510
12.0	25.0	12.0	84.0	4	1.50		92512
14.0	30.0	14.0	84.0	4	1.75		92513
16.0	30.0	16.0	89.0	4	2.00		92514
20.0	38.0	20.0	100.0	4	2.50		92515

NOTE: Weldon flats are standard on all Hogger End Mills.

Separate data sheets for correct tool operation is supplied with all Hoggers.

Tolerance: Cutter Dia. +0.00 -0.07mm
Shank Dia. h6

Solid Dura-Carb II
END MILLSNUMBER OF FLUTES
VARY BY
DIAMETER

Sinusoidal Geometry • Radial Relief • 30° RH Spiral Flutes

30° RH Spiral (Number of flutes shown below)
Designed to cut mild steels, steel alloys,
stainless steel and hardened steel.

Standard Weldon Flat



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	No. of Flutes	Corner Radius	Price	EDP Number
3975 TiAIN							
1/4"	3/4"	1/4"	2-1/2"	3	.0310"		39600
5/16"	13/16"	5/16"	2-1/2"	3	.0390"		39601
3/8"	1"	3/8"	2-1/2"	3	.0470"		39602
1/2"	1"	1/2"	3"	4	.0625"		39604
5/8"	1-1/2"	5/8"	3-1/2"	4	.0781"		39605
3/4"	1-1/2"	3/4"	4"	4	.0938"		39606
1"	1-1/2"	1"	4"	5	.1250"		39607

NOTE: Weldon flats are standard on all Hogger End Mills.
Separate data sheets for correct tool operation is supplied with all Hoggers.

Tolerance: Cutter Dia.: +.000mm -.003mm
Shank Dia.: h6

DURA-CARB II
END MILLS

NUMBER OF FLUTES
VARY BY
DIAMETER



TiAIN
COATING

FORM RELIEVED RADIUS MILL • SERIES 2351

Non-Cutting Pilot • RH Cutting • Four Straight Flutes

Pilot diameter is non-cutting



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Radius	Price	EDP Number
2351						
1/4"	1/8"	1/4"	2-1/2"	1/16"		23250
3/8"	3/16"	3/8"	2-1/2"	3/32"		23375
1/2"	1/4"	1/2"	3"	1/8"		23500
*3/4"	3/8"	3/8"	2-3/4"	3/16"		23750
*1"	1/2"	1/2"	3"	1/4"		23752

* Solid Carbide Head - Steel Shank

Special Form Relieved Radius Mills Available.
Specify Pilot Diameter, Radius, and Large Diameter.

Tolerance: Radius: $\pm 0.0005"$
Shank Dia.: h6

Solid Dura-Carb
END MILLS



ALLOY STEEL ROUGHER

SERIES 3335 • 3395

Small Corner Radius • Three 35° RH Cut Flutes

This end mill is specifically designed for slotting, pocketing and roughing in various alloy steels. The three flute design allows for increased chip loads and the corner radius provides strength and added tool life.

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price	EDP Number
3335 TiAIN						
1/8"	1/2"	1/8"	1-1/2"	.010"		33450
3/16"	9/16"	3/16"	2"	.010"		33454
1/4"	3/4"	1/4"	2-1/2"	.020"		33458
5/16"	13/16"	5/16"	2-1/2"	.020"		33462
3/8"	1"	3/8"	2-1/2"	.020"		33466
7/16"	1"	7/16"	2-3/4"	.020"		33468
1/2"	1-1/4"	1/2"	3"	.035"		33470
5/8"	1-5/8"	5/8"	3-1/2"	.035"		33472
3/4"	1-5/8"	3/4"	4"	.035"		33474
1"	2"	1"	4"	.035"		33476

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Corner Radius	Price	EDP Number
3395 TiAIN						
1/8"	1/4"	1/8"	1-1/2"	.010"		33400
3/16"	5/16"	3/16"	2"	.010"		33404
1/4"	3/8"	1/4"	2"	.020"		33408
5/16"	7/16"	5/16"	2-1/2"	.020"		33412
3/8"	1/2"	3/8"	2-1/2"	.020"		33416
7/16"	9/16"	7/16"	2-3/4"	.020"		33418
1/2"	5/8"	1/2"	3"	.035"		33420
5/8"	3/4"	5/8"	3-1/2"	.035"		33422
3/4"	1"	3/4"	4"	.035"		33424
1"	1-1/4"	1"	4"	.035"		33426

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

SERIES 3845 • 3865 • 3845XL

Alloy Steel Finisher • Five 45° RH Spiral RH Cut Flutes

END MILLS

DURA-CARB



TiAIN
COATING

Standard Length



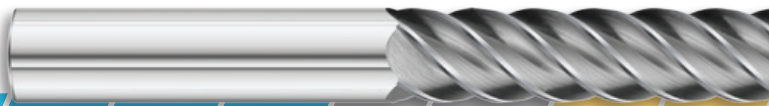
Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3845		3845 TiAIN	
				Price	EDP Number	Price	EDP Number
1/8"	1/2"	1/8"	1-1/2"	14.56	38050		38150
5/32"	9/16"	3/16"	2"	20.10	38052		38152
3/16"	9/16"	3/16"	2"	20.10	38054		38154
7/32"	3/4"	1/4"	2-1/2"	23.59	38056		38156
1/4"	3/4"	1/4"	2-1/2"	22.14	38058		38158
5/16"	13/16"	5/16"	2-1/2"	34.37	38062		38160
3/8"	1"	3/8"	2-1/2"	37.28	38064		38162
7/16"	1"	7/16"	2-3/4"	47.41	38068		38164
1/2"	1-1/4"	1/2"	3"	50.96	38070		38166
5/8"	1-5/8"	5/8"	3-1/2"	98.14	38074		38168
3/4"	1-5/8"	3/4"	4"	139.19	38076		38170
1"	2"	1"	4"	215.76	38078		38172

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3865		3865 TiAIN	
				Price	EDP Number	Price	EDP Number
1/8"	1/4"	1/8"	1-1/2"	13.40	38080		38173
3/16"	5/16"	3/16"	2"	18.46	38081		38175
1/4"	1/2"	1/4"	2"	19.52	38057		38174
3/8"	1/2"	3/8"	2-1/2"	35.06	38063		38176
1/2"	5/8"	1/2"	3"	47.23	38069		38178
5/8"	3/4"	5/8"	3-1/2"	92.32	38082		38177
3/4"	1"	1"	4"	129.46	38083		38179
1"	1-1/4"	1"	4"	-	-		38196

Extra Long



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3845XL		3845XL TiAIN	
				Price	EDP Number	Price	EDP Number
1/4"	1-1/4"	1/4"	4"	44.56	38060		38180
5/16"	1-1/4"	5/16"	3"	-	-		38188
3/8"	1-1/4"	3/8"	3"	-	-		38189
3/8"	1-1/2"	3/8"	4"	53.00	38067		38183
3/8"	2"	3/8"	4"	53.00	38066		38182
3/8"	3"	3/8"	5"	-	-		38190
1/2"	2"	1/2"	4"	69.77	38072		38184
1/2"	3"	1/2"	6"	-	-		38191
1/2"	3-1/8"	1/2"	6"	-	-		38186
5/8"	2-1/2"	5/8"	5"	127.25	38073		38185
5/8"	3"	5/8"	6"	-	-		38192
3/4"	2-1/2"	3/4"	5"	179.72	38061		38181
3/4"	3"	3/4"	6"	-	-		38193
1"	2-1/2"	1"	5"	327.69	38071		38187
1"	3"	1"	6"	-	-		38194
1"	4"	1"	6"	-	-		38195

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

CHAMFER MILL
SERIES 3730

60° Included Angle • Four Straight Flutes

60° Included Angle



Cutting Diameter	Cutting Length	Shank Diameter	Non-Cutting Tip Diameter	Overall Length	Price	EDP Number	Price	EDP Number
					3730		3730 TiAlN	
1/8"	.1080"	1/8"	.020"	1-1/2"		36154		36155
3/16"	.1620"	3/16"	.020"	2"		36163		36164
1/4"	.2160"	1/4"	.025"	2-1/2"		36140		36082
3/8"	.3240"	3/8"	.030"	2-1/2"		36142		36084
1/2"	.4330"	1/2"	.035"	3"		36144		36086
3/4"	.6490"	3/4"	.045"	4"		36167		36168

Tolerance: Shank Dia.: h6

TiAlN
COATING

SERIES 3750

90° Included Angle • Four Straight Flutes

90° Included Angle



Cutting Diameter	Cutting Length	Shank Diameter	Non-Cutting Tip Diameter	Overall Length	Price	EDP Number	Price	EDP Number
					3750		3750 TiAlN	
1/8"	.0625"	1/8"	.020"	1-1/2"		36158		36159
3/16"	.0938"	3/16"	.020"	2"		36171		36172
1/4"	.1250"	1/4"	.025"	2-1/2"		36146		36088
3/8"	.1870"	3/8"	.030"	2-1/2"		36148		36090
1/2"	.2500"	1/2"	.035"	3"		36150		36092
3/4"	.3750"	3/4"	.045"	4"		36175		36176

Tolerance: Shank Dia.: h6

Solid Dura-Carb
END MILLSTiAlN
COATING

CHAMFER MILL SERIES 3742

60° Included Angle • Two Straight Flutes

60° Included Angle



Cutting Diameter	Cutting Length	Shank Diameter	Non-Cutting Tip Diameter	Overall Length	Price	EDP Number	Price	EDP Number
					3742		3742 TiAIN	
1/8"	.1080"	1/8"	.020"	1-1/2"		36156		36157
3/16"	.1620"	3/16"	.020"	2"		36165		36166
1/4"	.2160"	1/4"	.025"	2-1/2"		36141		36083
3/8"	.3240"	3/8"	.030"	2-1/2"		36143		36085
1/2"	.4330"	1/2"	.035"	3"		36145		36087
3/4"	.6490"	3/4"	.045"	4"		36169		36170

Tolerance: Shank Dia.: h6

DURA-CARB
END MILLS



TiAIN
COATING

SERIES 3762

90° Included Angle • Two Straight Flutes

90° Included Angle



Cutting Diameter	Cutting Length	Shank Diameter	Non-Cutting Tip Diameter	Overall Length	Price	EDP Number	Price	EDP Number
					3762		3762 TiAIN	
1/8"	.0625"	1/8"	.020"	1-1/2"		36160		36161
3/16"	.0938"	3/16"	.020"	2"		36173		36174
1/4"	.1250"	1/4"	.025"	2-1/2"		36147		36089
3/8"	.1870"	3/8"	.030"	2-1/2"		36149		36091
1/2"	.2500"	1/2"	.035"	3"		36151		36093
3/4"	.3750"	3/4"	.045"	4"		36177		36178

Tolerance: Shank Dia.: h6

Solid Dura-Carb
END MILLS



TiAIN
COATING

METRIC SERIES 9750*Metric • 90° Included Angle • Four Straight Flutes*

90° Included Angle



Cutting Diameter	Cutting Length	Shank Diameter	Non-Cutting Tip Diameter	Overall Length	Price	EDP Number
					9750	
3.0	1.5	3.0	0.40	38.0		92522
4.0	2.0	4.0	0.50	50.0		92523
6.0	3.0	6.0	0.50	64.0		92524
8.0	4.0	8.0	0.65	64.0		92525
10.0	5.0	10.0	0.75	64.0		92526
12.0	6.0	12.0	0.90	76.0		92527

Tolerance: Shank Dia.: h6

JO-ENGRAVER*Double End • Single Flute • 60° Included • .021" Radius*

The Jo-Engraver is an all-in-one engraving tool. The single flute radial relief design was developed to create a strong, chip resistant tool capable of handling the softest to the hardest in materials.

Cutting Diameter	Cutting Length	Overall Length	Price	EDP Number	Price	EDP Number
			Jo-Engraver		Jo-Engraver TiAIN	
1/8"	1/8"	2"		12113		12109

Tolerance: Shank Dia.: h6

SERIES 3200

Square End • Standard Length • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3200		3200 TiAIN	
				Price	EDP Number	Price	EDP Number
1/64"	3/64"	1/8"	1-1/2"		32001		30604
1/32"	3/32"	1/8"	1-1/2"		32002		30605
3/64"	3/16"	1/8"	1-1/2"		32003		30606
1/16"	1/4"	1/8"	1-1/2"		32004		30607
5/64"	1/4"	1/8"	1-1/2"		32005		30608
3/32"	3/8"	1/8"	1-1/2"		32006		30609
7/64"	1/2"	1/8"	1-1/2"		32007		30610
1/8"	1/2"	1/8"	1-1/2"		32008		30611
9/64"	9/16"	3/16"	2"		32009		30612
5/32"	9/16"	3/16"	2"		32010		30613
11/64"	9/16"	3/16"	2"		32650		30614
3/16"	5/8"	3/16"	2"		32011		30615
13/64"	5/8"	1/4"	2-1/2"		32667		30616
7/32"	5/8"	1/4"	2-1/2"		32012		30617
15/64"	3/4"	1/4"	2-1/2"		32666		30618
1/4"	3/4"	1/4"	2-1/2"		32013		30619
17/64"	7/8"	5/16"	2-1/2"		32918		30620
9/32"	7/8"	5/16"	2-1/2"		32014		30621
19/64"	7/8"	5/16"	2-1/2"		32919		30622
5/16"	7/8"	5/16"	2-1/2"		32015		30623
21/64"	7/8"	3/8"	2-1/2"		32920		30624
11/32"	7/8"	3/8"	2-1/2"		32016		30625
23/64"	1"	3/8"	2-1/2"		32921		30626
3/8"	1"	3/8"	2-1/2"		32017		30627
25/64"	1"	7/16"	2-3/4"		32922		30628
13/32"	1"	7/16"	2-3/4"		32900		30629
27/64"	1"	7/16"	2-3/4"		32923		30630
7/16"	1"	7/16"	2-3/4"		32018		30631
29/64"	1"	1/2"	3"		32924		30632
15/32"	1"	1/2"	3"		32910		30633
31/64"	1"	1/2"	3"		32925		30634
1/2"	1"	1/2"	3"		32019		30635
9/16"	1-1/4"	9/16"	3-1/2"		32020		30636
5/8"	1-1/2"	5/8"	3-1/2"		32021		30637
11/16"	1-1/2"	3/4"	4"		32022		30638
3/4"	1-1/2"	3/4"	4"		32023		30639
7/8"	1-1/2"	7/8"	4"		32024		30640
1"	1-1/2"	1"	4"		32025		30641
1-1/8"	2"	1"	4-1/2"		32026		-
1-1/4"	2"	1-1/4"	4-1/2"		32027		-
1-3/8"	2"	1-1/4"	4-1/2"		32028		-
1-1/2"	2"	1-1/4"	4-1/2"		32029		-

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

DURA-CARB
END MILLS



TiAIN
COATING

SERIES 3290

Square End • Stub Length • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3290		3290 TiAIN	
1/32"	1/16"	1/8"	1-1/2"		32139		32822
3/64"	1/8"	1/8"	1-1/2"		32140		32823
1/16"	1/8"	1/8"	1-1/2"		32141		32824
5/64"	1/8"	1/8"	1-1/2"		32142		32825
3/32"	3/16"	1/8"	1-1/2"		32143		32826
7/64"	3/16"	1/8"	1-1/2"		32144		32827
1/8"	1/4"	1/8"	1-1/2"		32145		32828
5/32"	3/8"	3/16"	2"		32146		32829
3/16"	3/8"	3/16"	2"		32147		32830
1/4"	1/2"	1/4"	2"		32148		32831
5/16"	1/2"	5/16"	2-1/2"		32149		32832
3/8"	5/8"	3/8"	2-1/2"		32150		32833
7/16"	3/4"	7/16"	2-3/4"		32151		32834
1/2"	3/4"	1/2"	3"		32152		32835
5/8"	1"	5/8"	3-1/2"		32153		32836
3/4"	1"	3/4"	4"		32154		32837
1"	1"	1"	4"		32155		32838

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

SERIES 3200XL

Square End • Extra Long Length • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3200XL		3200XL TiAIN	
				Price	EDP Number	Price	EDP Number
1/8"	3/4"	1/8"	3"		30232		30030
1/8"	1"	1/8"	3"		32252		30031
3/16"	1-1/4"	3/16"	3"		32253		30032
3/16"	1"	3/16"	4"		30238		30033
1/4"	1-1/8"	1/4"	3"		32550		30034
1/4"	1"	1/4"	4"		30200		30035
1/4"	1-1/2"	1/4"	4"		32254		30036
1/4"	1-1/2"	1/4"	6"		32551		30037
5/16"	1-1/8"	5/16"	3"		32574		30038
5/16"	1"	5/16"	4"		30201		30039
5/16"	1-5/8"	5/16"	4"		32255		30040
5/16"	1-1/2"	5/16"	6"		32552		30041
3/8"	1-1/8"	3/8"	3"		32578		30042
3/8"	1"	3/8"	4"		30202		30043
3/8"	1-1/2"	3/8"	4"		30220		30044
3/8"	2"	3/8"	4"		32256		30045
3/8"	1-1/2"	3/8"	6"		32553		30046
3/8"	3"	3/8"	6"		32257		30047
7/16"	1"	7/16"	4"		30203		30048
7/16"	2"	7/16"	4"		32258		30049
7/16"	1-1/2"	7/16"	6"		32554		30050
7/16"	3"	7/16"	6"		32259		30051
1/2"	1-1/4"	1/2"	3"		30239		30052
1/2"	1"	1/2"	4"		30204		30053
1/2"	1-1/2"	1/2"	4"		32582		30054
1/2"	2"	1/2"	4"		32260		30055
1/2"	1-1/2"	1/2"	6"		32555		30056
1/2"	3"	1/2"	6"		32261		30057
5/8"	2-1/2"	5/8"	5"		32262		30058
5/8"	1-1/2"	5/8"	6"		30224		30059
5/8"	3"	5/8"	6"		32263		30060
3/4"	2"	3/4"	5"		32250		-
3/4"	2-1/2"	3/4"	5"		32264		30061
3/4"	1-1/2"	3/4"	6"		30226		30062
3/4"	3"	3/4"	6"		32265		30063
3/4"	4"	3/4"	7"		32266		30064
1"	2"	1"	4-1/2"		32267		30065
1"	2-1/2"	1"	5"		32268		30066
1"	3"	1"	6"		32269		30067
1"	4"	1"	7"		32270		30068
1-1/4"	3"	1-1/4"	6"		32271		-

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

DURA-CARB
END MILLS



TiAIN
COATING



SERIES 3200B

Ball End • Standard Length • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3200B		3200B TiAIN	
1/32"	3/32"	1/8"	1-1/2"		32030		30717
3/64"	3/16"	1/8"	1-1/2"		32031		30718
1/16"	1/4"	1/8"	1-1/2"		32032		30719
5/64"	1/4"	1/8"	1-1/2"		32033		30720
3/32"	3/8"	1/8"	1-1/2"		32034		30721
7/64"	1/2"	1/8"	1-1/2"		32035		30722
1/8"	1/2"	1/8"	1-1/2"		32036		30723
9/64"	9/16"	3/16"	2"		32037		30724
5/32"	9/16"	3/16"	2"		32038		30725
11/64"	9/16"	3/16"	2"		32651		30726
3/16"	5/8"	3/16"	2"		32039		30727
13/64"	5/8"	1/4"	2-1/2"		32652		30728
7/32"	5/8"	1/4"	2-1/2"		32040		30729
15/64"	3/4"	1/4"	2-1/2"		32653		30730
1/4"	3/4"	1/4"	2-1/2"		32041		30731
17/64"	7/8"	5/16"	2-1/2"		32930		30732
9/32"	7/8"	5/16"	2-1/2"		32042		30733
19/64"	7/8"	5/16"	2-1/2"		32931		30734
5/16"	7/8"	5/16"	2-1/2"		32043		30735
21/64"	7/8"	3/8"	2-1/2"		32932		30736
11/32"	7/8"	3/8"	2-1/2"		32044		30737
23/64"	1"	3/8"	2-1/2"		32933		30738
3/8"	1"	3/8"	2-1/2"		32045		30739
25/64"	1"	7/16"	2-3/4"		32934		30740
13/32"	1"	7/16"	2-3/4"		32904		30741
27/64"	1"	7/16"	2-3/4"		32935		30742
7/16"	1"	7/16"	2-3/4"		32046		30743
29/64"	1"	1/2"	3"		32936		30744
15/32"	1"	1/2"	3"		32914		30745
31/64"	1"	1/2"	3"		32937		30746
1/2"	1"	1/2"	3"		32047		30747
9/16"	1-1/4"	9/16"	3-1/2"		32048		30748
5/8"	1-1/2"	5/8"	3-1/2"		32049		30749
11/16"	1-1/2"	3/4"	4"		32050		30750
3/4"	1-1/2"	3/4"	4"		32051		30751
7/8"	1-1/2"	7/8"	4"		32052		30752
1"	1-1/2"	1"	4"		32053		30753
1-1/8"	2"	1"	4-1/2"		32054		-
1-1/4"	2"	1-1/4"	4-1/2"		32055		-
1-3/8"	2"	1-1/4"	4-1/2"		32056		-
1-1/2"	2"	1-1/4"	4-1/2"		32057		-

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

SERIES 3290B

Ball End • Stub Length • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3290B		3290B TiAIN	
				Price	EDP Number	Price	EDP Number
1/32"	1/16"	1/8"	1-1/2"		32112		32864
3/64"	1/8"	1/8"	1-1/2"		32156		32865
1/16"	1/8"	1/8"	1-1/2"		32157		32866
5/64"	1/8"	1/8"	1-1/2"		32158		32867
3/32"	3/16"	1/8"	1-1/2"		32159		32868
7/64"	3/16"	1/8"	1-1/2"		32160		32869
1/8"	1/4"	1/8"	1-1/2"		32161		32870
5/32"	3/8"	3/16"	2"		32162		32871
3/16"	3/8"	3/16"	2"		32163		32872
1/4"	1/2"	1/4"	2"		32164		32873
5/16"	1/2"	5/16"	2-1/2"		32165		32874
3/8"	5/8"	3/8"	2-1/2"		32166		32875
7/16"	3/4"	7/16"	2-3/4"		32167		32876
1/2"	3/4"	1/2"	3"		32168		32877
5/8"	1"	5/8"	3-1/2"		32169		32878
3/4"	1"	3/4"	4"		32170		32879
1"	1"	1"	4"		32171		32880

DURA-CARB
END MILLS



TiAIN
COATING

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6



SERIES 3200XLB

Ball End • Extra Long Length • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	Edp Number	Price	Edp Number
				3200XLB		3200XLB TiAIN	
1/8"	3/4"	1/8"	3"		30235		30069
1/8"	1"	1/8"	3"		32272		30070
3/16"	1-1/4"	3/16"	3"		32273		30071
3/16"	1"	3/16"	4"		30240		30072
1/4"	1-1/8"	1/4"	3"		32556		30073
1/4"	1"	1/4"	4"		30205		30074
1/4"	1-1/2"	1/4"	4"		32274		30075
1/4"	1-1/2"	1/4"	6"		32557		30076
5/16"	1-1/8"	5/16"	3"		32575		30077
5/16"	1"	5/16"	4"		30206		30078
5/16"	1-5/8"	5/16"	4"		32275		30079
5/16"	1-1/2"	5/16"	6"		32558		30080
3/8"	1-1/8"	3/8"	3"		32579		30081
3/8"	1"	3/8"	4"		30207		30082
3/8"	1-1/2"	3/8"	4"		30221		30083
3/8"	2"	3/8"	4"		32276		30084
3/8"	1-1/2"	3/8"	6"		32559		30085
3/8"	3"	3/8"	6"		32277		30086
7/16"	1"	7/16"	4"		30208		30087
7/16"	2"	7/16"	4"		32278		30088
7/16"	1-1/2"	7/16"	6"		32560		30089
7/16"	3"	7/16"	6"		32279		30090
1/2"	1-1/4"	1/2"	3"		30241		30091
1/2"	1"	1/2"	4"		30209		30092
1/2"	1-1/2"	1/2"	4"		32583		30093
1/2"	2"	1/2"	4"		32280		30094
1/2"	1-1/2"	1/2"	6"		32561		30095
1/2"	3"	1/2"	6"		32281		30096
5/8"	2-1/2"	5/8"	5"		32282		30097
5/8"	1-1/2"	5/8"	6"		30228		30098
5/8"	3"	5/8"	6"		32283		30099
3/4"	2-1/2"	3/4"	5"		32284		30100
3/4"	1-1/2"	3/4"	6"		30230		30101
3/4"	3"	3/4"	6"		32285		30102
3/4"	4"	3/4"	7"		32286		30103
1"	2"	1"	4-1/2"		32287		30104
1"	2-1/2"	1"	5"		32288		30105
1"	3"	1"	6"		32289		30106
1"	4"	1"	7"		32290		30107
1-1/4"	3"	1-1/4"	6"		32291		-

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

METRIC SERIES 9200 • 9290 • 9200XL

Square End • Four 30° RH Cut Flutes

DURA-CARB
END MILLS



TiAIN
COATING

mm
METRIC

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9200		9200 TiAIN	
1.0	4.0	3.0	38.0		92001		92201
1.5	6.0	3.0	38.0		92002		92202
2.0	8.0	3.0	38.0		92003		92203
2.5	12.0	3.0	38.0		92005		92204
3.0	12.0	3.0	38.0		92006		92205
3.5	12.0	4.0	50.0		92073		92206
4.0	14.0	4.0	50.0		92007		92207
4.5	14.0	5.0	51.0		92075		92208
5.0	16.0	5.0	64.0		92008		92209
6.0	20.0	6.0	64.0		92009		92210
7.0	22.0	7.0	64.0		92010		92211
8.0	22.0	8.0	64.0		92011		92212
9.0	22.0	9.0	64.0		92012		92213
10.0	25.0	10.0	64.0		92013		92214
11.0	25.0	11.0	84.0		92077		92215
12.0	25.0	12.0	84.0		92014		92216
14.0	32.0	14.0	84.0		92015		92217
16.0	38.0	16.0	89.0		92016		92218
18.0	40.0	18.0	100.0		92017		92219
20.0	40.0	20.0	100.0		92018		92220
22.0	40.0	22.0	100.0		92079		92221
25.0	40.0	25.0	100.0		92081		92222

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9290		9290 TiAIN	
1.0	2.5	3.0	38.0		92093		92180
1.5	3.0	3.0	38.0		92194		92195
2.0	4.0	3.0	38.0		92094		92181
3.0	6.0	3.0	38.0		92100		92223
6.0	12.0	6.0	50.0		92102		92224
8.0	12.0	8.0	50.0		92104		92225
10.0	15.0	10.0	50.0		92106		92226
12.0	15.0	12.0	63.0		92108		92227

Extra Long



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9200XL		9200XL TiAIN	
3.0	25.0	3.0	76.0		92120		92228
6.0	29.0	6.0	76.0		92122		92229
8.0	29.0	8.0	76.0		92124		92230
10.0	45.0	10.0	100.0		92126		92231
12.0	50.0	12.0	100.0		92128		92232
16.0	63.0	16.0	125.0		92129		92182
20.0	63.0	20.0	125.0		92131		92183

Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6



METRIC SERIES 9200B • 9290B • 9200XLB

Ball End • Four 30° RH Cut Flutes

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9200B		9200B TiAlN	
1.0	4.0	3.0	38.0		92019		92265
1.5	6.0	3.0	38.0		92020		92266
2.0	8.0	3.0	38.0		92021		92267
2.5	12.0	3.0	38.0		92023		92268
3.0	12.0	3.0	38.0		92024		92269
3.5	12.0	4.0	50.0		92074		92270
4.0	14.0	4.0	50.0		92025		92271
4.5	14.0	5.0	51.0		92076		92272
5.0	16.0	5.0	64.0		92026		92273
6.0	20.0	6.0	64.0		92027		92274
7.0	22.0	7.0	64.0		92028		92275
8.0	22.0	8.0	64.0		92029		92276
9.0	22.0	9.0	64.0		92030		92277
10.0	25.0	10.0	64.0		92031		92278
11.0	25.0	11.0	84.0		92078		92279
12.0	25.0	12.0	84.0		92032		92280
14.0	32.0	14.0	84.0		92033		92281
16.0	38.0	16.0	89.0		92034		92282
18.0	40.0	18.0	100.0		92035		92283
20.0	40.0	20.0	100.0		92036		92284
22.0	40.0	22.0	100.0		92080		92285
25.0	40.0	25.0	100.0		92082		92286

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9290B		9290B TiAlN	
3.0	6.0	3.0	38.0		92110		92287
6.0	12.0	6.0	50.0		92112		92288
8.0	12.0	8.0	50.0		92114		92289
10.0	15.0	10.0	50.0		92116		92290
12.0	15.0	12.0	63.0		92118		92291

Extra Long



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9200XLB		9200XLB TiAlN	
3.0	25.0	3.0	76.0		92130		92292
6.0	29.0	6.0	76.0		92132		92293
8.0	29.0	8.0	76.0		92134		92294
10.0	45.0	10.0	100.0		92136		92295
12.0	50.0	12.0	100.0		92138		92296
16.0	63.0	16.0	125.0		92139		92184
20.0	63.0	20.0	125.0		92141		92185

Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6

SERIES 3215

Square End • Two 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3215		3215 TiAIN	
1/64"	3/64"	1/8"	1-1/2"		32058		30642
1/32"	3/32"	1/8"	1-1/2"		32059		30643
3/64"	3/16"	1/8"	1-1/2"		32060		30644
1/16"	1/4"	1/8"	1-1/2"		32061		30645
5/64"	1/4"	1/8"	1-1/2"		32062		30646
3/32"	3/8"	1/8"	1-1/2"		32063		30647
7/64"	1/2"	1/8"	1-1/2"		32064		30648
1/8"	1/2"	1/8"	1-1/2"		32065		30649
9/64"	9/16"	3/16"	2"		32066		30650
5/32"	9/16"	3/16"	2"		32067		30651
11/64"	9/16"	3/16"	2"		32654		30652
3/16"	5/8"	3/16"	2"		32068		30653
13/64"	5/8"	1/4"	2-1/2"		32655		30654
7/32"	5/8"	1/4"	2-1/2"		32069		30655
15/64"	3/4"	1/4"	2-1/2"		32656		30656
1/4"	3/4"	1/4"	2-1/2"		32070		30657
17/64"	7/8"	5/16"	2-1/2"		32940		30658
9/32"	7/8"	5/16"	2-1/2"		32071		30659
19/64"	7/8"	5/16"	2-1/2"		32941		30660
5/16"	7/8"	5/16"	2-1/2"		32072		30661
21/64"	7/8"	3/8"	2-1/2"		32942		30662
11/32"	7/8"	3/8"	2-1/2"		32073		30663
23/64"	1"	3/8"	2-1/2"		32943		30664
3/8"	1"	3/8"	2-1/2"		32074		30665
25/64"	1"	7/16"	2-3/4"		32944		30666
13/32"	1"	7/16"	2-3/4"		32901		30667
27/64"	1"	7/16"	2-3/4"		32945		30668
7/16"	1"	7/16"	2-3/4"		32075		30669
29/64"	1"	1/2"	3"		32946		30670
15/32"	1"	1/2"	3"		32911		30671
31/64"	1"	1/2"	3"		32947		30672
1/2"	1"	1/2"	3"		32076		30673
9/16"	1-1/4"	9/16"	3-1/2"		32077		30674
5/8"	1-1/2"	5/8"	3-1/2"		32078		30675
11/16"	1-1/2"	3/4"	4"		32079		30676
3/4"	1-1/2"	3/4"	4"		32080		30677
7/8"	1-1/2"	7/8"	4"		32081		30678
1"	1-1/2"	1"	4"		32082		30679

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

DURA-CARB
END MILLS



TiAIN
COATING

SERIES 3295

Square End • Stub Length • Two 30° RH Cut Flutes



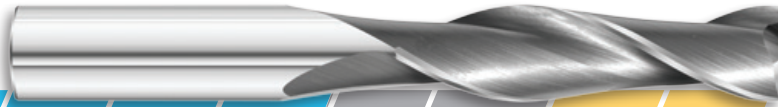
Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	Edp Number	Price	Edp Number
				3295		3295 TiAIN	
1/32"	1/16"	1/8"	1-1/2"		32113		32839
3/64"	1/8"	1/8"	1-1/2"		32172		32840
1/16"	1/8"	1/8"	1-1/2"		32173		32841
5/64"	1/8"	1/8"	1-1/2"		32174		32842
3/32"	3/16"	1/8"	1-1/2"		32175		32843
7/64"	3/16"	1/8"	1-1/2"		32176		32844
1/8"	1/4"	1/8"	1-1/2"		32177		32845
5/32"	3/8"	3/16"	2"		32178		32846
3/16"	3/8"	3/16"	2"		32179		32847
1/4"	1/2"	1/4"	2"		32180		32848
5/16"	1/2"	5/16"	2-1/2"		32181		32849
3/8"	5/8"	3/8"	2-1/2"		32182		32850
7/16"	3/4"	7/16"	2-3/4"		32183		32851
1/2"	3/4"	1/2"	3"		32184		32852
5/8"	1"	5/8"	3-1/2"		32185		32853
3/4"	1"	3/4"	4"		32186		32854
1"	1"	1"	4"		32187		32855

**TiAIN**
COATING

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

SERIES 3215XL

Square End • Extra Long Length • Two 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3215XL		3215XL TiAIN	
1/8"	3/4"	1/8"	3"		30233		30108
1/8"	1"	1/8"	3"		32292		30109
3/16"	1-1/4"	3/16"	3"		32293		30110
3/16"	1"	3/16"	4"		30242		30111
1/4"	1-1/8"	1/4"	3"		32562		30112
1/4"	1"	1/4"	4"		30210		30113
1/4"	1-1/2"	1/4"	4"		32294		30114
1/4"	1-1/2"	1/4"	6"		32563		30115
5/16"	1-1/8"	5/16"	3"		32576		30116
5/16"	1"	5/16"	4"		30211		30117
5/16"	1-5/8"	5/16"	4"		32295		30118
5/16"	1-1/2"	5/16"	6"		32564		30119
3/8"	1-1/8"	3/8"	3"		32580		30120
3/8"	1"	3/8"	4"		30212		30121
3/8"	1-1/2"	3/8"	4"		30222		30122
3/8"	2"	3/8"	4"		32296		30123
3/8"	1-1/2"	3/8"	6"		32565		30124
3/8"	3"	3/8"	6"		32297		30125
7/16"	1"	7/16"	4"		30213		30126
7/16"	2"	7/16"	4"		32298		30127
7/16"	1-1/2"	7/16"	6"		32566		30128
7/16"	3"	7/16"	6"		32299		30129
1/2"	1"	1/2"	4"		30214		30130
1/2"	1-1/2"	1/2"	4"		32584		30131
1/2"	2"	1/2"	4"		32300		30132
1/2"	1-1/2"	1/2"	6"		32567		30133
1/2"	3"	1/2"	6"		32301		30134
5/8"	2-1/2"	5/8"	5"		32302		30135
5/8"	1-1/2"	5/8"	6"		30225		30136
5/8"	3"	5/8"	6"		32303		30137
3/4"	2-1/2"	3/4"	5"		32304		30138
3/4"	1-1/2"	3/4"	6"		30227		30139
3/4"	3"	3/4"	6"		32305		30140
1"	2"	1"	4-1/2"		32306		30141
1"	2-1/2"	1"	5"		32307		30142
1"	3"	1"	6"		32308		30143

DURA-CARB
END MILLS



TiAIN
COATING

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6



SERIES 3215B

Ball End • Standard Length • Two 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3215B		3215B TiAlN	
1/64"	3/64"	1/8"	1-1/2"		32086		30754
1/32"	3/32"	1/8"	1-1/2"		32087		30755
3/64"	3/16"	1/8"	1-1/2"		32088		30756
1/16"	1/4"	1/8"	1-1/2"		32089		30757
5/64"	1/4"	1/8"	1-1/2"		32090		30758
3/32"	3/8"	1/8"	1-1/2"		32091		30759
7/64"	1/2"	1/8"	1-1/2"		32092		30760
1/8"	1/2"	1/8"	1-1/2"		32093		30761
9/64"	9/16"	3/16"	2"		32094		30762
5/32"	9/16"	3/16"	2"		32095		30763
11/64"	9/16"	3/16"	2"		32657		30764
3/16"	5/8"	3/16"	2"		32096		30765
13/64"	5/8"	1/4"	2-1/2"		32658		30766
7/32"	5/8"	1/4"	2-1/2"		32097		30767
15/64"	3/4"	1/4"	2-1/2"		32659		30768
1/4"	3/4"	1/4"	2-1/2"		32098		30769
17/64"	7/8"	5/16"	2-1/2"		32950		30770
9/32"	7/8"	5/16"	2-1/2"		32099		30771
19/64"	7/8"	5/16"	2-1/2"		32951		30772
5/16"	7/8"	5/16"	2-1/2"		32100		30773
21/64"	7/8"	3/8"	2-1/2"		32952		30774
11/32"	7/8"	3/8"	2-1/2"		32101		30775
23/64"	1"	3/8"	2-1/2"		32953		30776
3/8"	1"	3/8"	2-1/2"		32102		30777
25/64"	1"	7/16"	2-3/4"		32954		30778
13/32"	1"	7/16"	2-3/4"		32905		30779
27/64"	1"	7/16"	2-3/4"		32955		30780
7/16"	1"	7/16"	2-3/4"		32103		30781
29/64"	1"	1/2"	3"		32956		30782
15/32"	1"	1/2"	3"		32915		30783
31/64"	1"	1/2"	3"		32957		30784
1/2"	1"	1/2"	3"		32104		30785
9/16"	1-1/4"	9/16"	3-1/2"		32105		30786
5/8"	1-1/2"	5/8"	3-1/2"		32106		30787
11/16"	1-1/2"	3/4"	4"		32107		30788
3/4"	1-1/2"	3/4"	4"		32108		30789
7/8"	1-1/2"	7/8"	4"		32109		30790
1"	1-1/2"	1"	4"		32110		30791

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

SERIES 3295B

Ball End • Stub Length • Two 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3295B		3295B TiAIN	
1/32"	1/16"	1/8"	1-1/2"		32114		32881
3/64"	1/8"	1/8"	1-1/2"		32188		32882
1/16"	1/8"	1/8"	1-1/2"		32189		32883
5/64"	1/8"	1/8"	1-1/2"		32190		32884
3/32"	3/16"	1/8"	1-1/2"		32191		32885
7/64"	3/16"	1/8"	1-1/2"		32192		32886
1/8"	1/4"	1/8"	1-1/2"		32193		32887
5/32"	3/8"	3/16"	2"		32194		32888
3/16"	3/8"	3/16"	2"		32195		32889
1/4"	1/2"	1/4"	2"		32196		32890
5/16"	1/2"	5/16"	2-1/2"		32197		32891
3/8"	5/8"	3/8"	2-1/2"		32198		32892
7/16"	3/4"	7/16"	2-3/4"		32199		32893
1/2"	3/4"	1/2"	3"		32200		32894
5/8"	1"	5/8"	3-1/2"		32201		32895
3/4"	1"	3/4"	4"		32202		32896
1"	1"	1"	4"		32203		32897

DURA-CARB
END MILLS



TiAIN
COATING

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6



SERIES 3215XLB

Ball End • Extra Long Length • Two 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3215XLB		3215XLB TiAIN	
1/8"	3/4"	1/8"	3"		30236		30144
1/8"	1"	1/8"	3"		32309		30145
3/16"	1-1/4"	3/16"	3"		32310		30146
3/16"	1"	3/16"	4"		30244		30147
1/4"	1-1/8"	1/4"	3"		32568		30148
1/4"	1"	1/4"	4"		30215		30149
1/4"	1-1/2"	1/4"	4"		32311		30150
1/4"	1-1/2"	1/4"	6"		32569		30151
5/16"	1-1/8"	5/16"	3"		32577		30152
5/16"	1"	5/16"	4"		30216		30153
5/16"	1-5/8"	5/16"	4"		32312		30154
5/16"	1-1/2"	5/16"	6"		32570		30155
3/8"	1-1/8"	3/8"	3"		32581		30156
3/8"	1"	3/8"	4"		30217		30157
3/8"	1-1/2"	3/8"	4"		30223		30158
3/8"	2"	3/8"	4"		32313		30159
3/8"	1-1/2"	3/8"	6"		32571		30160
3/8"	3"	3/8"	6"		32314		30161
7/16"	1"	7/16"	4"		30218		30162
7/16"	2"	7/16"	4"		32315		30163
7/16"	1-1/2"	7/16"	6"		32572		30164
7/16"	3"	7/16"	6"		32316		30165
1/2"	1"	1/2"	4"		30219		30166
1/2"	1-1/2"	1/2"	4"		32585		30167
1/2"	2"	1/2"	4"		32317		30168
1/2"	1-1/2"	1/2"	6"		32573		30169
1/2"	3"	1/2"	6"		32318		30170
5/8"	2-1/2"	5/8"	5"		32319		30171
5/8"	1-1/2"	5/8"	6"		30229		30172
5/8"	3"	5/8"	6"		32320		30173
3/4"	2-1/2"	3/4"	5"		32321		30174
3/4"	1-1/2"	3/4"	6"		30231		30175
3/4"	3"	3/4"	6"		32322		30176
1"	2"	1"	4-1/2"		32323		30177
1"	2-1/2"	1"	5"		32324		30178
1"	3"	1"	6"		32325		30179

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

METRIC SERIES 9215 • 9295 • 9215XL

Square End • Two 30° RH Cut Flutes

DURA-CARB
END MILLS



TiAIN
COATING

mm
METRIC

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	9215		9215 TiAIN	
				Price	EDP Number	Price	EDP Number
1.0	4.0	3.0	38.0		92037		92233
1.5	6.0	3.0	38.0		92038		92234
2.0	8.0	3.0	38.0		92039		92235
2.5	12.0	3.0	38.0		92041		92236
3.0	12.0	3.0	38.0		92042		92237
3.5	12.0	4.0	50.0		92083		92238
4.0	14.0	4.0	50.0		92043		92239
4.5	14.0	5.0	51.0		92085		92240
5.0	16.0	5.0	64.0		92044		92241
6.0	20.0	6.0	64.0		92045		92242
7.0	22.0	7.0	64.0		92046		92243
8.0	22.0	8.0	64.0		92047		92244
9.0	22.0	9.0	64.0		92048		92245
10.0	25.0	10.0	64.0		92049		92246
11.0	25.0	11.0	84.0		92087		92247
12.0	25.0	12.0	84.0		92050		92248
14.0	32.0	14.0	84.0		92051		92249
16.0	38.0	16.0	89.0		92052		92250
18.0	40.0	18.0	100.0		92053		92251
20.0	40.0	20.0	100.0		92054		92252
22.0	40.0	22.0	100.0		92089		92253
25.0	40.0	25.0	100.0		92091		92254

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	9295		9295 TiAIN	
				Price	EDP Number	Price	EDP Number
1.0	2.5	3.0	38.0		92143		92186
2.0	4.0	3.0	38.0		92145		92187
3.0	6.0	3.0	38.0		92140		92255
6.0	12.0	6.0	50.0		92142		92256
8.0	12.0	8.0	50.0		92144		92257
10.0	15.0	10.0	50.0		92146		92258
12.0	15.0	12.0	63.0		92148		92259

Extra Long



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	9215XL		9215XL TiAIN	
				Price	EDP Number	Price	EDP Number
3.0	25.0	3.0	76.0		92160		92260
6.0	29.0	6.0	76.0		92162		92261
8.0	29.0	8.0	76.0		92164		92262
10.0	45.0	10.0	100.0		92166		92263
12.0	50.0	12.0	100.0		92168		92264
16.0	63.0	16.0	125.0		92165		92188
20.0	63.0	20.0	125.0		92167		92189

Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6



METRIC SERIES 9215B • 9295B • 9215XLB

Ball End • Two 30° RH Cut Flutes

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9215B		9215B TiAlN	
1.0	4.0	3.0	38.0		92055		92297
1.5	6.0	3.0	38.0		92056		92298
2.0	8.0	3.0	38.0		92057		92299
2.5	12.0	3.0	38.0		92059		92300
3.0	12.0	3.0	38.0		92060		92301
3.5	12.0	4.0	50.0		92084		92302
4.0	14.0	4.0	50.0		92061		92303
4.5	14.0	5.0	51.0		92086		92304
5.0	16.0	5.0	64.0		92062		92305
6.0	20.0	6.0	64.0		92063		92306
7.0	22.0	7.0	64.0		92064		92307
8.0	22.0	8.0	64.0		92065		92308
9.0	22.0	9.0	64.0		92066		92309
10.0	25.0	10.0	64.0		92067		92310
11.0	25.0	11.0	84.0		92088		92311
12.0	25.0	12.0	84.0		92068		92312
14.0	32.0	14.0	84.0		92069		92313
16.0	38.0	16.0	89.0		92070		92314
18.0	40.0	18.0	100.0		92071		92315
20.0	40.0	20.0	100.0		92072		92316
22.0	40.0	22.0	100.0		92090		92317
25.0	40.0	25.0	100.0		92092		92318

Stub Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9295B		9295B TiAlN	
3.0	6.0	3.0	38.0		92150		92319
6.0	12.0	6.0	50.0		92152		92320
8.0	12.0	8.0	50.0		92154		92321
10.0	15.0	10.0	50.0		92156		92322
12.0	15.0	12.0	63.0		92158		92323

Extra Long



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9215XLB		9215XLB TiAlN	
3.0	25.0	3.0	76.0		92170		92324
6.0	29.0	6.0	76.0		92172		92325
8.0	29.0	8.0	76.0		92174		92326
10.0	45.0	10.0	100.0		92176		92327
12.0	50.0	12.0	100.0		92178		92328
16.0	63.0	16.0	125.0		92173		92190
20.0	63.0	20.0	125.0		92175		92191

Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6

SERIES 3300

Square End • Standard Length • Three 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3300		3300 TiAIN	
1/32"	3/32"	1/8"	1-1/2"		33002		30680
3/64"	3/16"	1/8"	1-1/2"		33003		30681
1/16"	1/4"	1/8"	1-1/2"		33004		30682
5/64"	1/4"	1/8"	1-1/2"		33005		30683
3/32"	3/8"	1/8"	1-1/2"		33006		30684
7/64"	1/2"	1/8"	1-1/2"		33007		30685
1/8"	1/2"	1/8"	1-1/2"		33008		30686
9/64"	9/16"	3/16"	2"		33009		30687
5/32"	9/16"	3/16"	2"		33010		30688
11/64"	9/16"	3/16"	2"		32660		30689
3/16"	5/8"	3/16"	2"		33011		30690
13/64"	5/8"	1/4"	2-1/2"		32661		30691
7/32"	5/8"	1/4"	2-1/2"		33012		30692
15/64"	3/4"	1/4"	2-1/2"		32662		30693
1/4"	3/4"	1/4"	2-1/2"		33013		30694
17/64"	7/8"	5/16"	2-1/2"		32960		30695
9/32"	7/8"	5/16"	2-1/2"		33014		30696
19/64"	7/8"	5/16"	2-1/2"		32961		30697
5/16"	7/8"	5/16"	2-1/2"		33015		30698
21/64"	7/8"	3/8"	2-1/2"		32962		30699
11/32"	7/8"	3/8"	2-1/2"		33016		30700
23/64"	1"	3/8"	2-1/2"		32963		30701
3/8"	1"	3/8"	2-1/2"		33017		30702
25/64"	1"	7/16"	2-3/4"		32964		30703
13/32"	1"	7/16"	2-3/4"		32902		30704
27/64"	1"	7/16"	2-3/4"		32965		30705
7/16"	1"	7/16"	2-3/4"		33018		30706
29/64"	1"	1/2"	3"		32966		30707
15/32"	1"	1/2"	3"		32912		30708
31/64"	1"	1/2"	3"		32967		30709
1/2"	1"	1/2"	3"		33019		30710
9/16"	1-1/4"	9/16"	3-1/2"		33020		30711
5/8"	1-1/2"	5/8"	3-1/2"		33021		30712
11/16"	1-1/2"	3/4"	4"		33022		30713
3/4"	1-1/2"	3/4"	4"		33023		30714
7/8"	1-1/2"	7/8"	4"		33024		30715
1"	1-1/2"	1"	4"		33025		30716

DURA-CARB
END MILLS



TiAIN
COATING

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

DURA-CARB END MILLS



TiAIN
COATING

SERIES 3300XL

Square End • Extra Long Length • Three 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3300XL		3300XL TiAIN	
1/8"	3/4"	1/8"	3"		30234		30011
1/8"	1"	1/8"	3"		33059		30180
3/16"	1-1/4"	3/16"	3"		33060		30181
3/16"	1"	3/16"	4"		30246		30182
1/4"	1-1/2"	1/4"	4"		33061		30183
5/16"	1-5/8"	5/16"	4"		33062		30184
3/8"	2"	3/8"	4"		33063		30185
3/8"	3"	3/8"	6"		33064		30186
7/16"	2"	7/16"	4"		33065		30187
7/16"	3"	7/16"	6"		33066		30188
1/2"	1-1/4"	1/2"	3"		30247		30189
1/2"	1-1/2"	1/2"	4"		32598		30190
1/2"	2"	1/2"	4"		33067		30191
1/2"	3"	1/2"	6"		33068		30192
5/8"	2-1/2"	5/8"	5"		33079		30193
3/4"	2-1/2"	3/4"	5"		33080		30194

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

SERIES 3300B

Ball End • Standard Length • Three 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3300B		3300B TiAIN	
				Price	EDP Number	Price	EDP Number
1/32"	3/32"	1/8"	1-1/2"		33030		30792
3/64"	3/16"	1/8"	1-1/2"		33031		30793
1/16"	1/4"	1/8"	1-1/2"		33032		30794
5/64"	1/4"	1/8"	1-1/2"		33033		30795
3/32"	3/8"	1/8"	1-1/2"		33034		30796
7/64"	1/2"	1/8"	1-1/2"		33035		30797
1/8"	1/2"	1/8"	1-1/2"		33036		30798
9/64"	9/16"	3/16"	2"		33037		30799
5/32"	9/16"	3/16"	2"		33038		30800
11/64"	9/16"	3/16"	2"		32663		30801
3/16"	5/8"	3/16"	2"		33039		30802
13/64"	5/8"	1/4"	2-1/2"		32664		30803
7/32"	5/8"	1/4"	2-1/2"		33040		30804
15/64"	3/4"	1/4"	2-1/2"		32665		30805
1/4"	3/4"	1/4"	2-1/2"		33041		30806
17/64"	7/8"	5/16"	2-1/2"		32970		30807
9/32"	7/8"	5/16"	2-1/2"		33042		30808
19/64"	7/8"	5/16"	2-1/2"		32971		30809
5/16"	7/8"	5/16"	2-1/2"		33043		30810
21/64"	7/8"	3/8"	2-1/2"		32972		30811
11/32"	7/8"	3/8"	2-1/2"		33044		30812
23/64"	1"	3/8"	2-1/2"		32973		30813
3/8"	1"	3/8"	2-1/2"		33045		30814
25/64"	1"	7/16"	2-3/4"		32974		30815
13/32"	1"	7/16"	2-3/4"		32906		30816
27/64"	1"	7/16"	2-3/4"		32975		30817
7/16"	1"	7/16"	2-3/4"		33046		30818
29/64"	1"	1/2"	3"		32976		30819
15/32"	1"	1/2"	3"		32916		30820
31/64"	1"	1/2"	3"		32977		30821
1/2"	1"	1/2"	3"		33047		30822
9/16"	1-1/4"	9/16"	3-1/2"		33048		30823
5/8"	1-1/2"	5/8"	3-1/2"		33049		30824
11/16"	1-1/2"	3/4"	4"		33050		30825
3/4"	1-1/2"	3/4"	4"		33051		30826
7/8"	1-1/2"	7/8"	4"		33052		30827
1"	1-1/2"	1"	4"		33053		30828

DURA-CARB
END MILLS



Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

SERIES 3300XLB*Ball End • Extra Long Length • Three 30° RH Cut Flutes*

Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price 3300XLB	EDP Number	Price 3300XLB TiAIN	EDP Number
1/8"	3/4"	1/8"	3"		30237		30195
1/8"	1"	1/8"	3"		33069		30196
3/16"	1-1/4"	3/16"	3"		33070		30197
3/16"	1"	3/16"	4"		30248		30198
1/4"	1-1/2"	1/4"	4"		33071		30199
5/16"	1-5/8"	5/16"	4"		33072		30000
3/8"	2"	3/8"	4"		33073		30001
3/8"	3"	3/8"	6"		33074		30002
7/16"	2"	7/16"	4"		33075		30003
7/16"	3"	7/16"	6"		33076		30004
1/2"	1-1/4"	1/2"	3"		30249		30005
1/2"	1-1/2"	1/2"	4"		32599		30006
1/2"	2"	1/2"	4"		33077		30007
1/2"	3"	1/2"	6"		33078		30008
5/8"	2-1/2"	5/8"	5"		33089		30009
3/4"	2-1/2"	3/4"	5"		33090		30012



Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

METRIC SERIES 9300 • 9390

Square End • Standard Length • Three 30° RH Cut Flutes

Standard Length



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9300		9300 TiAlN	
1.0	4.0	3.0	38.0		92330		92350
1.5	6.0	3.0	38.0		92331		92351
2.0	9.0	3.0	38.0		92332		92352
2.5	12.0	3.0	38.0		92333		92353
3.0	12.0	3.0	38.0		92334		92354
3.5	12.0	4.0	50.0		92335		92355
4.0	14.0	4.0	50.0		92336		92356
4.5	14.0	5.0	51.0		92337		92357
5.0	16.0	5.0	64.0		92338		92358
6.0	20.0	6.0	64.0		92339		92359
7.0	22.0	7.0	64.0		92340		92360
8.0	22.0	8.0	64.0		92341		92361
9.0	22.0	9.0	64.0		92342		92362
10.0	25.0	10.0	64.0		92343		92363
12.0	25.0	12.0	84.0		92344		92364
14.0	32.0	14.0	84.0		92345		92365
16.0	38.0	16.0	89.0		92346		92366
18.0	40.0	18.0	100.0		92347		92367
20.0	40.0	20.0	100.0		92348		92368
25.0	40.0	25.0	100.0		92349		92369

Stub Length

Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
				9390	
1.0	2.5	1.0	38.0		93200
1.5	3.0	1.5	38.0		93201
2.0	4.0	2.0	38.0		93202
2.5	5.0	2.5	38.0		93203
3.0	6.0	3.0	38.0		93204
4.0	8.0	4.0	50.0		93205
5.0	10.0	5.0	51.0		93206
6.0	13.0	6.0	50.0		93207

Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6

DURA-CARB
END MILLS



TiAlN
COATING

mm
METRIC



METRIC SERIES 9300B

Ball End • Standard Length • Three 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				9300B		9300B TiAlN	
1.0	4.0	3.0	38.0		92370		92390
1.5	6.0	3.0	38.0		92371		92391
2.0	9.0	3.0	38.0		92372		92392
2.5	12.0	3.0	38.0		92373		92393
3.0	12.0	3.0	38.0		92374		92394
3.5	12.0	4.0	50.0		92375		92395
4.0	14.0	4.0	50.0		92376		92396
4.5	14.0	5.0	51.0		92377		92397
5.0	16.0	5.0	64.0		92378		92398
6.0	20.0	6.0	64.0		92379		92399
7.0	22.0	7.0	64.0		92380		92400
8.0	22.0	8.0	64.0		92381		92401
9.0	22.0	9.0	64.0		92382		92402
10.0	25.0	10.0	64.0		92383		92403
12.0	25.0	12.0	84.0		92384		92404
14.0	32.0	14.0	84.0		92385		92405
16.0	38.0	16.0	89.0		92386		92406
18.0	40.0	18.0	100.0		92387		92407
20.0	40.0	20.0	100.0		92388		92408
25.0	40.0	25.0	100.0		92389		92409

Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6

SERIES 3200R

Radius End • Standard Length • Four 30° RH Cut Flutes

3200R UNCOATED



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	.015 RAD	.020 RAD	.030 RAD	.045 RAD	.060 RAD	.090 RAD	.125 RAD
1/8"	1/2"	1/8"	1-1/2"		33700	33709	-	-	-	-	-
3/16"	5/8"	3/16"	2"		33701	33710	33718	-	-	-	-
1/4"	3/4"	1/4"	2-1/2"		33702	33711	33719	33726	-	-	-
5/16"	7/8"	5/16"	2-1/2"		33703	33712	33720	33727	-	-	-
3/8"	1"	3/8"	2-1/2"		33704	33713	33721	33728	33733	-	-
1/2"	1"	1/2"	3"		33705	33714	33722	33729	33734	33738	33742
5/8"	1-1/2"	5/8"	3-1/2"		33706	33715	33723	33730	33735	33739	33802
3/4"	1-1/2"	3/4"	4"		33707	33716	33724	33731	33736	33740	33743
1"	1-1/2"	1"	4"		33708	33717	33725	33732	33737	33741	33744

3200R TiAIN COATED



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	.015 RAD	.020 RAD	.030 RAD	.045 RAD	.060 RAD	.090 RAD	.125 RAD
1/8"	1/2"	1/8"	1-1/2"		33804	33813	-	-	-	-	-
3/16"	5/8"	3/16"	2"		33805	33814	33822	-	-	-	-
1/4"	3/4"	1/4"	2-1/2"		33806	33815	33790	33827	-	-	-
5/16"	7/8"	5/16"	2-1/2"		33807	33816	33823	33828	-	-	-
3/8"	1"	3/8"	2-1/2"		33808	33817	33791	33829	33792	-	-
1/2"	1"	1/2"	3"		33809	33818	33793	33830	33794	33837	33841
5/8"	1-1/2"	5/8"	3-1/2"		33810	33819	33824	33831	33834	33838	33842
3/4"	1-1/2"	3/4"	4"		33811	33820	33825	33832	33835	33839	33843
1"	1-1/2"	1"	4"		33812	33821	33826	33833	33836	33840	33844

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

DURA-CARB
END MILLS



TiAIN
COATING

SERIES 3215R

Radius End • Standard Length • Two 30° RH Cut Flutes

3215R UNCOATED


Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	.015 RAD	.020 RAD	.030 RAD	.045 RAD	.060 RAD	.090 RAD	.125 RAD
1/8"	1/2"	1/8"	1-1/2"		33745	33754	-	-	-	-	-
3/16"	5/8"	3/16"	2"		33746	33755	33763	-	-	-	-
1/4"	3/4"	1/4"	2-1/2"		33747	33756	33764	33771	-	-	-
5/16"	7/8"	5/16"	2-1/2"		33748	33757	33765	33772	-	-	-
3/8"	1"	3/8"	2-1/2"		33749	33758	33766	33773	33778	-	-
1/2"	1"	1/2"	3"		33750	33759	33767	33774	33779	33783	33787
5/8"	1-1/2"	5/8"	3-1/2"		33751	33760	33768	33775	33780	33784	33803
3/4"	1-1/2"	3/4"	4"		33752	33761	33769	33776	33781	33785	33788
1"	1-1/2"	1"	4"		33753	33762	33770	33777	33782	33786	33789

3215R TiAIN COATED


Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	.015 RAD	.020 RAD	.030 RAD	.045 RAD	.060 RAD	.090 RAD	.125 RAD
1/8"	1/2"	1/8"	1-1/2"		33845	33854	-	-	-	-	-
3/16"	5/8"	3/16"	2"		33846	33855	33863	-	-	-	-
1/4"	3/4"	1/4"	2-1/2"		33847	33856	33864	33871	-	-	-
5/16"	7/8"	5/16"	2-1/2"		33848	33857	33865	33872	-	-	-
3/8"	1"	3/8"	2-1/2"		33849	33858	33866	33873	33878	-	-
1/2"	1"	1/2"	3"		33850	33859	33867	33874	33879	33883	33887
5/8"	1-1/2"	5/8"	3-1/2"		33851	33860	33868	33875	33880	33884	33888
3/4"	1-1/2"	3/4"	4"		33852	33861	33869	33876	33881	33885	33889
1"	1-1/2"	1"	4"		33853	33862	33870	33877	33882	33886	33890

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

METRIC SERIES 9200R

Radius End • Standard Length • Four 30° RH Cut Flutes

9200R UNCOATED

Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	0.5 mm	1.0 mm	1.5 mm	2.0 mm	2.5 mm	3.0 mm
6.0	20.0	6.0	64.0		91876	91877	-	-	-	-
8.0	22.0	8.0	64.0		91881	91882	-	-	-	-
10.0	25.0	10.0	64.0		91887	91888	91889	-	-	-
12.0	25.0	12.0	84.0		91893	91894	91895	91896	91897	-
16.0	38.0	16.0	89.0		91899	91900	91901	91902	91903	91904



9200R TiAIN COATED

Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	0.5 mm	1.0 mm	1.5 mm	2.0 mm	2.5 mm	3.0 mm
6.0	20.0	6.0	64.0		91905	91906	-	-	-	-
8.0	22.0	8.0	64.0		91910	91911	-	-	-	-
10.0	25.0	10.0	64.0		91916	91917	91918	-	-	-
12.0	25.0	12.0	84.0		91922	91923	91924	91925	91926	-
16.0	38.0	16.0	89.0		91928	91929	91930	91931	91932	91933



DURA-CARB
END MILLS



TiAIN
COATING

mm
METRIC

Tolerance: Cutter Dia. +0.00 -0.05mm
Shank Dia. h6

DOUBLE END SERIES 3278

Square End • Standard Length • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3278		3278 TiAIN	
1/16"	3/16"	1/8"	2"		32387		12387
3/32"	3/8"	1/8"	2"		32388		12388
1/8"	3/8"	1/8"	2"		32389		12389
5/32"	7/16"	3/16"	3"		32390		12390
3/16"	1/2"	3/16"	3"		32391		12391
7/32"	9/16"	1/4"	3"		32392		12392
1/4"	5/8"	1/4"	3"		32393		12393
5/16"	3/4"	5/16"	3"		32395		12395
3/8"	3/4"	3/8"	3-1/2"		32397		12397
7/16"	7/8"	7/16"	4"		32398		12398
1/2"	1"	1/2"	4"		32399		12399

DOUBLE END SERIES 3282

Square End • Standard Length • Two 35° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3282		3282 TiAIN	
1/16"	3/16"	1/8"	2"		32413		12413
3/32"	3/8"	1/8"	2"		32414		12414
1/8"	3/8"	1/8"	2"		32415		12415
5/32"	7/16"	3/16"	3"		32416		12416
3/16"	1/2"	3/16"	3"		32417		12417
7/32"	9/16"	1/4"	3"		32418		12418
1/4"	5/8"	1/4"	3"		32419		12419
5/16"	3/4"	5/16"	3"		32421		12421
3/8"	3/4"	3/8"	3-1/2"		32423		12423
7/16"	7/8"	7/16"	4"		32424		12424
1/2"	1"	1/2"	4"		32425		12425

Solid Dura-Carb
END MILLS

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

DOUBLE END SERIES 3278B

Ball End • Standard Length • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3278B		3278B TiAIN	
				Price	Edp Number	Price	Edp Number
1/16"	3/16"	1/8"	2"		32400		12400
3/32"	3/8"	1/8"	2"		32401		12401
1/8"	3/8"	1/8"	2"		32402		12402
5/32"	7/16"	3/16"	3"		32403		12403
3/16"	1/2"	3/16"	3"		32404		12404
7/32"	9/16"	1/4"	3"		32405		12405
1/4"	5/8"	1/4"	3"		32406		12406
5/16"	3/4"	5/16"	3"		32408		12408
3/8"	3/4"	3/8"	3-1/2"		32410		12410
7/16"	7/8"	7/16"	4"		32411		12411
1/2"	1"	1/2"	4"		32412		12412

DURA-CARB
END MILLS



DOUBLE END SERIES 3282B

Ball End • Standard Length • Two 35° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3282B		3282B TiAIN	
				Price	Edp Number	Price	Edp Number
1/16"	3/16"	1/8"	2"		32426		12426
3/32"	3/8"	1/8"	2"		32427		12427
1/8"	3/8"	1/8"	2"		32428		12428
5/32"	7/16"	3/16"	3"		32429		12429
3/16"	1/2"	3/16"	3"		32430		12430
7/32"	9/16"	1/4"	3"		32431		12431
1/4"	5/8"	1/4"	3"		32432		12432
5/16"	3/4"	5/16"	3"		32434		12434
3/8"	3/4"	3/8"	3-1/2"		32436		12436
7/16"	7/8"	7/16"	4"		32437		12437
1/2"	1"	1/2"	4"		32438		12438

Solid Dura-Carb
END MILLS



Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

DOUBLE END SERIES 3260

Square End • Stub Length • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3260		3260 TiAIN	
				Price	EDP Number	Price	EDP Number
1/32"	3/32"	1/8"	1-1/2"		32439		36001
3/64"	1/8"	1/8"	1-1/2"		32440		36002
1/16"	1/8"	1/8"	1-1/2"		32441		36003
5/64"	1/8"	1/8"	1-1/2"		32519		36004
3/32"	3/16"	1/8"	1-1/2"		32442		36005
7/64"	3/16"	1/8"	1-1/2"		32530		36006
1/8"	1/4"	1/8"	1-1/2"		32443		36007
9/64"	5/16"	3/16"	2"		32537		36008
5/32"	5/16"	3/16"	2"		32444		36009
11/64"	5/16"	3/16"	2"		32538		36010
3/16"	3/8"	3/16"	2"		32445		36011
13/64"	1/2"	1/4"	2-1/2"		32539		36012
7/32"	1/2"	1/4"	2-1/2"		32446		36013
15/64"	1/2"	1/4"	2-1/2"		32545		36014
1/4"	1/2"	1/4"	2-1/2"		32447		36015
9/32"	1/2"	5/16"	2-1/2"		32594		36016
5/16"	1/2"	5/16"	2-1/2"		32448		36017
3/8"	9/16"	3/8"	2-1/2"		32449		36018
7/16"	5/8"	7/16"	2-3/4"		32450		36019
1/2"	5/8"	1/2"	3"		32451		36020

DOUBLE END SERIES 3265

Square End • Stub Length • Two 35° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3265		3265 TiAIN	
				Price	EDP Number	Price	EDP Number
1/32"	3/32"	1/8"	1-1/2"		32465		36021
3/64"	1/8"	1/8"	1-1/2"		32466		36022
1/16"	1/8"	1/8"	1-1/2"		32467		36023
5/64"	1/8"	1/8"	1-1/2"		32533		36024
3/32"	3/16"	1/8"	1-1/2"		32468		36025
7/64"	3/16"	1/8"	1-1/2"		32534		36026
1/8"	1/4"	1/8"	1-1/2"		32469		36027
9/64"	5/16"	3/16"	2"		32586		36028
5/32"	5/16"	3/16"	2"		32470		36029
11/64"	5/16"	3/16"	2"		32587		36030
3/16"	3/8"	3/16"	2"		32471		36031
13/64"	1/2"	1/4"	2-1/2"		32588		36032
7/32"	1/2"	1/4"	2-1/2"		32472		36033
15/64"	1/2"	1/4"	2-1/2"		32589		36034
1/4"	1/2"	1/4"	2-1/2"		32473		36035
9/32"	1/2"	5/16"	2-1/2"		32595		36036
5/16"	1/2"	5/16"	2-1/2"		32474		36037
3/8"	9/16"	3/8"	2-1/2"		32475		36038
7/16"	5/8"	7/16"	2-3/4"		32476		36039
1/2"	5/8"	1/2"	3"		32477		36040

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6



DOUBLE END SERIES 3260B

Ball End • Stub Length • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3260B		3260B TiAIN	
				Price	EDP Number	Price	EDP Number
1/32"	3/32"	1/8"	1-1/2"		32452		36041
3/64"	1/8"	1/8"	1-1/2"		32453		36042
1/16"	1/8"	1/8"	1-1/2"		32454		36043
5/64"	1/8"	1/8"	1-1/2"		32531		36044
3/32"	3/16"	1/8"	1-1/2"		32455		36045
7/64"	3/16"	1/8"	1-1/2"		32532		36046
1/8"	1/4"	1/8"	1-1/2"		32456		36047
9/64"	5/16"	3/16"	2"		32546		36048
5/32"	5/16"	3/16"	2"		32457		36049
11/64"	5/16"	3/16"	2"		32547		36050
3/16"	3/8"	3/16"	2"		32458		36051
13/64"	1/2"	1/4"	2-1/2"		32548		36052
7/32"	1/2"	1/4"	2-1/2"		32459		36053
15/64"	1/2"	1/4"	2-1/2"		32549		36054
1/4"	1/2"	1/4"	2-1/2"		32460		36055
9/32"	1/2"	5/16"	2-1/2"		32596		36056
5/16"	1/2"	5/16"	2-1/2"		32461		36057
3/8"	9/16"	3/8"	2-1/2"		32462		36058
7/16"	5/8"	7/16"	2-3/4"		32463		36059
1/2"	5/8"	1/2"	3"		32464		36060

DOUBLE END SERIES 3265B

Ball End • Stub Length • Two 35° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3265B		3265B TiAIN	
				Price	EDP Number	Price	EDP Number
1/32"	3/32"	1/8"	1-1/2"		32478		36061
3/64"	1/8"	1/8"	1-1/2"		32479		36062
1/16"	1/8"	1/8"	1-1/2"		32480		36063
5/64"	1/8"	1/8"	1-1/2"		32535		36064
3/32"	3/16"	1/8"	1-1/2"		32481		36065
7/64"	3/16"	1/8"	1-1/2"		32536		36066
1/8"	1/4"	1/8"	1-1/2"		32482		36067
9/64"	5/16"	3/16"	2"		32590		36068
5/32"	5/16"	3/16"	2"		32483		36069
11/64"	5/16"	3/16"	2"		32591		36070
3/16"	3/8"	3/16"	2"		32484		36071
13/64"	1/2"	1/4"	2-1/2"		32592		36072
7/32"	1/2"	1/4"	2-1/2"		32485		36073
15/64"	1/2"	1/4"	2-1/2"		32593		36074
1/4"	1/2"	1/4"	2-1/2"		32486		36075
9/32"	1/2"	5/16"	2-1/2"		32597		36076
5/16"	1/2"	5/16"	2-1/2"		32487		36077
3/8"	9/16"	3/8"	2-1/2"		32488		36078
7/16"	5/8"	7/16"	2-3/4"		32489		36079
1/2"	5/8"	1/2"	3"		32490		36080

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

END MILLS



Solid Dura-Carb
END MILLS



DOUBLE END SERIES 3221

Square End • Standard Length • 3/8" Dia. Shank • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3221		3221 TiAIN	
1/8"	3/8"	3/8"	3-1/2"		32491		37001
5/32"	7/16"	3/8"	3-1/2"		32492		37002
3/16"	1/2"	3/8"	3-1/2"		32493		37003
7/32"	9/16"	3/8"	3-1/2"		32494		37004
1/4"	5/8"	3/8"	3-1/2"		32495		37005
9/32"	11/16"	3/8"	3-1/2"		32496		37006
5/16"	3/4"	3/8"	3-1/2"		32497		37007

NOTE: Weldon flats are standard on all 3221 Series End Mills.

DOUBLE END SERIES 3225

Square End • Standard Length • 3/8" Dia. Shank • Two 35° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number
				3225		3225 TiAIN	
1/8"	3/8"	3/8"	3-1/2"		32505		37015
5/32"	7/16"	3/8"	3-1/2"		32506		37016
3/16"	1/2"	3/8"	3-1/2"		32507		37017
7/32"	9/16"	3/8"	3-1/2"		32508		37018
1/4"	5/8"	3/8"	3-1/2"		32509		37019
9/32"	11/16"	3/8"	3-1/2"		32510		37020
5/16"	3/4"	3/8"	3-1/2"		32511		37021

NOTE: Weldon flats are standard on all 3225 Series End Mills.



Solid Dura-Carb
END MILLS



Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

DOUBLE END SERIES 3221B

Ball End • Standard Length • 3/8" Dia. Shank • Four 30° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3221B		3221B TiAIN	
				Price	Edp Number	Price	Edp Number
1/8"	3/8"	3/8"	3-1/2"		32498		37008
5/32"	7/16"	3/8"	3-1/2"		32499		37009
3/16"	1/2"	3/8"	3-1/2"		32500		37010
7/32"	9/16"	3/8"	3-1/2"		32501		37011
1/4"	5/8"	3/8"	3-1/2"		32502		37012
9/32"	11/16"	3/8"	3-1/2"		32503		37013
5/16"	3/4"	3/8"	3-1/2"		32504		37014

NOTE: Weldon flats are standard on all 3221B Series End Mills.

DOUBLE END SERIES 3225B

Ball End • Standard Length • 3/8" Dia. Shank • Two 35° RH Cut Flutes



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	3225B		3225B TiAIN	
				Price	Edp Number	Price	Edp Number
1/8"	3/8"	3/8"	3-1/2"		32512		37022
5/32"	7/16"	3/8"	3-1/2"		32513		37023
3/16"	1/2"	3/8"	3-1/2"		32514		37024
7/32"	9/16"	3/8"	3-1/2"		32515		37025
1/4"	5/8"	3/8"	3-1/2"		32516		37026
9/32"	11/16"	3/8"	3-1/2"		32517		37027
5/16"	3/4"	3/8"	3-1/2"		32518		37028

NOTE: Weldon flats are standard on all 3225B Series End Mills.

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

END MILLS
DURA-CARB



Solid Dura-Carb
END MILLS



SERIES 3230*Four Straight Flutes • RH Cut Flutes*

Specifically suited for the cutting of cast iron, brass & bronze and hardened steels.



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
3230					
1/16"	3/16"	1/8"	1-1/2"		12110
3/32"	3/8"	1/8"	1-1/2"		12111
1/8"	1/2"	1/8"	1-1/2"		12112
3/16"	5/8"	3/16"	2"		12114
1/4"	3/4"	1/4"	2-1/2"		12116
5/16"	13/16"	5/16"	2-1/2"		12118
3/8"	1"	3/8"	2-1/2"		12120
7/16"	1"	7/16"	2-3/4"		12121
1/2"	1"	1/2"	3"		12122

**SERIES 3242***2 Straight Flutes • RH Cut Flutes*

Specifically suited for the cutting of cast iron, brass & bronze and hardened steels.



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
3242					
1/16"	3/16"	1/8"	1-1/2"		12136
3/32"	3/8"	1/8"	1-1/2"		12137
1/8"	1/2"	1/8"	1-1/2"		12138
3/16"	5/8"	3/16"	2"		12140
1/4"	3/4"	1/4"	2-1/2"		12142
5/16"	13/16"	5/16"	2-1/2"		12144
3/8"	1"	3/8"	2-1/2"		12146
7/16"	1"	7/16"	2-3/4"		12147
1/2"	1"	1/2"	3"		12148

Solid Dura-Carb
END MILLS

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

SERIES 3230B

Four Straight Flutes • RH Cut Flutes

Specifically suited for the cutting of cast iron, brass & bronze and hardened steels.



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
3230B					
1/16"	3/16"	1/8"	1-1/2"		12123
3/32"	3/8"	1/8"	1-1/2"		12124
1/8"	1/2"	1/8"	1-1/2"		12125
3/16"	5/8"	3/16"	2"		12127
1/4"	3/4"	1/4"	2-1/2"		12129
5/16"	13/16"	5/16"	2-1/2"		12131
3/8"	1"	3/8"	2-1/2"		12133
7/16"	1"	7/16"	2-3/4"		12134
1/2"	1"	1/2"	3"		12135

DURA-CARB
END MILLS



SERIES 3242B

2 Straight Flutes • RH Cut Flutes

Specifically suited for the cutting of cast iron, brass & bronze and hardened steels.



Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number
3242B					
1/16"	3/16"	1/8"	1-1/2"		12149
3/32"	3/8"	1/8"	1-1/2"		12150
1/8"	1/2"	1/8"	1-1/2"		12151
3/16"	5/8"	3/16"	2"		12153
1/4"	3/4"	1/4"	2-1/2"		12155
5/16"	13/16"	5/16"	2-1/2"		12157
3/8"	1"	3/8"	2-1/2"		12159
7/16"	1"	7/16"	2-3/4"		12160
1/2"	1"	1/2"	3"		12161

Solid Dura-Carb
END MILLS



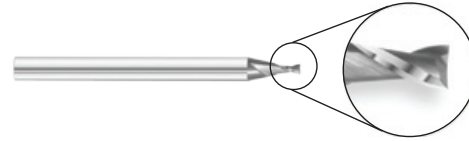
Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6



SUB MINIATURE SERIES 3215SM • 3215SMS

Square End • Two 30° RH Cut Flutes • 1/8" Shank Diameter • 1-1/2" Overall Length

Cutting Diameter	3215SM		3215SMS	
	Price	EDP Number	Price	EDP Number
	Flute Length = 3x Diameter		Flute Length = 1.5x Diameter	
.0050"		-		32540
.0060"		-		32541
.0070"		-		32542
.0080"		-		32543
.0090"		-		32544
.0100"		30900		32352
.0110"		30901		32353
.0120"		30902		32354
.0130"		30903		32355
.0140"		30904		32356
.0150"		30905		32357
.0160"		30906		32358
.0170"		30907		32359
.0180"		30908		32360
.0190"		30909		32361
.0200"		30910		32362
.0210"		30911		32363
.0220"		30912		32364
.0230"		30913		32365
.0240"		30914		32366
.0250"		30915		32367
.0260"		30916		32368
.0270"		30917		32369
.0280"		30918		32370
.0290"		30919		32371
.0300"		30920		32372
.0310"		30921		-
.0350"		30922		-
.0400"		30923		-
.0470"		30924		-
.0500"		30925		-
.0550"		30926		-
.0600"		30927		-

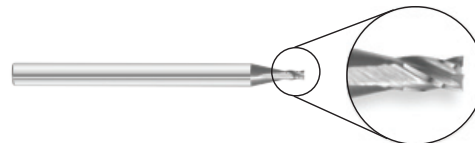


Tolerance: Cutter Dia.: $\pm .0005"$
Shank Dia.: h6

SUB MINIATURE SERIES 3200SM

Square End • Four 30° RH Cut Flutes • 1/8" Shank Diameter • 1-1/2" Overall Length

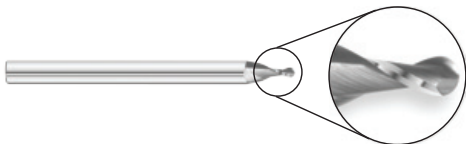
Cutting Diameter	3200SM	
	Price	EDP Number
	Flute Length = 3x Diameter	
.0310"		30928
.0350"		30929
.0400"		30930
.0470"		30931
.0500"		30932
.0550"		30933
.0600"		30934



Tolerance: Cutter Dia.: $\pm .0005"$
Shank Dia.: h6

SUB MINIATURE SERIES 3215SMB • 3215SMSB

Ball End • Two 30° RH Cut Flutes • 1/8" Shank Diameter • 1-1/2" Overall Length

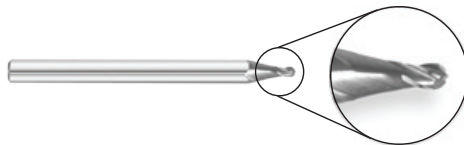


Cutting Diameter	3215SMB		3215SMSB	
	Flute Length = 3x Diameter		Flute Length = 1.5x Diameter	
.0050"		-		32609
.0060"		-		32668
.0070"		-		32669
.0080"		-		32698
.0090"		-		32699
.0100"		30935		32670
.0110"		30936		32671
.0120"		30937		32672
.0130"		30938		32673
.0140"		30939		32674
.0150"		30940		32675
.0160"		30941		32676
.0170"		30942		32677
.0180"		30943		32678
.0190"		30944		32679
.0200"		30945		32680
.0210"		30946		32681
.0220"		30947		32697
.0230"		30948		32682
.0240"		30949		32683
.0250"		30950		32684
.0260"		30951		32685
.0270"		30952		32686
.0280"		30953		32687
.0290"		30954		32688
.0300"		30955		32689
.0310"		30956		-
.0350"		30957		-
.0400"		30958		-
.0470"		30959		-
.0500"		30960		-
.0550"		30961		-
.0600"		30962		-

Tolerance: Cutter Dia.: ±.0005
Shank Dia.: h6

SUB MINIATURE SERIES 3200SMB

Ball End • Four 30° RH Cut Flutes • 1/8" Shank Diameter • 1-1/2" Overall Length



Cutting Diameter	3200SMB	
	Flute Length = 3x Diameter	
.0310"		30963
.0350"		30964
.0400"		30965
.0470"		30966
.0500"		30967
.0550"		30968
.0600"		30969

Tolerance: Cutter Dia.: ±.0005
Shank Dia.: h6

DURA-CARB II
END MILLS



Solid Dura-Carb II
END MILLS



SERIES 3211*Square End • Three Constant Helix RH Spiral RH Cut Flutes*

Shank Diameter	Center Line Angle	Nose Diameter	Appr. Cutting Length	Overall Length	Price	EDP Number	Price	EDP Number
					3211		3211 TiAIN	
1/4"	1° 30'	.1250"	1-1/2"	3"		32610		38750
1/4"	3°	.1250"	1"	3"		32611		38751
1/4"	5°	.1250"	3/4"	3"		32612		38752
1/4"	7°	.1250"	1/2"	3"		32613		38753
3/8"	1° 30'	.1875"	1-3/4"	3-1/2"		32614		38754
3/8"	3°	.1562"	1-3/4"	3-1/2"		32615		38755
3/8"	5°	.1250"	1-1/2"	3-1/2"		32616		38756
3/8"	7°	.1562"	3/4"	3-1/2"		32617		38757
1/2"	3°	.2500"	2"	4"		32618		38758
1/2"	5°	.2500"	1-1/4"	4"		32619		38759
1/2"	7°	.1875"	1-1/4"	4"		32620		38760

Tolerance: Cutter Dia.: $\pm .001$ " on end $\emptyset$
Shank Dia.: h6

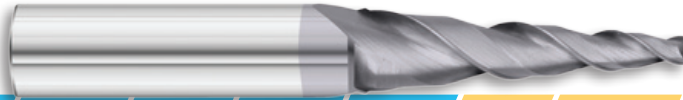
SERIES 3211B*Ball End • Three Constant Helix RH Spiral RH Cut Flutes*

Shank Diameter	Center Line Angle	Nose Diameter	Appr. Cutting Length	Overall Length	Price	EDP Number	Price	EDP Number
					3211B		3211B TiAIN	
1/4"	1° 30'	.1250"	1-1/2"	3"		32630		38761
1/4"	3°	.1250"	1"	3"		32631		38762
1/4"	5°	.1250"	3/4"	3"		32632		38763
1/4"	7°	.1250"	1/2"	3"		32633		38764
3/8"	1° 30'	.1875"	1-3/4"	3-1/2"		32634		38765
3/8"	3°	.1562"	1-3/4"	3-1/2"		32635		38766
3/8"	5°	.1250"	1-1/2"	3-1/2"		32636		38767
3/8"	7°	.1562"	3/4"	3-1/2"		32637		38768
1/2"	3°	.2500"	2"	4"		32638		38769
1/2"	5°	.2500"	1-1/4"	4"		32639		38770
1/2"	7°	.1875"	1-1/4"	4"		32640		38771

Tolerance: Cutter Dia.: $\pm .001$ " on radius
Shank Dia.: h6

SERIES 3212 TiAIN

Square End • Two Constant Helix RH Spiral RH Cut Flutes



3212 & 3212B Tapered End Mills Designed for Superior Performance.

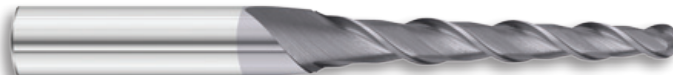
The unique two-flute design allows these tools to be operated at speeds three to four times that of the conventional three-flute designs. They are designed for high speed machining in the die and mold industry and supplied with TiAIN coating.

Shank Diameter	Center Line Angle	Nose Diameter	Appr. Cutting Length	Overall Length	Price	Edp Number
3212 TiAIN						
1/4"	1° 30'	.0938"	1-1/4"	3"		38403
1/4"	1° 30'	.0938"	1-5/8"	3-1/2"		38405
1/4"	3°	.1250"	1"	3"		38407
1/4"	3°	.0938"	1-1/2"	3-1/2"		38409
1/4"	5°	.1250"	3/4"	3"		38411
1/4"	7°	.1250"	1/2"	3"		38413
3/8"	1° 30'	.1875"	1-3/4"	3-1/2"		38415
3/8"	3°	.1562"	1-1/4"	3"		38417
3/8"	3°	.1875"	1-1/4"	3-1/2"		38419
3/8"	5°	.1250"	1-1/4"	3"		38421
3/8"	5°	.1562"	1-1/4"	3"		38423
3/8"	7°	.1562"	3/4"	3-1/2"		38425
1/2"	3°	.1875"	2"	4"		38427
1/2"	5°	.1875"	1-1/4"	3-1/2"		38429
1/2"	5°	.1875"	1-1/2"	3-1/2"		38431
1/2"	5°	.2500"	1-1/4"	3-1/2"		38433
1/2"	7°	.1875"	1-1/4"	4"		38435

Tolerance: Cutter Dia.: +.000"-.002" on end Ø
Shank Dia.: h6

SERIES 3212B TiAIN

Ball End • Two Constant Helix RH Spiral RH Cut Flutes



Shank Diameter	Center Line Angle	Nose Diameter	Appr. Cutting Length	Overall Length	Price	Edp Number
3212B TiAIN						
1/4"	1° 30'	.0938"	1-1/4"	3"		38437
1/4"	1° 30'	.0938"	1-5/8"	3-1/2"		38439
1/4"	3°	.1250"	1"	3"		38441
1/4"	3°	.0938"	1-1/2"	3-1/2"		38443
1/4"	5°	.1250"	3/4"	3"		38445
1/4"	7°	.1250"	1/2"	3"		38447
3/8"	1° 30'	.1875"	1-3/4"	3-1/2"		38449
3/8"	3°	.1562"	1-1/4"	3"		38451
3/8"	3°	.1875"	1-1/4"	3-1/2"		38453
3/8"	5°	.1250"	1-1/4"	3"		38455
3/8"	5°	.1562"	1-1/4"	3"		38457
3/8"	7°	.1562"	3/4"	3-1/2"		38459
1/2"	3°	.1875"	2"	4"		38461
1/2"	5°	.1875"	1-1/4"	3-1/2"		38463
1/2"	5°	.1875"	1-1/2"	3-1/2"		38465
1/2"	5°	.2500"	1-1/4"	3-1/2"		38467
1/2"	7°	.1875"	1-1/4"	4"		38469

Tolerance: Cutter Dia.: ±.001" on radius
Shank Dia.: h6

DURA-CARB
END MILLS



TiAIN
COATING

Solid Dura-Carb II
END MILLS



TiAIN
COATING



TAPERED 3261B

Ball End • Two Straight Flutes • 14° Included Angle

Ball End

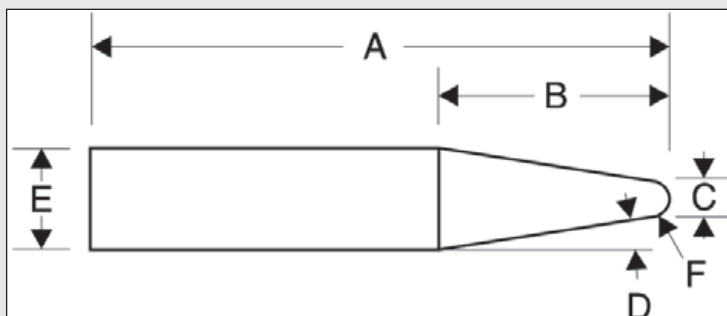


Shank Diameter	Nose Radius	Appr. Flute Length	Overall Length	Price	EDP Number	Price	EDP Number
				3261B		3261B TiAlN	
1/8"	.0312"	5/16"	1-1/2"		32600		38772
5/32"	.0390"	5/16"	2"		32601		38773
3/16"	.0469"	3/8"	2"		32602		38774
1/4"	.0625"	1/2"	2-1/2"		32603		38775
5/16"	.0781"	5/8"	2-1/2"		32604		38776
3/8"	.0938"	3/4"	2-1/2"		32605		38777
7/16"	.1094"	7/8"	2-3/4"		32606		38778
1/2"	.1250"	1"	3"		32607		38779

SPECIAL TAPERED END MILLS

Special cutters are available for quote.

Use this diagram for your specific requirements.



- A - Overall Length
- B - Approximate Flute Length
- C - Nose Diameter
- D - C/L Angle
- E - Shank Diameter
- F - Square or Nose Radius
- * - Style of Flute

Tolerance: Cutter Dia.: $\pm .0005"$ on nose radius
Shank Dia.: h6

SERIES 3900 • 3910 • 3925 • 3930 • 3915 • 3935

Single End • Solid Carbide Routers

DURA-CARB ROUTERS



3900 Series



Two straight flutes.
General purpose in wood composites and thin laminates, also for hard, more rigid plastics.

3910 Series



Two LH Spiral RH cutting flutes.
For hard and abrasive materials.
LH spiral holds material down and forces chips downward.

3925 Series



Three LH Spiral RH cutting flutes.
For fiberglass and composite materials.
LH spiral holds material down and forces chips downward.

3930 Series



One single flute.
Designed for composites, wood and softer ductile plastics.

3915 Series



Two RH Spiral RH cutting flutes.
Designed for wood, wood composites, plastic and other non-ferrous materials. The upcut prevents burning in plunge cuts.

3935 Series



Two LH spiral RH cutting flutes.
Designed for wood, wood composites, plastics and other non-ferrous materials.
LH flutes force chips downward.

Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number					
					3900	3910	3925	3930	3915	3935
1/8"	1/2"	1/8"	1-1/2"		39100	39107	39114	39121	39128	39135
3/16"	5/8"	3/16"	2"		39101	39108	39115	39122	39129	39136
1/4"	3/4"	1/4"	2-1/2"		39102	39109	39116	39123	39130	39137
1/4"	1"	1/4"	2-1/2"		39103	39110	39117	39124	39131	39138
3/8"	1"	3/8"	2-1/2"		39105	39112	39119	39126	39133	39140
1/2"	1"	1/2"	3"		39106	39113	39120	39127	39134	39141

Tolerance: Cutter Dia. : +.000" -.003"
Shank Dia.: h6

SERIES 2004**Square End • Four 30° RH Cut Flutes • Standard Length****JUST IN TIME
48-HOUR JIT DELIVERY****12 PIECES
OR LESS****DECIMAL SIZED END MILLS**

AVAILABLE • SQUARE END - CORNER RADIUS - FULL RADIUS

The Fullerton Tool Series "2000" is not an altered standard tool, but a fully CNC ground end mill with exacting new tool geometry for optimal tool performance and longevity. Altering a standard end mill reduces flute depth and changes the radial rake, adversely affecting cutting performance. We will furnish up to 12 pieces per size, in 48 hours with a square end, corner radius or full radius Dura-Carb end mill.

TO ORDER: SPECIFY SERIES, DIAMETER, AND TOLERANCE REQUIRED.



Size Range	Cutting Length	Shank Diameter	Overall Length	EDP Number	Price 1 pc	Price 2 pc	Price 3-5 pcs	Price 6-7 pcs	Price 8-11 pcs	Price 12 pcs
.1200-.1406	9/16"	3/16"	2"	20426						
.1407-.1562	9/16"	3/16"	2"	20428						
.1563-.1719	9/16"	3/16"	2"	20430						
.1720-.1875	5/8"	3/16"	2"	20432						
.1876-.2031	5/8"	1/4"	2-1/2"	20434						
.2032-.2188	5/8"	1/4"	2-1/2"	20436						
.2189-.2344	3/4"	1/4"	2-1/2"	20438						
.2345-.2500	3/4"	1/4"	2-1/2"	20440						
.2501-.2656	7/8"	5/16"	2-1/2"	20442						
.2657-.2812	7/8"	5/16"	2-1/2"	20444						
.2813-.2969	7/8"	5/16"	2-1/2"	20446						
.2970-.3125	7/8"	5/16"	2-1/2"	20448						
.3126-.3281	7/8"	3/8"	2-1/2"	20450						
.3282-.3438	7/8"	3/8"	2-1/2"	20452						
.3439-.3594	1"	3/8"	2-1/2"	20454						
.3595-.3750	1"	3/8"	2-1/2"	20456						
.3751-.3906	1"	7/16"	2-3/4"	20458						
.3907-.4062	1"	7/16"	2-3/4"	20460						
.4063-.4219	1"	7/16"	2-3/4"	20462						
.4220-.4375	1"	7/16"	2-3/4"	20464						
.4376-.4531	1"	1/2"	3"	20466						
.4532-.4688	1"	1/2"	3"	20468						
.4689-.4844	1"	1/2"	3"	20470						
.4845-.5000	1"	1/2"	3"	20472						
.5001-.5625	1-1/4"	9/16"	3-1/2"	20474						
.5626-.6250	1-1/2"	5/8"	3-1/2"	20476						
.6251-.6875	1-1/2"	3/4"	4"	20478						
.6876-.7500	1-1/2"	3/4"	4"	20480						
.7501-.8125	1-1/2"	7/8"	4"	20482						
.8126-.8750	1-1/2"	7/8"	4"	20484						
.8751-.9375	1-1/2"	1"	4"	20486						
.9376-1.000	1-1/2"	1"	4"	20488						

Corner Radius: Add 15% to prices shown and add a C after series number.

Full Radius: Add 20% to prices shown and add a B after series number.

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

SERIES 2002 • JIT 48-HOUR DELIVERY

Square End • Two 30° RH Cut Flutes • Standard Length • JIT on 12 Pieces or Less



JUST IN TIME
48-HOUR JIT DELIVERY

DECIMAL SIZED END MILLS

**12 PIECES
OR LESS**

AVAILABLE • SQUARE END - CORNER RADIUS - FULL RADIUS

The Fullerton Tool Series "2000" is not an altered standard tool, but a fully CNC ground end mill with exacting new tool geometry for optimal tool performance and longevity. Altering a standard end mill reduces flute depth and changes the radial rake, adversely affecting cutting performance. We will furnish up to 12 pieces per size, in 48 hours with a square end, corner radius or full radius Dura-Carb end mill.

TO ORDER: SPECIFY SERIES, DIAMETER, AND TOLERANCE REQUIRED.



Size Range	Cutting Length	Shank Diameter	Overall Length	EDP Number	Price 1 pc	Price 2 pc	Price 3-5 pcs	Price 6-7 pcs	Price 8-11 pcs	Price 12 pcs
.1200-.1406	9/16"	3/16"	2"	20226						
.1407-.1562	9/16"	3/16"	2"	20228						
.1563-.1719	9/16"	3/16"	2"	20230						
.1720-.1875	5/8"	3/16"	2"	20232						
.1876-.2031	5/8"	1/4"	2-1/2"	20234						
.2032-.2188	5/8"	1/4"	2-1/2"	20236						
.2189-.2344	3/4"	1/4"	2-1/2"	20238						
.2345-.2500	3/4"	1/4"	2-1/2"	20240						
.2501-.2656	7/8"	5/16"	2-1/2"	20242						
.2657-.2812	7/8"	5/16"	2-1/2"	20244						
.2813-.2969	7/8"	5/16"	2-1/2"	20246						
.2970-.3125	7/8"	5/16"	2-1/2"	20248						
.3126-.3281	7/8"	3/8"	2-1/2"	20250						
.3282-.3438	7/8"	3/8"	2-1/2"	20252						
.3439-.3594	1"	3/8"	2-1/2"	20254						
.3595-.3750	1"	3/8"	2-1/2"	20256						
.3751-.3906	1"	7/16"	2-3/4"	20258						
.3907-.4062	1"	7/16"	2-3/4"	20260						
.4063-.4219	1"	7/16"	2-3/4"	20262						
.4220-.4375	1"	7/16"	2-3/4"	20264						
.4376-.4531	1"	1/2"	3"	20266						
.4532-.4688	1"	1/2"	3"	20268						
.4689-.4844	1"	1/2"	3"	20270						
.4845-.5000	1"	1/2"	3"	20272						
.5001-.5625	1-1/4"	9/16"	3-1/2"	20274						
.5626-.6250	1-1/2"	5/8"	3-1/2"	20276						
.6251-.6875	1-1/2"	3/4"	4"	20278						
.6876-.7500	1-1/2"	3/4"	4"	20280						
.7501-.8125	1-1/2"	7/8"	4"	20282						
.8126-.8750	1-1/2"	7/8"	4"	20284						
.8751-.9375	1-1/2"	1"	4"	20286						
.9376-1.000	1-1/2"	1"	4"	20288						

Corner Radius: Add 15% to prices shown and add a C after series number.

Full Radius: Add 20% to prices shown and add a B after series number.

Tolerance: Cutter Dia.: +.000" -.002"
Shank Dia.: h6

DURA-CARB
END MILLS



DRILL SPEED AND FEED RECOMMENDATIONS

Material		Speed SPM	Feed (I.P.R.)				
			1/16"	1/8"	1/4"	1/2"	3/4"
Aluminum / Aluminum Alloys		300 - 600	.0008"	.003"	.007"	.012"	.015"
Aluminum Alloyed Si > 10%		150 - 400	.0008"	.002"	.006"	.010"	.012"
Cast Irons	Soft	200 - 300	.001"	.003"	.005"	.010"	.012"
	Medium	125 - 225	.001"	.003"	.005"	.008"	.010"
	Malleable	65 - 200	.0005"	.002"	.004"	.007"	.010"
	Brass	200 - 300	.0007"	.002"	.003"	.004"	.006"
	Bronze	150 - 250	.0007"	.002"	.003"	.004"	.006"
Coppers / Copper Alloys		150 - 300	.001"	.003"	.006"	.010"	.012"
Magnesium		300 - 600	.001"	.003"	.007"	.012"	.015"
Nickel Alloys		75 - 200	.001"	.003"	.005"	.009"	.012"
Stainless Steels	Free Machining	100 - 150	.001"	.003"	.005"	.008"	.012"
	Work Hardening	50 - 100	.0005"	.002"	.004"	.006"	.010"
Steels	Low Carbon	150 - 300	.001"	.002"	.004"	.007"	.012"
	Medium Carbon	100 - 200	.001"	.002"	.003"	.006"	.010"
	High Tensile (35 - 40Rc)	75 - 150	.001"	.002"	.003"	.004"	.005"
	High Tensile (40 - 45Rc)	50 - 100	.0007"	.001"	.002"	.003"	.004"
	High Tensile (45Rc +)	25 - 75	.0005"	.0007"	.001"	.002"	.003"
Tool Steels		40 - 100	.001"	.0015"	.003"	.005"	.008"
Titanium	Soft	80 - 125	.001"	.002"	.004"	.006"	.010"
	Hard	40 - 100	.0007"	.001"	.002"	.005"	.008"

OPERATING PARAMETERS

To achieve optimal performance, attention must be paid to the following:

1. Machine utilizing tooling must have necessary rigidity to minimize spindle deflection and sufficient horsepower to perform at recommended speeds and feeds.
2. Make sure holders and collets give good concentricity between tool and machine spindle.
3. Rigidly clamp and support workpiece to minimize deflection.
4. Use as short a drill as the application will permit to give maximum tool rigidity.
5. Use coolant, as recommended, to improve tool life. Direct the flow of coolant to the cutting edges. Insufficient or poorly directed coolant can result in poor tool life.
6. Use the correct speeds and feeds to suit the application and material being machined.
7. Resharpen or replace drills at first indication of cutting lip dulling or corner of cutting lip rounding.

Speeds and Feeds for Deep-Hole Drilling

Holes which must be drilled three diameters deep or more fall into the "deep hole" drilling class and some adjustment of feeds and speeds is necessary.

The deeper the hole, the greater the tendency there is for chips to pack and clog the flutes of the drill. This increases the amount of heat generated and prevents the coolant from conducting the heat away from the point. A buildup of heat at the point will eventually result in premature failure.

Peck drilling, or the practice of drilling a short distance, then withdrawing the drill, will often reduce the chip packing. The deeper the hole, the more frequent the drill must be retracted to be effective.

A reduction in speed and feed to reduce the amount of heat generated is generally required in most deep-hole applications where coolant cannot be effectively applied.

Three 30° RH Spiral Flutes • 130° Special High Performance Point

For Extremely High Speed Drilling in Aluminum, Ductile Iron, Mild Steel, Titanium and Thermoplastics



Decimal Equivalent	Fractional	Metric	Wire and Letter	Cut Top Size Reference	Form Top Size Reference	Shank Diameter	Flute Length	Overall Length	EDP Number
.0625"	1/16"			M2 x 0.4		.0625"	3/4"	1-1/2"	15424
.0670"			51	#2-56	#1-64, #1-72	.0670"	3/4"	1-1/2"	19000
.0730"			49	#2-64	M2 x 0.4	.0730"	7/8"	1-3/4"	19001
.0781"	5/64"			#3-48	#2-56	.0781"	7/8"	1-3/4"	15425
.0787"		2.0			#2-64	3.0	25.0	50.0	19002
.0820"			45	#3-56, M2.5 x 0.45		.0820"	7/8"	1-3/4"	19003
.0890"			43	#4-40		.0890"	1"	2"	15445
.0906"		2.3			#3-48, #3-56, M2.5 x 0.45	3.0	25.0	50.0	19004
.0938"	3/32"			#4-48		.0938"	1"	2"	15426
.0980"			40	#5-40, M3 x 0.5		.0980"	1-1/4"	2-1/4"	15600
.1020"		2.6			#4-40, #4-48	3.0	32.0	57.0	19005
.1065"			36	#6-32		.1065"	1-1/4"	2-1/4"	15601
.1094"	7/64"				M3 x 0.5	.1094"	1-1/4"	2-1/4"	15427
.1130"			33	#6-40	#5-40	.1130"	1-1/4"	2-1/4"	15602
.1142"		2.9		M3.5 x 0.6		3.0	32.0	57.0	19006
.1181"		3.0				3.0	22.0	38.0	19007
.1181"		3.0				3.0	32.0	57.0	15675
.1250"	1/8"				#6-32, #6-40	.1250"	7/8"	1-1/2"	19008
.1250"	1/8"				#6-32, #6-40	.1250"	1-1/4"	2-1/4"	15428
.1285"			30		M3.5 x 0.6	.1285"	1-3/8"	2-1/2"	15603
.1299"		3.3		M4 x 0.7		6.0	35.0	64.0	15231
.1360"			29	#8-32, #8-36		.1360"	1-3/8"	2-1/2"	15604
.1406"	9/64"					.1406"	1-3/8"	2-1/2"	15429
.1457"		3.7			M4 x 0.7	6.0	35.0	64.0	19009
.1495"			25	#10-24	#8-32	.1495"	1-3/8"	2-1/2"	15605
.1520"			24		#8-36	.1520"	1-3/8"	2-1/2"	19010
.1562"	5/32"					.1562"	1-3/8"	2-1/2"	15430
.1570"			22			.1570"	1-3/8"	2-1/2"	15606
.1574"		4.0				6.0	23.0	50.0	19011
.1574"		4.0				6.0	35.0	64.0	15677
.1590"			21	#10-32		.1590"	1-3/8"	2-1/2"	19012
.1654"		4.2		M5 x 0.8		6.0	45.0	76.0	15232
.1693"		4.3			#12-24	6.0	45.0	76.0	19013
.1719"	11/64"				#10-24	.1719"	1-5/8"	2-3/4"	15431
.1730"			17	#12-24		.1730"	1-5/8"	2-3/4"	19014
.1770"			16		#10-32	.1770"	1-5/8"	2-3/4"	19015
.1800"			15	#12-28		.1800"	1-5/8"	2-3/4"	19016
.1811"		4.6			M5 x 0.8	6.0	45.0	76.0	19017
.1875"	3/16"					.1875"	1"	2"	19018
.1875"	3/16"					.1875"	1-5/8"	2-3/4"	15432
.1960"			9		#12-24	.1960"	1-3/4"	3"	19019
.1968"		5.0		M6 x 1.0		6.0	45.0	76.0	15683
.1990"			8		#12-28	.1990"	1-3/4"	3"	19020
.2010"			7	1/4-20		.2010"	1-3/4"	3"	15226
.2031"	13/64"					.2031"	1-3/4"	3"	15433
.2047"		5.2		M6 x 0.75		6.0	50.0	82.0	19021
.2130"			3	1/4-28		.2130"	1-3/4"	3"	15607
.2188"	7/32"				M6 x 1.0	.2188"	1-3/4"	3"	15434
.2280"			1		1/4-20	.2280"	1-3/4"	3"	19022
.2344"	15/64"				1/4-28	.2344"	2"	3-1/4"	15435
.2362"		6.0				6.0	32.0	64.0	19023
.2362"		6.0				6.0	50.0	82.0	15688

Tolerance:	Cutter Dia. +.0000" -.0005"	Cutter Dia. +0.000 -0.013mm
	Shank Dia. h6	Shank Dia. h6

DURA-CARB
DRILLS

130°

3
FLUTE

ALUMA-DRILL
SERIES 1565

Three 30° RH Spiral Flutes • 130° Special High Performance Point



Decimal Equivalent	Fractional	Metric	Wire and Letter	Cut Tap Size Reference	Form Tap Size Reference	Shank Diameter	Flute Length	Overall Length	EDP Number
.2500"	1/4"					.2500"	1-1/4"	2-1/2"	19024
.2500"	1/4"					.2500"	2"	3-1/4"	15436
.2570"			F	5/16-18		.2570"	2-1/8"	3-1/2"	15608
.2677"		6.8		M8 x 1.25		8.0	54.0	100.0	15233
.2720"			I	5/16-24		.2720"	2-1/8"	3-1/2"	15609
.2755"		7.0		M8 x 1.0		8.0	36.0	76.0	19025
.2755"		7.0		M8 x 1.0		8.0	54.0	100.0	15689
.2812"	9/32"					.2812"	2-1/8"	3-1/2"	15437
.2874"		7.3			5/16-18	8.0	54.0	100.0	19026
.2913"		7.4			5/16-24	8.0	54.0	100.0	19027
.2953"		7.5			M8 x 1.25, M8 x 1.0	8.0	54.0	100.0	19028
.3071"		7.8		M9 x 1.25		8.0	60.0	100.0	15234
.3125"	5/16"			3/8-16		.3125"	1-5/8"	3"	19029
.3125"	5/16"			3/8-16		.3125"	2-3/8"	4"	15438
.3149"		8.0				8.0	40.0	76.0	19030
.3149"		8.0				8.0	60.0	100.0	15690
.3320"			Q	3/8-24		.3320"	2-1/2"	4"	19031
.3346"		8.5		M10 x 1.5		10.0	63.0	100.0	15235
.3438"	11/32"			M10 x 1.25	3/8-16	.3438"	2-1/2"	4"	15439
.3543"		9.0			3/8-24	10.0	63.0	100.0	19032
.3680"			U	7/16-14	M10 x 1.5, M10 x 1.25	.3680"	2-1/2"	4"	15227
.3740"		9.5		M11 x 1.5		10.0	63.0	100.0	15236
.3750"	3/8"					.3750"	1-3/4"	3"	19033
.3750"	3/8"					.3750"	2-1/2"	4"	15440
.3906"	25/64"			7/16-20		.3906"	2-7/8"	4-1/2"	19034
.3937"		10.0				10.0	44.0	76.0	19035
.3937"		10.0				10.0	63.0	100.0	15691
.4016"		10.2		M12 x 1.75		12.0	73.0	125.0	15237
.4062"	13/32"			M12 x 1.75	7/16-14	.4062"	2-7/8"	4-1/2"	15441
.4173"		10.6			7/16-20	12.0	73.0	125.0	19036
.4219"	27/64"			1/2-13, M12 x 1.25		.4219"	2-7/8"	4-1/2"	15228
.4375"	7/16"					.4375"	2-7/8"	4-1/2"	15442
.4448"		11.3			M12 x 1.75, M12 x 1.25	12.0	73.0	125.0	19037
.4531"	29/64"			1/2-20		.4531"	3"	4-3/4"	15446
.4688"	15/32"				1/2-13	.4688"	3"	4-3/4"	15443
.4724"		12.0		M14 x 2.0		12.0	50.0	100.0	19038
.4724"		12.0		M14 x 2.0		12.0	76.0	125.0	15692
.4764"		12.1		9/16-12	1/2-20	14.0	76.0	125.0	19039
.4843"	31/64"			9/16-12		.4843"	3"	4-3/4"	15229
.4921"		12.5			M14 x 1.5	14.0	76.0	125.0	19040
.5000"	1/2"					.5000"	2"	3-1/2"	19041
.5000"	1/2"					.5000"	3"	4-3/4"	15444
.5000"	1/2"					.5000"	4"	6"	15489
.5039"		12.8		9/16-18		14.0	76.0	125.0	19042
.5156"	33/64"				M14 x 2.0	.5156"	3-1/4"	5"	19043
.5197"		13.2			9/16-12, M14 x 1.5	14.0	76.0	125.0	19044
.5312"	17/32"			5/8-11		.5312"	4"	6"	15490
.5354"		13.6			9/16-18	14.0	76.0	125.0	19045
.5512"		14.0		M 16 x 2.0		14.0	101.0	150.0	15238
.5625"	9/16"					.5625"	4"	6"	15491
.5709"		14.5		5/8-18, M16 x 1.5		16.0	101.0	150.0	19046
.5781"	37/64"			5/8-18		.5781"	4"	6"	19047
.5827"		14.8			5/8-11	16.0	101.0	150.0	19048

Tolerance: Cutter Dia. +.0000" -.0005" | Cutter Dia. +0.000 -0.013mm
Shank Dia. h6 | Shank Dia. h6

SERIES 1565

Three 30° RH Spiral Flutes • 130° Special High Performance Point



Decimal Equivalent	Fractional	Metric	Wire and Letter	Cut Tap Size Reference	Form Tap Size Reference	Shank Diameter	Flute Length	Overall Length	EDP Number
									1565
.5905"		15.0				16.0	101.0	150.0	15694
.5938"	19/32"				M16 x 2.0, M16 x 1.5	.5938"	4"	6"	15492
.5984"		15.2			5/8-18	16.0	101.0	150.0	19049
.6102"		15.5		M18 x 2.5		16.0	101.0	150.0	15239
.6250"	5/8"					.6250"	2-5/8"	4-1/2"	19050
.6250"	5/8"					.6250"	4"	6"	15493
.6299"		16.0				16.0	67.0	112.5	19051
.6299"		16.0				16.0	101.0	150.0	15695
.6496"		16.5		3/4-10		18.0	101.0	150.0	15696
.6562"	21/32"					.6562"	4"	6"	15494
.6692"		17.0		M18 x 1.0		18.0	101.0	150.0	15697
.6875"	11/16"			3/4-16		.6875"	4"	6"	15495
.6890"		17.5		M20 x 2.5		18.0	101.0	150.0	15240
.7047"		17.9			3/4-10	18.0	101.0	150.0	19052
.7188"	23/32"					.7188"	4"	6"	15496
.7244"		18.4			3/4-16	20.0	101.0	150.0	19053
.7283"		18.5		M20 x 1.5		20.0	101.0	150.0	19054
.7500"	3/4"				M20 x 2.5	.7500"	2-5/8"	4-1/2"	19055
.7500"	3/4"				M20 x 2.5	.7500"	4"	6"	15497
.7559"		19.2			M20 x 1.5	20.0	101.0	150.0	19056
.7656"	49/64"			7/8-9		.7656"	4"	6"	15230
.7677"		19.5		M22 x 2.5		20.0	101.0	150.0	15241
.7874"		20.0		M22 x 2.0		20.0	67.0	125.0	19057
.7874"		20.0		M22 x 2.0		20.0	101.0	150.0	15698
.8750"	7/8"			1-8		.8750"	4"	6"	15498
1.0000"	1"					1.0000"	4"	6"	15499

PARABOLIC

SERIES 1555

Two 40° RH Spiral Flutes • 118° Four Facet Notched Point

DISCONTINUED

This product has been discontinued.

It is still available as a special order item.

Please contact Fullerton Tool for more information on availability.

The parabolic flute drill features open fluting, heavy parallel web and high helix. It is excellent for deep hole drilling in holes 12 or more diameters deep.

Special diameters and lengths available on request.



Decimal Equivalent	Fractional	Flute Length	Overall Length	Price	EDP Number	Decimal Equivalent	Fractional	Flute Length	Overall Length	Price	EDP Number
				1555						1555	
.0625"	1/16"	3/4"	1-1/2"		15501	.3125"	5/16"	3-1/4"	4-3/4"		15515
.0938"	3/32"	1"	2"		15503	.3438"	11/32"	3-1/2"	5"		15516
.1250"	1/8"	1-1/4"	3"		15505	.3750"	3/8"	4"	6"		15517
.1562"	5/32"	1-1/2"	3"		15507	.4062"	13/32"	4"	6"		15518
.1875"	3/16"	2"	4"		15509	.4375"	7/16"	4"	6"		15519
.2188"	7/32"	2-1/2"	4"		15511	.4688"	15/32"	4"	6"		15520
.2500"	1/4"	3"	4-1/2"		15513	.5000"	1/2"	4"	6"		15521
.2812"	9/32"	3-1/4"	4-1/2"		15514						

Tolerance: Cutter Dia. +.0000" -.0005"

DURA-CARB
DRILLS

130°



118°





SERIES 1540

Three 30° RH Spiral Flutes • 150° Thinned Point

For Cast Iron, Hardened Steels, Stainless Steel, Brass and Bronze



Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price	Edp Number
1540						
.0625"	1/16"	-	3/4"	1-1/2"		15401
.0781"	5/64"	-	7/8"	1-3/4"		15402
.0938"	3/32"	-	1"	2"		15403
.0980"	-	40	1-1/4"	2-1/4"		15550
.1065"	-	36	1-1/4"	2-1/4"		15551
.1094"	7/64"	-	1-1/4"	2-1/4"		15404
.1130"	-	33	1-1/4"	2-1/4"		15552
.1250"	1/8"	-	1-1/4"	2-1/4"		15405
.1285"	-	30	1-3/8"	2-1/2"		15553
.1360"	-	29	1-3/8"	2-1/2"		15554
.1406"	9/64"	-	1-3/8"	2-1/2"		15406
.1495"	-	25	1-3/8"	2-1/2"		15555
.1562"	5/32"	-	1-3/8"	2-1/2"		15407
.1570"	-	22	1-3/8"	2-1/2"		15556
.1719"	11/64"	-	1-5/8"	2-3/4"		15408
.1875"	3/16"	-	1-5/8"	2-3/4"		15409
.2031"	13/64"	-	1-3/4"	3"		15410
.2130"	-	3	1-3/4"	3"		15557
.2188"	7/32"	-	1-3/4"	3"		15411
.2344"	15/64"	-	2"	3-1/4"		15412
.2500"	1/4"	-	2"	3-1/4"		15413
.2570"	-	F	2-1/8"	3-1/2"		15558
.2720"	-	I	2-1/8"	3-1/2"		15559
.2812"	9/32"	-	2-1/8"	3-1/2"		15414
.3125"	5/16"	-	2-3/8"	4"		15415
.3438"	11/32"	-	2-1/2"	4"		15416
.3750"	3/8"	-	2-1/2"	4"		15417
.4062"	13/32"	-	2-7/8"	4-1/2"		15418
.4375"	7/16"	-	2-7/8"	4-1/2"		15419
.4688"	15/32"	-	3"	4-3/4"		15420
.5000"	1/2"	-	3"	4-3/4"		15421
.5000"	1/2"	-	4"	6"		15478
.5312"	17/32"	-	4"	6"		15479
.5625"	9/16"	-	4"	6"		15480
.5938"	19/32"	-	4"	6"		15481
.6250"	5/8"	-	4"	6"		15482
.6562"	21/32"	-	4"	6"		15483
.6875"	11/16"	-	4"	6"		15484
.7188"	23/32"	-	4"	6"		15485
.7500"	3/4"	-	4"	6"		15486
.8750"	7/8"	-	4"	6"		15487
1.0000"	1"	-	4"	6"		15488

Tolerance: Cutter Dia. +.0000" -.0005"

Two 30° RH Spiral Flutes • 144° High Performance Point • Non-Coolant



Decimal Equivalent	Fractional	Wire and Letter	Tap Size Reference	Shank Diameter	Cleard Length	Flute Length	Overall Length	Price	EDP Number
1505									
.2010"	-	7	-	1/4"	1-1/8"	1-1/2"	3"		15615
.2500"	1/4"	-	-	1/4"	1-1/8"	1-1/2"	3"		15614
.2570"	-	F	-	1/4"	1-1/8"	1-1/2"	3"		15616
.2656"	17/64"	-	-	1/4"	1-1/8"	1-1/2"	3"		15617
.2720"	-	I	-	5/16"	1-1/8"	1-1/2"	3"		15618
.2812"	9/32"	-	-	5/16"	1-1/8"	1-1/2"	3"		15621
.2969"	19/64"	-	-	5/16"	1-1/8"	1-1/2"	3"		15623
.3125"	5/16"	-	-	5/16"	1-1/8"	1-1/2"	3"		15620
.3230"	-	P	-	3/8"	1-1/2"	2"	4"		15651
.3281"	21/64"	-	-	3/8"	1-1/2"	2"	4"		15625
.3438"	11/32"	-	-	3/8"	1-1/2"	2"	4"		15629
.3594"	23/64"	-	-	3/8"	1-1/2"	2"	4"		15630
.3680"	-	U	7/16-14	3/8"	1-1/2"	2"	4"		15175
.3750"	3/8"	-	-	3/8"	1-1/2"	2"	4"		15622
.3906"	25/64"	-	-	7/16"	1-3/4"	2-1/4"	4"		15631
.4062"	13/32"	-	-	7/16"	1-3/4"	2-1/4"	4"		15633
.4218"	27/64"	-	-	7/16"	1-3/4"	2-1/4"	4"		15624
.4375"	7/16"	-	-	7/16"	1-3/4"	2-1/4"	4"		15626
.4531"	29/64"	-	-	1/2"	2"	2-1/2"	4-1/2"		15635
.4688"	15/32"	-	-	1/2"	2"	2-1/2"	4-1/2"		15679
.4844"	31/64"	-	-	1/2"	2"	2-1/2"	4-1/2"		15681
.5000"	1/2"	-	-	1/2"	2"	2-1/2"	4-1/2"		15628
.5312"	17/32"	-	5/8-11	5/8"	3-1/2"	4"	6"		15176
.5625"	9/16"	-	-	9/16"	3-1/2"	4"	6"		15693
.6250"	5/8"	-	-	5/8"	3-1/2"	4"	6"		15685
.6562"	21/32"	-	3/4-10	3/4"	3-1/2"	4"	6"		15177
.6875"	11/16"	-	-	3/4"	3-1/2"	4"	6"		15686
.7500"	3/4"	-	-	3/4"	3-1/2"	4"	6"		15687
.7656"	49/64"	-	7/8-9	7/8"	3-1/2"	4"	6"		15178
.8750"	7/8"	-	-	7/8"	3-1/2"	4"	6"		15179

DURA-CARB
DRILLS

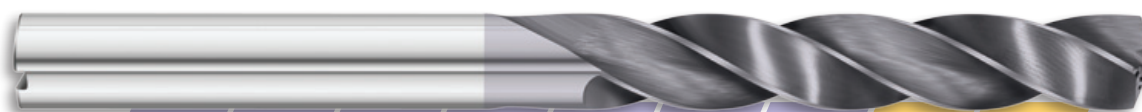
144°

FC-7
COATING

Tolerance: Cutter Dia. +.0000" -.0005"
Shank Dia. +.0000" -.0005"

SERIES 1562

Two 30° RH Spiral Flutes • 144° High Performance Point • Coolant Drill



Decimal Equivalent	Fractional	Wire and Letter	Shank Diameter	Cleard Length	Flute Length	Overall Length	Price	EDP Number
1562								
.2500"	1/4"	-	1/4"	2"	2-3/8"	4"		15636
.2570"	-	F	1/4"	2"	2-3/8"	4"		15638
.2720"	-	I	1/4"	2"	2-3/8"	4"		15640
.3125"	5/16"	-	5/16"	2"	2-3/8"	4"		15642
.3750"	3/8"	-	3/8"	2"	2-1/2"	4"		15644
.4218"	27/64"	-	7/16"	2"	2-1/2"	4"		15646
.4375"	7/16"	-	7/16"	2"	2-1/2"	4"		15648
.5000"	1/2"	-	1/2"	3"	3-1/2"	6"		15650
.5625"	9/16"	-	9/16"	3-1/2"	4"	6"		15652
.6250"	5/8"	-	5/8"	3-1/2"	4"	6"		15654
.6875"	11//16"	-	3/4"	3-1/2"	4"	6"		15649
.7500"	3/4"	-	3/4"	3-1/2"	4"	6"		15656

Tolerance: Cutter Dia. +.0000" -.0005"
Shank Dia. +.0000" -.0005"

Two 30° RH Spiral Flutes • 144° High Performance Point • Non-Coolant



Metric	Decimal Equivalent	Tap Size Reference	Shank Diameter	Cleared Length	Flute Length	Overall Length	Price 1505	EDP Number
3.3	.1299"	M 4 x 0.7	6.0	30.0	38.0	76.0		15180
4.2	.1654"	M 5 x 0.8	6.0	30.0	38.0	76.0		15181
5.0	.1969"	-	6.0	30.0	38.0	76.0		15613
6.0	.2362"	-	6.0	30.0	38.0	76.0		15610
6.8	.2677"	M 8 x 1.25	8.0	30.0	38.0	76.0		15619
7.0	.2756"	-	8.0	30.0	38.0	76.0		15611
7.8	.3071"	M 9 x 1.25	8.0	30.0	38.0	76.0		15182
8.0	.3150"	-	8.0	30.0	38.0	76.0		15612
8.5	.3346"	M 10 x 1.5	10.0	38.0	50.0	100.0		15627
9.5	.3740"	M 11 x 1.5	10.0	38.0	50.0	100.0		15183
10.0	.3937"	-	10.0	45.0	57.0	100.0		15637
10.2	.4015"	M 12 x 1.75	12.0	45.0	57.0	125.0		15632
11.5	.4527"	-	12.0	50.0	63.0	125.0		15634
12.0	.4724"	-	12.0	50.0	63.0	125.0		15680
14.0	.5512"	M 16 x 2.0	14.0	88.0	101.0	150.0		15682
15.0	.5906"	-	16.0	88.0	101.0	150.0		15639
15.5	.6102"	M 18 x 2.5	16.0	88.0	101.0	150.0		15684
16.0	.6299"	-	16.0	88.0	101.0	150.0		15641
16.5	.6496"	-	18.0	88.0	101.0	150.0		15643
17.0	.6693"	-	18.0	88.0	101.0	150.0		15645
17.5	.6890"	M 20 x 2.5	18.0	88.0	101.0	150.0		15184
19.5	.7677"	M 22 x 2.5	20.0	88.0	101.0	150.0		15185
20.0	.7874"	-	20.0	88.0	101.0	150.0		15647

DURA-CARB
DRILLS

144°



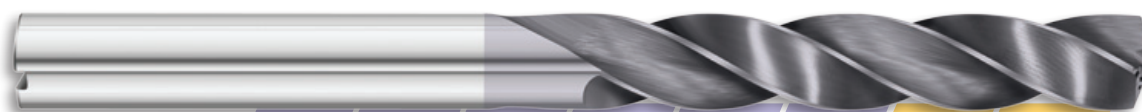
FC-7
COATING

mm
METRIC

Tolerance: Cutter Dia. +0.000mm -0.013mm
Shank Dia. +0.000mm -0.013mm

METRIC SERIES 1562

Two 30° RH Spiral Flutes • 144° High Performance Point • Coolant Drill



Diameter	Decimal Equivalent	Shank Diameter	Cleard Length	Flute Length	Overall Length	Price	EDP Number
1562							
3.0	.1181"	3.0	30.0	38.0	76.0		15710
4.0	.1575"	4.0	30.0	38.0	76.0		15711
5.0	.1969"	5.0	30.0	38.0	76.0		15712
6.0	.2362"	6.0	42.0	50.0	101.0		15713
7.0	.2756"	8.0	52.0	60.0	101.0		15714
8.0	.3150"	8.0	54.0	63.0	101.0		15715
10.0	.3937"	10.0	54.0	63.0	101.0		15716
12.0	.4724"	12.0	76.0	89.0	150.0		15717
15.0	.5906"	16.0	88.0	101.0	150.0		15718
16.0	.6299"	16.0	88.0	101.0	150.0		15719
16.5	.6496"	18.0	88.0	101.0	150.0		15720
17.0	.6693"	18.0	88.0	101.0	150.0		15721
20.0	.7874"	20.0	88.0	101.0	150.0		15722

Tolerance: Cutter Dia. +0.000mm -0.013mm
Shank Dia. +0.000mm -0.013mm

Two Straight Flutes • 135° Notched Point • 4 Lands for Burnishing

DISCONTINUED

This product has been discontinued.

It is still available as a special order item.

Please contact Fullerton Tool for more information on availability.

The DB (Drill Burnishing) Drill has two straight flutes with four margins. This creates a burnishing action for unsurpassed hole straightness and close tolerances.



Decimal Equivalent	Fractional	Flute Length	Overall Length	Price	EDP Number
1585					
.1250"	1/8"	7/8"	2"		15812
.1562"	5/32"	1"	2"		15815
.1875"	3/16"	1"	2-1/2"		15818
.2188"	7/32"	1-1/4"	2-1/2"		15821
.2500"	1/4"	1-3/8"	2-1/2"		15825
.2812"	9/32"	1-1/2"	3"		15828
.3125"	5/16"	1-5/8"	3"		15831
.3438"	11/32"	1-3/4"	3"		15834
.3750"	3/8"	1-7/8"	3"		15837
.4062"	13/32"	2"	3-1/2"		15840
.4375"	7/16"	2-1/8"	4"		15843
.4688"	15/32"	2-1/8"	4"		15846
.5000"	1/2"	2-1/4"	4"		15850

Drill Depth should not exceed a ratio of 3 times Drill Diameter.

Special diameters and lengths available on request.

SUGGESTED STARTING SPEEDS & FEEDS

Material	*Speed		** Feed (IPR)	
	Heavy Duty	Fine Finishing	Heavy Duty	Fine Finishing
Cast Iron	90 - 200	90 - 160	.003 - .012	.002 - .006
Non-Ferrous Alloy	120 - 260	130 - 200	.004 - .012	.002 - .003

*Use water soluble emulsion flood coolant.

**Use lower feeds for best results in controlling hole accuracy where better surface finishes are required.

Tolerance: Cutter Dia. +.0000" -.0005"

DURA-CARB
DRILLS

SERIES 1570

Two Straight Flutes • 135° Notched Point

The Micro Drill is designed for the drilling of hardened materials with a Rockwell over 40RC. It will hold very close hole tolerances.

Drill depth should not exceed a ratio of 3 X the drill diameter.



Dec. Equiv.	Fractional	Wire and Letter	Shank Diameter	Flute Length	Overall Length	Price	EDP Number	Dec. Equiv.	Fractional	Wire and Letter	Shank Diameter	Flute Length	Overall Length	Price	EDP Number
1570								1570							
.0469"	3/64"	-	.0469"	3/8"	1-1/2"		17500	.2500"	1/4"	-	.2500"	1"	2-1/2"		17538
.0625"	1/16"	-	.0625"	3/8"	1-1/2"		17502	.2570"	-	F	.2570"	1"	2-1/2"		17540
.0781"	5/64"	-	.0781"	1/2"	1-1/2"		17504	.2656"	17/64"	-	.2656"	1"	2-1/2"		17542
.0938"	3/32"	-	.0938"	1/2"	2"		17506	.2720"	-	I	.2720"	1"	2-1/2"		17544
.1065"	-	36	.1065"	5/8"	2"		17508	.2812"	9/32"	-	.2812"	1"	2-1/2"		17546
.1094"	7/64"	-	.1094"	5/8"	2"		17510	.2969"	19/64"	-	.2969"	1-1/4"	3"		17548
.1130"	-	33	.1130"	5/8"	2"		17512	.3125"	5/16"	-	.3125"	1-1/4"	3"		17550
.1250"	1/8"	-	.1250"	5/8"	2"		17514	.3281"	21/64"	-	.3281"	1-1/4"	3"		17552
.1406"	9/64"	-	.1406"	3/4"	2"		17516	.3438"	11/32"	-	.3438"	1-1/4"	3"		17554
.1495"	-	25	.1495"	3/4"	2-1/2"		17518	.3594"	23/64"	-	.3594"	1-1/4"	3"		17556
.1562"	5/32"	-	.1562"	3/4"	2-1/2"		17520	.3750"	3/8"	-	.3750"	1-1/4"	3"		17558
.1570"	-	22	.1570"	3/4"	2-1/2"		17522	.3906"	25/64"	-	.3906"	1-1/4"	3"		17560
.1719"	11/64"	-	.1719"	3/4"	2-1/2"		17524	.4062"	13/32"	-	.4062"	1-1/4"	3"		17562
.1730"	-	17	.1730"	3/4"	2-1/2"		17526	.4219"	27/64"	-	.4219"	1-1/4"	3"		17564
.1875"	3/16"	-	.1875"	3/4"	2-1/2"		17528	.4375"	7/16"	-	.4375"	1-1/4"	3"		17566
.2010"	-	7	.2010"	3/4"	2-1/2"		17530	.4531"	29/64"	-	.4531"	1-1/4"	3"		17568
.2031"	13/64"	-	.2031"	3/4"	2-1/2"		17532	.4688"	15/32"	-	.4688"	1-1/4"	3"		17570
.2188"	7/32"	-	.2188"	1"	2-1/2"		17534	.4844"	31/64"	-	.4844"	1-1/4"	3"		17572
.2344"	15/64"	-	.2344"	1"	2-1/2"		17536	.5000"	1/2"	-	.5000"	1-1/4"	3"		17574

Tolerance: Cutter Dia. +.0000" -.0005"
Shank Dia. +.0000" -.0005"

METRIC SERIES 1570

Two Straight Flutes • 135° Notched Point



Metric	Decimal Equivalent	Shank Diameter	Flute Length	Overall Length	Price	EDP Number
1570						
3.0	.1181"	3.0	16.0	57.0		15723
4.0	.1575"	4.0	20.0	64.0		15724
5.0	.1969"	5.0	20.0	64.0		15725
5.5	.2165"	5.5	20.0	64.0		15726
6.0	.2362"	6.0	25.0	64.0		15727
8.0	.3150"	8.0	32.0	76.0		15728
10.0	.3937"	10.0	32.0	76.0		15729
12.0	.4724"	12.0	32.0	76.0		15730
12.5	.4921"	12.5	32.0	76.0		15731
13.0	.5118"	13.0	32.0	76.0		15732

Tolerance: Cutter Dia. +0.000mm -0.013mm
Shank Dia. +0.000mm -0.013mm

POLY DRILL SERIES 1566 TiAIN

Three RH Spiral Flutes • 90° Point

The Poly Drill is a patented tool that produces a clean burr-free hole with no breakout, thereby eliminating a secondary operation of sanding or deburring. The Poly Drill works well in fiber reinforced thermoplastics and composite materials commonly found in the automotive, aerospace, appliance and recreation industries.

PATENT #5636948



Decimal Equivalent	Fractional	Shank Diameter	Flute Length	Overall Length	Price	EDP Number
.2500"	1/4"	1/4"	1-1/2"	4"	1566 TiAIN	15676
.5000"	1/2"	1/2"	1-1/2"	6"		15678

Tolerance: Cutter Dia. +.0000" -.0005"
Shank Dia. +.0000" -.0005"

METRIC SERIES 1566 TiAIN

Three RH Spiral Flutes



Metric	Decimal Equivalent	Shank Diameter	Flute Length	Overall Length	Price	EDP Number
5.0	.1969"	5.0	32.0	100.0	1566 TiAIN	15660
6.0	.2362"	6.0	32.0	100.0		15662
6.5	.2559"	6.5	38.0	105.0		15663
7.0	.2756"	7.0	38.0	105.0		15664
7.5	.2953"	7.5	38.0	110.0		15665
8.0	.3150"	8.0	38.0	115.0		15666
8.5	.3346"	8.5	38.0	120.0		15667
9.0	.3543"	9.0	38.0	125.0		15668
9.5	.3740"	9.5	38.0	125.0		15669
10.0	.3937"	10.0	38.0	130.0		15670
10.5	.4134"	10.5	38.0	137.0		15671
11.0	.4331"	11.0	38.0	140.0		15672
11.5	.4528"	11.5	38.0	143.0		15673
12.0	.4724"	12.0	38.0	150.0		15674

Tolerance: Cutter Dia. +0.000mm -0.013mm
Shank Dia. +0.000mm -0.013mm

**DURA-CARB
DRILLS**



**TiAIN
COATING**

Solid Dura-Carb
DRILLS



**TiAIN
COATING**

**mm
METRIC**

SERIES 1500

Two 30° RH Spiral Flutes • Standard Length • Sizes #70 to 1" Diameter • 135° Notched Cam Point



Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price 1500	EDP Number 1500	Price 1500 FC-7	EDP Number 1500 FC-7	Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price 1500	EDP Number 1500	Price 1500 FC-7	EDP Number 1500 FC-7
.0280"	-	70	5/16"	1-1/4"	17601		13000		.1406"	9/64"	-	1-3/8"	2-1/2"	17659		13056	
.0292"	-	69	5/16"	1-1/4"	17602		13001		.1440"	-	27	1-3/8"	2-1/2"	17660		13057	
.0310"	-	68	5/16"	1-1/4"	17603		13002		.1470"	-	26	1-3/8"	2-1/2"	17661		13058	
.0312"	1/32"	-	5/16"	1-1/4"	17604		13003		.1495"	-	25	1-3/8"	2-1/2"	17662		13059	
.0320"	-	67	5/16"	1-1/4"	17605		13004		.1520"	-	24	1-3/8"	2-1/2"	17663		13060	
.0330"	-	66	5/16"	1-1/4"	17606		13005		.1540"	-	23	1-3/8"	2-1/2"	17664		13061	
.0350"	-	65	5/8"	1-1/2"	17607		13006		.1562"	5/32"	-	1-3/8"	2-1/2"	17665		13062	
.0360"	-	64	5/8"	1-1/2"	17608		13007		.1570"	-	22	1-3/8"	2-1/2"	17666		13063	
.0370"	-	63	5/8"	1-1/2"	17609		13008		.1590"	-	21	1-3/8"	2-1/2"	17668		13065	
.0380"	-	62	5/8"	1-1/2"	17610		13009		.1610"	-	20	1-3/8"	2-1/2"	17669		13066	
.0390"	-	61	5/8"	1-1/2"	17611		13010		.1660"	-	19	1-5/8"	2-3/4"	17670		13067	
.0400"	-	60	3/4"	1-1/2"	17613		13012		.1695"	-	18	1-5/8"	2-3/4"	17671		13068	
.0410"	-	59	3/4"	1-1/2"	17614		13013		.1719"	11/64"	-	1-5/8"	2-3/4"	17672		13069	
.0420"	-	58	3/4"	1-1/2"	17615		13014		.1730"	-	17	1-5/8"	2-3/4"	17673		13070	
.0430"	-	57	3/4"	1-1/2"	17616		13015		.1770"	-	16	1-5/8"	2-3/4"	17674		13071	
.0465"	-	56	3/4"	1-1/2"	17617		13016		.1800"	-	15	1-5/8"	2-3/4"	17676		13073	
.0469"	3/64"	-	3/4"	1-1/2"	17618		13017		.1820"	-	14	1-5/8"	2-3/4"	17677		13074	
.0520"	-	55	3/4"	1-1/2"	17619		13018		.1850"	-	13	1-5/8"	2-3/4"	17678		13075	
.0550"	-	54	3/4"	1-1/2"	17620		13019		.1875"	3/16"	-	1-5/8"	2-3/4"	17679		13076	
.0595"	-	53	3/4"	1-1/2"	17622		13021		.1890"	-	12	1-5/8"	2-3/4"	17680		13077	
.0625"	1/16"	-	3/4"	1-1/2"	17623		13022		.1910"	-	11	1-5/8"	2-3/4"	17681		13078	
.0635"	-	52	3/4"	1-1/2"	17624		13023		.1935"	-	10	1-5/8"	2-3/4"	17682		13079	
.0670"	-	51	3/4"	1-1/2"	17626		13024		.1960"	-	9	1-3/4"	3"	17683		13080	
.0700"	-	50	7/8"	1-3/4"	17627		13025		.1990"	-	8	1-3/4"	3"	17685		13082	
.0730"	-	49	7/8"	1-3/4"	17628		13026		.2010"	-	7	1-3/4"	3"	17686		13083	
.0760"	-	48	7/8"	1-3/4"	17629		13027		.2031"	13/64"	-	1-3/4"	3"	17687		13084	
.0781"	5/64"	-	7/8"	1-3/4"	17630		13028		.2040"	-	6	1-3/4"	3"	17688		13085	
.0785"	-	47	7/8"	1-3/4"	17631		13029		.2055"	-	5	1-3/4"	3"	17689		13086	
.0810"	-	46	7/8"	1-3/4"	17633		13031		.2090"	-	4	1-3/4"	3"	17690		13087	
.0820"	-	45	7/8"	1-3/4"	17634		13032		.2130"	-	3	1-3/4"	3"	17691		13088	
.0860"	-	44	1"	2"	17635		13033		.2188"	7/32"	-	1-3/4"	3"	17693		13090	
.0890"	-	43	1"	2"	17636		13034		.2210"	-	2	1-3/4"	3"	17694		13091	
.0935"	-	42	1"	2"	17637		13035		.2280"	-	1	1-3/4"	3"	17695		13092	
.0938"	3/32"	-	1"	2"	17638		13036		.2340"	-	A	2"	3-1/4"	17696		13093	
.0960"	-	41	1"	2"	17639		13037		.2344"	15/64"	-	2"	3-1/4"	17697		13094	
.0980"	-	40	1"	2"	17640		13038		.2380"	-	B	2"	3-1/4"	17699		13096	
.0995"	-	39	1-1/4"	2-1/4"	17642		13040		.2420"	-	C	2"	3-1/4"	17700		13097	
.1015"	-	38	1-1/4"	2-1/4"	17643		13041		.2460"	-	D	2"	3-1/4"	17701		13098	
.1040"	-	37	1-1/4"	2-1/4"	17644		13042		.2500"	1/4"	E	2"	3-1/4"	17702		13099	
.1065"	-	36	1-1/4"	2-1/4"	17645		13043		.2570"	-	F	2"	3-1/4"	17704		13101	
.1094"	7/64"	-	1-1/4"	2-1/4"	17646		13044		.2610"	-	G	2-1/8"	3-1/2"	17705		13102	
.1100"	-	35	1-1/4"	2-1/4"	17647		13045		.2656"	17/64"	-	2-1/8"	3-1/2"	17706		13103	
.1110"	-	34	1-1/4"	2-1/4"	17648		13046		.2660"	-	H	2-1/8"	3-1/2"	17707		13104	
.1130"	-	33	1-1/4"	2-1/4"	17649		13047		.2720"	-	I	2-1/8"	3-1/2"	17708		13105	
.1160"	-	32	1-1/4"	2-1/4"	17650		13048		.2770"	-	J	2-1/8"	3-1/2"	17710		13107	
.1200"	-	31	1-1/4"	2-1/4"	17652		13050		.2810"	-	K	2-1/8"	3-1/2"	17711		13108	
.1250"	1/8"	-	1-1/4"	2-1/4"	17653		13051		.2812"	9/32"	-	2-1/8"	3-1/2"	17712		13109	
.1285"	-	30	1-3/8"	2-1/2"	17654		13052		.2900"	-	L	2-1/8"	3-1/2"	17713		13110	
.1360"	-	29	1-3/8"	2-1/2"	17655		13053		.2950"	-	M	2-3/8"	4"	17714		13111	
.1405"	-	28	1-3/8"	2-1/2"	17658		13055		.2969"	19/64"	-	2-3/8"	4"	17716		13113	

Continued page 99...

All drills over .042 furnished with back taper for clearance

Tolerance: Cutter Dia. +.0000" -.0005"

SERIES 1500

Two 30° RH Spiral Flutes • Standard Length • Sizes #70 to 1" Diameter • 135° Notched Cam Point

...Continued from page 98

Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price 1500	EDP Number 1500	Price 1500 FC-7	EDP Number 1500 FC-7
.3020"	-	N	2-3/8"	4"	17717		13114	
.3125"	5/16"	-	2-3/8"	4"	17718		13115	
.3160"	-	O	2-3/8"	4"	17720		13117	
.3230"	-	P	2-3/8"	4"	17721		13118	
.3281"	21/64"	-	2-1/2"	4"	17722		13119	
.3320"	-	Q	2-1/2"	4"	17723		13120	
.3390"	-	R	2-1/2"	4"	17725		13122	
.3438"	11/32"	-	2-1/2"	4"	17726		13123	
.3480"	-	S	2-1/2"	4"	17727		13124	
.3580"	-	T	2-3/4"	4-1/4"	17729		13126	
.3594"	23/64"	-	2-3/4"	4-1/4"	17730		13127	
.3680"	-	U	2-3/4"	4-1/4"	17731		13128	
.3750"	3/8"	-	2-3/4"	4-1/4"	17733		13130	
.3770"	-	V	2-3/4"	4-1/4"	17734		13131	
.3860"	-	W	2-7/8"	4-1/2"	17735		13132	
.3906"	25/64"	-	2-7/8"	4-1/2"	17736		13133	
.3970"	-	X	2-7/8"	4-1/2"	17738		13135	
.4040"	-	Y	2-7/8"	4-1/2"	17739		13136	

Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price 1500	EDP Number 1500	Price 1500 FC-7	EDP Number 1500 FC-7
.4062"	13/32"	-	2-7/8"	4-1/2"	17740		13137	
.4130"	-	Z	2-7/8"	4-1/2"	17741		13138	
.4219"	27/64"	-	2-7/8"	4-1/2"	17743		13140	
.4375"	7/16"	-	2-7/8"	4-1/2"	17745		13142	
.4531"	29/64"	-	3"	4-3/4"	17747		13144	
.4688"	15/32"	-	3"	4-3/4"	17748		13145	
.4844"	31/64"	-	3"	4-3/4"	17750		13147	
.5000"	1/2"	-	3"	4-3/4"	17752		13149	
.5312"	17/32"	-	4"	6"	17753		13150	
.5625"	9/16"	-	4"	6"	17754		13151	
.5938"	19/32"	-	4"	6"	17755		13152	
.6250"	5/8"	-	4"	6"	17756		13153	
.6562"	21/32"	-	4"	6"	17757		13154	
.6875"	11/16"	-	4"	6"	17758		13155	
.7188"	23/32"	-	4"	6"	17759		13156	
.7500"	3/4"	-	4"	6"	17760		13157	
.8750"	7/8"	-	4"	6"	17761		13158	
1.0000"	1"	-	4"	6"	17762		13159	

Tolerance: Cutter Dia. +.0000" -.0005"

METRIC SERIES 1500

Two 30° RH Spiral Flutes • Standard Length • Sizes 1.0 mm to 12.5 mm Diameter • 135° Notched Cam Point



Metric	Decimal Equivalent	Flute Length	Overall Length	Price 1500	EDP Number 1500	Price 1500 FC-7	EDP Number 1500 FC-7
1.0	.0394"	16.0	38.0	17612		13011	
1.5	.0591"	19.0	38.0	17621		13020	
2.0	.0787"	22.0	44.0	17632		13030	
2.5	.0984"	25.0	51.0	17641		13039	
3.0	.1181"	32.0	57.0	17651		13049	
3.5	.1378"	35.0	63.0	17656		13054	
4.0	.1575"	35.0	63.0	17667		13064	
4.5	.1772"	41.0	70.0	17675		13072	
5.0	.1968"	44.0	76.0	17684		13081	
5.5	.2165"	44.0	76.0	17692		13089	
6.0	.2362"	51.0	83.0	17698		13095	
6.5	.2559"	51.0	83.0	17703		13100	

Metric	Decimal Equivalent	Flute Length	Overall Length	Price 1500	EDP Number 1500	Price 1500 FC-7	EDP Number 1500 FC-7
7.0	.2756"	54.0	89.0	17709		13106	
7.5	.2953"	60.0	102.0	17715		13112	
8.0	.3150"	60.0	102.0	17719		13116	
8.5	.3346"	63.0	102.0	17724		13121	
9.0	.3543"	70.0	108.0	17728		13125	
9.5	.3740"	70.0	108.0	17732		13129	
10.0	.3937"	73.0	114.0	17737		13134	
10.5	.4134"	73.0	114.0	17742		13139	
11.0	.4331"	73.0	114.0	17744		13141	
11.5	.4527"	76.0	121.0	17746		13143	
12.0	.4724"	76.0	121.0	17749		13146	
12.5	.4921"	76.0	121.0	17751		13148	

Tolerance: Cutter Dia. +0.000mm -0.013mm

DURA-CARB
DRILLS



FC-7
COATING

Solid Dura-Carb
DRILLS



FC-7
COATING

mm
METRIC

SERIES 1520

Two 30° RH Spiral Flutes • Stub Length • Sizes #60 to 1" Diameter • 135° Notched Cam Point



Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price 1520	EDP Number 1520	Price 1520 FC-7	EDP Number 1520 FC-7	Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price 1520	EDP Number 1520	Price 1520 FC-7	EDP Number 1520 FC-7
.0400"	-	60	3/8"	1-1/2"	17802		13201		.1695"	-	18	3/4"	2-1/2"	17858		13266	
.0410"	-	59	3/8"	1-1/2"	17803		13202		.1719"	11/64"	-	3/4"	2-1/2"	17859		13267	
.0420"	-	58	3/8"	1-1/2"	17804		13203		.1730"	-	17	3/4"	2-1/2"	17860		13268	
.0430"	-	57	3/8"	1-1/2"	17805		13204		.1770"	-	16	3/4"	2-1/2"	17861		13269	
.0465"	-	56	3/8"	1-1/2"	17806		13205		.1800"	-	15	3/4"	2-1/2"	17863		13271	
.0469"	3/64"	-	3/8"	1-1/2"	17807		13206		.1820"	-	14	3/4"	2-1/2"	17864		13272	
.0520"	-	55	3/8"	1-1/2"	17808		13207		.1850"	-	13	3/4"	2-1/2"	17865		13273	
.0550"	-	54	3/8"	1-1/2"	17809		13208		.1875"	3/16"	-	3/4"	2-1/2"	17866		13274	
.0595"	-	53	3/8"	1-1/2"	17811		13210		.1890"	-	12	3/4"	2-1/2"	17867		13275	
.0625"	1/16"	-	3/8"	1-1/2"	17812		13211		.1910"	-	11	3/4"	2-1/2"	17868		13276	
.0635"	-	52	3/8"	1-1/2"	17813		13212		.1935"	-	10	3/4"	2-1/2"	17869		13277	
.0670"	-	51	3/8"	1-1/2"	17814		13213		.1960"	-	9	3/4"	2-1/2"	17870		13278	
.0700"	-	50	3/8"	1-1/2"	17815		13214		.1990"	-	8	3/4"	2-1/2"	17872		13280	
.0730"	-	49	3/8"	1-1/2"	17816		13215		.2010"	-	7	3/4"	2-1/2"	17873		13281	
.0760"	-	48	3/8"	1-1/2"	17817		13216		.2031"	13/64"	-	3/4"	2-1/2"	17874		13282	
.0781"	5/64"	-	3/8"	1-1/2"	17818		13217		.2040"	-	6	1"	2-1/2"	17875		13283	
.0785"	-	47	3/8"	1-1/2"	17819		13218		.2055"	-	5	1"	2-1/2"	17876		13284	
.0810"	-	46	3/8"	1-1/2"	17821		13220		.2090"	-	4	1"	2-1/2"	17877		13285	
.0820"	-	45	3/8"	1-1/2"	17822		13221		.2130"	-	3	1"	2-1/2"	17878		13286	
.0860"	-	44	1/2"	2"	17823		13222		.2188"	7/32"	-	1"	2-1/2"	17880		13288	
.0890"	-	43	1/2"	2"	17824		13223		.2210"	-	2	1"	2-1/2"	17881		13289	
.0935"	-	42	1/2"	2"	17825		13224		.2280"	-	1	1"	2-1/2"	17882		13290	
.0938"	3/32"	-	1/2"	2"	17826		13225		.2340"	-	A	1"	2-1/2"	17883		13291	
.0960"	-	41	1/2"	2"	17827		13226		.2344"	15/64"	-	1"	2-1/2"	17884		13292	
.0980"	-	40	5/8"	2"	17828		13227		.2380"	-	B	1"	2-1/2"	17886		13294	
.0995"	-	39	5/8"	2"	17830		13229		.2420"	-	C	1"	2-1/2"	17887		13295	
.1015"	-	38	5/8"	2"	17831		13230		.2460"	-	D	1"	2-1/2"	17888		13296	
.1040"	-	37	5/8"	2"	17832		13231		.2500"	1/4"	E	1"	2-1/2"	17889		13297	
.1065"	-	36	5/8"	2"	17833		13232		.2570"	-	F	1"	2-1/2"	17891		13299	
.1094"	7/64"	-	5/8"	2"	17834		13233		.2610"	-	G	1"	2-1/2"	17892		13300	
.1100"	-	35	5/8"	2"	17835		13234		.2656"	17/64"	-	1"	2-1/2"	17893		13301	
.1110"	-	34	5/8"	2"	17836		13235		.2660"	-	H	1"	2-1/2"	17894		13302	
.1130"	-	33	5/8"	2"	17837		13236		.2720"	-	I	1"	2-1/2"	17895		13303	
.1160"	-	32	5/8"	2"	17838		13237		.2770"	-	J	1"	2-1/2"	17897		13305	
.1200"	-	31	5/8"	2"	17840		13239		.2810"	-	K	1"	2-1/2"	17898		13306	
.1250"	1/8"	-	5/8"	2"	17841		13240		.2812"	9/32"	-	1"	2-1/2"	17899		13307	
.1285"	-	30	5/8"	2"	17842		13241		.2900"	-	L	1-1/4"	2-3/4"	17900		13308	
.1360"	-	29	5/8"	2"	17843		13242		.2950"	-	M	1-1/4"	2-3/4"	17901		13309	
.1405"	-	28	5/8"	2"	17845		13244		.2969"	19/64"	-	1-1/4"	2-3/4"	17903		13311	
.1406"	9/64"	-	5/8"	2"	17846		13245		.3020"	-	N	1-1/4"	2-3/4"	17904		13312	
.1440"	-	27	3/4"	2-1/2"	17847		13255		.3125"	5/16"	-	1-1/4"	2-3/4"	17905		13313	
.1470"	-	26	3/4"	2-1/2"	17848		13256		.3160"	-	O	1-1/4"	2-3/4"	17907		13315	
.1495"	-	25	3/4"	2-1/2"	17849		13257		.3230"	-	P	1-1/4"	2-3/4"	17908		13316	
.1520"	-	24	3/4"	2-1/2"	17850		13258		.3281"	21/64"	-	1-1/4"	2-3/4"	17909		13317	
.1540"	-	23	3/4"	2-1/2"	17851		13259		.3320"	-	Q	1-1/4"	3"	17910		13318	
.1562"	5/32"	-	3/4"	2-1/2"	17852		13260		.3390"	-	R	1-1/4"	3"	17912		13320	
.1570"	-	22	3/4"	2-1/2"	17853		13261		.3438"	11/32"	-	1-1/4"	3"	17913		13321	
.1590"	-	21	3/4"	2-1/2"	17855		13263		.3480"	-	S	1-1/4"	3"	17914		13322	
.1610"	-	20	3/4"	2-1/2"	17856		13264		.3580"	-	T	1-1/4"	3"	17917		13324	
.1660"	-	19	3/4"	2-1/2"	17857		13265		.3594"	23/64"	-	1-1/4"	3"	17918		13325	

Continued page 101...

Tolerance: Cutter Dia. +.0000" -.0005"

SERIES 1520

Two 30° RH Spiral Flutes • Stub Length • Sizes #60 to 1" Diameter • 135° Notched Cam Point

...Continued from page 100

Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price 1520	EDP Number 1520	Price 1520 FC-7	EDP Number 1520 FC-7
.3680"	-	U	1-1/4"	3"	17919		13326	
.3750"	3/8"	-	1-1/4"	3"	17921		13328	
.3770"	-	V	1-1/4"	3"	17922		13329	
.3860"	-	W	1-1/4"	3"	17923		13330	
.3906"	25/64"	-	1-1/4"	3"	17924		13331	
.3970"	-	X	1-1/4"	3"	17926		13333	
.4040"	-	Y	1-1/4"	3"	17927		13334	
.4062"	13/32"	-	1-1/4"	3"	17928		13335	
.4130"	-	Z	1-1/4"	3"	17929		13336	
.4219"	27/64"	-	1-1/4"	3"	17931		13338	
.4375"	7/16"	-	1-1/4"	3"	17933		13340	
.4531"	29/64"	-	1-1/4"	3"	17935		13342	
.4688"	15/32"	-	1-1/4"	3"	17936		13343	

Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price 1520	EDP Number 1520	Price 1520 FC-7	EDP Number 1520 FC-7
.4844"	31/64"	-	1-1/4"	3"	17938		13345	
.5000"	1/2"	-	1-1/4"	3"	17940		13347	
.5312"	17/32"	-	1-1/4"	3-1/2"	17941		13348	
.5625"	9/16"	-	1-1/4"	3-1/2"	17942		13349	
.5938"	19/32"	-	1-1/2"	3-1/2"	17943		13350	
.6250"	5/8"	-	1-1/2"	3-1/2"	17944		13351	
.6562"	21/32"	-	1-1/2"	3-1/2"	17945		13352	
.6875"	11/16"	-	1-1/2"	4"	17946		13353	
.7188"	23/32"	-	1-1/2"	4"	17947		13354	
.7500"	3/4"	-	1-1/2"	4"	17948		13355	
.8750"	7/8"	-	1-1/2"	4"	17949		13356	
1.0000"	1"	-	1-1/2"	4"	17950		13357	

Tolerance: Cutter Dia. +.0000" -.0005"

METRIC SERIES 1520

Two 30° RH Spiral Flutes • Stub Length • Sizes 1.0 mm to 12.5 mm Diameter • 135° Notched Cam Point

Metric	Decimal Equivalent	Flute Length	Overall Length	Price 1520	EDP Number 1520	Price 1520 FC-7	EDP Number 1520 FC-7
1.0	.0394"	9.5	38.0	17801		13200	
1.5	.0591"	9.5	38.0	17810		13209	
2.0	.0787"	9.5	38.0	17820		13219	
2.5	.0984"	16.0	51.0	17829		13228	
3.0	.1181"	16.0	51.0	17839		13238	
3.5	.1378"	16.0	51.0	17844		13243	
4.0	.1575"	19.0	63.0	17854		13262	
4.5	.1772"	19.0	63.0	17862		13270	
5.0	.1968"	19.0	63.0	17871		13279	
5.5	.2165"	25.0	63.0	17879		13287	
6.0	.2362"	25.0	63.0	17885		13293	
6.5	.2559"	25.0	63.0	17890		13298	
7.0	.2756"	25.0	63.0	17896		13304	

Metric	Decimal Equivalent	Flute Length	Overall Length	Price 1520	EDP Number 1520	Price 1520 FC-7	EDP Number 1520 FC-7
7.5	.2953"	32.0	70.0	17902		13310	
8.0	.3150"	32.0	70.0	17906		13314	
8.5	.3346"	32.0	76.0	17911		13319	
9.0	.3543"	32.0	76.0	17915		13323	
9.5	.3740"	32.0	76.0	17920		13327	
10.0	.3937"	32.0	76.0	17925		13332	
10.5	.4134"	32.0	76.0	17930		13337	
11.0	.4331"	32.0	76.0	17932		13339	
11.5	.4527"	32.0	76.0	17934		13341	
12.0	.4724"	32.0	76.0	17937		13344	
12.5	.4921"	32.0	76.0	17939		13346	
13.0	.5118"	32.0	89.0	17951		13358	

Tolerance: Cutter Dia. +0.000mm -0.013mm

DURA-CARB
DRILLS



FC-7
COATING

Solid Dura-Carb
DRILLS



FC-7
COATING

mm
METRIC

SERIES 1510

Two 25° RH Spiral Flutes • Standard Length • Sizes #70 to 1" Diameter • 118° Four Facet Point



Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price	EDP Number	Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price	EDP Number
1510							1510						
.0280"	-	70	5/16"	1-1/4"		15012	.1440"	-	27	1-3/8"	2-1/2"		15069
.0292"	-	69	5/16"	1-1/4"		15013	.1470"	-	26	1-3/8"	2-1/2"		15070
.0310"	-	68	5/16"	1-1/4"		15014	.1495"	-	25	1-3/8"	2-1/2"		15071
.0312"	1/32"	-	5/16"	1-1/4"		15015	.1520"	-	24	1-3/8"	2-1/2"		15072
.0320"	-	67	5/16"	1-1/4"		15016	.1540"	-	23	1-3/8"	2-1/2"		15073
.0330"	-	66	5/16"	1-1/4"		15017	.1562"	5/32"	-	1-3/8"	2-1/2"		15074
.0350"	-	65	5/8"	1-1/2"		15018	.1570"	-	22	1-3/8"	2-1/2"		15075
.0360"	-	64	5/8"	1-1/2"		15019	.1590"	-	21	1-3/8"	2-1/2"		15077
.0370"	-	63	5/8"	1-1/2"		15020	.1610"	-	20	1-3/8"	2-1/2"		15078
.0380"	-	62	5/8"	1-1/2"		15021	.1660"	-	19	1-5/8"	2-3/4"		15079
.0390"	-	61	5/8"	1-1/2"		15022	.1695"	-	18	1-5/8"	2-3/4"		15080
.0400"	-	60	3/4"	1-1/2"		15024	.1719"	11/64"	-	1-5/8"	2-3/4"		15081
.0410"	-	59	3/4"	1-1/2"		15025	.1730"	-	17	1-5/8"	2-3/4"		15082
.0420"	-	58	3/4"	1-1/2"		15026	.1770"	-	16	1-5/8"	2-3/4"		15083
.0430"	-	57	3/4"	1-1/2"		15027	.1800"	-	15	1-5/8"	2-3/4"		15085
.0465"	-	56	3/4"	1-1/2"		15028	.1820"	-	14	1-5/8"	2-3/4"		15086
.0469"	3/64"	-	3/4"	1-1/2"		15029	.1850"	-	13	1-5/8"	2-3/4"		15087
.0520"	-	55	3/4"	1-1/2"		15030	.1875"	3/16"	-	1-5/8"	2-3/4"		15088
.0550"	-	54	3/4"	1-1/2"		15031	.1890"	-	12	1-5/8"	2-3/4"		15089
.0595"	-	53	3/4"	1-1/2"		15033	.1910"	-	11	1-5/8"	2-3/4"		15090
.0625"	1/16"	-	3/4"	1-1/2"		15034	.1935"	-	10	1-5/8"	2-3/4"		15091
.0635"	-	52	3/4"	1-1/2"		15035	.1960"	-	9	1-3/4"	3"		15092
.0670"	-	51	3/4"	1-1/2"		15036	.1990"	-	8	1-3/4"	3"		15094
.0700"	-	50	7/8"	1-3/4"		15037	.2010"	-	7	1-3/4"	3"		15095
.0730"	-	49	7/8"	1-3/4"		15038	.2031"	13/64"	-	1-3/4"	3"		15096
.0760"	-	48	7/8"	1-3/4"		15039	.2040"	-	6	1-3/4"	3"		15097
.0781"	5/64"	-	7/8"	1-3/4"		15040	.2055"	-	5	1-3/4"	3"		15098
.0785"	-	47	7/8"	1-3/4"		15041	.2090"	-	4	1-3/4"	3"		15099
.0810"	-	46	7/8"	1-3/4"		15043	.2130"	-	3	1-3/4"	3"		15100
.0820"	-	45	7/8"	1-3/4"		15044	.2188"	7/32"	-	1-3/4"	3"		15102
.0860"	-	44	1"	2"		15045	.2210"	-	2	1-3/4"	3"		15103
.0890"	-	43	1"	2"		15046	.2280"	-	1	1-3/4"	3"		15104
.0935"	-	42	1"	2"		15047	.2340"	-	A	2"	3-1/4"		15105
.0938"	3/32"	-	1"	2"		15048	.2344"	15/64"	-	2"	3-1/4"		15106
.0960"	-	41	1"	2"		15049	.2380"	-	B	2"	3-1/4"		15108
.0980"	-	40	1"	2"		15050	.2420"	-	C	2"	3-1/4"		15109
.0995"	-	39	1-1/4"	2-1/4"		15052	.2460"	-	D	2"	3-1/4"		15110
.1015"	-	38	1-1/4"	2-1/4"		15053	.2500"	1/4"	E	2"	3-1/4"		15112
.1040"	-	37	1-1/4"	2-1/4"		15054	.2570"	-	F	2"	3-1/4"		15114
.1065"	-	36	1-1/4"	2-1/4"		15055	.2610"	-	G	2-1/8"	3-1/2"		15115
.1094"	7/64"	-	1-1/4"	2-1/4"		15056	.2656"	17/64"	-	2-1/8"	3-1/2"		15116
.1100"	-	35	1-1/4"	2-1/4"		15057	.2660"	-	H	2-1/8"	3-1/2"		15117
.1110"	-	34	1-1/4"	2-1/4"		15058	.2720"	-	I	2-1/8"	3-1/2"		15118
.1130"	-	33	1-1/4"	2-1/4"		15059	.2770"	-	J	2-1/8"	3-1/2"		15120
.1160"	-	32	1-1/4"	2-1/4"		15060	.2810"	-	K	2-1/8"	3-1/2"		15121
.1200"	-	31	1-1/4"	2-1/4"		15062	.2812"	9/32"	-	2-1/8"	3-1/2"		15122
.1250"	1/8"	-	1-1/4"	2-1/4"		15063	.2900"	-	L	2-1/8"	3-1/2"		15123
.1285"	-	30	1-3/8"	2-1/2"		15064	.2950"	-	M	2-3/8"	4"		15124
.1360"	-	29	1-3/8"	2-1/2"		15065	.2969"	19/64"	-	2-3/8"	4"		15126
.1405"	-	28	1-3/8"	2-1/2"		15067	.3020"	-	N	2-3/8"	4"		15127
.1406"	9/64"	-	1-3/8"	2-1/2"		15068	.3125"	5/16"	-	2-3/8"	4"		15128

Items with diameter .5000" and less are Dura-Carb III. Items over .5000" are Dura-Carb.

Continued page 103...

Tolerance: Cutter Dia. +.0000" -.0005"

SERIES 1510

Two 25° RH Spiral Flutes • Standard Length • Sizes #70 to 1" Diameter • 118° Four Facet Point

...Continued from page 102

Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price	EDP Number
1510						
.3160"	-	O	2-3/8"	4"		15130
.3230"	-	P	2-3/8"	4"		15131
.3281"	21/64"	-	2-1/2"	4"		15132
.3320"	-	Q	2-1/2"	4"		15133
.3390"	-	R	2-1/2"	4"		15135
.3438"	11/32"	-	2-1/2"	4"		15136
.3480"	-	S	2-1/2"	4"		15137
.3580"	-	T	2-3/4"	4-1/4"		15139
.3594"	23/64"	-	2-3/4"	4-1/4"		15140
.3680"	-	U	2-3/4"	4-1/4"		15141
.3750"	3/8"	-	2-3/4"	4-1/4"		15143
.3770"	-	V	2-3/4"	4-1/4"		15144
.3860"	-	W	2-7/8"	4-1/2"		15145
.3906"	25/64"	-	2-7/8"	4-1/2"		15146
.3970"	-	X	2-7/8"	4-1/2"		15148
.4040"	-	Y	2-7/8"	4-1/2"		15149
.4062"	13/32"	-	2-7/8"	4-1/2"		15150

Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price	EDP Number
1510						
.4130"	-	Z	2-7/8"	4-1/2"		15170
.4219"	27/64"	-	2-7/8"	4-1/2"		15152
.4375"	7/16"	-	2-7/8"	4-1/2"		15154
.4531"	29/64"	-	3"	4-3/4"		15156
.4688"	15/32"	-	3"	4-3/4"		15157
.4844"	31/64"	-	3"	4-3/4"		15159
.5000"	1/2"	-	3"	4-3/4"		15161
.5312"	17/32"	-	4"	6"		15162
.5625"	9/16"	-	4"	6"		15163
.5938"	19/32"	-	4"	6"		15164
.6250"	5/8"	-	4"	6"		15165
.6562"	21/32"	-	4"	6"		15166
.6875"	11/16"	-	4"	6"		15167
.7188"	23/32"	-	4"	6"		15171
.7500"	3/4"	-	4"	6"		15168
.8750"	7/8"	-	4"	6"		15169
1.0000"	1"	-	4"	6"		15174

Items with diameter .5000" and less are Dura-Carb III. Items over .5000" are Dura-Carb.

Tolerance: Cutter Dia. +.0000" -.0005"

METRIC SERIES 1510

Two 25° RH Spiral Flutes • Standard Length • Sizes 1.0 mm to 12.5 mm Diameter • 118° Four Facet Point



Metric	Decimal Equivalent	Flute Length	Overall Length	Price	EDP Number
1510					
1.0	.0394"	16.0	38.0		15023
1.5	.0591"	19.0	38.0		15032
2.0	.0787"	22.0	44.0		15042
2.3	.0905"	25.0	51.0		15195
2.5	.0984"	25.0	51.0		15051
2.6	.1024"	25.0	51.0		15186
2.9	.1142"	32.0	57.0		15187
3.0	.1181"	32.0	57.0		15061
3.5	.1378"	35.0	63.0		15066
4.0	.1575"	35.0	63.0		15076
4.2	.1654"	41.0	70.0		15188
4.3	.1693"	41.0	70.0		15189
4.5	.1772"	41.0	70.0		15084
5.0	.1968"	44.0	76.0		15093
5.5	.2165"	44.0	76.0		15101
5.8	.2284"	44.0	76.0		15190
6.0	.2362"	51.0	83.0		15107
6.2	.2441"	51.0	83.0		15191
6.4	.2520"	51.0	83.0		15194

Metric	Decimal Equivalent	Flute Length	Overall Length	Price	EDP Number
1510					
6.5	.2559"	51.0	83.0		15113
6.6	.2598"	51.0	83.0		15195
7.0	.2756"	54.0	89.0		15119
7.5	.2953"	60.0	102.0		15125
8.0	.3150"	60.0	102.0		15129
8.3	.3268"	63.0	102.0		15192
8.4	.3307"	63.0	102.0		15197
8.5	.3346"	63.0	102.0		15173
8.9	.3504"	63.0	102.0		15198
9.0	.3543"	70.0	108.0		15134
9.5	.3740"	70.0	108.0		15142
9.6	.3779"	70.0	108.0		15193
10.0	.3937"	73.0	114.0		15147
10.5	.4134"	73.0	114.0		15151
11.0	.4331"	73.0	114.0		15153
11.5	.4527"	76.0	121.0		15155
12.0	.4724"	76.0	121.0		15158
12.5	.4921"	76.0	121.0		15160

All Items are Dura-Carb III.

Tolerance: Cutter Dia. +0.000mm -0.013mm

DURA-CARB
DURA-CARB III
DRILLS

118°



Dura-Carb III
DRILLS

118°



mm
METRIC

SERIES 1525

Two 25° RH Spiral Flutes • Stub Length • Sizes #60 to 1" Diameter • 118° Four Facet Point



Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price	EDP Number	Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price	EDP Number
1525							1525						
.0400"	-	60	3/8"	1-1/2"		16002	.1570"	-	22	3/4"	2-1/2"		15280
.0410"	-	59	3/8"	1-1/2"		16003	.1590"	-	21	3/4"	2-1/2"		16047
.0420"	-	58	3/8"	1-1/2"		16004	.1610"	-	20	3/4"	2-1/2"		16048
.0430"	-	57	3/8"	1-1/2"		16005	.1660"	-	19	3/4"	2-1/2"		16049
.0465"	-	56	3/8"	1-1/2"		16006	.1695"	-	18	3/4"	2-1/2"		16050
.0469"	3/64"	-	3/8"	1-1/2"		16007	.1719"	11/64"	-	3/4"	2-1/2"		15204
.0520"	-	55	3/8"	1-1/2"		16008	.1730"	-	17	3/4"	2-1/2"		16051
.0550"	-	54	3/8"	1-1/2"		16009	.1770"	-	16	3/4"	2-1/2"		16052
.0595"	-	53	3/8"	1-1/2"		16011	.1800"	-	15	3/4"	2-1/2"		16054
.0625"	1/16"	-	3/8"	1-1/2"		16012	.1820"	-	14	3/4"	2-1/2"		16055
.0635"	-	52	3/8"	1-1/2"		16013	.1850"	-	13	3/4"	2-1/2"		16056
.0670"	-	51	3/8"	1-1/2"		16014	.1875"	3/16"	-	3/4"	2-1/2"		15205
.0700"	-	50	3/8"	1-1/2"		16015	.1890"	-	12	3/4"	2-1/2"		16057
.0730"	-	49	3/8"	1-1/2"		16016	.1910"	-	11	3/4"	2-1/2"		16058
.0760"	-	48	3/8"	1-1/2"		16017	.1935"	-	10	3/4"	2-1/2"		16059
.0781"	5/64"	-	3/8"	1-1/2"		16018	.1960"	-	9	3/4"	2-1/2"		16060
.0785"	-	47	3/8"	1-1/2"		16019	.1990"	-	8	3/4"	2-1/2"		16062
.0810"	-	46	3/8"	1-1/2"		16021	.2010"	-	7	3/4"	2-1/2"		16063
.0820"	-	45	3/8"	1-1/2"		16022	.2031"	13/64"	-	3/4"	2-1/2"		15206
.0860"	-	44	1/2"	2"		16023	.2040"	-	6	1"	2-1/2"		16064
.0890"	-	43	1/2"	2"		16024	.2055"	-	5	1"	2-1/2"		16065
.0935"	-	42	1/2"	2"		16025	.2090"	-	4	1"	2-1/2"		16066
.0938"	3/32"	-	1/2"	2"		16026	.2130"	-	3	1"	2-1/2"		15281
.0960"	-	41	1/2"	2"		16027	.2188"	7/32"	-	1"	2-1/2"		15207
.0980"	-	40	5/8"	2"		16028	.2210"	-	2	1"	2-1/2"		16068
.0995"	-	39	5/8"	2"		16030	.2280"	-	1	1"	2-1/2"		16069
.1015"	-	38	5/8"	2"		16031	.2340"	-	A	1"	2-1/2"		16070
.1040"	-	37	5/8"	2"		16032	.2344"	15/64"	-	1"	2-1/2"		15208
.1065"	-	36	5/8"	2"		15276	.2380"	-	B	1"	2-1/2"		16072
.1094"	7/64"	-	5/8"	2"		16033	.2420"	-	C	1"	2-1/2"		16073
.1100"	-	35	5/8"	2"		16034	.2460"	-	D	1"	2-1/2"		16074
.1110"	-	34	5/8"	2"		16035	.2500"	1/4"	E	1"	2-1/2"		15209
.1130"	-	33	5/8"	2"		15277	.2570"	-	F	1"	2-1/2"		15282
.1160"	-	32	5/8"	2"		16036	.2610"	-	G	1"	2-1/2"		16076
.1200"	-	31	5/8"	2"		16038	.2656"	17/64"	-	1"	2-1/2"		15210
.1250"	1/8"	-	5/8"	2"		15201	.2660"	-	H	1"	2-1/2"		16078
.1285"	-	30	5/8"	2"		16039	.2720"	-	I	1"	2-1/2"		15283
.1360"	-	29	5/8"	2"		15278	.2770"	-	J	1"	2-1/2"		16080
.1405"	-	28	5/8"	2"		16041	.2810"	-	K	1"	2-1/2"		16081
.1406"	9/64"	-	5/8"	2"		15202	.2812"	9/32"	-	1"	2-1/2"		15211
.1440"	-	27	3/4"	2-1/2"		16042	.2900"	-	L	1-1/4"	2-3/4"		16082
.1470"	-	26	3/4"	2-1/2"		16043	.2950"	-	M	1-1/4"	2-3/4"		16083
.1495"	-	25	3/4"	2-1/2"		15279	.2969"	19/64"	-	1-1/4"	2-3/4"		15212
.1520"	-	24	3/4"	2-1/2"		16044	.3020"	-	N	1-1/4"	2-3/4"		16085
.1540"	-	23	3/4"	2-1/2"		16045	.3125"	5/16"	-	1-1/4"	2-3/4"		15213
.1562"	5/32"	-	3/4"	2-1/2"		15203	.3160"	-	O	1-1/4"	2-3/4"		16087

Items with diameter .5000" and less are Dura-Carb III. Items over .5000" are Dura-Carb.

Continued page 105...

SERIES 1525

Two 25° RH Spiral Flutes • Stub Length • Sizes #60 to 1" Diameter • 118° Four Facet Point

...Continued from page 104

Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price	EDP Number
1525						
.3230"	-	P	1-1/4"	2-3/4"		16088
.3281"	21/64"	-	1-1/4"	2-3/4"		15214
.3320"	-	Q	1-1/4"	3"		16089
.3390"	-	R	1-1/4"	3"		16091
.3438"	11/32"	-	1-1/4"	3"		15215
.3480"	-	S	1-1/4"	3"		16092
.3580"	-	T	1-1/4"	3"		16094
.3594"	23/64"	-	1-1/4"	3"		15216
.3680"	-	U	1-1/4"	3"		16095
.3750"	3/8"	-	1-1/4"	3"		15217
.3770"	-	V	1-1/4"	3"		16097
.3860"	-	W	1-1/4"	3"		16098
.3906"	25/64"	-	1-1/4"	3"		15218
.3970"	-	X	1-1/4"	3"		16100
.4040"	-	Y	1-1/4"	3"		16101
.4062"	13/32"	-	1-1/4"	3"		15219
.4130"	-	Z	1-1/4"	3"		16102

Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price	EDP Number
1525						
.4219"	27/64"	-	1-1/4"	3"		15220
.4375"	7/16"	-	1-1/4"	3"		15221
.4531"	29/64"	-	1-1/4"	3"		15222
.4688"	15/32"	-	1-1/4"	3"		15223
.4844"	31/64"	-	1-1/4"	3"		15224
.5000"	1/2"	-	1-1/4"	3"		15225
.5312"	17/32"	-	1-1/4"	3-1/2"		16108
.5625"	9/16"	-	1-1/4"	3-1/2"		15256
.5938"	19/32"	-	1-1/2"	3-1/2"		16109
.6250"	5/8"	-	1-1/2"	3-1/2"		15262
.6562"	21/32"	-	1-1/2"	3-1/2"		16110
.6875"	11/16"	-	1-1/2"	4"		16111
.7188"	23/32"	-	1-1/2"	4"		16112
.7500"	3/4"	-	1-1/2"	4"		15275
.8750"	7/8"	-	1-1/2"	4"		16113
1.0000"	1"	-	1-1/2"	4"		16114

Items with diameter .5000" and less are Dura-Carb III. Items over .5000" are Dura-Carb.

Tolerance: Cutter Dia. +.0000" -.0005"

METRIC SERIES 1525

Two 25° RH Spiral Flutes • Stub Length • Sizes 1.0 mm to 12.5 mm Diameter • 118° Four Facet Point



Metric	Decimal Equivalent	Flute Length	Overall Length	Price	EDP Number
1525					
1.0	.0394"	9.5	38.0		16001
1.5	.0591"	9.5	38.0		16010
2.0	.0787"	9.5	38.0		16020
2.5	.0984"	16.0	51.0		16029
3.0	.1181"	16.0	51.0		16037
3.5	.1378"	16.0	51.0		16040
4.0	.1575"	19.0	63.0		16046
4.5	.1772"	19.0	63.0		16053
5.0	.1968"	19.0	63.0		16061
5.5	.2165"	25.0	63.0		16067
6.0	.2362"	25.0	63.0		16071
6.5	.2559"	25.0	63.0		16075

Metric	Decimal Equivalent	Flute Length	Overall Length	Price	EDP Number
1525					
7.0	.2756"	25.0	63.0		16079
7.5	.2953"	32.0	70.0		16084
8.0	.3150"	32.0	70.0		16086
8.5	.3346"	32.0	76.0		16090
9.0	.3543"	32.0	76.0		16093
9.5	.3740"	32.0	76.0		16096
10.0	.3937"	32.0	76.0		16099
10.5	.4134"	32.0	76.0		16103
11.0	.4331"	32.0	76.0		16104
11.5	.4527"	32.0	76.0		16105
12.0	.4724"	32.0	76.0		16106
12.5	.4921"	32.0	76.0		16107

All Items are Dura-Carb III.

Tolerance: Cutter Dia. +0.000mm -0.013mm

DURA-CARB
DURA-CARB III
DRILLS

118°



Dura-Carb III
DRILLS

118°



mm
METRIC

SERIES 2305

Solid Carbide Center Drill • Double End • 2 RH Spiral Flutes • 118° Cam Relieved • 60°/82°/90° Countersinks



Tool Number	Body Diameter	Pilot Diameter	Overall Length	2305 - 60°		2305 - 82°		2305 - 90°	
				Price	EDP Number	Price	EDP Number	Price	EDP Number
000	1/8"	.0200"	1-1/2"		23000		23002		23004
00	1/8"	.0250"	1-1/2"		23001		23003		23005
0	1/8"	1/32"	1-1/2"		23100		23200		23300
1	1/8"	3/64"	1-1/2"		23101		23201		23301
2	3/16"	5/64"	2"		23102		23202		23302
3	1/4"	7/64"	2"		23103		23203		23303
4	5/16"	1/8"	2-1/8"		23104		23204		23304
5	7/16"	3/16"	2-3/4"		23105		23205		23305
6	1/2"	7/32"	3"		23106		23206		23306
7	5/8"	1/4"	3-1/4"		23107		23207		23307
8	3/4"	5/16"	3-1/2"		23108		23208		23308

Pilot Length is equal to the diameter of the pilot.
Body Diameter is non-cutting.

Tolerance: Pilot Diameter $+.003''$ $-.000''$
Shank Dia. h6

SERIES 7500

Series 2305 Carbide Center Drill Set • Furnished with wooden box with screw-on lid.

6 Tools Total

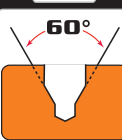
Set Contains Series 2305:
#1, #2, #3, #4, #5, #6

EDP Number	Price
75101	

60° Angle



Tolerance: Pilot Diameter $+.003''$ $-.000''$
Shank Dia. h6



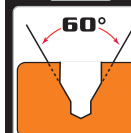
METRIC SERIES 2305

Solid Carbide Center Drill • Double End • 2 RH Spiral Flutes • 118° Cam Relieved • 60° Countersink



Body Diameter	Pilot Diameter	Overall Length	Price	EDP Number
2305 - 60°				
3.0	0.5	38.0		15737
3.0	0.8	38.0		15738
3.0	1.0	38.0		15739
3.0	1.3	38.0		15740
4.0	1.6	50.0		15741
5.0	2.0	51.0		15742
6.0	2.5	50.0		15743
8.0	3.2	50.0		15744
10.0	4.0	76.0		15745
12.0	5.0	76.0		15746

Pilot Length is equal to the diameter of the pilot.
Body Diameter is non-cutting.

DURA-CARB
DRILLS

Tolerance: Cutter Dia. +0.08mm -0.00mm
Shank Dia. h6



SERIES 1545 • 1535 • 1575

Two RH Spiral Flutes • Cam Relieved • Solid Carbide NC Spotting Drills

Designed for fast and accurate spotting on NC machines, these new drills are an excellent alternative to Combined Drill & Countersink Tools. With their short flute and overall lengths, no body clearance or back taper, these drills are very rigid allowing higher feeds & speeds. The unique flute design provides several easy regrinds without the need for web thinning. Centering and chamfering can be accomplished in a single operation.



Decimal Equivalent	Fractional	Flute Length	Overall Length	Price	EDP Number
1545 - 90°					
.1250"	1/8"	5/8"	2-1/2"		15450
.1875"	3/16"	3/4"	2-1/2"		15453
.2500"	1/4"	1"	2-1/2"		15462
.3125"	5/16"	1"	2-1/2"		15464
.3750"	3/8"	1-1/4"	3"		15468
.5000"	1/2"	1-1/4"	3"		15477
.7500"	3/4"	1-1/2"	3"		15708



Decimal Equivalent	Fractional	Flute Length	Overall Length	Price	EDP Number
1535 - 120°					
.1250"	1/8"	5/8"	2-1/2"		15350
.1875"	3/16"	3/4"	2-1/2"		15353
.2500"	1/4"	1"	2-1/2"		15362
.3125"	5/16"	1"	2-1/2"		15364
.3750"	3/8"	1-1/4"	3"		15368
.5000"	1/2"	1-1/4"	3"		15377
.7500"	3/4"	1-1/2"	3"		15709



Decimal Equivalent	Fractional	Flute Length	Overall Length	Price	EDP Number
1575 - 150°					
.1250"	1/8"	5/8"	2-1/2"		15736
.1875"	3/16"	3/4"	2-1/2"		15758
.2500"	1/4"	1"	2-1/2"		15774
.3125"	5/16"	1"	2-1/2"		15778
.3750"	3/8"	1-1/4"	3"		15782
.5000"	1/2"	1-1/4"	3"		15790
.7500"	3/4"	1-1/2"	3"		15707

Tolerance: Cutter Dia. +.0000" -.0005"

METRIC SERIES 1545 • 1535 • 1575

Two RH Spiral Flutes • Cam Relieved • Solid Carbide NC Spotting Drills



Diameter	Decimal Equivalent	Shank Diameter	Flute Length	Overall Length	Price	EDP Number
1545 - 90°						
3.0	.1181"	3.0	10.0	64.0		15454
4.0	.1575"	4.0	12.0	64.0		15455
5.0	.1968"	5.0	25.0	64.0		15456
6.0	.2362"	6.0	25.0	64.0		15459
8.0	.3150"	8.0	25.0	64.0		15465
10.0	.3937"	10.0	31.0	76.0		15471
12.0	.4724"	12.0	38.0	76.0		15474



Diameter	Decimal Equivalent	Shank Diameter	Flute Length	Overall Length	Price	EDP Number
1535 - 120°						
3.0	.1181"	3.0	10.0	64.0		15354
4.0	.1575"	4.0	12.0	64.0		15355
5.0	.1968"	5.0	25.0	64.0		15356
6.0	.2362"	6.0	25.0	64.0		15359
8.0	.3150"	8.0	25.0	64.0		15365
10.0	.3937"	10.0	31.0	76.0		15371
12.0	.4724"	12.0	38.0	76.0		15374



Diameter	Decimal Equivalent	Shank Diameter	Flute Length	Overall Length	Price	EDP Number
1575 - 150°						
3.0	.1181"	3.0	10.0	64.0		15700
4.0	.1575"	4.0	12.0	64.0		15704
5.0	.1968"	5.0	25.0	64.0		15701
6.0	.2362"	6.0	25.0	64.0		15702
8.0	.3150"	8.0	25.0	64.0		15703
10.0	.3937"	10.0	31.0	76.0		15705
12.0	.4724"	12.0	38.0	76.0		15706

DURA-CARB
DRILLS



Tolerance: Cutter Dia. +0.000mm -0.013mm

SERIES 1530**2 Flat RH Cut Flutes • 118° Drill Point**

Designed for thin sheet metal and shallow hole drilling.



Decimal Equivalent	Fractional	Flute Length	Overall Length	Price	EDP Number
1530					
.0625"	1/16"	3/8"	1-1/2"		15301
.0938"	3/32"	7/16"	1-1/2"		15302
.1250"	1/8"	1/2"	1-1/2"		15303
.1562"	5/32"	9/16"	1-1/2"		15304
.1875"	3/16"	11/16"	2"		15305
.2188"	7/32"	11/16"	2"		15306
.2500"	1/4"	13/16"	2"		15307
.2812"	9/32"	7/8"	2"		15308
.3125"	5/16"	7/8"	2-1/2"		15309
.3438"	11/32"	15/16"	2-1/2"		15310
.3750"	3/8"	1-1/8"	2-1/2"		15311
.4062"	13/32"	1-1/8"	2-1/2"		15312
.4327"	7/16"	1-3/16"	2-1/2"		15313
.4688"	15/32"	1-3/16"	2-1/2"		15314
.5000"	1/2"	1-5/16"	2-1/2"		15315

Tolerance: Cutter Dia. +.0000" -.0005"

SERIES 1590

1/8" Shank • 1-1/2" Overall Length • 2 RH Spiral Flutes • 130° or 150° Four Facet Point

Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Price	EDP Number	Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Price	EDP Number
1590						1590					
*.0135"	-	80	.240"		15901	*.0550"	-	54	.400"		15934
*.0145"	-	79	.240"		15902	*.0595"	-	53	.400"		15936
*.0156"	1/64"	-	.240"		15903	*.0625"	1/16"	-	.400"		15937
*.0160"	-	78	.240"		15904	*.0635"	-	52	.400"		15938
*.0180"	-	77	.220"		15905	.0670"	-	51	.400"		15939
*.0200"	-	76	.315"		15907	.0700"	-	50	.400"		15940
*.0210"	-	75	.315"		15908	.0730"	-	49	.400"		15941
*.0225"	-	74	.315"		15909	.0760"	-	48	.400"		15942
*.0240"	-	73	.315"		15910	.0781"	5/64"	-	.400"		15943
*.0250"	-	72	.315"		15911	.0785"	-	47	.400"		15944
*.0260"	-	71	.315"		15912	.0810"	-	46	.400"		15946
*.0280"	-	70	.400"		15913	.0820"	-	45	.400"		15947
*.0292"	-	69	.400"		15914	.0860"	-	44	.400"		15948
*.0310"	-	68	.400"		15916	.0890"	-	43	.400"		15949
*.0312"	1/32"	-	.400"		15917	.0935"	-	42	.400"		15950
*.0320"	-	67	.400"		15918	.0938"	3/32"	-	.400"		15951
*.0330"	-	66	.400"		15919	.0960"	-	41	.400"		15952
*.0350"	-	65	.400"		15920	.0980"	-	40	.400"		15953
*.0360"	-	64	.400"		15921	.0995"	-	39	.400"		15955
*.0370"	-	63	.400"		15922	.1015"	-	38	.400"		15956
*.0380"	-	62	.400"		15923	.1040"	-	37	.400"		15957
*.0390"	-	61	.400"		15924	.1065"	-	36	.400"		15958
*.0400"	-	60	.400"		15926	.1094"	7/64"	-	.400"		15959
*.0410"	-	59	.400"		15927	.1100"	-	35	.400"		15960
*.0420"	-	58	.400"		15928	.1110"	-	34	.400"		15961
*.0430"	-	57	.400"		15929	.1130"	-	33	.400"		15962
*.0465"	-	56	.400"		15930	.1160"	-	32	.400"		15963
*.0469"	3/64"	-	.400"		15931	.1200"	-	31	.400"		15965
*.0520"	-	55	.400"		15933	.1250"	1/8"	-	.400"		15900

*Steel Shanks and 130° Point on tools .0635" diameter and under.

Tolerance: Cutter Dia. +.0000" -.0005"
Flute Length +.0100" -.0100"

METRIC SERIES 1590

3.175mm Shank • 38.1mm Overall Length • 2 RH Spiral Flutes • 130° or 150° Four Facet Point

Metric	Decimal Equivalent	Flute Length	Price	EDP Number
1590				
*0.50	.0197"	6.096		15906
*0.75	.0295"	10.160		15915
*1.00	.0394"	10.160		15925
*1.25	.0492"	10.160		15932
*1.50	.0591"	10.160		15935
2.00	.0787"	10.160		15945
2.50	.0984"	10.160		15954
3.00	.1181"	10.160		15964

*Steel Shanks & 130° Point on tools 1.50mm diameter and under.

Tolerance: Cutter Dia. +0.000mm -0.013mm
Flute Length +0.3mm -0.3mm

CARBIDE
DRILLS

130°

150°

2
FLUTE

Carbide
DRILLS

130°

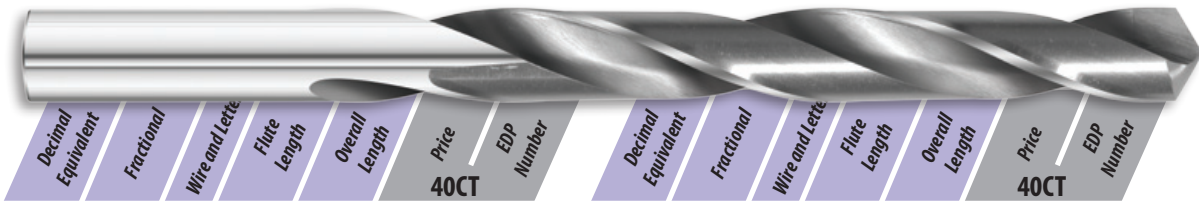
150°

2
FLUTE

mm
METRIC

**SERIES 40CT**

2 RH Spiral Flutes • Jobber Length • 118° Cam Relieved Point



Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price	EDP Number	Decimal Equivalent	Fractional	Wire and Letter	Flute Length	Overall Length	Price	EDP Number
40CT							40CT						
.1250"	1/8"	-	1-5/8"	2-3/4"		40803	.2420"	-	C	2-3/4"	4"		40859
.1285"	-	30	1-5/8"	2-3/4"		40841	.2460"	-	D	2-3/4"	4"		40860
.1360"	-	29	1-3/4"	2-7/8"		40836	.2500"	1/4"	E	2-3/4"	4"		40802
.1405"	-	28	1-3/4"	2-7/8"		40835	.2570"	-	F	2-7/8"	4-1/8"		40862
.1406"	9/64"	-	1-3/4"	2-7/8"		40856	.2610"	-	G	2-7/8"	4-1/8"		40863
.1440"	-	27	1-7/8"	3"		40833	.2656"	17/64"	-	2-7/8"	4-1/8"		40818
.1470"	-	26	1-7/8"	3"		40832	.2660"	-	H	2-7/8"	4-1/8"		40864
.1495"	-	25	1-7/8"	3"		40830	.2720"	-	I	2-7/8"	4-1/8"		40865
.1520"	-	24	2"	3-1/8"		40829	.2770"	-	J	2-7/8"	4-1/8"		40866
.1540"	-	23	2"	3-1/8"		40827	.2810"	-	K	2-15/16"	4-1/4"		40867
.1562"	5/32"	-	2"	3-1/8"		40848	.2812"	9/32"	-	2-15/16"	4-1/4"		40855
.1570"	-	22	2"	3-1/8"		40826	.2900"	-	L	2-15/16"	4-1/4"		40868
.1590"	-	21	2-1/8"	3-1/4"		40824	.2950"	-	M	3-1/16"	4-3/8"		40869
.1610"	-	20	2-1/8"	3-1/4"		40823	.2969"	19/64"	-	3-1/16"	4-3/8"		40821
.1660"	-	19	2-1/8"	3-1/4"		40820	.3020"	-	N	3-1/16"	4-3/8"		40870
.1695"	-	18	2-1/8"	3-1/4"		40819	.3125"	5/16"	-	3-3/16"	4-1/2"		40847
.1719"	11/64"	-	2-1/8"	3-1/4"		40807	.3160"	-	O	3-3/16"	4-1/2"		40871
.1730"	-	17	2-3/16"	3-3/8"		40817	.3230"	-	P	3-5/16"	4-5/8"		40872
.1770"	-	16	2-3/16"	3-3/8"		40816	.3281"	21/64"	-	3-5/16"	4-5/8"		40825
.1800"	-	15	2-3/16"	3-3/8"		40813	.3320"	-	Q	3-7/16"	4-3/4"		40873
.1820"	-	14	2-3/16"	3-3/8"		40812	.3390"	-	R	3-7/16"	4-3/4"		40874
.1850"	-	13	2-5/16"	3-1/2"		40809	.3438"	11/32"	-	3-7/16"	4-3/4"		40806
.1875"	3/16"	-	2-5/16"	3-1/2"		40839	.3480"	-	S	3-1/2"	4-7/8"		40875
.1890"	-	12	2-5/16"	3-1/2"		40808	.3580"	-	T	3-1/2"	4-7/8"		40876
.1910"	-	11	2-5/16"	3-1/2"		40805	.3594"	23/64"	-	3-1/2"	4-7/8"		40828
.1935"	-	10	2-7/16"	3-5/8"		40804	.3680"	-	U	3-5/8"	5"		40877
.1960"	-	9	2-7/16"	3-5/8"		40854	.3750"	3/8"	-	3-5/8"	5"		40840
.1990"	-	8	2-7/16"	3-5/8"		40853	.3770"	-	V	3-5/8"	5"		40878
.2010"	-	7	2-7/16"	3-5/8"		40850	.3860"	-	W	3-3/4"	5-1/8"		40879
.2031"	13/64"	-	2-7/16"	3-5/8"		40811	.3906"	25/64"	-	3-3/4"	5-1/8"		40831
.2040"	-	6	2-1/2"	3-3/4"		40849	.3970"	-	X	3-3/4"	5-1/8"		40880
.2055"	-	5	2-1/2"	3-3/4"		40846	.4040"	-	Y	3-7/8"	5-1/4"		40881
.2090"	-	4	2-1/2"	3-3/4"		40845	.4062"	13/32"	-	3-7/8"	5-1/4"		40810
.2130"	-	3	2-1/2"	3-3/4"		40838	.4130"	-	Z	3-7/8"	5-1/4"		40882
.2188"	7/32"	-	2-1/2"	3-3/4"		40852	.4219"	27/64"	-	3-15/16"	5-3/8"		40834
.2210"	-	2	2-5/8"	3-7/8"		40822	.4375"	7/16"	-	4-1/16"	5-1/2"		40851
.2280"	-	1	2-5/8"	3-7/8"		40800	.4531"	29/64"	-	4-3/16"	5-5/8"		40837
.2340"	-	A	2-5/8"	3-7/8"		40857	.4688"	15/32"	-	4-5/16"	5-3/4"		40814
.2344"	15/64"	-	2-5/8"	3-7/8"		40815	.4844"	31/64"	-	4-3/8"	5-7/8"		40843
.2380"	-	B	2-3/4"	4"		40858	.5000"	1/2"	-	4-1/2"	6"		40801

Tolerance: Drill Diameters +.000" -.001"

SERIES 40TL

2 RH Spiral Flutes • Taper Length • 118° Cam Relieved Point



Decimal Equivalent	Fractional	Flute Length	Overall Length	Price	EDP Number
40TL					
.1250"	1/8"	2-3/4"	5-1/8"		40886
.1406"	9/64"	3"	5-3/8"		40908
.1562"	5/32"	3"	5-3/8"		40925
.1719"	11/64"	3-3/8"	5-3/4"		40889
.1875"	3/16"	3-3/8"	5-3/4"		40910
.2031"	13/64"	3-5/8"	6"		40892
.2188"	7/32"	3-5/8"	6"		40923
.2344"	15/64"	3-3/4"	6-1/8"		40895
.2500"	1/4"	3-3/4"	6-1/8"		40885
.2656"	17/64"	3-7/8"	6-1/4"		40897
.2812"	9/32"	3-7/8"	6-1/4"		40906
.2969"	19/64"	4"	6-3/8"		40899
.3125"	5/16"	4"	6-3/8"		40924
.3281"	21/64"	4-1/8"	6-1/2"		40901
.3438"	11/32"	4-1/8"	6-1/2"		40888
.3594"	23/64"	4-1/4"	6-3/4"		40903
.3750"	3/8"	4-1/4"	6-3/4"		40912
.3906"	25/64"	4-3/8"	7"		40905
.4062"	13/32"	4-3/8"	7"		40891
.4219"	27/64"	4-5/8"	7-1/4"		40907
.4375"	7/16"	4-5/8"	7-1/4"		40913
.4531"	29/64"	4-3/4"	7-1/2"		40909
.4688"	15/32"	4-3/4"	7-1/2"		40894
.4844"	31/64"	4-3/4"	7-3/4"		40914
.5000"	1/2"	4-3/4"	7-3/4"		40884
.5156"	33/64"	4-3/4"	8"		40915
.5312"	17/32"	4-3/4"	8"		40896
.5459"	35/64"	4-7/8"	8-1/4"		40916
.5625"	9/16"	4-7/8"	8-1/4"		40904
.5781"	37/64"	4-7/8"	8-3/4"		40917
.5938"	19/32"	4-7/8"	8-3/4"		40898
.6094"	39/64"	4-7/8"	8-3/4"		40918
.6250"	5/8"	4-7/8"	8-3/4"		40926
.6406"	41/64"	5-1/8"	9"		40919
.6562"	21/32"	5-1/8"	9"		40900
.6719"	43/64"	5-3/8"	9-1/4"		40920
.6875"	11/16"	5-3/8"	9-1/4"		40887
.7031"	45/64"	5-5/8"	9-1/2"		40921
.7188"	23/32"	5-5/8"	9-1/2"		40902
.7344"	47/64"	5-7/8"	9-3/4"		40922
.7500"	3/4"	5-7/8"	9-3/4"		40911
.8125"	13/16"	6-1/8"	10"		40890
.8750"	7/8"	6-1/8"	10"		40893
1.0000"	1"	6-3/8"	11"		40883

Tolerance: Drill Diameters +.000" -.001"

CARBIDE TIPPED
DRILLS

118°



SERIES 40HD**2 Straight Flutes • 118° Cam Relieved Point**

Decimal Equivalent	Fractional	Flute Length	Overall Length	Price	EDP Number
40HD					
*.0625"	1/16"	-	1-1/2"		40928
*.0938"	3/32"	-	2"		40953
*.1250"	1/8"	-	2"		40931
*.1562"	5/32"	-	2"		40958
.1719"	11/64"	1-1/2"	3-1/2"		40934
.1875"	3/16"	1-1/2"	3-1/2"		40952
.2031"	13/64"	1-3/4"	3-3/4"		40937
.2188"	7/32"	1-3/4"	3-3/4"		40962
.2344"	15/64"	2"	4"		40940
.2500"	1/4"	2"	4"		40930
.2656"	17/64"	2-1/4"	4-1/4"		40942
.2812"	9/32"	2-1/4"	4-1/4"		40966
.2969"	19/64"	2-1/2"	4-1/2"		40944
.3125"	5/16"	2-1/2"	4-1/2"		40957
.3281"	21/64"	2-3/4"	4-3/4"		40946
.3438"	11/32"	2-3/4"	4-3/4"		40933
.3594"	23/64"	3"	5"		40948
.3750"	3/8"	3"	5"		40955
.3906"	25/64"	3"	5"		40949
.4062"	13/32"	3"	5-1/4"		40936
.4219"	27/64"	3"	5-1/2"		40950
.4375"	7/16"	3"	5-1/2"		40961
.4531"	29/64"	3-1/4"	5-3/4"		40951
.4688"	15/32"	3-1/4"	5-3/4"		40939
.4844"	31/64"	3-1/2"	6"		40956
.5000"	1/2"	3-1/2"	6"		40929
.5312"	17/32"	3-1/2"	6"		40941
.5625"	9/16"	3-1/2"	6"		40965
.5938"	19/32"	4"	7"		40943
.6250"	5/8"	4"	7"		40960
.6562"	21/32"	4-1/2"	7-1/2"		40945
.6875"	11/16"	4-1/2"	7-1/2"		40932
.7188"	23/32"	4-3/4"	8"		40947
.7500"	3/4"	4-3/4"	8"		40954
.8125"	13/16"	4-3/4"	8"		40935
.8750"	7/8"	4-3/4"	8"		40964
.9375"	15/16"	4-3/4"	8"		40938
1.0000"	1"	4-3/4"	8"		40927

*Solid Carbide Throughout (flat drill style)

Tolerance: Drill Diameters +.000" -.001"

REAMER SPEED AND FEED RECOMMENDATIONS

Speed and Feed

REAMERS



Material		Speed SFM	Feed (I.P.R.)		
			1/8"	1/4"	1/2"
Aluminum / Aluminum Alloys		100 - 300	0.005"	0.010"	0.015"
Aluminum Alloyed Si > 10%		75 - 200	0.004"	0.008"	0.012"
Cast Irons	Soft	75 - 150	0.005"	0.008"	0.012"
	Medium	60 - 100	0.005"	0.008"	0.012"
Malleable		40 - 100	0.003"	0.006"	0.010"
Brass		75 - 175	0.003"	0.004"	0.006"
Bronze		65 - 125	0.003"	0.004"	0.006"
Coppers / Copper Alloys		75 - 150	0.005"	0.008"	0.012"
Magnesium		150 - 250	0.005"	0.010"	0.015"
Nickel Alloys		50 - 90	0.005"	0.008"	0.012"
Stainless Steels	Free Machining	50 - 90	0.005"	0.008"	0.012"
	Work Hardening	30 - 75	0.003"	0.006"	0.010"
Steels	Low Carbon	60 - 125	0.003"	0.006"	0.010"
	Medium Carbon	100 - 150	0.003"	0.005"	0.008"
High Tensile (35 - 40Rc)		90 - 125	0.003"	0.005"	0.008"
High Tensile (40 - 45Rc)		60 - 100	0.001"	0.004"	0.006"
High Tensile (45Rc +)		30 - 90	0.002"	0.002"	0.004"
Tool Steels		60 - 100	0.002"	0.005"	0.008"
Titanium	Soft	50 - 125	0.003"	0.006"	0.010"
	Hard	20 - 60	0.002"	0.004"	0.008"

FLUTE STYLES



STRAIGHT FLUTES

For all types of general reaming applications.



RH SPIRAL FLUTES

For blind holes and abrasive, ductile materials. Do not use for holes with interruptions unless material is reasonably soft.



LH SPIRAL FLUTES

Produces better finishes on hard materials such as heat-treated steels. Shear action is excellent for holes with interruptions; i.e., keyways, elongated slots, etc.

STOCK REMOVAL

Sufficient amount of stock should be left in the work area to permit the reamer to cut rather than to burnish or glaze.

The amount of stock removal for machine reaming:

Reamer Diameter	Suggested Stock Removal
1/4"	.008" - .010"
1/4" - 1/2"	.012" - .015"
1/2" - 1"	.017" - .020"
1" - 1-1/2"	.020" - .025"

The use of coolants will help produce a superior finish when reaming.

SERIES 1410 DECIMAL SIZED

Solid Carbide • Short Length • 45° Cutting Chamfer


JUST IN TIME
24-HOUR JIT DELIVERY

DECIMAL SIZE REAMERS

**12 PIECES
OR LESS
All Styles**
1410**Straight Flutes** - For all types of general reaming applications.**1410L****LH Spiral Flutes** - Produces better finishes on hard materials such as heat-treated steels. Shear action is excellent for holes with interruptions; i.e., keyways, elongated slots, etc.**1410R****RH Spiral Flutes** - For blind holes and abrasive, ductile materials. Do not use for holes with interruptions unless material is reasonably soft.

Diameter Range	Flute Length	Overall Length	Shank Diameter	# of Flutes	Quantity Price					
					1	2-5	6-11	12-24	25-49	50+
*.0312"-.0394"	3/8"	1-1/2"	.0312"	4						
*.0395"-.0484"	3/8"	1-1/2"	.0312"	4						
*.0485"-.0574"	3/8"	1-1/2"	.0469"	4						
*.0575"-.0654"	3/8"	1-1/2"	.0469"	4						
*.0655"-.0804"	1/2"	2"	.0625"	4						
*.0805"-.0964"	1/2"	2"	.0781"	4						
*.0965"-.1124"	5/8"	2-1/4"	.0938"	4						
.1125"-.1284"	5/8"	2-1/4"	.1094"	4						
.1285"-.1444"	3/4"	2-1/2"	.1250"	4						
.1445"-.1594"	3/4"	2-1/2"	.1406"	4						
.1595"-.1744"	7/8"	2-3/4"	.1562"	4						
.1745"-.1914"	7/8"	2-3/4"	.1719"	4						
.1915"-.2234"	1"	3"	.1875"	6						
.2235"-.2544"	1"	3"	.2188"	6						
.2545"-.2844"	1-1/8"	3-1/4"	.2500"	6						
.2845"-.3164"	1-1/8"	3-1/4"	.2812"	6						
.3165"-.3484"	1-1/4"	3-1/2"	.3125"	6						
.3485"-.3794"	1-1/4"	3-1/2"	.3438"	6						
.3795"-.4104"	1-1/2"	4"	.3750"	6						
.4105"-.4414"	1-1/2"	4"	.4062"	6						
.4415"-.4724"	1-1/2"	4"	.4375"	6						
.4725"-.5054"	1-1/2"	4"	.4688"	6						

*All Reamers up to .1124 have male centers. All larger sizes have female centers.

TOLERANCES: Reamer Dia. up to .250 + .0002" - .0000"
over .2501 + .0003" - .0000"
Shank Diameters: + .0005" - .0005"
Add 20% To Decimal Sizes For .0001 TOLERANCES

SERIES 1450 DECIMAL SIZED

Standard Length • Steel Shank • 45° Cutting Chamfer



JUST IN TIME
24-HOUR JIT DELIVERY

DECIMAL SIZE REAMERS

**12 PIECES
OR LESS
All Styles**

1450

Straight Flutes - For all types of general reaming applications.

1450L

LH Spiral Flutes - Produces better finishes on hard materials such as heat-treated steels. Shear action is excellent for holes with interruptions; i.e., keyways, elongated slots, etc.

1450R

RH Spiral Flutes - For blind holes and abrasive, ductile materials. Do not use for holes with interruptions unless material is reasonably soft.

DURA-CARB
REAMERS



Diameter Range	Flute Length	Overall Length	Shank Diameter	# of Flutes	Quantity Price					
					1	2-5	6-11	12-24	25-49	50+
*.1105"-.1284"	7/8"	3-1/2"	.1094"	4						
*.1285"-.1444"	7/8"	3-1/2"	.1250"	4						
*.1445"-.1594"	1"	4"	.1406"	4						
*.1595"-.1744"	1"	4"	.1562"	4						
*.1745"-.1914"	1-1/8"	4-1/2"	.1719"	4						
.1915"-.2234"	1-1/4"	5"	.1875"	6						
.2235"-.2544"	1-1/2"	6"	.2188"	6						
.2545"-.2844"	1-1/2"	6"	.2500"	6						
.2845"-.3164"	1-5/8"	6"	.2812"	6						
.3165"-.3484"	1-5/8"	6"	.3125"	6						
.3485"-.3794"	1-3/4"	7"	.3438"	6						
.3795"-.4104"	1-3/4"	7"	.3750"	6						
.4105"-.4414"	1-3/4"	7"	.4062"	6						
.4415"-.4724"	1-3/4"	8"	.4375"	6						
.4725"-.5054"	1-3/4"	8"	.4688"	6						
.5055"-.5360"	1-7/8"	9"	.5000"	6						
.5361"-.5670"	1-7/8"	9"	.5000"	6						
.5671"-.5990"	1-7/8"	9"	.5625"	6						
.5991"-.6300"	1-7/8"	9"	.5625"	6						
.6301"-.6630"	2"	9-1/2"	.6250"	6						
.6631"-.6930"	2"	9-1/2"	.6250"	6						
.6931"-.7250"	2"	9-1/2"	.6875"	6						
.7251"-.7560"	2"	9-1/2"	.6875"	6						
.7561"-.7870"	2"	10"	.7500"	8						
.7871"-.8190"	2"	10"	.7812"	8						
.8191"-.8500"	2"	10"	.8125"	8						
.8501"-.8820"	2"	10"	.8435"	8						
.8821"-.9120"	2"	10"	.8750"	8						
.9121"-.9440"	2"	10"	.9062"	8						
.9441"-.9760"	2"	10"	.9375"	8						
.9761"-.1.0100"	2"	10"	.9688"	8						

TOLERANCES: Reamer Dia. up to: .250 +.0002" - .0000"
over: .2501 +.0003" - .0000"
Shank Diameters: +.0005" - .0005"
Add 20% To Decimal Sizes For .0001 TOLERANCES

* Solid Carbide Reamers

All reamers have female centers.

Due to temperatures reached in the coating process, Fullerton Tool can not guarantee concentricity on reamers over .2844" in diameter.

DURA-CARB REAMERS



SERIES 1415

Solid Carbide • Over / Under Reamers • 45° Cutting Chamfer • Straight Flutes

Decimal Size	Flute Length	Overall Length	Shank Diameter	# of Flutes	Price	EDP Number	Decimal Size	Flute Length	Overall Length	Shank Diameter	# of Flutes	Price	EDP Number
1415							1415						
.1240"	5/8"	2-1/4"	.1094"	4		14150	.3120"	1-1/8"	3-1/4"	.2812"	6		14166
.1245"	5/8"	2-1/4"	.1094"	4		14151	.3130"	1-1/8"	3-1/4"	.2812"	6		14167
.1255"	5/8"	2-1/4"	.1094"	4		14153	.3135"	1-1/8"	3-1/4"	.2812"	6		14168
.1260"	5/8"	2-1/4"	.1094"	4		14154	.3740"	1-1/4"	3-1/2"	.3438"	6		14169
.1865"	7/8"	2-3/4"	.1719"	4		14155	.3745"	1-1/4"	3-1/2"	.3438"	6		14170
.1870"	7/8"	2-3/4"	.1719"	4		14156	.3755"	1-1/4"	3-1/2"	.3438"	6		14171
.1872"	7/8"	2-3/4"	.1719"	4		14157	.3760"	1-1/4"	3-1/2"	.3438"	6		14172
.1880"	7/8"	2-3/4"	.1719"	4		14158	.4365"	1-1/2"	4"	.4062"	6		14173
.1885"	7/8"	2-3/4"	.1719"	4		14159	.4370"	1-1/2"	4"	.4062"	6		14180
.2490"	1"	3"	.2188"	6		14160	.4380"	1-1/2"	4"	.4062"	6		14181
.2495"	1"	3"	.2188"	6		14161	.4385"	1-1/2"	4"	.4062"	6		14174
.2497"	1"	3"	.2188"	6		14162	.4990"	1-1/2"	4"	.4688"	6		14175
.2505"	1"	3"	.2188"	6		14163	.4995"	1-1/2"	4"	.4688"	6		14182
.2510"	1"	3"	.2188"	6		14164	.5005"	1-1/2"	4"	.4688"	6		14183
.3115"	1-1/8"	3-1/4"	.2812"	6		14165	.5010"	1-1/2"	4"	.4688"	6		14176

All Reamers have female centers.

TOLERANCES: Reamer Dia. up to: .250	+ .0002" - .0000"
over: .2501	+ .0003" - .0000"
Shank Diameters:	+ .0005" - .0005"

SERIES 1420

Solid Carbide • Dowel Pin Reamers • 45° Cutting Chamfer • Straight Flutes



Decimal Size	Flute Length	Overall Length	Shank Diameter	# of Flutes	Price	EDP Number
1420						
.1230"	5/8"	2-1/4"	.1094"	4		14184
.1247"	5/8"	2-1/4"	.1094"	4		14152
.1855"	7/8"	2-3/4"	.1719"	4		14186
.1870"	7/8"	2-3/4"	.1719"	4		14187
.2480"	1"	3"	.2188"	6		14188
.2495"	1"	3"	.2188"	6		14189
.3105"	1-1/8"	3-1/4"	.2812"	6		14190
.3120"	1-1/8"	3-1/4"	.2812"	6		14191
.3730"	1-1/4"	3-1/2"	.3438"	6		14192
.3745"	1-1/4"	3-1/2"	.3438"	6		14193
.4355"	1-1/2"	4"	.4062"	6		14194
.4370"	1-1/2"	4"	.4062"	6		14195
.4980"	1-1/2"	4"	.4688"	6		14196
.4995"	1-1/2"	4"	.4688"	6		14197

TOLERANCES: Reamer Dia. up to: .250	+ .0000" - .0002"
over: .2501	+ .0000" - .0003"
Shank Diameters:	+ .0005" - .0005"

SERIES 1400

Solid Carbide • Short Length • 45° Cutting Chamfer • Straight Flutes



Decimal Equivalent	Fractional	Wire & Letter	Flute Length	Shank Diameter	Overall Length	Number of Flutes	Price	EDP Number	Decimal Equivalent	Fractional	Wire & Letter	Flute Length	Shank Diameter	Overall Length	Number of Flutes	Price	EDP Number
1400									1400								
.0280"	-	70	3/8"	.0280"	1-1/2"	4		14001	.1440"	-	27	3/4"	.1250"	2-1/2"	4		14059
.0292"	-	69	3/8"	.0292"	1-1/2"	4		14002	.1470"	-	26	3/4"	.1406"	2-1/2"	4		14060
.0310"	-	68	3/8"	.0310"	1-1/2"	4		14003	.1495"	-	25	3/4"	.1406"	2-1/2"	4		14061
.0312"	1/32"	-	3/8"	.0312"	1-1/2"	4		14004	.1520"	-	24	3/4"	.1406"	2-1/2"	4		14062
.0320"	-	67	3/8"	.0312"	1-1/2"	4		14005	.1540"	-	23	3/4"	.1406"	2-1/2"	4		14063
.0330"	-	66	3/8"	.0312"	1-1/2"	4		14006	.1562"	5/32"	-	3/4"	.1406"	2-1/2"	4		14064
.0350"	-	65	3/8"	.0312"	1-1/2"	4		14007	.1570"	-	22	3/4"	.1406"	2-1/2"	4		14065
.0360"	-	64	3/8"	.0312"	1-1/2"	4		14008	.1590"	-	21	3/4"	.1406"	2-1/2"	4		14066
.0370"	-	63	3/8"	.0312"	1-1/2"	4		14009	.1610"	-	20	7/8"	.1562"	2-3/4"	4		14068
.0380"	-	62	3/8"	.0312"	1-1/2"	4		14010	.1660"	-	19	7/8"	.1562"	2-3/4"	4		14069
.0390"	-	61	3/8"	.0312"	1-1/2"	4		14011	.1695"	-	18	7/8"	.1562"	2-3/4"	4		14070
.0400"	-	60	3/8"	.0312"	1-1/2"	4		14013	.1719"	11/64"	-	7/8"	.1562"	2-3/4"	4		14071
.0410"	-	59	3/8"	.0312"	1-1/2"	4		14014	.1730"	-	17	7/8"	.1562"	2-3/4"	4		14072
.0420"	-	58	3/8"	.0312"	1-1/2"	4		14015	.1770"	-	16	7/8"	.1719"	2-3/4"	4		14073
.0430"	-	57	3/8"	.0312"	1-1/2"	4		14016	.1800"	-	15	7/8"	.1719"	2-3/4"	4		14075
.0465"	-	56	3/8"	.0312"	1-1/2"	4		14017	.1820"	-	14	7/8"	.1719"	2-3/4"	4		14076
.0469"	3/64"	-	3/8"	.0312"	1-1/2"	4		14018	.1850"	-	13	7/8"	.1719"	2-3/4"	4		14077
.0520"	-	55	3/8"	.0469"	1-1/2"	4		14019	.1875"	3/16"	-	7/8"	.1719"	2-3/4"	4		14078
.0550"	-	54	3/8"	.0469"	1-1/2"	4		14020	.1890"	-	12	7/8"	.1719"	2-3/4"	4		14079
.0595"	-	53	3/8"	.0469"	1-1/2"	4		14023	.1910"	-	11	7/8"	.1719"	2-3/4"	4		14080
.0625"	1/16"	-	3/8"	.0469"	1-1/2"	4		14024	.1935"	-	10	1"	.1875"	3"	6		14081
.0635"	-	52	3/8"	.0469"	1-1/2"	4		14025	.1960"	-	9	1"	.1875"	3"	6		14082
.0670"	-	51	1/2"	.0625"	2"	4		14026	.1990"	-	8	1"	.1875"	3"	6		14084
.0700"	-	50	1/2"	.0625"	2"	4		14027	.2010"	-	7	1"	.1875"	3"	6		14085
.0730"	-	49	1/2"	.0625"	2"	4		14028	.2031"	13/64"	-	1"	.1875"	3"	6		14086
.0760"	-	48	1/2"	.0625"	2"	4		14029	.2040"	-	6	1"	.1875"	3"	6		14087
.0781"	5/64"	-	1/2"	.0625"	2"	4		14030	.2055"	-	5	1"	.1875"	3"	6		14088
.0785"	-	47	1/2"	.0625"	2"	4		14031	.2090"	-	4	1"	.1875"	3"	6		14089
.0810"	-	46	1/2"	.0781"	2"	4		14033	.2130"	-	3	1"	.1875"	3"	6		14090
.0820"	-	45	1/2"	.0781"	2"	4		14034	.2188"	7/32"	-	1"	.1875"	3"	6		14092
.0860"	-	44	1/2"	.0781"	2"	4		14035	.2210"	-	2	1"	.1875"	3"	6		14093
.0890"	-	43	1/2"	.0781"	2"	4		14036	.2280"	-	1	1"	.2188"	3"	6		14094
.0935"	-	42	1/2"	.0781"	2"	4		14037	.2344"	15/64"	-	1"	.2188"	3"	6		14096
.0938"	3/32"	-	1/2"	.0781"	2"	4		14038	.2500"	1/4"	-	1"	.2188"	3"	6		14098
.0960"	-	41	1/2"	.0781"	2"	4		14039	.2656"	17/64"	-	1-1/8"	.2500"	3-1/4"	6		14100
.0980"	-	40	5/8"	.0938"	2-1/4"	4		14040	.2812"	9/32"	-	1-1/8"	.2500"	3-1/4"	6		14102
.0995"	-	39	5/8"	.0938"	2-1/4"	4		14042	.2969"	19/64"	-	1-1/8"	.2812"	3-1/4"	6		14104
.1015"	-	38	5/8"	.0938"	2-1/4"	4		14043	.3125"	5/16"	-	1-1/8"	.2812"	3-1/4"	6		14105
.1040"	-	37	5/8"	.0938"	2-1/4"	4		14044	.3281"	21/64"	-	1-1/4"	.3125"	3-1/2"	6		14107
.1065"	-	36	5/8"	.0938"	2-1/4"	4		14045	.3438"	11/32"	-	1-1/4"	.3125"	3-1/2"	6		14109
.1094"	7/64"	-	5/8"	.0938"	2-1/4"	4		14046	.3594"	23/64"	-	1-1/4"	.3438"	3-1/2"	6		14111
.1100"	-	35	5/8"	.0938"	2-1/4"	4		14047	.3750"	3/8"	-	1-1/4"	.3438"	3-1/2"	6		14113
.1110"	-	34	5/8"	.0938"	2-1/4"	4		14048	.3906"	25/64"	-	1-1/2"	.3750"	4"	6		14114
.1130"	-	33	5/8"	.1094"	2-1/4"	4		14049	.4062"	13/32"	-	1-1/2"	.3750"	4"	6		14116
.1160"	-	32	5/8"	.1094"	2-1/4"	4		14050	.4219"	27/64"	-	1-1/2"	.4062"	4"	6		14118
.1200"	-	31	5/8"	.1094"	2-1/4"	4		14052	.4375"	7/16"	-	1-1/2"	.4062"	4"	6		14120
.1250"	1/8"	-	5/8"	.1094"	2-1/4"	4		14053	.4531"	29/64"	-	1-1/2"	.4375"	4"	6		14122
.1285"	-	30	3/4"	.1250"	2-1/2"	4		14054	.4688"	15/32"	-	1-1/2"	.4375"	4"	6		14123
.1360"	-	29	3/4"	.1250"	2-1/2"	4		14055	.4844"	31/64"	-	1-1/2"	.4688"	4"	6		14125
.1405"	-	28	3/4"	.1250"	2-1/2"	4		14057	.5000"	1/2"	-	1-1/2"	.4688"	4"	6		14127
.1406"	9/64"	-	3/4"	.1250"	2-1/2"	4		14058									

All Reamers up to .1124 have male centers. All larger sizes have female centers.

Tolerance:	Cutter Diameters up to: .250	+0.0002"-.0000"
	over: .2501	+0.0003"-.0000"
	Shank Dia.	+0.0005"-.0005"

DURA-CARB
REAMERS



DURA-CARB REAMERS



METRIC SERIES 1400

Solid Carbide • Short Length • 45° Cutting Chamfer • Straight Flutes



Metric	Decimal Equivalent	Number of Flutes	Flute Length	Shank Diameter	Overall Length	Price	EDP Number
1400							
1.0	.0394"	4	10.0	0.792	38.0		14012
1.5	.0591"	4	10.0	1.191	38.0		14022
2.0	.0787"	4	12.0	1.588	50.0		14032
2.5	.0984"	4	16.0	2.383	57.0		14041
3.0	.1181"	4	16.0	2.779	57.0		14051
3.5	.1378"	4	20.0	3.175	63.0		14056
4.0	.1575"	4	20.0	3.571	63.0		14066
4.5	.1772"	4	22.0	4.366	70.0		14074
5.0	.1969"	6	25.0	4.366	76.0		14083
5.5	.2165"	6	25.0	4.763	76.0		14091
6.0	.2362"	6	25.0	5.558	76.0		14097
6.5	.2559"	6	28.0	6.350	83.0		14099
7.0	.2756"	6	28.0	6.350	83.0		14101
7.5	.2953"	6	28.0	7.142	83.0		14103
8.0	.3150"	6	28.0	7.142	83.0		14106
8.5	.3346"	6	32.0	7.938	89.0		14108
9.0	.3543"	6	32.0	8.733	89.0		14110
9.5	.3740"	6	32.0	8.733	89.0		14112
10.0	.3937"	6	38.0	9.525	101.0		14115
10.5	.4134"	6	38.0	10.317	101.0		14117
11.0	.4331"	6	38.0	10.317	101.0		14119
11.5	.4528"	6	38.0	11.113	101.0		14121
12.0	.4724"	6	38.0	11.113	101.0		14124
12.5	.4921"	6	38.0	11.908	101.0		14126

All Reamers up to .1124 have male centers. All larger sizes have female centers.

Tolerance:	Cutter Diameters up to: .250	+0.005mm	-.000mm
	over: .2501	+0.008mm	-.000mm
	Shank Dia.	+.013mm	-.013mm

SERIES 1450

Standard Length • Steel Shank • 45° Cutting Chamfer

DURA-CARB
REAMERS



Cutting Diameter	Flute Length	Overall Length	Shank Diameter	Number of Flutes	Price	EDP Number
1450						
*1/8"	7/8"	3-1/2"	.1094"	4		14511
*9/64"	7/8"	3-1/2"	.1250"	4		14512
*5/32"	1"	4"	.1406"	4		14513
*11/64"	1"	4"	.1562"	4		14514
*3/16"	1-1/8"	4-1/2"	.1719"	4		14515
13/64"	1-1/4"	5"	.1875"	6		14516
7/32"	1-1/4"	5"	.1875"	6		14517
15/64"	1-1/4"	6"	.2188"	6		14518
1/4"	1-1/2"	6"	.2188"	6		14519
17/64"	1-1/2"	6"	.2500"	6		14520
9/32"	1-1/2"	6"	.2500"	6		14521
19/64"	1-5/8"	6"	.2812"	6		14522
5/16"	1-5/8"	6"	.2812"	6		14523
21/64"	1-5/8"	6"	.3125"	6		14524
11/32"	1-5/8"	6"	.3125"	6		14525
23/64"	1-3/4"	7"	.3438"	6		14526
3/8"	1-3/4"	7"	.3438"	6		14527
25/64"	1-3/4"	7"	.3750"	6		14528
13/32"	1-3/4"	7"	.3750"	6		14529
27/64"	1-3/4"	7"	.4062"	6		14530
7/16"	1-3/4"	7"	.4062"	6		14531
29/64"	1-3/4"	8"	.4375"	6		14532
15/32"	1-3/4"	8"	.4375"	6		14533
31/64"	1-3/4"	8"	.4688"	6		14534
1/2"	1-3/4"	8"	.4688"	6		14535
9/16"	1-7/8"	9"	.5000"	6		14536
5/8"	1-7/8"	9"	.5625"	6		14537
11/16"	2"	9-1/2"	.6250"	6		14538
3/4"	2"	9-1/2"	.6875"	6		14539
7/8"	2"	10"	.8435"	8		14540
1"	2"	10"	.9688"	8		14541

* Solid Carbide Reamers

All reamers have female centers.

Due to temperatures reached in the coating process, Fullerton Tool can not guarantee concentricity on reamers over .2812" in diameter.

Tolerance:	Cutter Diameters up to: .250	+0.0002" -.0000"
	over: .2501	+0.0003" -.0000"
	Shank Dia.	+.0005" -.0005"

SERIES 1100D • 1125D

Ground to $+0.0000'' -0.0005''$ Tolerance

1100D

1125D

Diameter	Overall Length	Price	EDP Number	Length of Split	Price	EDP Number	Diameter	Overall Length	Price	EDP Number	Length of Split	Price	EDP Number		
1100D				1125D				1100D				1125D			
1/16"	1-1/2"		11100	-		-	3/8"	3"		11121	1/2"		16373		
3/32"	2"		11101	-		-	3/8"	4"		11122	1/2"		16374		
1/8"	1-1/2"		11102	3/8"		16121	3/8"	6"		11123	-		-		
1/8"	2"		11103	3/8"		16122	3/8"	12"		11147	-		-		
1/8"	3"		11104	3/8"		16123	7/16"	2-3/4"		11124	5/8"		16417		
1/8"	4"		11105	3/8"		16124	7/16"	3"		11125	5/8"		16413		
1/8"	6"		11106	-		-	7/16"	4"		11126	5/8"		16414		
1/8"	12"		11143	-		-	7/16"	6"		11127	-		-		
3/16"	2"		11107	1/2"		16182	7/16"	12"		11148	-		-		
3/16"	3"		11108	1/2"		16183	1/2"	3"		11128	5/8"		16503		
3/16"	4"		11109	1/2"		16184	1/2"	4"		11129	5/8"		16504		
3/16"	6"		11110	-		-	1/2"	6"		11130	-		-		
3/16"	12"		11144	-		-	1/2"	12"		11149	-		-		
1/4"	2"		11111	1/2"		16252	9/16"	3-1/2"		11131	-		-		
1/4"	2-1/2"		11112	1/2"		16257	5/8"	3-1/2"		11132	-		-		
1/4"	3"		11113	1/2"		16253	5/8"	4"		11150	-		-		
1/4"	4"		11114	1/2"		16254	5/8"	6"		11151	-		-		
1/4"	6"		11115	-		-	5/8"	12"		11152	-		-		
1/4"	12"		11145	-		-	3/4"	4"		11133	-		-		
5/16"	2-1/2"		11116	1/2"		16317	3/4"	6"		11137	-		-		
5/16"	3"		11117	1/2"		16313	3/4"	12"		11153	-		-		
5/16"	4"		11118	1/2"		16314	1"	4"		11134	-		-		
5/16"	6"		11119	-		-	1"	6"		11139	-		-		
5/16"	12"		11146	-		-	1"	12"		11154	-		-		
3/8"	2-1/2"		11120	1/2"		16377									

Special Diameters and Lengths available on quote.

METRIC SERIES 1100D

Ground to $+0.000\text{mm} -0.013\text{mm}$ Tolerance

1100D



Diameter	Overall Length	Price	EDP Number
1100D			
3.0	38.0		11155
6.0	63.0		11136
8.0	63.0		11140
10.0	63.0		11141
12.0	75.0		11142



SERIES 4375

Straight Flute • Solid Head • Steel Shank Except Where Noted



Nominal Cutter Diameter	Face Width	American Standards	Neck Diameter	Overall Length	No. of Flutes	Price 4375	EDP Number
3/8"	1/32"	-	.2030"	2-1/32"	8		43900
3/8"	3/64"	-	.2030"	2-1/32"	8		43901
3/8"	1/16"	203	.2030"	2-1/16"	8		43302
3/8"	3/32"	303	.2030"	2-3/32"	8		43303
3/8"	1/8"	403	.2030"	2-1/8"	8		43403
1/2"	1/32"	-	.2500"	2-1/32"	10		43902
1/2"	3/64"	-	.2500"	2-3/64"	10		43903
1/2"	1/16"	204	.2500"	2-1/16"	10		43240
1/2"	5/64"	-	.2500"	2-5/64"	10		43904
1/2"	3/32"	304	.2500"	2-3/32"	10		43304
1/2"	7/64"	-	.2500"	2-7/64"	10		43905
1/2"	1/8"	404	.2500"	2-1/8"	10		43404
5/8"	1/32"	-	.2810"	2-1/32"	10		43906
5/8"	3/64"	-	.2810"	2-3/64"	10		43907
5/8"	1/16"	-	.2810"	2-1/16"	10		43908
5/8"	5/64"	-	.2810"	2-5/64"	10		43909
5/8"	3/32"	305	.2810"	2-3/32"	10		43305
5/8"	7/64"	-	.2810"	2-7/64"	10		43910
5/8"	1/8"	405	.2810"	2-1/8"	10		43405
5/8"	9/64"	-	.2810"	2-9/64"	10		43911
5/8"	5/32"	505	.2810"	2-5/32"	10		43505
5/8"	3/16"	605	.2810"	2-3/16"	10		43605
3/4"	1/32"	-	.2810"	2-1/8"	10		43912
3/4"	3/64"	-	.2810"	2-3/64"	10		43913
3/4"	1/16"	-	.2810"	2-1/16"	10		43914
3/4"	5/64"	-	.2810"	2-5/64"	10		43915
3/4"	3/32"	-	.2810"	2-3/32"	10		43916
3/4"	7/64"	-	.2810"	2-7/64"	10		43917
3/4"	1/8"	406	.2810"	2-1/8"	10		43406
3/4"	9/64"	-	.2810"	2-9/64"	10		43918
3/4"	5/32"	506	.2810"	2-5/32"	10		43506
3/4"	3/16"	606	.2810"	2-3/16"	10		43606
3/4"	13/64"	-	.2810"	2-13/64"	10		43919
3/4"	7/32"	-	.2810"	2-7/32"	10		43920
3/4"	15/64"	-	.2810"	2-15/64"	10		43921
3/4"	1/4"	806	.2810"	2-1/4"	10		43806

Nominal Cutter Diameter	Face Width	American Standards	Neck Diameter	Overall Length	No. of Flutes	Price 4375	EDP Number
7/8"	1/16"	-	.2810"	2-1/16"	12		43922
7/8"	1/8"	-	.2810"	2-1/8"	12		43923
7/8"	5/32"	507	.2810"	2-5/32"	12		43507
7/8"	3/16"	607	.2810"	2-3/16"	12		43607
7/8"	7/32"	707	.2810"	2-3/32"	12		43707
7/8"	1/4"	807	.2810"	2-1/4"	12		43807
1"	1/32"	-	.2810"	2-1/32"	12		43924
1"	3/64"	-	.2810"	2-3/64"	12		43925
1"	1/16"	-	.2810"	2-1/16"	12		43926
1"	5/64"	-	.2810"	2-5/64"	12		43927
1"	3/32"	-	.2810"	2-3/32"	12		43928
1"	1/8"	-	.2810"	2-1/8"	12		43929
1"	5/32"	-	.2810"	2-5/32"	12		43930
1"	3/16"	608	.2810"	2-3/16"	12		43608
1"	7/32"	708	.2810"	2-7/32"	12		43708
1"	1/4"	808	.2810"	2-1/4"	12		43808
*1-1/8"	1/8"	-	.2810"	2-1/8"	14		43931
*1-1/8"	3/16"	609	.2810"	2-3/16"	14		43609
*1-1/8"	7/32"	709	.2810"	2-7/32"	14		43709
*1-1/8"	1/4"	809	.2810"	2-1/4"	14		43809
*1-1/4"	1/32"	-	.2810"	2-1/32"	14		43932
*1-1/4"	1/16"	-	.2810"	2-1/16"	14		43933
*1-1/4"	3/32"	-	.2810"	2-1/16"	14		43934
*1-1/4"	1/8"	-	.2810"	2-1/8"	14		43935
*1-1/4"	5/32"	-	.2810"	2-5/32"	14		43936
*1-1/4"	3/16"	610	.2810"	2-3/16"	14		43610
*1-1/4"	7/32"	710	.2810"	2-7/32"	14		43710
*1-1/4"	1/4"	810	.2810"	2-1/4"	14		43810
*1-1/2"	1/32"	-	.3750"	2-1/32"	16		43937
*1-1/2"	1/16"	-	.3750"	2-1/16"	16		43938
*1-1/2"	3/32"	-	.3750"	2-3/32"	16		43939
*1-1/2"	1/8"	-	.3750"	2-1/8"	16		43940
*1-1/2"	3/16"	-	.3750"	2-3/16"	16		43941
*1-1/2"	1/4"	812	.3750"	2-1/4"	16		43812
*1-1/2"	5/16"	1012	.3750"	2-5/16"	16		43000
*1-1/2"	3/8"	1212	.3750"	2-3/8"	16		43212

*Solid carbide one-piece construction.

Tolerances:	1/2" Diameter Shank:	+ .0000" - .0005"
	Cutting Head:	
	3/8" to 3/4" Dia.	+ .010" / + .015"
	7/8" to 1-1/2" Dia.	+ .012" / + .017"
	Face Width:	+ .0000" - .0005"
	Neck Length:	.2500"



JUST IN TIME
24-HOUR JIT DELIVERY

KEYSEAT CUTTERS
Intermediate Thickness

**12 PIECES
OR LESS**

All of the above keyseat cutters are available in 24 hour delivery with special face widths. (Must be smaller in thickness than standard face widths.)

COST: Add the following costs to the list price.

1	2	3	4-7	8-11	12-15	16 OVER
32.50	16.00	14.00	10.50	7.00	4.00	N/C

DURA-CARB III
KEYSEAT CUTTERS





SERIES 2450

Diameter from 1/4" to 6"

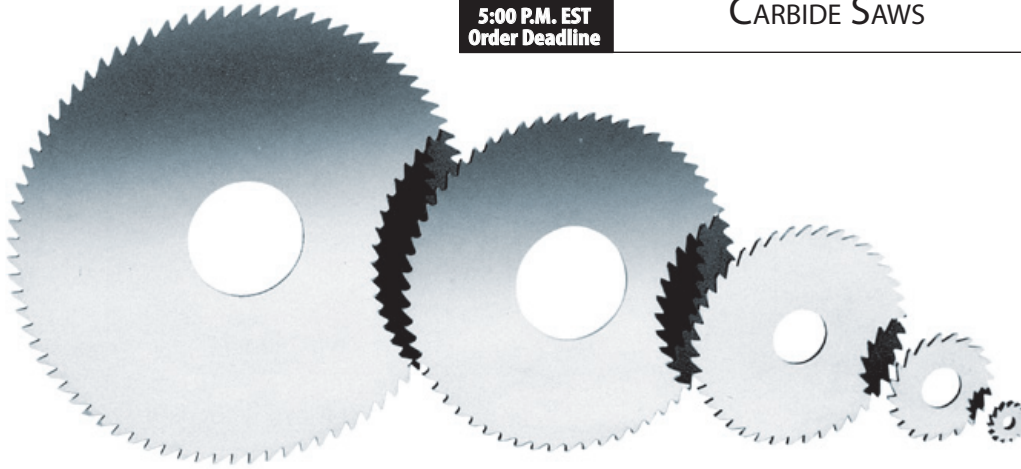


5:00 P.M. EST
Order Deadline

JUST IN TIME
48-HOUR JIT DELIVERY

CARBIDE SAWS

**12 PIECES
OR LESS**



Cutter Diameter	Thickness Range	Arbor Diameter	Number of Teeth	Quantity Price					
				1	2-5	6-11	12-24	25-49	50+
1/4"	.0100"-.0350"	1/8"	12						
5/16"	.0100"-.0350"	1/8"	12						
3/8"	.0060"-.0259"	1/8"	14						
3/8"	.0260"-.0630"	1/8"	14						
1/2"	.0060"-.0349"	3/16"	14						
1/2"	.0350"-.0630"	3/16"	14						
5/8"	.0060"-.0149"	1/4"	16						
5/8"	.0150"-.0409"	1/4"	16						
5/8"	.0410"-.0630"	1/4"	16						
3/4"	.0060"-.0149"	1/4"	18						
3/4"	.0150"-.0409"	1/4"	18						
3/4"	.0410"-.0639"	1/4"	18						
3/4"	.0640"-.0949"	1/4"	18						
3/4"	.0950"-.1300"	1/4"	18						
1"	.0100"-.0199"	1/4", 5/16", 3/8"	20						
1"	.0200"-.0409"	1/4", 5/16", 3/8"	20						
1"	.0410"-.0639"	1/4", 5/16", 3/8"	20						
1"	.0640"-.0949"	1/4", 5/16", 3/8"	20						
1"	.0950"-.1300"	1/4", 5/16", 3/8"	20						
1-1/4"	.0100"-.0199"	3/8", 5/16", 1/2"	24						
1-1/4"	.0200"-.0459"	3/8", 5/16", 1/2"	24						
1-1/4"	.0460"-.0639"	3/8", 5/16", 1/2"	24						
1-1/4"	.0640"-.0949"	3/8", 5/16", 1/2"	24						
1-1/4"	.0950"-.1300"	3/8", 5/16", 1/2"	24						
1-1/2"	.0100"-.0199"	1/2"	36						
1-1/2"	.0200"-.0459"	1/2"	36						
1-1/2"	.0460"-.0639"	1/2"	36						
1-1/2"	.0640"-.0949"	1/2"	36						
1-1/2"	.0950"-.1300"	1/2"	36						
1-3/4"	.0100"-.0199"	1/2"	38						

Continued page 125...

Tolerance: Cutter Dia.: +.015" -.015"
Hole Dia.: +.0005" -.0000"
Thickness: +.00025" -.00025"

SERIES 2450

Diameter from 1/4" to 6"

...Continued from page 124

Cutter Diameter	Thickness Range	Arbor Diameter	Number of Teeth	Quantity Price					
				1	2-5	6-11	12-24	25-49	50+
1-3/4"	.0200"-.0459"	1/2"	38						
1-3/4"	.0460"-.0639"	1/2"	38						
1-3/4"	.0640"-.0949"	1/2"	38						
1-3/4"	.0950"-.1300"	1/2"	38						
2"	.0100"-.0199"	1/2", 1"	40						
2"	.0200"-.0459"	1/2", 1"	40						
2"	.0460"-.0639"	1/2", 1"	40						
2"	.0640"-.0949"	1/2", 1"	40						
2"	.0950"-.1300"	1/2", 1"	40						
2-1/4"	.0100"-.0199"	5/8", 1"	44						
2-1/4"	.0200"-.0459"	5/8", 1"	44						
2-1/4"	.0460"-.0639"	5/8", 1"	44						
2-1/4"	.0640"-.0949"	5/8", 1"	44						
2-1/4"	.0950"-.1300"	5/8", 1"	44						
2-1/2"	.0100"-.0199"	1"	48						
2-1/2"	.0200"-.0459"	1"	48						
2-1/2"	.0460"-.0639"	1"	48						
2-1/2"	.0640"-.0949"	1"	48						
2-1/2"	.0950"-.1300"	1"	48						
2-3/4"	.0100"-.0199"	1"	60						
2-3/4"	.0200"-.0459"	1"	60						
2-3/4"	.0460"-.0649"	1"	60						
2-3/4"	.0650"-.0949"	1"	60						
2-3/4"	.0950"-.1300"	1"	60						
3"	.0100"-.0199"	1"	72						
3"	.0200"-.0459"	1"	72						
3"	.0460"-.0649"	1"	72						
3"	.0650"-.0949"	1"	72						
3"	.0950"-.1259"	1"	72						
3"	.1260"-.1889"	1"	72						
3"	.1890"-.2500"	1"	72						
3-1/2"	.0200"-.0399"	1"	76						
3-1/2"	.0400"-.0649"	1"	76						
3-1/2"	.0650"-.0949"	1"	76						
3-1/2"	.0950"-.1300"	1"	76						
4"	.0200"-.0399"	1"	80						
4"	.0400"-.0639"	1"	80						
4"	.0640"-.0949"	1"	80						
4"	.0950"-.1259"	1"	80						
4"	.1260"-.1889"	1"	80						
4"	.1890"-.2500"	1"	80						
5"	.0450"-.0639"	1"	100						
5"	.0640"-.0949"	1"	100						
5"	.0950"-.1300"	1"	100						
6"	.0450"-.0639"	1"	120						
6"	.0640"-.0949"	1"	120						
6"	.0950"-.1300"	1"	120						

Tolerance: Cutter Dia.: +.015" -.015"
Hole Dia.: +.0005" -.0000"
Thickness: +.00025" -.00025"

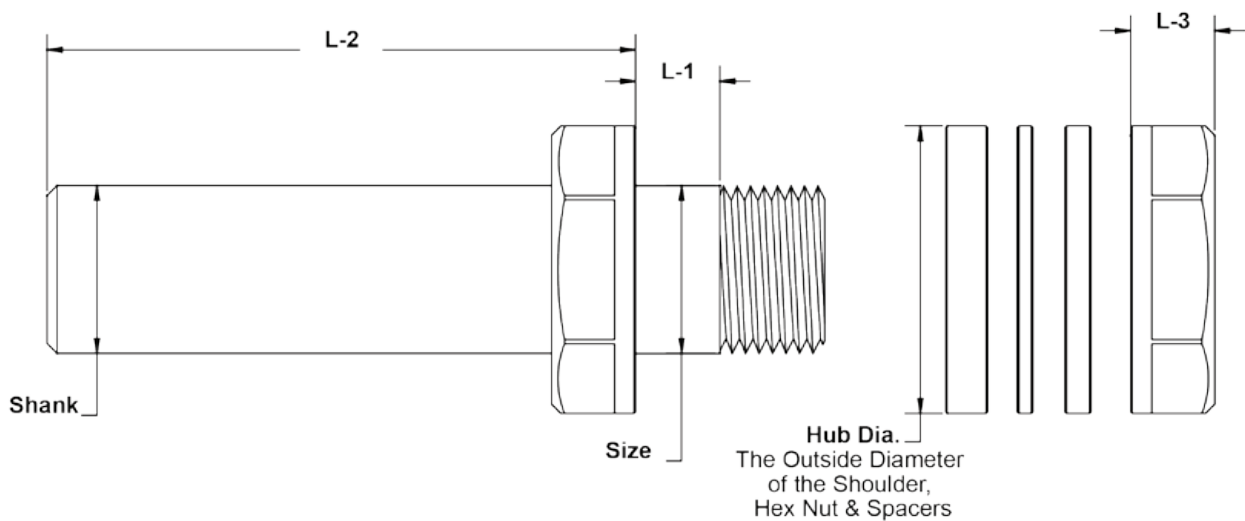
DURA-CARB
SAWS

SAW ARBORS



SAW ARBORS

For Carbide or High Speed Steel Saws



Size	Shank	L-1	L-2	L-3	Hub Diameter	Spacers with each Arbor	Price	EDP Number
.2500"	.5000"	.2600"	2.2000"	.2500"	.5700"	.0625" / .1250" / .1875"		24250
.3750"	.6250"	.3750"	2.4000"	.2800"	.7100"	.0625" / .1250" / .1875"		24375
.5000"	.7500"	.5000"	3.0000"	.3250"	.8550"	.0625" / .1875" / .2500"		24500
.6250"	.8750"	.5000"	3.1500"	.3900"	1.0750"	.0625" / .1875" / .2500"		24625
1.0000"	1.0000"	.5000"	3.5000"	.4400"	1.4800"	.0625" / .1875" / .2500"		24100

SAW SPEED AND FEED RECOMMENDATIONS



All carbide saws are ground with a dish to the arbor hole. Saws which are to be assembled in gangs should have flat hubs with the dish to the hub diameter, to insure spacing accuracy.

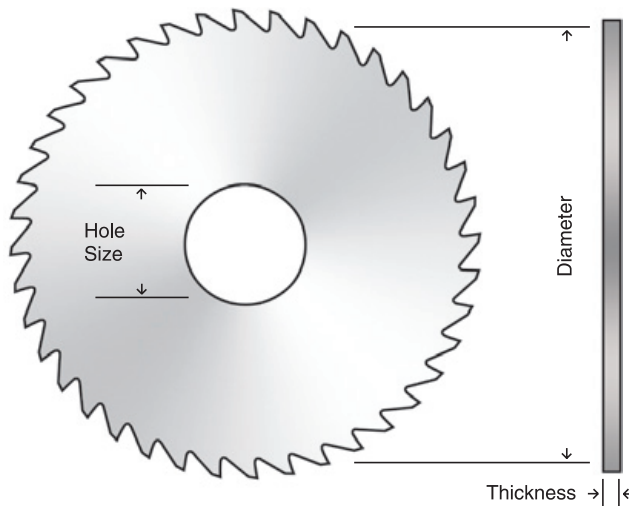
Always use arbors for maximum rigidity.

Material	Speed SFM
Aluminum	1000
Brass and Bronze, Soft	750
Bronze, High Tensile	500
Cast Iron: Soft	450
Medium	275
Hard	175
Magnesium	1000
Monel	200
Steel - Low carbon, Soft	400
Steel - Alloys: to 35 Rc	175
to 45 Rc	125
to 55 Rc	100
Steel - Die Grades, Soft	150
Stainless Steel: Free Machining	200
Work Hardening	125
Titanium alloys	200

Feed Rate - Chip Load per tooth
should be .0005" - .0015"

SPECIAL CARBIDE SAWS

Make a copy of the print below to design your own special saw.
Fax to Fullerton and we will create a blueprint for your approval.



Diameter _____
 Thickness _____
 Hole Size _____
 NO. of Teeth _____
 Tooth Form _____
☐ Square
☐ Full Radius
☐ Corner Radius _____
☐ Included Angle _____
☐ Angle _____
 Keyway ☐ Square _____
☐ Round _____
☐ Other _____
 Hub Dia. _____
 Coating ☐ TiN
☐ TiCN
☐ TiAlN
☐ Other _____

Tolerance: Cutter Dia.: $\pm .015''$ $-.015''$
 Hole Dia.: $\pm .0005''$ $-.0000''$
 Thickness: $\pm .00025''$ $-.00025''$



BURR CUT SELECTION GUIDE

Basic Cuts and Their Recommended Usage

WHEN ORDERING SPECIFY TOOL # OR EDP # AND SPECIFIC CUT REQUIRED

CUTS		RECOMMENDED USE
SINGLE CUT #1		Single cut is a general purpose tool designed for cast iron, steel, some copper and brass, and other ferrous materials. It will give good material removal and good workpiece finishes.
CHIP BREAKER CUT #2	 AVAILABLE ON QUOTE ONLY	The addition of a chip breaker will reduce sliver size and improve operator control at a slightly reduced surface finish.
DOUBLE CUT #3		The double cut allows for rapid stock removal in harder materials. The addition of the left hand flutes reduces the pulling action, allowing better operator control. It reduces the size of the chips and can be used at slower than normal speeds.
DIAMOND CUT #4	 AVAILABLE ON ALL BURR TOOLS. ADD 20% TO LIST PRICE OF #1 CUT	The diamond cut is very effective in heat treated and tough alloy steels, producing extremely small chips. It offers very good operator control with good stock removal at the sacrifice of finish. The diamond grind will reduce tool life, however.
FAST MILL CUT #5	 STANDARDS ITEMS LISTED ON PGS. 125-129	For use on non-ferrous and non-metallic materials. Designed for rapid stock removal, with minimum chip loading.

NOTE: CHIP BREAKER, COARSE AND FINE CUTS ARE ONLY AVAILABLE ON QUOTE

GENERAL RECOMMENDATIONS

For maximum control and to prevent whipping and chatter, insert the shank into the chuck as far as possible.

Avoid excessive pressure, which slows spindle speed and damages cutting edge. Avoid operating burr beyond normal resharpener, otherwise resultant heat and pressure will cause excessive chipping and possible braze failure.

Metric Sized Shanks

All burrs on page 129 thru 141 with a head diameter of 5/16 or larger, with the exception of extended shanks, are available with a 6mm diameter shank. They will retain standard fractional cutting diameters and cutting length.

Add \$2.50 to the list price.

SERIES 40 • 41

1/4" Shank Diameters

DURA-CARB III
ROTARY FILES



SERIES 40 Cylindrical End Cut

Cutting Diameter	Cutting Length	Tool Number	#1 Cut		#3 Cut		#5 Cut	
			Price	EDP Number	Price	EDP Number	Price	EDP Number
1/8"	5/8"	SB-12		40100		40102		-
3/16"	5/8"	SB-14		40107		40109		-
1/4"	5/8"	SB-1		40142		40144		40104
1/4"	1"	SB-1A		40135		40137		-
5/16"	3/4"	SB-2		40149		40151		-
5/16"	1"	SB-2A		40156		40158		-
3/8"	3/4"	SB-3		40163		40165		40167
3/8"	1"	SB-3A		40170		40172		-
3/8"	1-1/2"	SB-3B		40177		40179		-
7/16"	1"	SB-4		40191		40193		-
1/2"	1"	SB-5		40198		40200		40202
5/8"	1"	SB-6		40212		40214		40216
3/4"	1/2"	SB-15		40121		40123		-
3/4"	3/4"	SB-16		40128		40130		-
3/4"	1"	SB-7		40219		40221		40223
1"	1"	SB-9		40226		40228		-

EXTENDED SHANK

1/4"	1/2"	SB-1x6		40114		40116
3/8"	3/4"	SB-3x6		40184		40186
1/2"	1"	SB-5x6		40205		40207

SERIES 41 Cylindrical

Cutting Diameter	Cutting Length	Tool Number	#1 Cut		#3 Cut		#5 Cut	
			Price	EDP Number	Price	EDP Number	Price	EDP Number
1/8"	5/8"	SA-12		41007		41009		-
3/16"	5/8"	SA-14		41014		41016		-
1/4"	5/8"	SA-1		41000		41002		41004
1/4"	1"	SA-1A		41035		41037		-
5/16"	3/4"	SA-2		41049		41051		-
5/16"	1"	SA-2A		41056		41058		-
3/8"	3/4"	SA-3		41063		41065		41067
3/8"	1"	SA-3A		41070		41072		-
3/8"	1-1/2"	SA-3B		41077		41079		-
7/16"	1"	SA-4		41091		41093		-
1/2"	1"	SA-5		41098		41100		41102
5/8"	1"	SA-6		41112		41114		41116
3/4"	1/2"	SA-15		41021		41023		-
3/4"	3/4"	SA-16		41028		41030		-
3/4"	1"	SA-7		41119		41121		41123
1"	1"	SA-9		41126		41128		-

EXTENDED SHANK

1/4"	1/2"	SA-1x6		41042		41044
3/8"	3/4"	SA-3x6		41084		41086
1/2"	1"	SA-5x6		41105		41107

All above Burrs available with #4 Diamond Cut. Add 20% to list price of #1 cut.
All Burrs 5/16" diameter and larger furnished with 1/4" x 1-3/4" steel shanks.



SERIES 42 • 43

1/4" Shank Diameters

SERIES 42 Cylindrical Ball Nose



Cutting Diameter	Cutting Length	Tool Number	Price		Price		Price	
			#1 Cut	EDP Number	#3 Cut	EDP Number	#5 Cut	EDP Number
1/8"	5/8"	SC-12		42132		42134		-
3/16"	5/8"	SC-14		42139		42141		-
1/4"	5/8"	SC-1		42125		42127		42129
1/4"	1"	SC-1A		42146		42148		-
5/16"	3/4"	SC-2		42160		42162		-
5/16"	1"	SC-2A		42189		42191		-
3/8"	3/4"	SC-3		42197		42199		42201
3/8"	1"	SC-3A		42204		42206		-
3/8"	1-1/2"	SC-3B		42211		42213		-
7/16"	1"	SC-4		42225		42227		-
1/2"	1"	SC-5		42232		42234		42236
5/8"	1"	SC-6		42171		42173		42175
3/4"	1"	SC-7		42178		42180		42182

EXTENDED SHANK

1/4"	1/2"	SC-1x6		42153		42155		
3/8"	3/4"	SC-3x6		42218		42220		
1/2"	1"	SC-5x6		42164		42166		

SERIES 43 Ball Shape



Cutting Diameter	Cutting Length	Tool Number	Price		Price		Price	
			#1 Cut	EDP Number	#3 Cut	EDP Number	#5 Cut	EDP Number
1/8"	1/8"	SD-12		43132		43134		-
3/16"	3/16"	SD-14		43139		43141		-
1/4"	1/4"	SD-1		43125		43127		43129
5/16"	5/16"	SD-2		43153		43155		-
3/8"	3/8"	SD-3		43160		43162		43164
7/16"	7/16"	SD-4		43174		43176		-
1/2"	1/2"	SD-5		43181		43183		43185
5/8"	5/8"	SD-6		43195		43197		43199
3/4"	3/4"	SD-7		43202		43204		-
1"	1"	SD-9		43100		43102		-

EXTENDED SHANK

1/4"	1/4"	SD-1x6		43146		43148		
3/8"	3/8"	SD-3x6		43167		43169		
1/2"	1/2"	SD-5x6		43188		43190		

All above Burrs available with #4 Diamond Cut. Add 20% to list price of #1 cut.
All Burrs 5/16" diameter and larger furnished with 1/4" x 1-3/4" steel shanks.

SERIES 44 • 45

1/4" Shank Diameters

DURA-CARB III
ROTARY FILES



SERIES 44 Egg Shape

Cutting Diameter	Cutting Length	Tool Number	#1 Cut		#3 Cut		#5 Cut	
			Price	EDP Number	Price	EDP Number	Price	EDP Number
3/16"	5/16"	SE-11		44194		44196		-
1/4"	3/8"	SE-1		44187		44189		44191
3/8"	5/8"	SE-3		44208		44210		44212
1/2"	7/8"	SE-5		44222		44224		44226
5/8"	1"	SE-6		44236		44238		-
3/4"	1"	SE-7		44243		44245		-
EXTENDED SHANK								
1/4"	3/8"	SE-1x6		44201		44203		
3/8"	5/8"	SE-3x6		44215		44217		
1/2"	7/8"	SE-5x6		44229		44231		

SERIES 45 Round Tree Cut

Cutting Diameter	Cutting Length	Tool Number	#1 Cut		#3 Cut		#5 Cut	
			Price	EDP Number	Price	EDP Number	Price	EDP Number
1/4"	5/8"	SF-1		45256		45258		45260
3/8"	3/4"	SF-3		45291		45339		45294
1/2"	3/4"	SF-13		45263		45265		-
7/16"	1"	SF-4		45304		45306		-
1/2"	1"	SF-5		45311		45313		45315
5/8"	1"	SF-6		45325		45327		45329
3/4"	1"	SF-7		45332		45334		-
3/4"	1-1/4"	SF-14		45270		45272		-
3/4"	1-1/2"	SF-15		45277		45279		-
EXTENDED SHANK								
1/4"	1/2"	SF-1x6		45284		45286		
3/8"	3/4"	SF-3x6		45297		45299		
1/2"	1"	SF-5x6		45318		45320		

All above Burrs available with #4 Diamond Cut. Add 20% to list price of #1 cut.
All Burrs 5/16" diameter and larger furnished with 1/4" x 1-3/4" steel shanks.



SERIES 46 • 47

1/4" Shank Diameters

SERIES 46

Pointed Tree Shape



Cutting Diameter	Cutting Length	Tool Number	#1 Cut		#3 Cut		#5 Cut	
			Price	EDP Number	Price	EDP Number	Price	EDP Number
1/4"	5/8"	SG-1		46100		46102		46104
5/16"	3/4"	SG-2		46128		46130		-
3/8"	3/4"	SG-3		46135		46137		46139
1/2"	3/4"	SG-13		46107		46109		-
1/2"	1"	SG-5		46149		46151		46153
5/8"	1"	SG-6		46163		46165		46167
3/4"	1"	SG-7		46170		46172		-
3/4"	1-1/2"	SG-15		46114		46116		-

EXTENDED SHANK

1/4"	1/2"	SG-1x6		46121		46123
3/8"	3/4"	SG-3x6		46142		46144
1/2"	1"	SG-5x6		46156		46158

SERIES 47

Cone Shape



Cutting Diameter	Cutting Length	Tool Number	Included Angle	#1 Cut		#3 Cut	
				Price	EDP Number	Price	EDP Number
1/4"	1/2"	SM-1	22°		47250		47252
1/4"	3/4"	SM-2	14°		47257		47259
1/4"	1"	SM-3	10°		47264		47266
1/4"	1-1/4"	SM-3A	8°		47271		47273
3/8"	5/8"	SM-4	28°		47278		47280
1/2"	7/8"	SM-5	28°		47285		47287
5/8"	1"	SM-6	31°		47292		47294

All above Burrs available with #4 Diamond Cut. Add 20% to list price of #1 cut.
 All Burrs 5/16" diameter and larger furnished with 1/4" x 1-3/4" steel shanks.

SERIES 48 • 49

1/4" Shank Diameters

DURA-CARB III
ROTARY FILES



SERIES 48 14° Included

Cutting Diameter	Cutting Length	Tool Number	#1 Cut		#3 Cut		#5 Cut	
			Price	EDP Number	Price	EDP Number	Price	EDP Number
1/4"	5/8"	SL-1		48250		48252		-
5/16"	7/8"	SL-2		48257		48259		-
3/8"	1-1/16"	SL-3		48271		48273		48275
1/2"	1-1/8"	SL-4		48285		48287		48289
5/8"	1-5/16"	SL-6		48299		48301		-
3/4"	1-1/2"	SL-7		48306		48308		-
EXTENDED SHANK								
5/16"	7/8"	SL-2x6		48264		48266		
3/8"	1-1/16"	SL-3x6		48278		48280		
1/2"	1-1/8"	SL-4x6		48292		48294		

SERIES 49 Flame

Cutting Diameter	Cutting Length	Tool Number	#1 Cut		#3 Cut	
			Price	EDP Number	Price	EDP Number
1/4"	5/8"	SH-1		49250		49252
5/16"	3/4"	SH-2		49257		49259
1/2"	1-1/4"	SH-5		49271		49273
5/8"	1-7/16"	SH-6		49285		49287
3/4"	1-5/8"	SH-7		49292		49294
EXTENDED SHANK						
5/16"	3/4"	SH-2x6		49264		49266
1/2"	1-1/4"	SH-5x6		49278		49280

All above Burrs available with #4 Diamond Cut. Add 20% to list price of #1 cut.
All Burrs 5/16" diameter and larger furnished with 1/4" x 1-3/4" steel shanks.



SERIES 50 • 51

1/4" Shank Diameters

SERIES 50 90° Included



Cutting Diameter	Cutting Length	Tool Number	#1 Cut		#3 Cut	
			Price	EDP Number	Price	EDP Number
* 1/4"	1/8"	SK-1		50250		50252
3/8"	3/16"	SK-3		50264		50266
1/2"	1/4"	SK-5		50271		50273
5/8"	5/16"	SK-6		50278		50280
3/4"	3/8"	SK-7		50285		50287
7/8"	7/16"	SK-8		50292		50294
1"	1/2"	SK-9		50299		50301

*Double End

SERIES 51 60° Included



Cutting Diameter	Cutting Length	Tool Number	#1 Cut		#3 Cut	
			Price	EDP Number	Price	EDP Number
* 1/4"	3/16"	SJ-1		51001		51003
5/16"	1/4"	SJ-2		51008		51010
3/8"	5/16"	SJ-3		51015		51017
1/2"	7/16"	SJ-5		51022		51024
5/8"	1/2"	SJ-6		51029		51031
3/4"	5/8"	SJ-7		51036		51038
7/8"	3/4"	SJ-8		51043		51045
1"	7/8"	SJ-9		51050		51052

*Double End

All above Burrs available with #4 Diamond Cut. Add 20% to list price of #1 cut.
All Burrs 5/16" diameter and larger furnished with 1/4" x 1-3/4" steel shanks.

SERIES 52 • 53

1/4" Shank Diameters

DURA-CARB III
ROTARY FILES



SERIES 52 Inverted Cone

Cutting Diameter	Cutting Length	Tool Number	Included Angle	#1 Cut		#3 Cut	
				Price	EDP Number	Price	EDP Number
1/4"	5/16"	SN-1	10°		52250		52252
3/8"	3/8"	SN-2	13°		52257		52259
1/2"	1/2"	SN-3	16°		52264		52266
5/8"	3/4"	SN-6	18°		52271		52273
3/4"	5/8"	SN-7	30°		52278		52280

SERIES 53 Inverted Cone - End Cut

Cutting Diameter	Cutting Length	Tool Number	Included Angle	#1 Cut		#3 Cut	
				Price	EDP Number	Price	EDP Number
1/4"	5/16"	SN-1E	10°		53250		53252
3/8"	3/8"	SN-2E	13°		53257		53259
1/2"	1/2"	SN-3E	16°		53264		53266
5/8"	3/4"	SN-6E	18°		53271		53273
3/4"	5/8"	SN-7E	30°		53278		53280

All above Burrs available with #4 Diamond Cut. Add 20% to list price of #1 cut.
All Burrs 5/16" diameter and larger furnished with 1/4" x 1-3/4" steel shanks.



SERIES 59

1/16" - 1/8" Head Diameter • 1/8" Shank Diameter

Cutting Head	1/8" x 9/16"	3/32" x 7/16"	1/16" x 1/4"	1/8"	1/8" x 9/16"	3/32" x 7/16"	1/8"	3/32"	1/8" x 1/4"	1/8" x 1/4"	1/8" x 1/2"	1/8" x 3/8"
Style	SA-43	SA-42	SA-41	SB-41	SC-42	SC-41	SD-42	SD-41	SE-41	SH-41	SG-44	SG-43
												
1-1/2" Overall Length												
#1 Cut	59104	59102	59100	59106	59110	59108	59114	59112	59116	59128	59126	59124
#3 Cut	59105	59103	59101	59107	59111	59109	59115	59113	59117	59129	59127	59125
2" Overall Length												
#1 Cut	59000	-	-	-	59002	-	59004	-	59006	59012	59010	-
#3 Cut	59026	-	-	-	59028	-	59030	-	59032	59038	59036	-
3" Overall Length												
#1 Cut	59001	-	-	59050	59003	-	59005	59055	59007	59013	59011	-
#3 Cut	59027	-	-	-	59029	-	59031	-	59033	59039	59037	-

Cutting Head	1/8" x 1/4"	1/8" x 1/2"	1/8" x 1/4"	1/8" x 5/8"	1/8" x 7/16"	1/8" x 11/32"	1/8" x 1/2"	1/8" x 3/8"	1/8"	1/8"	1/8" x 3/16"	3/32" x 1/8"
Style	SG-41	SF-42	SF-41	SM-43	SM-42	SM-41	SL-42	SL-41	SJ-42	SK-42	SN-42	SN-41
												
				7° Incl.	14° Incl.	12° Incl.	8° Incl.	8° Incl.	60° Incl.	90° Incl.	10° Incl.	10° Incl.
1-1/2" Overall Length												
#1 Cut	59122	59120	59118	59141	59139	59137	59135	59134	59130	59132	59145	59143
#3 Cut	59123	59121	59119	59142	59140	59138	59136	59147	59131	59133	59146	59144
2" Overall Length												
#1 Cut	-	59008	-	-	59016	-	59014	-	-	-	-	-
#3 Cut	-	59034	-	-	59042	-	59040	-	-	-	-	-
3" Overall Length												
#1 Cut	-	59009	-	-	59017	-	59015	-	-	-	-	-
#3 Cut	-	59035	-	-	59043	-	59041	-	-	-	-	-

All above Burrs available with #4 Diamond Cut. Add 20% to list price.

SERIES 71

5/32" - 3/16" Head Diameter • 1/8" Steel Shank Diameter

DURA-CARB III
ROTARY FILES



Cutting Head Style	3/16" x 1/2"	5/32" x 1/2"	3/16" x 1/2"	5/32" x 1/2"	3/16" Ball	3/16" x 1/2"	3/16" x 1/2"	3/16" x 3/8"	3/16" x 9/32"	3/16" x 1/4"	3/16" x 1/2"	3/16" x 1/2"
	SA-53	SA-52	SC-53	SC-52	SD-53	SG-53	SF-53	SH-53	SE-53	SN-53	SM-53	SL-53
										10° Incl. 	16° Incl. 	14° Incl. 
1-1/2" Overall Length												
#1 Cut	71103	71101	71108	71105	71110	71115	71113	71116	71112	71120	71119	71117
#3 Cut	71104	71102	71109	71106	71111	71130	71114	71135	71140	71121	71145	71118

All above Burrs available with #4 Diamond Cut. Add 20% to list price.



SERIES 70

1/4" Head Diameter • 1/8" Steel Shank Diameter • 2" Max Overall Length

Cutting Head Style	1/2"	3/16"	1/4"	1/2"	1/2"	1/2"	1/2"-22° Incl.	3/8"	1/4"-10° Incl.
	SA-51	SB-51	SD-51	SC-51	SF-51	SG-51	SM-51	SE-51	SN-51
									
	2" Max Overall Length								
#1 Cut	70101	70103	70107	70105	70111	70113	70115	70109	70117
#3 Cut	70102	70104	70108	70106	70112	70114	70116	70110	70118

SERIES 72

3/16" Head Diameter • 3/16" Shank Diameter • 2" Overall Length

Cutting Head Style	5/8"	5/8"	3/16"	1/2"	1/2"	7/16" - 14° Incl.	9/32"	1/4" - 10° Incl.	90°	60°
	SA-81	SC-81	SD-81	SF-81	SG-81	SL-81	SE-81	SN-81	SK-81	SJ-81
										
	2" Overall Length									
#1 Cut	72101	72102	72103	72105	72106	72110	72104	72111	72108	72109
#3 Cut	72121	72122	72123	72124	72125	72126	72127	72128	72129	72130

All above Burrs available with #4 Diamond Cut. Add 20% to list price.

METRIC SERIES 59

1.5 - 3.0mm Head Diameter • 3mm Shank Diameter

DURA-CARB III
ROTARY FILES



Cutting Head Style	3MMx15MM MSA-43	2MMx13MM MSA-42	1.5MMx6MM MSA-41	3MM MSB-41	3MMx15MM MSC-42	2MMx11MM MSC-41	3MM MSD-42	2MM MSD-41	3MMx6MM MSE-41	3MMx7MM MSH-41	3MMx15MM MSG-44	3MMx10MM MSG-43
												
38mm Overall Length												
#1 Cut	59303	59302	59301	59300	59305	59304	59307	59306	59308	59314	59313	59312
#3 Cut	59511	59508	59505	59502	59517	59514	59523	59520	59526	59831	59828	59825

Cutting Head Style	3MMx8MM MSG-41	3MMx15MM MSF-42	3MMx8MM MSF-41	3MMx16MM MSM-43	3MMx11MM MSM-42	3MMx9MM MSM-41	3MMx13MM MSL-42	3MMx10MM MSL-41	3MM MSJ-42	3MM MSK-42	3MMx5MM MSN-42	2MMx3MM MSN-41
												
				7° Incl.	14° Incl.	12° Incl.	8° Incl.	8° Incl.	60° Incl.	90° Incl.	10° Incl.	10° Incl.
38mm Overall Length												
#1 Cut	59311	59310	59309	59321	59320	59319	59318	59317	59315	59316	59323	59324
#3 Cut	59535	59532	59529	59551	59548	59545	59538	59840	59834	59837	59557	59554

All above Burrs available with #4 Diamond Cut. Add 20% to list price of #1 cut.



METRIC SERIES 70

6.4mm Head Diameter • 3mm Steel Shank Diameter

Cutting Head Style	13MM MSA-51	5MM MSB-51	6MM MSD-51	13MM MSC-51	13MM MSF-51	13MM MSG-51	13MM-22° Inc. MSM-51	10MM MSE-51	6MM-10° Inc MSN-51
									
	51mm Max Overall Length								10° Incl.
#1 Cut	70310	70311	70313	70312	70315	70316	70317	70314	70318
#3 Cut	59560	59563	59569	59566	59575	59578	59581	59572	59584

All above Burrs available with #4 Diamond Cut. Add 20% to list price.

METRIC SERIES 80

3.0 - 6.0mm Head Diameter • 6mm Shank Diameter

DURA-CARB III
ROTARY FILES



METRIC

Cutting Head	3MMx16MM	6MMx16MM	3MMx16MM	6MMx16MM	3MMx16MM	6MMx16MM	3MM	6MM	6MMx10MM
Style	MSA-12	MSA-1	MSB-12	MSB-1	MSC-12	MSC-1	MSD-12	MSD-1	MSE-1
									
51mm Overall Length									
#1 Cut	80101	80100	80103	80102	80105	80104	80106	80107	80108
#3 Cut	59587	59594	59601	59604	59607	59610	59617	59620	59623

Cutting Head	6MMx16MM	6MMx16MM	6MMx13MM	6MMx25MM	6MMx16MM	6MM	6MM	6MMx8MM	6MMx8MM
Style	MSF-1	MSG-1	MSM-1	MSM-3	MSL-1	MSK-1	MSJ-1	MSN-1	MSN-1E
									
			22° Incl.	10° Incl.	14° Incl.	90° Incl.	60° Incl.	10° Incl.	10° Incl.
51mm Overall Length									
#1 Cut	80109	80110	80112	80113	80111	80114	80117	80115	80116
#3 Cut	59626	59629	59645	59842	59642	59639	59636	59659	59674

All above Burrs available with #4 Diamond Cut. Add 20% to list price.



SERIES 2600

Fiberglass Routers

Style A - No End Cut



Used for edge or where the end of the router is not in contact with the work piece.

Style B - Burr Style End Cut



Used when bottom cutting to produce an even, smooth surface with a square corner.

Style C - End Mill End Cut



Designed for bottom cutting where smooth surface and square corners are required.

Style D - 135° Drill Point



Designed for plunging through the work piece before routing operation begins.

Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Price	EDP Number	Price	EDP Number	Price	EDP Number	Price	EDP Number
				Style A		Style B		Style C		Style D	
1/8"	1/2"	1/8"	1-1/2"		26125		26126		26127		26128
3/16"	5/8"	3/16"	2"		26187		26188		26189		26190
*1/4"	3/4"	1/4"	2-1/2"		26250		26251		26252		26253
*1/4"	1"	1/4"	3"		26260		26261		26262		26263
3/8"	1"	3/8"	2-1/2"		26375		26376		26377		26378
1/2"	1"	1/2"	3"		26500		26501		26502		26503

*Specify flute length or EDP number

Tolerance: Cutting Diameters: $\pm .000$ $-.005$
Shank Dia. $h6$

SERIES 6000 SET #1

Carbide Rotary File Sets

DURA-CARB III
ROTARY FILES



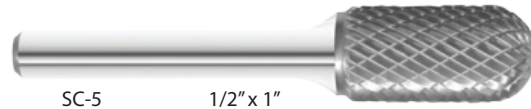
Set No. 1

10 TOOLS • 3/8" - 1/2" DIA. HEAD • 1/4" SHANK

Cut	EDP Number	Price
#1 Single	60001	
#3 Double	60003	



SA-5 1/2" x 1"



SC-5 1/2" x 1"



SC-3 3/8" x 3/4"



SF-5 1/2" x 1"



SF-3 3/8" x 3/4"



SG-5 1/2" x 1"



SG-3 3/8" x 3/4"



SE-3 3/8" x 5/8"



SL-4 1/2" x 1-1/8"
14° Incl.



SD-5 1/2"

All above Burrs shown with #3 Cut



SERIES 6000 SET #2

Carbide Rotary File Sets



Set No. 2

12 TOOLS • 1/16" - 1/8" DIA. HEAD • 1/8" SHANK

Cut	EDP Number	Price
#1 Single	60004	
#3 Double	60006	



SA-43 1/8" x 9/16"



SA-42 3/32" x 7/16"



SC-42 1/8" x 9/16"



SC-41 3/32" x 7/16"



SD-42 1/8"



SE-41 1/8" x 1/4"



SH-41 1/8" x 1/4"



SG-43 1/8" x 3/8"



SF-42 1/8" x 1/2"



SM-42 1/8" x 7/16"
14° Incl.



SL-42 1/8" x 1/2"
8° Incl.



SN-42 1/8" x 3/16"
10° Incl.

SERIES 6000 SET #3*Carbide Rotary File Sets***Set No. 3**

9 TOOLS • 1/4" DIA. HEAD • 1/8" SHANK

Cut	EDP Number	Price
#1 Single	60007	
#3 Double	60009	



SA-51 1/2" CUT



SB-51 3/16" CUT



SD-51 1/4" CUT



SC-51 1/2" CUT



SF-51 1/2" CUT



SG-51 1/2" CUT

SM-51 1/2" CUT
22° Incl.

SE-51 3/8" CUT

SN-51 1/4" CUT
10° Incl.DURA-CARB III
ROTARY FILES



SERIES 6000 SET #4

Carbide Rotary File Sets



Set No. 4

12 TOOLS • 5/32" - 3/16" DIA. HEAD • 1/8" STEEL SHANK

Cut	EDP Number	Price
#1 Single	60010	
#3 Double	60012	



SA-53 3/16" x 1/2"



SA-52 5/32" x 1/2"



SC-53 3/16" x 1/2"



SC-52 5/32" x 1/2"



SD-53 3/16" Ball



SG-53 3/16" x 1/2"



SF-53 3/16" x 1/2"



SH-53 3/16" x 3/8"



SE-53 3/16" x 9/32"



SN-53 3/16" x 1/4"
10° Incl. Taper



SM-53 3/16" x 1/2"
16° Incl. Taper



SL-53 3/16" x 1/2"
14° Incl. Taper

SERIES 6000 SET #5

Carbide Rotary File Sets

DURA-CARB III
ROTARY FILES



Set No. 5

10 TOOLS • 1/4" DIA. HEAD • 1/4" SHANK

Cut	EDP Number	Price
#1 Single	60013	
#3 Double	60015	



SA-1 1/4" x 5/8"



SA-14 3/16" x 5/8"



SC-1 1/4" x 5/8"



SC-12 1/8" x 1/2"



SF-1 1/4" x 5/8"



SG-1 1/4" x 5/8"



SE-1 1/4" x 3/8"



SM-2 1/4" x 3/4"
14° Incl.



SL-1 1/4" x 5/8"
14° Incl.



SN-1 1/4" x 5/16"
10° Incl.



SERIES 80 • 81

High Speed Steel • 1/4" Shank Diameter

SERIES 80 Cylindrical End Cut

Diameter	Cutting Length	Tool Number	Price	Edp Number
#1 Cut				
1/8"	1/2"	AGA-E		80125
3/16"	1/2"	BGA-E		80187
1/4"	1"	CLA-E		80250
5/16"	1"	DLA-E		80312
3/8"	1"	ELA-E		80375
3/8"	1-1/2"	EPA-E		80376
7/16"	1"	FLA-E		80437
1/2"	1"	GLA-E		80500
1/2"	1-1/2"	GPA-E		80505
5/8"	1"	ILA-E		80625
3/4"	3/4"	JJA-E		80751
3/4"	1"	JLA-E		80750
1"	1"	LLA-E		89751



SERIES 81 Cylindrical

Diameter	Cutting Length	Tool Number	Price	Edp Number
#1 Cut				
1/8"	1/2"	AGA		81125
3/16"	1/2"	BGA		81187
1/4"	1"	CLA		81250
5/16"	1"	DLA		81312
3/8"	1"	ELA		81375
3/8"	1-1/2"	EPA		81376
7/16"	1"	FLA		81437
1/2"	1"	GLA		81500
1/2"	1-1/2"	GPA		81501
5/8"	1"	ILA		81625
3/4"	3/4"	JJA		81751
3/4"	1"	JLA		81750
1"	1"	LLA		81100



SERIES 82 • 83

High Speed Steel • 1/4" Shank Diameter

HIGH SPEED
STEEL
ROTARY FILES



SERIES 82 Cylindrical Ball Nose



Diameter	Cutting Length	Tool Number	Price	EDP Number
#1 Cut				
1/8"	1/2"	AGC		82125
3/16"	1/2"	BGC		82187
1/4"	1"	CLC		82250
5/16"	1"	DLC		82312
3/8"	1"	ELC		82375
3/8"	1-1/2"	EPC		82376
7/16"	1"	FLC		82437
1/2"	1"	GLC		82500
5/8"	1"	ILC		82625
3/4"	1-1/4"	JNC		82750

SERIES 83 Ball Shape



Diameter	Cutting Length	Tool Number	Price	EDP Number
#1 Cut				
1/8"	1/8"	AAB		83125
3/16"	3/16"	BBB		83187
1/4"	1/4"	CCB		83250
5/16"	5/16"	DDB		83312
3/8"	3/8"	EEB		83375
7/16"	7/16"	FFB		83437
1/2"	1/2"	GGB		83500
5/8"	5/8"	IIB		83625
3/4"	3/4"	JJB		83750
1"	1"	LLB		83100
1-1/4"	1-1/4"	NNB		83350



SERIES 84 • 85 • 86

High Speed Steel • 1/4" Shank Diameter

SERIES 84 Egg Shape

Diameter	Cutting Length	Tool Number	Price	EDP Number
#1 Cut				
3/16"	5/16"	BDQ		84187
1/4"	1/2"	CGQ		84250
5/16"	1/2"	DGQ		84312
3/8"	5/8"	EIQ		84375
1/2"	7/8"	GKQ		84500
5/8"	1"	ILQ		84625
3/4"	1"	JLQ		84750
1"	1-3/8"	LOQ		84100



SERIES 85 Round Tree Cut

Diameter	Cutting Length	Tool Number	Price	EDP Number
#1 Cut				
1/4"	3/4"	CJR		85250
3/8"	3/4"	EJR		85375
1/2"	1-1/8"	GMR		85500
5/8"	1-1/8"	IMR		85625
3/4"	1-1/4"	JNR		85750
1-1/8"	2"	MSR		85112



SERIES 86 Pointed Tree Shape

Diameter	Cutting Length	Tool Number	Price	EDP Number
#1 Cut				
1/4"	3/4"	CJT		86250
3/8"	3/4"	EJT		86375
1/2"	3/4"	GJT		86501
1/2"	1-1/8"	GMT		86500
5/8"	1"	ILT		86625
1-1/8"	2"	MST		86112



SERIES 87 • 88

High Speed Steel • 1/4" Shank Diameter

SERIES 87 Cone Shape



Diameter	Cutting Length	Tool Number	Included Angle	Price	EDP Number
#1 Cut					
1/4"	1/2"	CGH	22°		87250
1/4"	3/4"	CJL	14°		87251
1/4"	1"	CLL	10°		87252
1/4"	1-1/4"	CNM	8°		87253
5/16"	3/4"	DJJ	14°		87312
3/8"	5/8"	EIH	28°		87376
3/8"	1"	ELL	14°		87375
1/2"	1"	GLH	28°		87500
5/8"	1"	ILF	31°		87625
3/4"	1"	JLF	34°		87750

SERIES 88 14° Included



Diameter	Cutting Length	Tool Number	Price	EDP Number
#1 Cut				
3/8"	1-1/16"	EML		88375
1/2"	1-1/8"	GML		88500

HIGH SPEED
STEEL
ROTARY FILES





SERIES 90 • 91

High Speed Steel • 1/4" Shank Diameter

SERIES 90 90° Included

Diameter	Cutting Length	Tool Number	Price	EDP Number
#1 Cut				
1/4"	1/8"	CA-45°		90250
5/16"	5/32"	DB-45°		90312
3/8"	3/16"	EB-45°		90375
1/2"	1/4"	GC-45°		90500
5/8"	5/16"	ID-45°		90625
3/4"	3/8"	JE-45°		90750
7/8"	7/16"	KF-45°		90875
1"	1/2"	LG-45°		90100



SERIES 91 60° Included

Diameter	Cutting Length	Tool Number	Price	EDP Number
#1 Cut				
1/4"	3/16"	CB-30°		91250
5/16"	1/4"	DC-30°		91312
3/8"	1/4"	EC-30°		91375
1/2"	7/16"	GF-30°		91500
5/8"	1/2"	IG-30°		91625
3/4"	5/8"	JL-30°		91750
7/8"	3/4"	KJ-30°		91875
1"	3/4"	LJ-30°		91100



SERIES 92 • 93

High Speed Steel • 1/4" Shank Diameter

SERIES 92*Inverted Cone*


Diameter	Cutting Length	Tool Number	Included Angle	Price	EDP Number
1/2"	1/2"	GGN	16°	#1 Cut	92500
3/4"	5/8"	JIN	30°		92750

SERIES 93*Inverted Cone - End Cut*


Diameter	Cutting Length	Tool Number	Included Angle	Price	EDP Number
1/2"	1/2"	GGN-E	16°	#1 Cut	93500
3/4"	5/8"	JIN-E	30°		93750

HIGH SPEED
STEEL
ROTARY FILES



SERIES 1835 • 1847 • 1856

Countersinks

Series 1835

Six Chatterless Flutes

Use on hardened materials.



Body Diameter	Shank Diameter	Overall Length	1835-60°		1835-82°		1835-90°	
			Price	EDP Number	Price	EDP Number	Price	EDP Number
* 1/8"	1/8"	1-1/2"		18617		18616		18619
* 3/16"	3/16"	2"		18618		18818		18918
* 1/4"	1/4"	2"		18625		18825		18925
3/8"	1/4"	2-3/4"		18637		18837		18937
1/2"	1/4"	3"		18650		18850		18950
5/8"	3/8"	2-3/4"		18662		18862		18962
3/4"	3/8"	3"		18675		18875		18975
1"	1/2"	3"		18610		18810		18910
1-1/4"	3/4"	3-1/4"		18612		18812		18912
1-1/2"	3/4"	3-1/2"		18615		18815		18915

*Solid Carbide

Series 1847

Single Flute

Use on soft materials.



Body Diameter	Shank Diameter	Overall Length	1847-60°		1847-82°		1847-90°	
			Price	EDP Number	Price	EDP Number	Price	EDP Number
* 1/8"	1/8"	1-1/2"		18253		18254		18255
* 1/4"	1/4"	2"		18256		18258		18259
3/8"	1/4"	2-3/4"		18376		18378		18379
1/2"	1/4"	3"		18506		18508		18509
5/8"	3/8"	2-3/4"		18626		18628		18629
3/4"	3/8"	3"		18756		18758		18759
1"	1/2"	3"		18106		18108		18109
1-1/4"	3/4"	3-1/4"		18126		18128		18129

*Solid Carbide

Series 1856

Three Eccentrically Relieved Flutes

General purpose use.



Body Diameter	Shank Diameter	Overall Length	1856-60°		1856-82°		1856-90°	
			Price	EDP Number	Price	EDP Number	Price	EDP Number
* 1/8"	1/8"	1-1/2"		18122		18123		18124
* 1/4"	1/4"	2"		18125		18225		18325
3/8"	1/4"	2-3/4"		18137		18237		18337
1/2"	1/4"	3"		18150		18250		18350
5/8"	3/8"	2-3/4"		18162		18262		18362
3/4"	3/8"	3"		18175		18275		18375
1"	1/2"	3"		18110		18210		18310

*Solid Carbide

Tolerance: Shank Dia.: +.000"-.002"

SERIES 2400

Straight Flute • RH Cutting



Tool Number	Hole Diameter	Depth of Hole	Shank Diameter	Overall Length	Price	Edp Number
					2400	
F-002	.060"	3/16"	1/8"	1-1/2"		24012
F-00	.080"	3/8"	1/8"	1-1/2"		24010
F-0	.090"	1/2"	1/8"	1-1/2"		24000
F-1	.120"	5/8"	1/8"	1-1/2"		24001
F-2	.150"	3/4"	3/16"	2"		24002
F-3	.180"	1"	3/16"	2"		24003
F-4	.210"	1-1/4"	1/4"	2-1/2"		24004
F-5	.240"	1-1/4"	1/4"	2-1/2"		24005
F-6	.270"	1-1/4"	5/16"	2-1/2"		24006
F-7	.300"	1-1/4"	5/16"	2-1/2"		24007
F-8	.330"	1-1/2"	3/8"	2-1/2"		24008
F-9	.360"	1-1/2"	3/8"	2-1/2"		24009

DURA-CARB
BORING TOOLS



Tolerance: Cutter Dia.: +.000" -.003"
Shank Dia.: h6

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