2018 General Purpose Catalog

COBALT

MELIN

TOOL COMPANY

CARBIDE

Premium Solid Carbide & Cobalt HSS End Mills, Drills, & Cutting Tools

manufactured in USA

www.melintool.com

With Melin's **GENERAL PURPOSE PRODUCT LINE,** you **BENEFIT FROM THE MANUFACTURER'S ADVANTAGE— All Melin Tool's General Purpose products are manufactured in-house, in our Cleveland, Ohio Facility.** Our advantage is that we have complete control of the entire manufacturing process. We use the highest quality material and state-of-the-art grinding, inspection and coating equipment. Melin Tool provides SUPERIOR performance, with reliable and consistent quality - EVERY TIME!

About Us

Family owned and operated since 1940, Melin Tool began as one of the early manufacturers of end mills. Today, Melin Tool continues to be a leader in offering an ever-expanding product line of our high quality High Performance end mills and other cutting tools such as Drills, Thread Mills, Countersinks, & Specialty Tools.

Our strategy is to manufacture precision rotary shank cutting tools, provide technical solutions, be easy to do business with and exceed all customer expectations.

We are committed to market and support our products and services through industrial distributor partners.

At Melin Tool Company, It is understood that we will not prosper without COMPLETE customer satisfaction. Success at Melin is measured by how well we serve the customers who distribute and use our products.

Quality is an attitude at Melin. It is an every day, every tool, every order commitment to supply products which meet or exceed ALL of the detailed specifications of our customers. Another major quality goal is to monitor and , where possible, improve upon the processes used to achieve this HIGH QUALITY.

Melin Is Committed To Our Customers

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Powdered Metal

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Roughing End Mills

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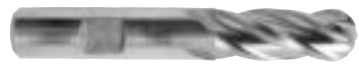

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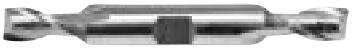

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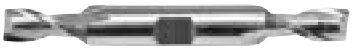

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Countersinks

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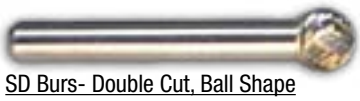

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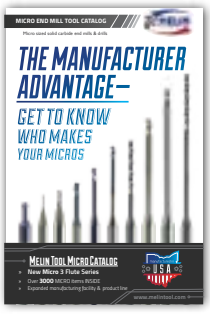
Speed and Feed Charts - Also listed online at www.melintool.com

Additional Product

Melin offers additional products in our High Performance Catalog and Micro End Mill Catalog.

Online at www.melintool.com or call customer service at PH: 216-362-4200 or 1-800-521-1078

Melin High Performance Catalog



Micro Catalog

MELIN COATINGS:

-TiN
-TiCN
-AlTiN
-nACo
-nACRo
-ZrN
-DLC Diamond
-CVD Diamond
-TiXCo
-TiB_2

COATING

IN HOUSE coating allows us to provide you with the best coating for your applications. We can put any coating, EVEN DIAMOND on any tool style and size you need!

Melin Tool operates our own, **IN-HOUSE** PVD (Physical Vapor Deposition) coating work center in order to provide our customers with the highest level of consistency in coating composition and the most FLEXIBILITY in coating selection. We've chosen Platit coating centers because of the superior performance their coating process provides for Melin's solid round cutting tools. With Platit's revolutionary and patented LARC® (Lateral Rotating Cathodes) and CERC® (Central Rotating Cathodes) technologies, Melin is able to provide far greater consistency from batch to batch and superior adhesion for its conventional coatings, as well as unique, specially tailored coatings designed for enhancing performance in specific applications.

We currently house several **PLATIT** machines, including the π411, which has more than 4 times the chamber capacity of our other units. We now have the ability to do next generation high performance triple coatings. Our equipment enables us to coat more tools, provide more coating types and to do so with shorter setups and changeover time. Equally important, we can provide our customers with unique coatings for their specific application to truly maximize the performance achievable with Melin cutting tools.

THE MANUFACTURER ADVANTAGE -

Melin's highest quality manufacturing on state-of-the-art CNC equipment ensures superior performance with reliable, as well as consistent quality!

Test Melin PVD Coatings and prove to yourself…

Not all coatings are the same.

COATING PROPERTIES

		Hardness	Coefficient of Friction	Thermal Stability	1st Digit of Coated EDP
TiN	Titanium Nitride	24GPa	0.40	1112F (600C)	2
TiCN	Titanium Carbonitride	37GPa	0.25	752F (400C)	4
AlTiN	Aluminum Titanium Nitride	38GPa	0.60	1472F (800C)	5
nACo	Aluminum Titanium Nitride + Silicon Nitride	45GPa	0.40	2192F (1200C)	8
nACRo	Aluminum Chrome Nitride + Silicon Nitride	40GPa	0.45	2012F (1100C)	3
ZrN	Zirconium Nitride	25GPa	0.40	1049F (565C)	6
TiXCo	Titanium Silicon Nitride + nACo	45GPa	0.35	1832F (1000C)	-
TiB_2	Titanium DiBoride	39GPa	0.45	1562F (850C)	-
DIA	CVD Diamond	80-100GPa	0.10	1094F (590C)	-
DLC	DLC Amorphous Diamond	50GPa	0.10	932F (500C)	7

TiCN

Titanium Carbonitride has an exceptional high hardness & low coefficient of friction coating which provides excellent wear resistance. **TiCN** performs well cutting **Alloy Steels, Stainless Steels, and in high speed cutting where moderate temperatures are generated at the cutting edge**. High lubricity facilitates chip flow, prevents build up and reduces cutting forces & temperature. Provides excellent surface quality on machined components. Also, excellent in applications which require high feed & speed rates.

TiN

Our unique Titanium Nitride coating is ideal for a wide range of applications, materials, and cutting conditions where tool life and higher feeds and speeds are operating objectives. **TiN** reduces wear and improves chip formation to extend tool life. **TiN** is a good choice for the machining of iron-based materials, molding of plastics, and for components requiring resistance to abrasive and adhesive wear.

AlTiN

Aluminum Titanium Nitride is ideal for high temperature cutting operation in many materials such as **Titanium & Nickel Alloys, Co-Cr-Mo, Stainless Steel, Alloy Steels & Cast Iron**. When exposed to higher temperatures, it forms a HARD aluminum oxide layer and, as temperatures increase, the coating insulates the tool transferring heat into the chips. It is an EXTREMELY TOUGH coating that will hold up in heavy and interrupted cuts. Contains a higher aluminum content than the similar TiAlN coating which makes it harder & smoother than TiAlN. **AlTiN** is ideal for smaller depths of cut and excels in high speed and dry machining applications and when machining hardened steel.

nACo

Aluminum Titanium Nitride + Silicon Nitride coating is extremely well suited for high performance DRILLING and MILLING applications. It has a great ability to resist high heat up to 1200°C before it starts to oxidize and break down. It has a tough core with HIGH wear and heat resistance. A top layer with extreme high Nanohardness. A very low coefficient of friction for less resistance. Up to (1-7) µm thickness in coating layers for the most protection against heat and tool breakdown.

nACRo

Aluminum Chrome Nitride + Silicon Nitride coating is an excellent coating for high ABRASIVE wear and HEAT resistance. A top layer with high hardness and toughness. Heat resistance of up to 1100°C before it starts to oxidize and break down. It has a wide application range and is good in **Super Alloys** applications. It has a very low coefficient of friction for less resistance (0.35). Best in very tough operations. Up to (1-7) µm thickness in coating layers. A premium coating for those difficult applications.

ZrN

Zirconium Nitride coating is a coating developed specifically for machining **ALUMINUM, yet** excellent when **machining all Non-Ferrous materials**. **ZrN** is also highly recommended for machining **Fiberglass, Nylon and most Polymer** materials. The Maximum working temperature = 600°C/1110°F. It has a coating thickness of 1 to 2 microns. The coefficient of friction against steel (dry) is 0.55 and the micro hardness (HV 0.05) is equal to 3000.

CVD Diamond

CVD diamond coating takes place in a vacuum chamber using a hot-filament, chemical vapor deposition (**CVD**) process. Carbon gases are introduced into the vacuum chamber where high temperatures cause carbon atoms to re-bond into a 100% pure crystalline diamond structure. The crystalline diamond slowly grows on the surface of cutting tools, forming a continuous coating of up to 20 microns in thickness. **CVD diamond** coated end mills are a standard choice among **Mold and Die shops for Machining Graphite**, and among manufacturers machining component parts made of **Hard Carbon, High-Silicon Aluminum and other Non-Ferrous materials.**

DLC Diamond

DLC amorphous diamond coating is a less expensive alternative to CVD Diamond. This PVD process of applying **DLC** coating produces hard, smooth, hydrogen free diamond like carbon **(DLC)** film. This coating can be applied to any uncoated carbide tool (CVD Diamond requires a special carbide substrate).

TiXCo

TiXCo is a nACo based coating with a top layer of Titanium Silicon Nitride. It is a very hard coating with a low coefficient of friction. It is best suited for **Super Hard Drilling and milling of Die and Mold Steels**. It can also be used in **Graphite and some Composites**.

MELIN COATINGS:

-TiN
-TiCN
-AlTiN
-nACo
-nACRo
-ZrN
-DLC Diamond
-CVD Diamond
-TiXCo

COATING

Conventional Coatings

TiN- Titanium Nitride

TiCN - Titanium Carbonitride

AlTiN - Aluminum Titanium Nitride

High Performance Coatings

nACo - Aluminum Titanium Nitride + Silicon Nitride

nACRo - Aluminum Chrome Nitride + Silicon Nitride

Diamond - CVD Diamond

Amorphous Diamond-DLC

TiXCo - TiN-nACo-TiSiN

ZrN - Zirconium Nitride

Material	Hardness	TiCN	AlTiN	nACo	nACRo	ZrN	DIA	DLC	TiXCo
Austenitic Stainless Steel	< 35 HRc	*	*		X				
Martinsitic Stainless Steel	< 35 HRc	*	*		X				
Martinsitic Stainless Steel	>= 35 HRc	*	*		X				
PH Stainless Steel	< 35 HRc	*	*		X				
PH Stainless Steel	>= 35 HRc	*	*		X				
Ni, Co, Fe Based Super Alloys		*	*		X				
Titanium		*	*		X				
Alloy Steel	16-23 HRc	*	*	X					
Alloy Steel	23-38 HRc	*	*	X					
Alloy Steel	> 38 HRc	*	*	X					X
Carbon Steel	16-23 HRc	*	*	X					
Carbon Steel	23-38 HRc	*	*	X					
Carbon Steel	> 38 HRc	*	*	X					
Low Carbon Steel	13-23 HRc	*	*	X					
Low Carbon Steel	23-38 HRc	*	*	X					
Low Carbon Steel	> 38 HRc	*	*	X					X
Gray Cast Iron	18-22 HRc	X		*	*				
Nodular Cast Iron	22-32 HRc	X		*	*				
Aluminium <10% Si		*				X		X	
Aluminium >10% Si		*			*		X		
Graphite							X	*	*
Composites							X	*	*
Hardened Steel	>45 HRc			X					X

X = For BEST performance

* = Additional recommended coating options

How To Order A Tool With A Non-Standard Coating

How To Order Coating:

2 ways to order a coating on a bright tool

1 Add the coating term, -TiN, -TiCN, -AlTiN, -nACo, -nACRo, -ZrN, or -DLC after the tool name and diameter.

Example: Bright Part - CCMG-1616
AlTiN Part - CCMG-1616-**ALTIN**

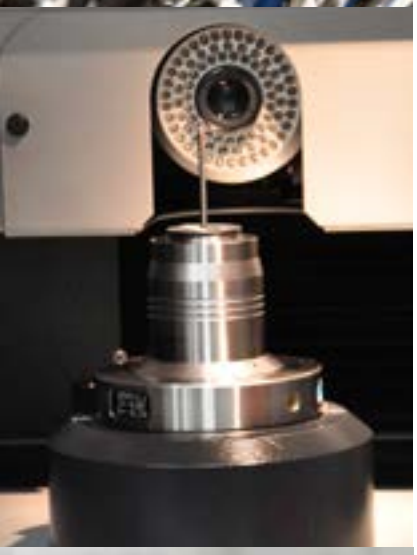
2 Change first digit of the EDP to the specific number designated for each coating. See chart below.

Example: **Bright** Part & EDP - AMG-1616 = EDP 14042
AlTiN Part & EDP - AMG-1616-AlTiN = EDP **5**4042

NOTE: *EDPs with "H" as the leading digit: DO NOT change the EDP structure. - Please call customer service for a new "H" coated EDP or add the desired coating to the end of the part name. Also, CVD Diamond is only offered on specific series throughout this catalog or by special request.*

Leading Digit of EDP	Coating Designation
2____	-TiN
3____	-nACRo
4____	-TiCN
5____	-AlTiN
6____	-ZrN
7____	-DLC
8____	-nACo

Preferred Coating: Melin has listed what we believe to be the most efficient coating throughout the General purpose Catalog. Our preferred coating is our recommended and stocked coating. You can always order any of the Melin coatings on our bright parts, these are our suggestions.



Icon Glossary

Icon Glossary:
-Tool Characteristics
-Coating
-Target Workpiece Mat.
-ISO Material Group
-Machining Operations

Tool Characteristics

SUBSTRATE — CARBIDE | HSSCo PM | HSSCo M42 | HSS — Tool substrate for each tool series

FLUTES — 2 | 3 | 4 | 5 | 6 | 7 | 9 | 10 — # of flutes for each series.

HELIX — 30° | 40° | 45° | 60° | 30° — Helix angle for each series.

TOLERANCE — +.000 -.002 | +.0005 -.0005 <1/8 | +.000 -.002 ≥1/8 | +.000mm -.050mm | +.013 -.013 <3mm | +.000 -.05 ≥3mm — Cutting diameter tolerance

CORNER — SQUARE | BALL END | CHAMFER | RADIUS | CORNER ROUND | DRILL POINT — Corner style for each series.

PROFILE — Coarse Pitch | Fine Pitch | Rough/Finish | Rougher | 60° — Profile of cutting edge

MISC. — Center Cutting | Non - Center Cutting

Coatings

COATING TYPES — Bright | TiN | TiCN | AlTiN | nACo | nACRo | ZrN | CVD Diamond | DLC Diamond | TiXCo — Coated icon when series comes coated as standard

Bright TiCN | Bright AlTiN | Bright nACo | Bright nACRo | Bright ZrN | TiXCo nACo — Coated icon when series comes standard bright/or coated with a recommended preferred coating or additional stocked coating option

Targeted Workpiece Hardness

HRC — HRc <40 | HRc <48 | HRc <54 | HRc <70 — Range of work piece material hardness

ISO Material Group

CODE	MATERIAL GROUP	MATERIAL SELECTION	CODE	MATERIAL GROUP	MATERIAL SELECTION
P	Steels	Carbon Steel, Alloy Steels, Die Steels 1018, 1045, 4140,D-2	K	Cast Iron	Grey-Cast Iron & Ductile Iron Class-20, (60-40-18)
M	Stainless	Martensitic & Austenitic 304, 316, 312, 316L, 421, 420, 17-4PH	S	Special Alloys	Inconel, Hastelloy,Titanium,etc Inconel 718, Hastello B, 6Al-4V
H	Hardened Steels	D-2, 4340, H-13	N	Non-Ferrous	Aluminum-6060-T6, 7075, Plastics, Delron, Graphite, Fiberglass

Machining Operations

SLOT | PROFILE | PLUNGING | RAMPING | PROFILE CUTTING | DRILLING | CHAMFER | DEEP CAVITY

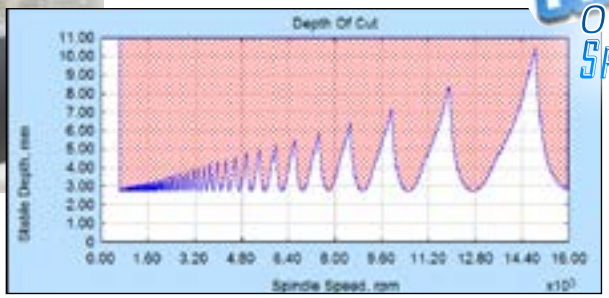
RADIUS | UNDERCUT | SLOT WITH RADIUS | TROCHOIDAL MILLING | HELICAL INTERPOLATION | FACE MILLING | 3D PROFILE MILLING | THREAD MILLING

Custom Tooling & Services

Melin continues to provide our customers with the latest technology to enhance the benefits our high performance tools already provide. Listed below are specialized and customized services and features Melin can ADD to our standard high performance offering

MetalMax Testing

Melin's EXPERT technical field application engineers are available to provide FREE on-site, *"tap testing"* analysis of your machine, for fine tuning cutting parameters to dramatically reduce vibration and optimize productivity. Contact your local distributor, our regional sales rep, Melin customer service, or visit us Online to submit a request. www.melintool.com



Free On The Spindle

METALMAX™

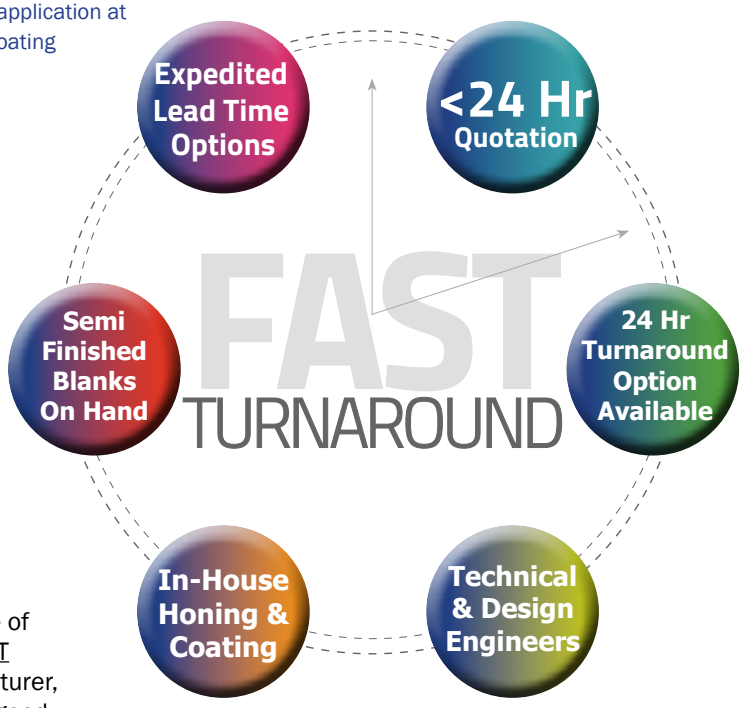
FAST Delivery On Specials

Melin Now Offers Expedited Special Solutions

Get your special QUICKLY! Getting the MOST from your tooling & maximizing performance, requires completely aligned tooling & set up process' tailored to the specific application at hand. Many times, that requires customizing the cutting tool geometry and coating to provide the least amount of machining time.

- Melin Tool is set up to deliver what you need... FAST!

- **Quotations Guaranteed within 24 Hours**
  Most often "SAME DAY"
- **Expedited Delivery Option on Specials Available By Request**
- **Simple, Complex & Custom Design Included**
- **24 Hour Turn Around Is Available On Certain Series**



Need A Second Look?

Sometimes the job **can't wait.** We understand... and can take care of you. Our manufacturing processes are highly flexible to enable FAST priority adjustments just for this purpose. We're a LARGE manufacturer, with small business maneuverability. If our quoted lead time isn't good enough.. **Call us. We'll surprise you at how often we can help!**

Call Customer Service to get your quote with expedited lead times: 216-362-4200

Melin Part Number

MELIN PART NAME:

- -Series Name
- -Shank Diameter
- -Mill Diameter
- -End Specifications
- -Coating

Series Name | Shank Dia. | Mill Dia. | End Specifications

CCMG-1616-L-ALTIN

Sizes | Coating Types

Series Name:

The series name is a code that references the number of flutes, the material, machining applications, and being either high performance or a general purpose cutting tool.

(miscellaneous series may not reference every product detail in series name)

EXAMPLES:

C- General Purpose / Cobalt / 4 Flute

E- General Purpose / Cobalt / 3 Flute

EMG- General Purpose / Carbide / 3 Flute

EXMG- High Performance / Carbide / 3 Flute

Coating Types:

TICN- Titanium Carbonitride

ALTIN- Aluminum Titanium Nitride

NACO- Aluminum Titanium Nitride + Silicon Nitride

NACRO- Aluminum Chrome Nitride +Silicon Nitride

ZRN- Zirconium Nitride

TiB_2- Titanium DiBoride

TiXCo- Titanium Silicon Nitride + nACo

DIA- CVD Diamond

DLC- Amorphous Diamond

Sizes (Mill & Shank Diameter):

CODES & FRACTIONAL EQUIVALENTS

code	fraction	code	fraction
0	1/64	11	11/64
1	1/32	12	3/32
2	1/16	13	13/64
3	3/64	14	7/64
4	1/8	15	15/64
5	5/64	16	1/4
6	3/32	17	17/64
7	7/64	18	9/64
8	1/16	20	5/32
9	9/64	24	3/16
10	5/32	28	7/32
11	11/64	32	1/8

EXAMPLES:

Metric- 7mm DIA x 8mm SHK = CCMG- M8M7

End Specifications:

FLUTE LENGTH:

- **-S:** Stub
- **-M:** Medium
- **-MM:** Medium/Medium
- **-ML:** Medium/Long
- **-L:** Long
- **-LL:** Long/Long
- **-LF:** Long Flute
- **-E:** Extra Long
- **-EL:** Extra Long
- **-EE:** Extra/Extra Long
- **-3X:** 3x Length Drill
- **-5X:** 5x Length Drill
- **-7X:** 7x Length Drill
- **-SF:** Short Flute
- **-LF:** Long Flute
- **-HM:** Hard Material

END STYLE:

- **-B:** Ball End
- **-H:** Helical
- **-DP:** Drill Point
- **-NE:** No End

RADIUS STYLE:

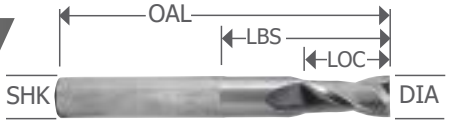
- **-NR:** No Radius
- **-R:** Radius

NECK STYLE:

- **-NN:** No Neck
- **-N:** Extended Neck

General Purpose Carbide End Mill

2 Flute • General Purpose End Mills



Carbide | 2 | 30° | Bright AlTiN | +.0005 -.0005 <1/8 | +.0000 -.0020 ≥1/8 | Square | HRc <48 | P K M S N

Series: AMG

DIA	SHK	LOC	LBS	OAL	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
1/64	1/8	3/64		1-1/2	std	**AMG-400-1/2**	13385		53385	
1/32	1/8	1/16		1-1/2	stub	**AMGS-401**	16146		56146	
1/32	1/8	3/32		1-1/2	std	**AMG-401**	14000		54000	
3/64	1/8	3/32		1-1/2	stub	**AMGS-401-1/2**	16147		56147	
3/64	1/8	1/8		1-1/2	std	**AMG-401-1/2**	14002		54002	
1/16	1/8	1/8		1-1/2	stub	**AMGS-402**	16148		56148	
1/16	1/8	3/16		1-1/2	std	**AMG-402**	14004		54004	
1/16	1/8	1/4		1-1/2	med	**AMG-402-M**	19126		59126	
1/16	1/8	3/8		1-1/2	long	**AMG-402-L**	11521		51521	
5/64	1/8	1/8		1-1/2	stub	**AMGS-402-1/2**	11517		51517	
5/64	1/8	3/16		1-1/2	std	**AMG-402-1/2**	14006		54006	
5/64	1/8	1/4		1-1/2	med	**AMG-402-1/2-M**	19127		59127	
3/32	1/8	3/16		1-1/2	stub	**AMGS-403**	16149		56149	
3/32	1/8	3/8		1-1/2	std	**AMG-403**	14008		54008	
3/32	1/8	3/8	3/4	2	ext neck	**AMGN-403**	19128		59128	
3/32	1/8	1/2		1-1/2	med	**AMG-403-M**	19129		59129	
3/32	1/8	9/16		3	long	**AMG-403-L**	16060		56060	
7/64	1/8	7/32		1-1/2	stub	**AMGS-403-1/2**	14011		54011	
7/64	1/8	3/8		1-1/2	std	**AMG-403-1/2**	14009		54009	
1/8	1/8	1/4		1-1/2	stub	**AMGS-404**	16150		56150	
1/8	1/8	1/2		1-1/2	std	**AMG-404**	14010		54010	
1/8	1/8	5/8		2	med	**AMG-404-M**	11523		51523	
1/8	1/8	5/8	1	2	ext neck	**AMGN-404**	16713		56713	
1/8	1/8	3/4		2-1/4	med/long	**AMG-404-ML**	12751		52751	
1/8	1/8	3/4		3	long	**AMG-404-L**	16061		56061	
1/8	1/8	1		3	xl	**AMG-404-E**	16062		56062	
9/64	3/16	9/16		2	std	**AMG-604-1/2**	15893		55893	
5/32	3/16	5/16		1-1/2	stub	**AMGS-605**	16151		56151	
5/32	3/16	9/16		2	std	**AMG-605**	14020		54020	
5/32	3/16	3/4		3	long	**AMG-605-L**	16063		56063	
5/32	3/16	1-1/8		3	xl	**AMG-605-E**	19130		59130	
11/64	3/16	9/16		2	std	**AMG-605-1/2**	15894		55894	
3/16	3/16	3/8		1-1/2	stub	**AMGS-606**	16152		56152	
3/16	3/16	5/8		2	std	**AMG-606**	14022		54022	
3/16	3/16	3/4		2-1/2	med/long	**AMG-606-ML**	12753		52753	
3/16	3/16	3/4		3	long	**AMG-606-L**	16064		56064	
3/16	3/16	1	1-5/8	3	ext neck	**AMGN-606**	16714		56714	
3/16	3/16	1	2-5/8	4	ext neck	**AMGN-606-2**	16715		56715	
3/16	3/16	1	no neck	4	no neck	**AMG-606-NN**	19131		59131	
3/16	3/16	1-1/8		3	xl	**AMG-606-E**	16065		56065	
13/64	1/4	5/8		2-1/2	std	**AMG-806-1/2**	15895		55895	
7/32	1/4	1/2		2	stub	**AMGS-807**	16153		56153	
7/32	1/4	5/8		2-1/2	std	**AMG-807**	14024		54024	
15/64	1/4	3/4		2-1/2	std	**AMG-807-1/2**	15896		55896	
1/4	1/4	1/2		2	stub	**AMGS-808**	16154		56154	
1/4	1/4	3/4		2-1/2	std	**AMG-808**	14026		54026	
1/4	1/4	1	2-1/4	4	ext neck	**AMGN-808**	16716		56716	
1/4	1/4	1-1/8		3	long	**AMG-808-L**	14028		54028	
1/4	1/4	1-1/2		4	xl	**AMG-808-E**	14030		54030	

sizes continued on next page

2 Flute • General Purpose End Mills

Series: AMG

DIA	SHK	LOC	LBS	OAL	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
1/4	1/4	1-1/2	4-1/4	6	ext neck	**AMGN-808-2**	16717		56717	
1/4	1/4	1-1/2	no neck	6	no neck	**AMG-808-NN**	19132		59132	
17/64	5/16	3/4		2-1/2	std	**AMG-1008-1/2**	15897		55897	
9/32	5/16	3/4		2-1/2	std	**AMG-1009**	15898		55898	
19/64	5/16	13/16		2-1/2	std	**AMG-1009-1/2**	15899		55899	
5/16	5/16	1/2		2	stub	**AMGS-1010**	16155		56155	
5/16	5/16	13/16		2-1/2	std	**AMG-1010**	14032		54032	
5/16	5/16	1	2-5/16	4	ext neck	**AMGN-1010**	16718		56718	
5/16	5/16	1-1/8		3	long	**AMG-1010-L**	16066		56066	
5/16	5/16	1-1/2	4-5/16	6	ext neck	**AMGN-1010-2**	16719		56719	
5/16	5/16	1-5/8		4	xl	**AMG-1010-E**	16027		56027	
21/64	3/8	7/8		2-1/2	std	**AMG-1210-1/2**	16119		56119	
11/32	3/8	7/8		2-1/2	std	**AMG-1211**	15900		55900	
23/64	3/8	7/8		2-1/2	std	**AMG-1211-1/2**	16120		56120	
3/8	3/8	5/8		2	stub	**AMGS-1212**	16156		56156	
3/8	3/8	1		2-1/2	std	**AMG-1212**	14034		54034	
3/8	3/8	1	2-3/8	4	ext neck	**AMGN-1212**	16720		56720	
3/8	3/8	1-1/8		3	long	**AMG-1212-L**	14036		54036	
3/8	3/8	1-1/2	4-3/8	6	ext neck	**AMGN-1212-2**	16721		56721	
3/8	3/8	1-1/2	no neck	6	no neck	**AMG-1212-NN**	19133		59133	
3/8	3/8	1-3/4		4	xl	**AMG-1212-E**	14038		54038	
3/8	3/8	2		4	xl	**AMG-1212-EL**	19134		59134	
3/8	3/8	3		6	xxl	**AMG-1212-EE**	13621		53621	
25/64	7/16	1		2-3/4	std	**AMG-1412-1/2**	16121		56121	
13/32	7/16	1		2-3/4	std	**AMG-1413**	15901		55901	
27/64	7/16	1		2-3/4	std	**AMG-1413-1/2**	16122		56122	
7/16	7/16	5/8		2-1/2	stub	**AMGS-1414**	16157		56157	
7/16	7/16	1		2-3/4	std	**AMG-1414**	14040		54040	
7/16	7/16	1	2-1/4	4	ext neck	**AMGN-1414**	16722		56722	
7/16	7/16	1-1/2	4-1/4	6	ext neck	**AMGN-1414-2**	16723		56723	
7/16	7/16	2		4	long	**AMG-1414-L**	16029		56029	
7/16	7/16	3		6	xl	**AMG-1414-E**	16028		56028	
29/64	1/2	1		3	std	**AMG-1614-1/2**	16123		56123	
15/32	1/2	1		3	std	**AMG-1615**	15902		55902	
31/64	1/2	1		3	std	**AMG-1615-1/2**	16124		56124	
1/2	1/2	5/8		2-1/2	stub	**AMGS-1616**	16158		56158	
1/2	1/2	1		3	std	**AMG-1616**	14042		54042	
1/2	1/2	1	2	4	ext neck	**AMGN-1616**	16724		56724	
1/2	1/2	1-1/4		3	med	**AMG-1616-M**	11529		51529	
1/2	1/2	1-1/2		4	med/long	**AMG-1616-ML**	19135		59135	
1/2	1/2	1-1/2	4	6	ext neck	**AMGN-1616-2**	16725		56725	
1/2	1/2	1-1/2	no neck	6	no neck	**AMG-1616-NN**	11919		51919	
1/2	1/2	2		4	long	**AMG-1616-L**	14044		54044	
1/2	1/2	3		6	xl	**AMG-1616-E**	14046		54046	
17/32	9/16	1-1/4		3-1/2	std	**AMG-1817**	11515		51515	
9/16	9/16	1-1/4		3-1/2	std	**AMG-1818**	15903		55903	
9/16	9/16	2	3-3/4	6	ext neck	**AMGN-1818**	16726		56726	
9/16	9/16	3		6	xl	**AMG-1818-E**	16727		56727	
5/8	5/8	3/4		3	stub	**AMGS-2020**	16159		56159	
5/8	5/8	1-1/4		3-1/2	std	**AMG-2020**	14048		54048	
5/8	5/8	2	3-3/4	6	ext neck	**AMGN-2020**	16728		56728	
5/8	5/8	2	no neck	6	no neck	**AMG-2020-NN**	19136		59136	
5/8	5/8	2-1/4		5	long	**AMG-2020-L**	16067		56067	
5/8	5/8	3		6	xl	**AMG-2020-E**	16068		56068	

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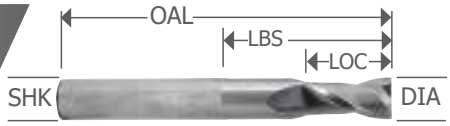
General Purpose Carbide End Mill

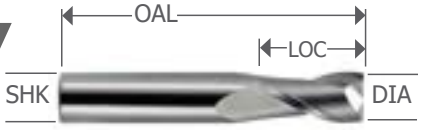
2 Flute • General Purpose End Mills

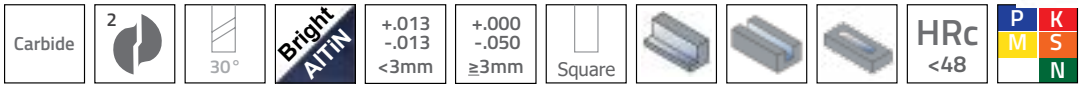


Series: AMG

DIA	SHK	LOC	LBS	OAL	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
11/16	3/4	1-3/8		4	std	**AMG-2422**	11918		51918	
3/4	3/4	1		3	stub	**AMGS-2424**	16160		56160	
3/4	3/4	1-1/2		4	std	**AMG-2424**	14050		54050	
3/4	3/4	2	3-1/2	6	ext neck	**AMGN-2424**	16729		56729	
3/4	3/4	2-1/4		5	long	**AMG-2424-L**	16069		56069	
3/4	3/4	3		6	xl	**AMG-2424-E**	14052		54052	
7/8	7/8	1-1/2		4	std	**AMG-2828**	16125		56125	
1	1	1-1/2		4	std	**AMG-3232**	14054		54054	
1	1	2	3-1/2	6	ext neck	**AMGN-3232**	16730		56730	
1	1	2-1/4		5	long	**AMG-3232-L**	12755		52755	
1	1	3		6	xl	**AMG-3232-E**	14056		54056	
1	1	4		7	xxl	**AMG-3232-EE**	14027		54027	

2 Flute • General Purpose End Mills





Series: AMG-M_M_

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
1mm	3mm	2mm	38mm	stub	**AMGS-M3M1**	13733		53733	
1mm	3mm	3mm	38mm	std	**AMG-M3M1**	16935		56935	
1.5mm	3mm	3mm	38mm	stub	**AMGS-M3M1.5**	14031		54031	
1.5mm	3mm	6mm	38mm	std	**AMG-M3M1.5**	16936		56936	
2mm	3mm	4mm	38mm	stub	**AMGS-M3M2**	13967		53967	
2mm	3mm	9mm	38mm	std	**AMG-M3M2**	15987		55987	
2.5mm	3mm	5mm	38mm	stub	**AMGS-M3M2.5**	14051		54051	
2.5mm	3mm	12mm	38mm	std	**AMG-M3M2.5**	15988		55988	
3mm	3mm	6mm	38mm	stub	**AMGS-M3M3**	13968		53968	
3mm	3mm	12mm	38mm	std	**AMG-M3M3**	15989		55989	
3mm	3mm	18mm	57mm	long	**AMG-M3M3-L**	13972		53972	
3mm	6mm	12mm	63mm	std	**AMG-M6M3**	19750		59750	
3.5mm	4mm	7mm	51mm	stub	**AMGS-M4M3.5**	14023		54023	
3.5mm	4mm	12mm	51mm	std	**AMG-M4M3.5**	15990		55990	
4mm	4mm	8mm	51mm	stub	**AMGS-M4M4**	13969		53969	
4mm	4mm	14mm	51mm	std	**AMG-M4M4**	15991		55991	
4mm	4mm	20mm	63mm	long	**AMG-M4M4-L**	13973		53973	
4mm	6mm	14mm	63mm	std	**AMG-M6M4**	19751		59751	
4.5mm	5mm	9mm	51mm	stub	**AMGS-M5M4.5**	10991		50991	
4.5mm	5mm	14mm	51mm	std	**AMG-M5M4.5**	15992		55992	
5mm	5mm	10mm	51mm	stub	**AMGS-M5M5**	13970		53970	
5mm	5mm	20mm	51mm	std	**AMG-M5M5**	15993		55993	
5mm	5mm	25mm	64mm	long	**AMG-M5M5-L**	13736		53736	

sizes continued on next page

2 Flute • General Purpose End Mills

Series: AMG-M_M_

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
5mm	6mm	20mm	63mm	std	**AMG-M6M5**	10588		50588	
6mm	6mm	12mm	51mm	stub	**AMGS-M6M6**	13955		53955	
6mm	6mm	20mm	63mm	std	**AMG-M6M6**	15994		55994	
6mm	6mm	28mm	75mm	long	**AMG-M6M6-L**	13961		53961	
7mm	8mm	12mm	51mm	stub	**AMGS-M8M7**	13734		53734	
7mm	8mm	20mm	63mm	std	**AMG-M8M7**	15995		55995	
8mm	8mm	12mm	51mm	stub	**AMGS-M8M8**	13735		53735	
8mm	8mm	20mm	63mm	std	**AMG-M8M8**	15996		55996	
8mm	8mm	32mm	75mm	long	**AMG-M8M8-L**	13974		53974	
9mm	10mm	14mm	51mm	stub	**AMGS-M10M9**	10264		50264	
9mm	10mm	22mm	70mm	std	**AMG-M10M9**	15997		55997	
10mm	10mm	14mm	51mm	stub	**AMGS-M10M10**	13971		53971	
10mm	10mm	25mm	70mm	std	**AMG-M10M10**	15998		55998	
10mm	10mm	38mm	76mm	med	**AMG-M10M10-M**	13965		53965	
10mm	10mm	40mm	100mm	long	**AMG-M10M10-L**	13953		53953	
11mm	12mm	25mm	76mm	std	**AMG-M12M11**	10218		50218	
12mm	12mm	25mm	76mm	std	**AMG-M12M12**	15999		55999	
12mm	12mm	50mm	100mm	long	**AMG-M12M12-L**	13975		53975	
14mm	14mm	32mm	89mm	std	**AMG-M14M14**	16926		56926	
16mm	16mm	32mm	89mm	std	**AMG-M16M16**	16927		56927	
16mm	16mm	57mm	127mm	long	**AMG-M16M16-L**	19752		59752	
18mm	18mm	38mm	100mm	std	**AMG-M18M18**	16928		56928	
18mm	18mm	57mm	127mm	long	**AMG-M18M18-L**	14059		54059	
20mm	20mm	38mm	100mm	std	**AMG-M20M20**	16929		56929	
20mm	20mm	57mm	127mm	long	**AMG-M20M20-L**	19753		59753	
22mm	22mm	38mm	100mm	std	**AMG-M22M22**	16930		56930	
25mm	25mm	38mm	100mm	std	**AMG-M25M25**	16931		56931	

2 Flute • General Purpose Metric/Inch End Mills

Series: AMG-_M_

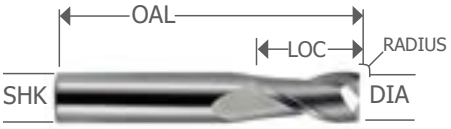
DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
3mm	1/8	3/8	1-1/2	std	**AMG-4M3**	15967		55967	
4mm	3/16	1/2	2	std	**AMG-6M4**	15968		55968	
5mm	1/4	5/8	2-1/2	std	**AMG-8M5**	15969		55969	
6mm	1/4	5/8	2-1/2	std	**AMG-8M6**	15970		55970	
7mm	5/16	3/4	2-1/2	std	**AMG-10M7**	15971		55971	
8mm	3/8	7/8	2-1/2	std	**AMG-12M8**	15972		55972	
9mm	3/8	7/8	2-1/2	std	**AMG-12M9**	15973		55973	
10mm	7/16	1	2-3/4	std	**AMG-14M10**	15974		55974	
11mm	7/16	1	2-3/4	std	**AMG-14M11**	15975		55975	
12mm	1/2	1	3	std	**AMG-16M12**	15976		55976	

General Purpose Carbide End Mill

2 Flute • Corner Radius End Mills

Series: AMG-__-R__

DIA	SHK	LOC	OAL	RADIUS	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
3/32	1/8	3/8	1-1/2	.010	std	**AMG-403-R010**	10584		50584	
3/32	1/8	3/8	1-1/2	.015	std	**AMG-403-R015**	10809		50809	
1/8	1/8	1/2	1-1/2	.010	std	**AMG-404-R010**	11328		51328	
1/8	1/8	1/2	1-1/2	.015	std	**AMG-404-R015**	15300		55300	
1/8	1/8	1/2	1-1/2	.020	std	**AMG-404-R020**	11329		51329	
1/8	1/8	1/2	1-1/2	.030	std	**AMG-404-R030**	11330		51330	
3/16	3/16	5/8	2	.010	std	**AMG-606-R010**	11331		51331	
3/16	3/16	5/8	2	.015	std	**AMG-606-R015**	11551		51551	
3/16	3/16	5/8	2	.020	std	**AMG-606-R020**	15302		55302	
3/16	3/16	5/8	2	.030	std	**AMG-606-R030**	15304		55304	
3/16	3/16	5/8	2	.045	std	**AMG-606-R045**	11336		51336	
1/4	1/4	3/4	2-1/2	.010	std	**AMG-808-R010**	11345		51345	
1/4	1/4	3/4	2-1/2	.015	std	**AMG-808-R015**	16322		56322	
1/4	1/4	3/4	2-1/2	.020	std	**AMG-808-R020**	15306		55306	
1/4	1/4	3/4	2-1/2	.030	std	**AMG-808-R030**	15308		55308	
1/4	1/4	3/4	2-1/2	.045	std	**AMG-808-R045**	15310		55310	
1/4	1/4	3/4	2-1/2	.060	std	**AMG-808-R060**	11348		51348	
5/16	5/16	13/16	2-1/2	.020	std	**AMG-1010-R020**	15312		55312	
5/16	5/16	13/16	2-1/2	.030	std	**AMG-1010-R030**	15314		55314	
5/16	5/16	13/16	2-1/2	.045	std	**AMG-1010-R045**	15316		55316	
3/8	3/8	1	2-1/2	.020	std	**AMG-1212-R020**	15318		55318	
3/8	3/8	1	2-1/2	.030	std	**AMG-1212-R030**	15320		55320	
3/8	3/8	1	2-1/2	.045	std	**AMG-1212-R045**	15322		55322	
3/8	3/8	1	2-1/2	.060	std	**AMG-1212-R060**	11349		51349	
1/2	1/2	1	3	.020	std	**AMG-1616-R020**	15324		55324	
1/2	1/2	1	3	.030	std	**AMG-1616-R030**	15326		55326	
1/2	1/2	1	3	.045	std	**AMG-1616-R045**	15328		55328	
1/2	1/2	1	3	.060	std	**AMG-1616-R060**	15330		55330	
1/2	1/2	1	3	.090	std	**AMG-1616-R090**	11576		51576	
1/2	1/2	1	3	.125	std	**AMG-1616-R125**	11579		51579	
5/8	5/8	1-1/4	3-1/2	.020	std	**AMG-2020-R020**	15332		55332	
5/8	5/8	1-1/4	3-1/2	.030	std	**AMG-2020-R030**	15334		55334	
5/8	5/8	1-1/4	3-1/2	.045	std	**AMG-2020-R045**	15336		55336	
5/8	5/8	1-1/4	3-1/2	.060	std	**AMG-2020-R060**	15338		55338	
5/8	5/8	1-1/4	3-1/2	.090	std	**AMG-2020-R090**	15340		55340	
3/4	3/4	1-1/2	4	.020	std	**AMG-2424-R020**	15342		55342	
3/4	3/4	1-1/2	4	.030	std	**AMG-2424-R030**	15344		55344	
3/4	3/4	1-1/2	4	.045	std	**AMG-2424-R045**	15346		55346	
3/4	3/4	1-1/2	4	.060	std	**AMG-2424-R060**	15348		55348	
3/4	3/4	1-1/2	4	.090	std	**AMG-2424-R090**	15350		55350	
3/4	3/4	1-1/2	4	.125	std	**AMG-2424-R125**	15352		55352	
1	1	1-1/2	4	.020	std	**AMG-3232-R020**	15354		55354	
1	1	1-1/2	4	.030	std	**AMG-3232-R030**	15356		55356	
1	1	1-1/2	4	.045	std	**AMG-3232-R045**	15358		55358	
1	1	1-1/2	4	.060	std	**AMG-3232-R060**	15428		55428	
1	1	1-1/2	4	.090	std	**AMG-3232-R090**	15430		55430	
1	1	1-1/2	4	.125	std	**AMG-3232-R125**	15432		55432	



General Purpose Carbide End Mill

2 Flute • Corner Radius End Mills

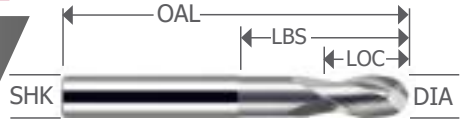
Carbide | 2 | 30° | Bright AlTiN | +.013 -.013 <3mm | +.000 -.050 ≥3mm | Radius | HRc <48 | P K M S N

Series: AMG-M_M_-R_ _

DIA	SHK	LOC	OAL	RADIUS	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
2mm	3mm	9mm	38mm	0.4mm	std	**AMG-M3M2-R0.4**	16851		56851	
2.5mm	3mm	12mm	38mm	0.4mm	std	**AMG-M3M2.5-R0.4**	16852		56852	
3mm	3mm	12mm	38mm	0.4mm	std	**AMG-M3M3-R0.4**	16853		56853	
3.5mm	4mm	12mm	50mm	0.4mm	std	**AMG-M4M3.5-R0.4**	16854		56854	
4mm	4mm	14mm	50mm	0.4mm	std	**AMG-M4M4-R0.4**	16855		56855	
4.5mm	5mm	14mm	50mm	0.4mm	std	**AMG-M5M4.5-R0.4**	16856		56856	
5mm	5mm	20mm	50mm	0.4mm	std	**AMG-M5M5-R0.4**	16857		56857	
6mm	6mm	20mm	63mm	0.5mm	std	**AMG-M6M6-R0.5**	16858		56858	
7mm	8mm	22mm	63mm	0.5mm	std	**AMG-M8M7-R0.5**	16859		56859	
8mm	8mm	22mm	63mm	0.5mm	std	**AMG-M8M8-R0.5**	16860		56860	
9mm	10mm	22mm	70mm	0.7mm	std	**AMG-M10M9-R0.7**	16861		56861	
10mm	10mm	25mm	70mm	0.7mm	std	**AMG-M10M10-R0.7**	16862		56862	
12mm	12mm	25mm	76mm	0.7mm	std	**AMG-M12M12-R0.7**	16863		56863	
14mm	14mm	32mm	89mm	0.8mm	std	**AMG-M14M14-R0.8**	16864		56864	
16mm	16mm	38mm	89mm	0.8mm	std	**AMG-M16M16-R0.8**	16865		56865	
20mm	20mm	38mm	100mm	1.0mm	std	**AMG-M20M20-R1.0**	16867		56867	

General Purpose Carbide End Mill

2 Flute • Ball Nose End Mills



Series: AMG-_ _-B

DIA	SHK	LOC	LBS	OAL	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
1/64	1/8	3/64		1-1/2	std	**AMG-400-1/2-B**	13487		53487	
1/32	1/8	1/16		1-1/2	stub	**AMGS-401-B**	16161		56161	
1/32	1/8	3/32		1-1/2	std	**AMG-401-B**	15904		55904	
3/64	1/8	3/32		1-1/2	stub	**AMGS-401-1/2-B**	16162		56162	
3/64	1/8	1/8		1-1/2	std	**AMG-401-1/2-B**	15905		55905	
1/16	1/8	1/8		1-1/2	stub	**AMGS-402-B**	16163		56163	
1/16	1/8	3/16		1-1/2	std	**AMG-402-B**	15906		55906	
1/16	1/8	3/8		1-1/2	long	**AMG-402-LB**	19537		59537	
5/64	1/8	3/16		1-1/2	std	**AMG-402-1/2-B**	15907		55907	
3/32	1/8	3/16		1-1/2	stub	**AMGS-403-B**	16164		56164	
3/32	1/8	3/8		1-1/2	std	**AMG-403-B**	15908		55908	
7/64	1/8	3/8		1-1/2	std	**AMG-403-1/2-B**	15909		55909	
1/8	1/8	1/4		1-1/2	stub	**AMGS-404-B**	16165		56165	
1/8	1/8	1/2		1-1/2	std	**AMG-404-B**	14058		54058	
1/8	1/8	5/8	1	2	ext neck	**AMGN-404-B**	16749		56749	
1/8	1/8	3/4		2-1/4	med	**AMG-404-MB**	11127		51127	
1/8	1/8	3/4		3	long	**AMG-404-LB**	16110		56110	
1/8	1/8	1		3	xl	**AMG-404-EB**	16176		56176	
9/64	3/16	9/16		2	std	**AMG-604-1/2-B**	16126		56126	
5/32	3/16	5/16		1-1/2	stub	**AMGS-605-B**	16166		56166	
5/32	3/16	9/16		2	std	**AMG-605-B**	15910		55910	
11/64	3/16	9/16		2	std	**AMG-605-1/2-B**	16127		56127	
3/16	3/16	3/8		1-1/2	stub	**AMGS-606-B**	16167		56167	
3/16	3/16	5/8		2	std	**AMG-606-B**	14060		54060	
3/16	3/16	3/4		2-1/2	med	**AMG-606-MB**	19554		59554	
3/16	3/16	3/4		3	long	**AMG-606-LB**	16111		56111	
3/16	3/16	1	1-5/8	3	ext neck	**AMGN-606-B**	16750		56750	
3/16	3/16	1	2-5/8	4	ext neck	**AMGN-606-2B**	16751		56751	
3/16	3/16	1-1/8		3	xl	**AMG-606-EB**	16177		56177	
13/64	1/4	5/8		2-1/2	std	**AMG-806-1/2-B**	16128		56128	
7/32	1/4	1/2		2	stub	**AMGS-807-B**	16168		56168	
7/32	1/4	5/8		2-1/2	std	**AMG-807-B**	15911		55911	
15/64	1/4	3/4		2-1/2	std	**AMG-807-1/2-B**	16129		56129	
1/4	1/4	1/2		2	stub	**AMGS-808-B**	16169		56169	
1/4	1/4	3/4		2-1/2	std	**AMG-808-B**	14062		54062	
1/4	1/4	1	2-1/4	4	ext neck	**AMGN-808-B**	16752		56752	
1/4	1/4	1-1/8		3	long	**AMG-808-LB**	16112		56112	
1/4	1/4	1-1/2		4	xl	**AMG-808-EB**	16178		56178	
1/4	1/4	1-1/2	4-1/4	6	ext neck	**AMGN-808-2B**	16753		56753	
17/64	5/16	3/4		2-1/2	std	**AMG-1008-1/2-B**	16130		56130	
9/32	5/16	3/4		2-1/2	std	**AMG-1009-B**	15912		55912	
19/64	5/16	13/16		2-1/2	std	**AMG-1009-1/2-B**	16131		56131	
5/16	5/16	1/2		2	stub	**AMGS-1010-B**	16170		56170	
5/16	5/16	13/16		2-1/2	std	**AMG-1010-B**	14064		54064	
5/16	5/16	1-1/8		3	long	**AMG-1010-LB**	16113		56113	
5/16	5/16	1-5/8		4	xl	**AMG-1010-EB**	16179		56179	
5/16	5/16	1	2-5/16	4	ext neck	**AMGN-1010-B**	16754		56754	

sizes continued on next page

Series: AMG-_ _-B

DIA	SHK	LOC	LBS	OAL	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
5/16	5/16	1-1/2	4-5/16	6	ext neck	**AMGN-1010-2B**	16755		56755	
21/64	3/8	7/8		2-1/2	std	**AMG-1210-1/2-B**	16132		56132	
11/32	3/8	7/8		2-1/2	std	**AMG-1211-B**	16133		56133	
23/64	3/8	7/8		2-1/2	std	**AMG-1211-1/2-B**	16134		56134	
3/8	3/8	5/8		2	stub	**AMGS-1212-B**	16171		56171	
3/8	3/8	1		2-1/2	std	**AMG-1212-B**	14066		54066	
3/8	3/8	1	2-3/8	4	ext neck	**AMGN-1212-B**	16756		56756	
3/8	3/8	1-1/8		3	long	**AMG-1212-LB**	16114		56114	
3/8	3/8	1-1/2	4-3/8	6	ext neck	**AMGN-1212-2B**	16757		56757	
3/8	3/8	1-3/4		4	xl	**AMG-1212-EB**	16180		56180	
25/64	7/16	1		2-3/4	std	**AMG-1412-1/2-B**	16135		56135	
13/32	7/16	1		2-3/4	std	**AMG-1413-B**	16136		56136	
27/64	7/16	1		2-3/4	std	**AMG-1413-1/2-B**	16137		56137	
7/16	7/16	5/8		2-1/2	stub	**AMGS-1414-B**	16172		56172	
7/16	7/16	1		2-3/4	std	**AMG-1414-B**	15913		55913	
7/16	7/16	1	2-1/4	4	ext neck	**AMGN-1414-B**	16758		56758	
7/16	7/16	1-1/2	4-1/4	6	ext neck	**AMGN-1414-2B**	16759		56759	
7/16	7/16	2		4	long	**AMG-1414-LB**	16115		56115	
7/16	7/16	3		6	xl	**AMG-1414-EB**	16181		56181	
29/64	1/2	1		3	std	**AMG-1614-1/2-B**	16138		56138	
15/32	1/2	1		3	std	**AMG-1615-B**	16139		56139	
31/64	1/2	1		3	std	**AMG-1615-1/2-B**	16140		56140	
1/2	1/2	5/8		2-1/2	stub	**AMGS-1616-B**	16173		56173	
1/2	1/2	1		3	std	**AMG-1616-B**	14068		54068	
1/2	1/2	1	2	4	ext neck	**AMGN-1616-B**	16760		56760	
1/2	1/2	1-1/2	4	6	ext neck	**AMGN-1616-2B**	16761		56761	
1/2	1/2	2		4	long	**AMG-1616-LB**	16116		56116	
1/2	1/2	3		6	xl	**AMG-1616-EB**	16182		56182	
9/16	9/16	1-1/4		3-1/2	std	**AMG-1818-B**	16141		56141	
9/16	9/16	2	3-3/4	6	ext neck	**AMGN-1818-B**	16762		56762	
5/8	5/8	3/4		3	stub	**AMGS-2020-B**	16174		56174	
5/8	5/8	1-1/4		3-1/2	std	**AMG-2020-B**	16142		56142	
5/8	5/8	2	3-3/4	6	ext neck	**AMGN-2020-B**	16764		56764	
5/8	5/8	2-1/4		5	long	**AMG-2020-LB**	16117		56117	
5/8	5/8	3		6	xl	**AMG-2020-EB**	16183		56183	
11/16	3/4	1-3/8		4	std	**AMG-2422-B**	19575		59575	
3/4	3/4	1		3	stub	**AMGS-2424-B**	16175		56175	
3/4	3/4	1-1/2		4	std	**AMG-2424-B**	16143		56143	
3/4	3/4	2	3-1/2	6	ext neck	**AMGN-2424-B**	16765		56765	
3/4	3/4	2-1/4		5	long	**AMG-2424-LB**	16118		56118	
3/4	3/4	3		6	xl	**AMG-2424-EB**	16184		56184	
7/8	7/8	1-1/2		4	std	**AMG-2828-B**	16144		56144	
1	1	1-1/2		4	std	**AMG-3232-B**	16145		56145	
1	1	2	3-1/2	6	ext neck	**AMGN-3232-B**	16766		56766	
1	1	3		6	xl	**AMG-3232-EB**	16185		56185	

General Purpose Carbide End Mill

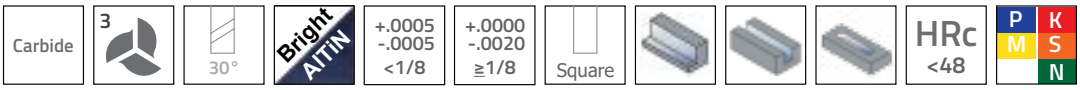
2 Flute • Ball Nose End Mills

Series: AMG-M_M_-B

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
1mm	3mm	2mm	38mm	stub	**AMGS-M3M1-B**	13976		53976	
1mm	3mm	3mm	38mm	std	**AMG-M3M1-B**	16805		56805	
1.5mm	3mm	3mm	38mm	stub	**AMGS-M3M1.5-B**	14033		54033	
1.5mm	3mm	6mm	38mm	std	**AMG-M3M1.5-B**	16806		56806	
2mm	3mm	4mm	38mm	stub	**AMGS-M3M2-B**	13739		53739	
2mm	3mm	9mm	38mm	std	**AMG-M3M2-B**	16555		56555	
2.5mm	3mm	5mm	38mm	stub	**AMGS-M3M2.5-B**	14063		54063	
2.5mm	3mm	12mm	38mm	std	**AMG-M3M2.5-B**	16556		56556	
3mm	3mm	6mm	38mm	stub	**AMGS-M3M3-B**	13977		53977	
3mm	3mm	12mm	38mm	std	**AMG-M3M3-B**	16557		56557	
3mm	3mm	18mm	57mm	long	**AMG-M3M3-LB**	13979		53979	
3.5mm	4mm	7mm	51mm	stub	**AMGS-M4M3.5-B**	14043		54043	
3.5mm	4mm	12mm	51mm	std	**AMG-M4M3.5-B**	16558		56558	
4mm	4mm	8mm	51mm	stub	**AMGS-M4M4-B**	13963		53963	
4mm	4mm	14mm	51mm	std	**AMG-M4M4-B**	16559		56559	
4mm	4mm	20mm	63mm	long	**AMG-M4M4-LB**	19755		59755	
4.5mm	5mm	14mm	51mm	std	**AMG-M5M4.5-B**	16560		56560	
5mm	5mm	10mm	51mm	stub	**AMGS-M5M5-B**	13956		53956	
5mm	5mm	20mm	51mm	std	**AMG-M5M5-B**	16561		56561	
5mm	5mm	25mm	64mm	long	**AMG-M5M5-LB**	13743		53743	
6mm	6mm	12mm	51mm	stub	**AMGS-M6M6-B**	13740		53740	
6mm	6mm	20mm	63mm	std	**AMG-M6M6-B**	16562		56562	
6mm	6mm	28mm	75mm	long	**AMG-M6M6-LB**	13954		53954	
7mm	8mm	12mm	51mm	stub	**AMGS-M8M7-B**	14045		54045	
7mm	8mm	20mm	63mm	std	**AMG-M8M7-B**	16563		56563	
8mm	8mm	12mm	51mm	stub	**AMGS-M8M8-B**	13741		53741	
8mm	8mm	20mm	63mm	std	**AMG-M8M8-B**	16564		56564	
8mm	8mm	32mm	75mm	long	**AMG-M8M8-LB**	19756		59756	
9mm	10mm	22mm	70mm	std	**AMG-M10M9-B**	16565		56565	
10mm	10mm	14mm	51mm	stub	**AMGS-M10M10-B**	13978		53978	
10mm	10mm	25mm	70mm	std	**AMG-M10M10-B**	16566		56566	
10mm	10mm	31mm	76mm	med	**AMG-M10M10-MB**	19757		59757	
10mm	10mm	40mm	100mm	long	**AMG-M10M10-LB**	19758		59758	
11mm	12mm	25mm	76mm	std	**AMG-M12M11-B**	14067		54067	
12mm	12mm	25mm	76mm	std	**AMG-M12M12-B**	16567		56567	
12mm	12mm	50mm	100mm	long	**AMG-M12M12-LB**	13980		53980	
14mm	14mm	32mm	89mm	std	**AMG-M14M14-B**	16568		56568	
16mm	16mm	32mm	89mm	std	**AMG-M16M16-B**	16569		56569	
16mm	16mm	57mm	127mm	long	**AMG-M16M16-LB**	19759		59759	
18mm	18mm	38mm	100mm	std	**AMG-M18M18-B**	16570		56570	
18mm	18mm	57mm	127mm	long	**AMG-M18M18-LB**	19760		59760	
20mm	20mm	38mm	100mm	std	**AMG-M20M20-B**	16571		56571	
20mm	20mm	57mm	127mm	long	**AMG-M20M20-LB**	19761		59761	
22mm	22mm	38mm	100mm	std	**AMG-M22M22-B**	16807		56807	
25mm	25mm	38mm	100mm	std	**AMG-M25M25-B**	16808		56808	

General Purpose Carbide End Mill

3 Flute • General Purpose End Mills



Series: EMG

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
1/32	1/8	1/16	1-1/2	stub	**EMGS-401**	17791		57791	
1/32	1/8	3/32	1-1/2	std	**EMG-401**	17792		57792	
3/64	1/8	3/32	1-1/2	stub	**EMGS-401-1/2**	17793		57793	
3/64	1/8	1/8	1-1/2	std	**EMG-401-1/2**	17794		57794	
1/16	1/8	1/8	1-1/2	stub	**EMGS-402**	17795		57795	
1/16	1/8	3/16	1-1/2	std	**EMG-402**	17638		57638	
1/16	1/8	1/4	1-1/2	med	**EMG-402-M**	19137		59137	
5/64	1/8	3/16	1-1/2	std	**EMG-402-1/2**	17796		57796	
5/64	1/8	1/4	1-1/2	med	**EMG-402-1/2-M**	19138		59138	
3/32	1/8	3/16	1-1/2	stub	**EMGS-403**	17797		57797	
3/32	1/8	3/8	1-1/2	std	**EMG-403**	17639		57639	
7/64	1/8	3/8	1-1/2	std	**EMG-403-1/2**	17798		57798	
1/8	1/8	1/4	1-1/2	stub	**EMGS-404**	17799		57799	
1/8	1/8	1/2	1-1/2	std	**EMG-404**	17640		57640	
1/8	1/8	3/4	2-1/4	med/long	**EMG-404-ML**	19730		59730	
1/8	1/8	3/4	3	long	**EMG-404-L**	17800		57800	
1/8	1/8	1	3	xl	**EMG-404-E**	19566		59566	
9/64	3/16	1/2	2	std	**EMG-604-1/2**	14049		54049	
5/32	3/16	9/16	2	std	**EMG-605**	17641		57641	
3/16	3/16	3/8	1-1/2	stub	**EMGS-606**	17801		57801	
3/16	3/16	5/8	2	std	**EMG-606**	17642		57642	
3/16	3/16	3/4	2-1/2	med/long	**EMG-606-ML**	19731		59731	
3/16	3/16	3/4	3	long	**EMG-606-L**	17802		57802	
3/16	3/16	1-1/8	3	xl	**EMG-606-E**	19567		59567	
13/64	1/4	5/8	2-1/2	std	**EMG-806-1/2**	10586		50586	
7/32	1/4	5/8	2-1/2	std	**EMG-807**	13744		53744	
15/64	1/4	3/4	2-1/2	std	**EMG-807-1/2**	14039		54039	
1/4	1/4	1/2	2	stub	**EMGS-808**	17803		57803	
1/4	1/4	3/4	2-1/2	std	**EMG-808**	17644		57644	
1/4	1/4	1-1/8	3	long	**EMG-808-L**	17804		57804	
1/4	1/4	1-1/2	4	xl	**EMG-808-E**	19568		59568	
17/64	5/16	3/4	2-1/2	std	**EMG-1008-1/2**	13745		53745	
9/32	5/16	3/4	2-1/2	std	**EMG-1009**	13746		53746	
19/64	5/16	13/16	2-1/2	std	**EMG-1009-1/2**	13952		53952	
5/16	5/16	1/2	2	stub	**EMGS-1010**	17805		57805	
5/16	5/16	13/16	2-1/2	std	**EMG-1010**	17646		57646	
5/16	5/16	1-1/8	3	long	**EMG-1010-L**	17806		57806	
5/16	5/16	1-5/8	4	xl	**EMG-1010-E**	19569		59569	
11/32	3/8	7/8	2-1/2	std	**EMG-1211**	12890		52890	
3/8	3/8	5/8	2	stub	**EMGS-1212**	17807		57807	
3/8	3/8	1	2-1/2	std	**EMG-1212**	17648		57648	
3/8	3/8	1-1/8	3	long	**EMG-1212-L**	17808		57808	
3/8	3/8	1-3/4	4	xl	**EMG-1212-E**	19570		59570	
13/32	7/16	1	2-3/4	std	**EMG-1413**	12807		52807	
7/16	7/16	1	2-3/4	std	**EMG-1414**	17650		57650	
7/16	7/16	2	4	long	**EMG-1414-L**	19571		59571	
1/2	1/2	5/8	2-1/2	stub	**EMGS-1616**	17809		57809	
1/2	1/2	1	3	std	**EMG-1616**	17652		57652	
1/2	1/2	2	4	long	**EMG-1616-L**	17810		57810	
1/2	1/2	3	6	xl	**EMG-1616-E**	19572		59572	
9/16	9/16	1-1/4	3-1/2	std	**EMG-1818**	11299		51299	
5/8	5/8	3/4	3	stub	**EMGS-2020**	17811		57811	
5/8	5/8	1-1/4	3-1/2	std	**EMG-2020**	17654		57654	
5/8	5/8	2-1/4	5	long	**EMG-2020-L**	17812		57812	
5/8	5/8	3	6	xl	**EMG-2020-E**	19573		59573	

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General Purpose Carbide End Mill

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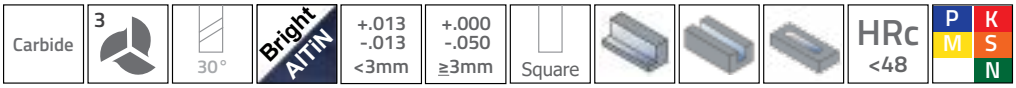
Series: EMG

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP		ALTIN EDP	
11/16	3/4	1-3/8	4	std	**EMG-2422**	12795		52795	
3/4	3/4	1-1/2	4	std	**EMG-2424**	17655		57655	
3/4	3/4	2-1/4	5	long	**EMG-2424-L**	11189		51189	
3/4	3/4	3	6	xl	**EMG-2424-E**	19574		59574	
7/8	7/8	1-1/2	4	std	**EMG-2828**	14041		54041	
1	1	1-1/2	4	std	**EMG-3232**	11191		51191	

3 Flute • General Purpose End Mills



Series: EMG-M_M_

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1mm	3mm	3mm	38mm	std	**EMG-M3M1**	16809	56809
1.5mm	3mm	6mm	38mm	std	**EMG-M3M1.5**	16810	56810
2mm	3mm	9mm	38mm	std	**EMG-M3M2**	16811	56811
2.5mm	3mm	12mm	38mm	std	**EMG-M3M2.5**	16812	56812
3mm	3mm	12mm	38mm	std	**EMG-M3M3**	16813	56813
3.5mm	4mm	12mm	51mm	std	**EMG-M4M3.5**	16814	56814
4mm	4mm	14mm	51mm	std	**EMG-M4M4**	16815	56815
4.5mm	5mm	14mm	51mm	std	**EMG-M5M4.5**	16816	56816
5mm	5mm	20mm	51mm	std	**EMG-M5M5**	16817	56817
6mm	6mm	20mm	63mm	std	**EMG-M6M6**	16818	56818
6mm	6mm	25mm	100mm	med	**EMG-M6M6-ML**	14787	54787
7mm	8mm	20mm	63mm	std	**EMG-M8M7**	16819	56819
8mm	8mm	20mm	63mm	std	**EMG-M8M8**	16820	56820
8mm	8mm	50mm	150mm	xl	**EMG-M8M8-E**	14788	54788
9mm	10mm	22mm	70mm	std	**EMG-M10M9**	16821	56821
10mm	10mm	25mm	70mm	std	**EMG-M10M10**	16822	56822
10mm	10mm	50mm	100mm	x long	**EMG-M10M10-LL**	14779	54779
10mm	10mm	75mm	150mm	xl	**EMG-M10M10-E**	14780	54780
12mm	12mm	25mm	76mm	std	**EMG-M12M12**	16823	56823
14mm	14mm	32mm	89mm	std	**EMG-M14M14**	16824	56824
14mm	14mm	50mm	100mm	med	**EMG-M14M14-ML**	14783	54783
16mm	16mm	32mm	89mm	std	**EMG-M16M16**	16825	56825
16mm	16mm	75mm	150mm	xl	**EMG-M16M16-E**	14784	54784
18mm	18mm	38mm	100mm	std	**EMG-M18M18**	16826	56826
20mm	20mm	38mm	100mm	std	**EMG-M20M20**	16827	56827
22mm	22mm	38mm	100mm	std	**EMG-M22M22**	16828	56828
25mm	25mm	38mm	100mm	std	**EMG-M25M25**	16829	56829

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Series: EMG-_ _-B

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/64	1/8	3/64	1-1/2	std	**EMG-400-1/2-B**	19577	59577
1/32	1/8	1/16	1-1/2	stub	**EMGS-401-B**	17814	57814
1/32	1/8	3/32	1-1/2	std	**EMG-401-B**	17815	57815
3/64	1/8	3/32	1-1/2	stub	**EMGS-401-1/2-B**	17816	57816
3/64	1/8	1/8	1-1/2	std	**EMG-401-1/2-B**	17817	57817
1/16	1/8	1/8	1-1/2	stub	**EMGS-402-B**	17818	57818
1/16	1/8	3/16	1-1/2	std	**EMG-402-B**	17819	57819
5/64	1/8	3/16	1-1/2	std	**EMG-402-1/2-B**	17820	57820
3/32	1/8	3/16	1-1/2	stub	**EMGS-403-B**	17821	57821
3/32	1/8	3/8	1-1/2	std	**EMG-403-B**	17822	57822
7/64	1/8	3/8	1-1/2	std	**EMG-403-1/2-B**	17823	57823
1/8	1/8	1/4	1-1/2	stub	**EMGS-404-B**	17824	57824
1/8	1/8	1/2	1-1/2	std	**EMG-404-B**	17825	57825
1/8	1/8	3/4	2-1/4	med	**EMG-404-MB**	19557	59557
1/8	1/8	3/4	3	long	**EMG-404-LB**	17826	57826
1/8	1/8	1	3	xl	**EMG-404-EB**	19578	59578
9/64	3/16	1/2	2	std	**EMG-604-1/2-B**	10322	50322
5/32	3/16	9/16	2	std	**EMG-605-B**	17827	57827
11/64	3/16	9/16	2	std	**EMG-605-1/2-B**	10288	50288
3/16	3/16	5/16	1-1/2	stub	**EMGS-606-B**	17828	57828
3/16	3/16	5/8	2	std	**EMG-606-B**	17829	57829
3/16	3/16	3/4	2-1/2	med	**EMG-606-MB**	19558	59558
3/16	3/16	3/4	3	long	**EMG-606-LB**	17830	57830
3/16	3/16	1-1/8	3	xl	**EMG-606-EB**	19581	59581
13/64	1/4	5/8	2-1/2	std	**EMG-806-1/2-B**	10348	50348
7/32	1/4	5/8	2-1/2	std	**EMG-807-B**	14061	54061
15/64	1/4	3/4	2-1/2	std	**EMG-807-1/2-B**	19584	59584
1/4	1/4	1/2	2	stub	**EMGS-808-B**	17831	57831
1/4	1/4	3/4	2-1/2	std	**EMG-808-B**	17832	57832
1/4	1/4	1-1/8	3	long	**EMG-808-LB**	17833	57833
1/4	1/4	1-1/2	4	xl	**EMG-808-EB**	19585	59585
17/64	5/16	3/4	2-1/2	std	**EMG-1008-1/2-B**	19586	59586
9/32	5/16	3/4	2-1/2	std	**EMG-1009-B**	19587	59587
19/64	5/16	13/16	2-1/2	std	**EMG-1009-1/2-B**	19588	59588
5/16	5/16	1/2	2	stub	**EMGS-1010-B**	17834	57834
5/16	5/16	13/16	2-1/2	std	**EMG-1010-B**	17835	57835
5/16	5/16	1-1/8	3	long	**EMG-1010-LB**	17836	57836
5/16	5/16	1-5/8	4	xl	**EMG-1010-EB**	19589	59589
21/64	3/8	7/8	2-1/2	std	**EMG-1210-1/2-B**	19590	59590
11/32	3/8	7/8	2-1/2	std	**EMG-1211-B**	19591	59591
23/64	3/8	7/8	2-1/2	std	**EMG-1211-1/2-B**	19592	59592
3/8	3/8	5/8	2	stub	**EMGS-1212-B**	17837	57837
3/8	3/8	1	2-1/2	std	**EMG-1212-B**	17838	57838
3/8	3/8	1-1/8	3	long	**EMG-1212-LB**	17839	57839
3/8	3/8	1-3/4	4	xl	**EMG-1212-EB**	19593	59593
13/32	7/16	1	2-3/4	std	**EMG-1413-B**	19594	59594
27/64	7/16	1	2-3/4	std	**EMG-1413-1/2-B**	19595	59595
7/16	7/16	1	2-3/4	std	**EMG-1414-B**	17840	57840
7/16	7/16	2	4	long	**EMG-1414-LB**	19596	59596
29/64	1/2	1	3	std	**EMG-1614-1/2-B**	19597	59597

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General Purpose Carbide End Mill

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Series: EMG-_ _-B

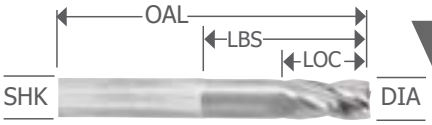
DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
15/32	1/2	1	3	std	**EMG-1615-B**	19598	59598
31/64	1/2	1	3	std	**EMG-1615-1/2-B**	19599	59599
1/2	1/2	5/8	2-1/2	stub	**EMGS-1616-B**	17841	57841
1/2	1/2	1	3	std	**EMG-1616-B**	17842	57842
1/2	1/2	2	4	long	**EMG-1616-LB**	17843	57843
1/2	1/2	3	6	xl	**EMG-1616-EB**	19559	59559
9/16	9/16	1-1/8	3-1/2	std	**EMG-1818-B**	19560	59560
5/8	5/8	3/4	3	stub	**EMGS-2020-B**	17844	57844
5/8	5/8	1-1/4	3-1/2	std	**EMG-2020-B**	17845	57845
5/8	5/8	2-1/4	5	long	**EMG-2020-LB**	17846	57846
5/8	5/8	3	6	xl	**EMG-2020-EB**	19561	59561
11/16	3/4	1-3/8	4	std	**EMG-2422-B**	19562	59562
3/4	3/4	1-1/2	4	std	**EMG-2424-B**	17847	57847
3/4	3/4	2-1/4	5	long	**EMG-2424-LB**	19563	59563
3/4	3/4	3	6	xl	**EMG-2424-EB**	19564	59564
7/8	7/8	1-1/2	4	std	**EMG-2828-B**	19565	59565
1	1	1-1/2	4	std	**EMG-3232-B**	11397	51397

3 Flute • General Purpose Ball Nose End Mills

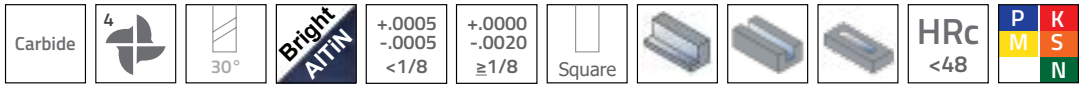
Series: EMG-M_M_-B

DIA	SHK	LOC	OAL	LENGTH	**TOOL**	BRIGHT EDP	ALTIN EDP
1mm	3mm	3mm	38mm	std	**EMG-M3M1-B**	16830	56830
1.5mm	3mm	6mm	38mm	std	**EMG-M3M1.5-B**	16831	56831
2mm	3mm	9mm	38mm	std	**EMG-M3M2-B**	16832	56832
2.5mm	3mm	12mm	38mm	std	**EMG-M3M2.5-B**	16833	56833
3mm	3mm	12mm	38mm	std	**EMG-M3M3-B**	16834	56834
3.5mm	4mm	12mm	51mm	std	**EMG-M4M3.5-B**	16835	56835
4mm	4mm	14mm	51mm	std	**EMG-M4M4-B**	16836	56836
4.5mm	5mm	14mm	51mm	std	**EMG-M5M4.5-B**	16837	56837
5mm	5mm	20mm	51mm	std	**EMG-M5M5-B**	16838	56838
6mm	6mm	20mm	63mm	std	**EMG-M6M6-B**	16839	56839
7mm	8mm	20mm	63mm	std	**EMG-M8M7-B**	16840	56840
8mm	8mm	20mm	63mm	std	**EMG-M8M8-B**	16841	56841
9mm	10mm	22mm	70mm	std	**EMG-M10M9-B**	16842	56842
10mm	10mm	25mm	70mm	std	**EMG-M10M10-B**	16843	56843
12mm	12mm	25mm	76mm	std	**EMG-M12M12-B**	16844	56844
14mm	14mm	32mm	89mm	std	**EMG-M14M14-B**	16845	56845
16mm	16mm	32mm	89mm	std	**EMG-M16M16-B**	16846	56846
18mm	18mm	38mm	100mm	std	**EMG-M18M18-B**	16847	56847
20mm	20mm	38mm	100mm	std	**EMG-M20M20-B**	16848	56848
22mm	22mm	38mm	100mm	std	**EMG-M22M22-B**	16849	56849
25mm	25mm	38mm	100mm	std	**EMG-M25M25-B**	16850	56850

General Purpose Carbide End Mill



4 Flute • General Purpose End Mills



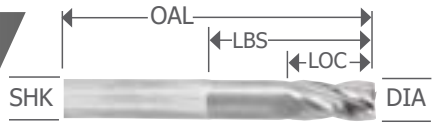
Series: CCMG

DIA	SHK	LOC	LBS	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/64	1/8	3/64		1-1/2	std	**CCMG-400-1/2**	13386	53386
1/32	1/8	1/16		1-1/2	stub	**CCMGS-401**	16224	56224
1/32	1/8	3/32		1-1/2	std	**CCMG-401**	14121	54121
1/32	1/8	9/64		1-1/2	long	**CCMG-401-L**	19139	59139
1/32	1/8	0.150		2-1/2	long	**CCMG-401-LF**	12382	52382
3/64	1/8	3/32		1-1/2	stub	**CCMGS-401-1/2**	16225	56225
3/64	1/8	1/8		1-1/2	std	**CCMG-401-1/2**	14122	54122
3/64	1/8	3/16		1-1/2	long	**CCMG-401-1/2-L**	12365	52365
3/64	1/8	1/4		2-1/2	long	**CCMG-401-1/2-LF**	12385	52385
1/16	1/8	1/8		1-1/2	stub	**CCMGS-402**	16226	56226
1/16	1/8	3/16		1-1/2	std	**CCMG-402**	14124	54124
1/16	1/8	1/4		1-1/2	med	**CCMG-402-M**	11040	51040
1/16	1/8	3/8		1-1/2	long	**CCMG-402-L**	17860	57860
1/16	1/8	1/2		2-1/2	long	**CCMG-402-LF**	12388	52388
5/64	1/8	1/8		1-1/2	stub	**CCMGS-402-1/2**	16595	56595
5/64	1/8	3/16		1-1/2	std	**CCMG-402-1/2**	14126	54126
5/64	1/8	1/4		1-1/2	med	**CCMG-402-1/2-M**	11042	51042
5/64	1/8	3/8		1-1/2	med/long	**CCMG-402-1/2-ML**	19149	59149
5/64	1/8	1/2		1-1/2	long	**CCMG-402-1/2-L**	19141	59141
5/64	1/8	1/2		2-1/2	long	**CCMG-402-1/2-LF**	10540	50540
3/32	1/8	3/16		1-1/2	stub	**CCMGS-403**	16227	56227
3/32	1/8	3/8		1-1/2	std	**CCMG-403**	14128	54128
3/32	1/8	3/8	3/4	2	ext neck	**CCMGN-403**	19142	59142
3/32	1/8	1/2		1-1/2	med	**CCMG-403-M**	19150	59150
3/32	1/8	9/16		3	long	**CCMG-403-L**	16186	56186
3/32	1/8	0.600		2-1/2	long	**CCMG-403-LF**	12589	52589
7/64	1/8	7/32		1-1/2	stub	**CCMGS-403-1/2**	14025	54025
7/64	1/8	3/8		1-1/2	std	**CCMG-403-1/2**	14130	54130
7/64	1/8	3/4		2	long	**CCMG-403-1/2-L**	19143	59143
1/8	1/8	1/4		1-1/2	stub	**CCMGS-404**	16228	56228
1/8	1/8	1/2		1-1/2	std	**CCMG-404**	14132	54132
1/8	1/8	5/8		2	med	**CCMG-404-M**	11489	51489
1/8	1/8	5/8	1	2	ext neck	**CCMGN-404**	16731	56731
1/8	1/8	3/4		2-1/4	med/long	**CCMG-404-ML**	12745	52745
1/8	1/8	3/4		3	long	**CCMG-404-L**	16071	56071
1/8	1/8	1		3	xl	**CCMG-404-E**	16072	56072
9/64	3/16	9/32		2	stub	**CCMGS-604-1/2**	10965	50965
9/64	3/16	9/16		2	std	**CCMG-604-1/2**	14134	54134
5/32	3/16	5/16		1-1/2	stub	**CCMGS-605**	16229	56229
5/32	3/16	9/16		2	std	**CCMG-605**	14136	54136
5/32	3/16	3/4		3	long	**CCMG-605-L**	16187	56187
11/64	3/16	9/16		2	std	**CCMG-605-1/2**	15919	55919
3/16	3/16	3/8		1-1/2	stub	**CCMGS-606**	16230	56230
3/16	3/16	5/8		2	std	**CCMG-606**	14138	54138
3/16	3/16	3/4		2-1/2	med/long	**CCMG-606-ML**	12747	52747
3/16	3/16	3/4		3	long	**CCMG-606-L**	16073	56073
3/16	3/16	1	1-5/8	3	ext neck	**CCMGN-606**	16732	56732
3/16	3/16	1	2-5/8	4	ext neck	**CCMGN-606-2**	16733	56733
3/16	3/16	1		4	no neck	**CCMG-606-NN**	11922	51922
3/16	3/16	1-1/8		3	xl	**CCMG-606-E**	16074	56074

sizes continued on next page

General Purpose Carbide End Mill

4 Flute • General Purpose End Mills



Series: CCMG

DIA	SHK	LOC	LBS	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
13/64	1/4	5/8		2-1/2	std	**CCMG-806-1/2**	15920	55920
7/32	1/4	1/2		2	stub	**CCMGS-807**	16231	56231
7/32	1/4	5/8		2-1/2	std	**CCMG-807**	14140	54140
15/64	1/4	3/4		2-1/2	std	**CCMG-807-1/2**	15921	55921
1/4	1/4	1/2		2	stub	**CCMGS-808**	16232	56232
1/4	1/4	3/4		2-1/2	std	**CCMG-808**	14142	54142
1/4	1/4	1	2-1/4	4	ext neck	**CCMGN-808**	16734	56734
1/4	1/4	1-1/8		3	long	**CCMG-808-L**	14144	54144
1/4	1/4	1-1/2		4	xl	**CCMG-808-E**	14146	54146
1/4	1/4	1-1/2	4-1/4	6	ext neck	**CCMGN-808-2**	16735	56735
1/4	1/4	1-1/2	no neck	6	no neck	**CCMG-808-NN**	19144	59144
17/64	5/16	3/4		2-1/2	std	**CCMG-1008-1/2**	15922	55922
9/32	5/16	3/4		2-1/2	std	**CCMG-1009**	14148	54148
19/64	5/16	13/16		2-1/2	std	**CCMG-1009-1/2**	15923	55923
5/16	5/16	1/2		2	stub	**CCMGS-1010**	16233	56233
5/16	5/16	13/16		2-1/2	std	**CCMG-1010**	14150	54150
5/16	5/16	1	2-5/16	4	ext neck	**CCMGN-1010**	16736	56736
5/16	5/16	1-1/8		3	long	**CCMG-1010-L**	16075	56075
5/16	5/16	1-1/2	4-5/16	6	ext neck	**CCMGN-1010-2**	16737	56737
5/16	5/16	1-5/8		4	xl	**CCMG-1010-E**	16076	56076
21/64	3/8	7/8		2-1/2	std	**CCMG-1210-1/2**	16197	56197
11/32	3/8	7/8		2-1/2	std	**CCMG-1211**	15924	55924
23/64	3/8	7/8		2-1/2	std	**CCMG-1211-1/2**	16198	56198
3/8	3/8	5/8		2	stub	**CCMGS-1212**	16234	56234
3/8	3/8	1		2-1/2	std	**CCMG-1212**	14152	54152
3/8	3/8	1	2-3/8	4	ext neck	**CCMGN-1212**	16738	56738
3/8	3/8	1-1/8		3	long	**CCMG-1212-L**	14154	54154
3/8	3/8	1-1/2		6	xl	**CCMG-1212-LL**	11881	51881
3/8	3/8	1-1/2	4-3/8	6	ext neck	**CCMGN-1212-2**	16739	56739
3/8	3/8	1-1/2	no neck	6	no neck	**CCMG-1212-NN**	11940	51940
3/8	3/8	1-3/4		4	xl	**CCMG-1212-E**	14156	54156
3/8	3/8	2		4	xl	**CCMG-1212-EL**	19145	59145
3/8	3/8	3		6	xxl	**CCMG-1212-EE**	17735	57735
25/64	7/16	1		2-3/4	std	**CCMG-1412-1/2**	16199	56199
13/32	7/16	1		2-3/4	std	**CCMG-1413**	15925	55925
27/64	7/16	1		2-3/4	std	**CCMG-1413-1/2**	16200	56200
7/16	7/16	5/8		2-1/2	stub	**CCMGS-1414**	16235	56235
7/16	7/16	1		2-3/4	std	**CCMG-1414**	14158	54158
7/16	7/16	1	2-1/4	4	ext neck	**CCMGN-1414**	16740	56740
7/16	7/16	1-1/2	4-1/4	6	ext neck	**CCMGN-1414-2**	16741	56741
7/16	7/16	2		4	long	**CCMG-1414-L**	16077	56077
7/16	7/16	3		6	xl	**CCMG-1414-E**	16078	56078
29/64	1/2	1		3	std	**CCMG-1614-1/2**	16201	56201
15/32	1/2	1		3	std	**CCMG-1615**	15926	55926
31/64	1/2	1		3	std	**CCMG-1615-1/2**	16202	56202
1/2	1/2	5/8		2-1/2	stub	**CCMGS-1616**	16236	56236
1/2	1/2	1		3	std	**CCMG-1616**	14160	54160
1/2	1/2	1	2	4	ext neck	**CCMGN-1616**	16742	56742
1/2	1/2	1-1/4		3	med	**CCMG-1616-M**	16466	56466
1/2	1/2	1-1/2		4	med/long	**CCMG-1616-ML**	19146	59146
1/2	1/2	1-1/2	4	6	ext neck	**CCMGN-1616-2**	16743	56743
1/2	1/2	1-1/2	no neck	6	no neck	**CCMG-1616-NN**	11941	51941

sizes continued on next page

4 Flute • General Purpose End Mills

Series: CCMG

DIA	SHK	LOC	LBS	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/2	1/2	2		4	long	**CCMG-1616-L**	14162	54162
1/2	1/2	1-1/2		6	xl	**CCMG-1616-LL**	11883	51883
1/2	1/2	3		6	xl	**CCMG-1616-E**	14164	54164
17/32	9/16	1-1/4		3-1/2	std	**CCMG-1817**	16785	56785
9/16	9/16	1/2		3-1/2	stub	**CCMGS-1818**	12731	52731
9/16	9/16	1-1/4		3-1/2	std	**CCMG-1818**	15927	55927
9/16	9/16	2	3-3/4	6	ext neck	**CCMGN-1818**	16744	56744
9/16	9/16	3		6	xl	**CCMG-1818-E**	12799	52799
5/8	5/8	3/4		3	stub	**CCMGS-2020**	16237	56237
5/8	5/8	1-1/4		3-1/2	std	**CCMG-2020**	14166	54166
5/8	5/8	2-1/4		5	long	**CCMG-2020-L**	16079	56079
5/8	5/8	2		6	xl	**CCMG-2020-LL**	11885	51885
5/8	5/8	2	3-3/4	6	ext neck	**CCMGN-2020**	16746	56746
5/8	5/8	3		6	xl	**CCMG-2020-E**	16080	56080
11/16	3/4	1-3/8		4	std	**CCMG-2422**	15723	55723
3/4	3/4	1		3	stub	**CCMGS-2424**	16238	56238
3/4	3/4	1-1/2		4	std	**CCMG-2424**	14168	54168
3/4	3/4	2	3-1/2	6	ext neck	**CCMGN-2424**	16747	56747
3/4	3/4	2	no neck	6	no neck	**CCMG-2424-NN**	19147	59147
3/4	3/4	2-1/4		5	long	**CCMG-2424-L**	16081	56081
3/4	3/4	3		6	xl	**CCMG-2424-E**	14170	54170
3/4	3/4	4		7	xxl	**CCMG-2424-EE**	17736	57736
7/8	7/8	1-1/2		4	std	**CCMG-2828**	16203	56203
1	1	1-1/2		4	std	**CCMG-3232**	14172	54172
1	1	2	3-1/2	6	ext neck	**CCMGN-3232**	16748	56748
1	1	2	no neck	6	no neck	**CCMG-3232-NN**	19148	59148
1	1	2-1/4		5	long	**CCMG-3232-L**	12749	52749
1	1	3		6	xl	**CCMG-3232-E**	14174	54174
1	1	4		7	xxl	**CCMG-3232-EE**	16315	56315

4 Flute • General Purpose Metric/Inch End Mills

Series: CCMG-_M_

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
3mm	1/8	3/8	1-1/2	std	**CCMG-4M3**	15977	55977
4mm	3/16	1/2	2	std	**CCMG-6M4**	15978	55978
5mm	1/4	5/8	2-1/2	std	**CCMG-8M5**	15979	55979
6mm	1/4	5/8	2-1/2	std	**CCMG-8M6**	15980	55980
7mm	5/16	3/4	2-1/2	std	**CCMG-10M7**	15981	55981
8mm	3/8	7/8	2-1/2	std	**CCMG-12M8**	15982	55982
9mm	3/8	7/8	2-1/2	std	**CCMG-12M9**	15983	55983
10mm	7/16	1	2-3/4	std	**CCMG-14M10**	15984	55984
11mm	7/16	1	2-3/4	std	**CCMG-14M11**	15985	55985
12mm	1/2	1	3	std	**CCMG-16M12**	15986	55986

General Purpose Carbide End Mill

4 Flute • General Purpose End Mills

Carbide | 4 | 30° | Bright AlTiN | +.013 -.013 <3mm | +.000 -.050 ≥3mm | Square | HRc <48 | P K M S N

Series: CCMG-M_M_

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1mm	3mm	2mm	38mm	stub	**CCMGS-M3M1**	13747	53747
1mm	3mm	3mm	38mm	std	**CCMG-M3M1**	16933	56933
1.5mm	3mm	3mm	38mm	stub	**CCMGS-M3M1.5**	13957	53957
1.5mm	3mm	6mm	38mm	std	**CCMG-M3M1.5**	16934	56934
2mm	3mm	4mm	38mm	stub	**CCMGS-M3M2**	13981	53981
2mm	3mm	9mm	38mm	std	**CCMG-M3M2**	16000	56000
2.5mm	3mm	5mm	38mm	stub	**CCMGS-M3M2.5**	14053	54053
2.5mm	3mm	12mm	38mm	std	**CCMG-M3M2.5**	16001	56001
3mm	3mm	6mm	38mm	stub	**CCMGS-M3M3**	13982	53982
3mm	3mm	12mm	38mm	std	**CCMG-M3M3**	16002	56002
3mm	6mm	12mm	63mm	std	**CCMG-M6M3**	11693	51693
3mm	3mm	18mm	57mm	long	**CCMG-M3M3-L**	13637	53637
3mm	3mm	20mm	75mm	xl	**CCMG-M3M3-E**	14729	54729
3.5mm	4mm	7mm	51mm	stub	**CCMGS-M4M3.5**	14055	54055
3.5mm	4mm	12mm	51mm	std	**CCMG-M4M3.5**	16003	56003
4mm	4mm	8mm	51mm	stub	**CCMGS-M4M4**	13983	53983
4mm	4mm	14mm	51mm	std	**CCMG-M4M4**	16004	56004
4mm	6mm	14mm	63mm	std	**CCMG-M6M4**	11694	51694
4mm	4mm	20mm	63mm	long	**CCMG-M4M4-L**	13638	53638
4mm	4mm	20mm	75mm	x long	**CCMG-M4M4-LL**	14731	54731
4mm	4mm	25mm	75mm	xl	**CCMG-M4M4-E**	14732	54732
4.5mm	5mm	9mm	51mm	stub	**CCMGS-M5M4.5**	13709	53709
4.5mm	5mm	14mm	51mm	std	**CCMG-M5M4.5**	16005	56005
5mm	5mm	10mm	51mm	stub	**CCMGS-M5M5**	19747	59747
5mm	5mm	20mm	51mm	std	**CCMG-M5M5**	16006	56006
5mm	6mm	20mm	63mm	std	**CCMG-M6M5**	10889	50889
5mm	5mm	25mm	64mm	long	**CCMG-M5M5-L**	13986	53986
5mm	5mm	25mm	75mm	x long	**CCMG-M5M5-LL**	14735	54735
6mm	6mm	12mm	51mm	stub	**CCMGS-M6M6**	13748	53748
6mm	6mm	20mm	63mm	std	**CCMG-M6M6**	16007	56007
6mm	6mm	28mm	75mm	long	**CCMG-M6M6-L**	13639	53639
6mm	6mm	32mm	100mm	x long	**CCMG-M6M6-LL**	14741	54741
6mm	6mm	38mm	150mm	xl	**CCMG-M6M6-E**	14744	54744
7mm	8mm	12mm	51mm	stub	**CCMGS-M8M7**	14037	54037
7mm	8mm	20mm	63mm	std	**CCMG-M8M7**	16008	56008
8mm	8mm	12mm	51mm	stub	**CCMGS-M8M8**	19748	59748
8mm	8mm	20mm	63mm	std	**CCMG-M8M8**	16009	56009
8mm	8mm	32mm	75mm	long	**CCMG-M8M8-L**	13640	53640
8mm	8mm	41mm	100mm	x long	**CCMG-M8M8-LL**	14751	54751
9mm	10mm	14mm	51mm	stub	**CCMGS-M10M9**	19749	59749
9mm	10mm	22mm	70mm	std	**CCMG-M10M9**	16010	56010
10mm	10mm	14mm	51mm	stub	**CCMGS-M10M10**	11679	51679
10mm	10mm	25mm	70mm	std	**CCMG-M10M10**	16011	56011
10mm	10mm	38mm	76mm	med	**CCMG-M10M10-M**	13966	53966
10mm	10mm	40mm	100mm	long	**CCMG-M10M10-L**	13641	53641
11mm	12mm	25mm	76mm	std	**CCMG-M12M11**	13988	53988
12mm	12mm	16mm	64mm	stub	**CCMGS-M12M12**	13059	53059
12mm	12mm	25mm	76mm	std	**CCMG-M12M12**	16012	56012
12mm	12mm	50mm	100mm	long	**CCMG-M12M12-L**	13642	53642
12mm	12mm	75mm	150mm	xl	**CCMG-M12M12-E**	14768	54768

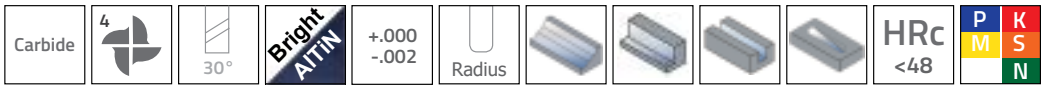
sizes continued on next page

4 Flute • General Purpose End Mills

Series: CCMG-M_M_

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
13mm	13mm	26mm	76mm	std	**CCMG-M13M13**	12762	52762
14mm	14mm	32mm	89mm	std	**CCMG-M14M14**	16795	56795
14mm	14mm	51mm	127mm	long	**CCMG-M14M14-L**	13749	53749
14mm	14mm	75mm	150mm	xl	**CCMG-M14M14-E**	14769	5476914768
16mm	16mm	32mm	89mm	std	**CCMG-M16M16**	16796	56796
16mm	16mm	57mm	127mm	long	**CCMG-M16M16-L**	19754	59754
16mm	16mm	50mm	150mm	x long	**CCMG-M16M16-LL**	14776	54776
16mm	16mm	75mm	150mm	xl	**CCMG-M16M16-E**	14777	54777
18mm	18mm	38mm	100mm	std	**CCMG-M18M18**	16797	56797
18mm	18mm	57mm	127mm	long	**CCMG-M18M18-L**	14869	54869
20mm	20mm	38mm	100mm	std	**CCMG-M20M20**	16798	56798
20mm	20mm	57mm	127mm	long	**CCMG-M20M20-L**	13990	53990
20mm	20mm	75mm	150mm	xl	**CCMG-M20M20-E**	14781	54781
22mm	22mm	38mm	100mm	std	**CCMG-M22M22**	16799	56799
25mm	25mm	38mm	100mm	std	**CCMG-M25M25**	16800	56800

4 Flute • Corner Radius End Mills



Series: CCMG-__-R__

DIA	SHK	LOC	OAL	RADIUS	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
3/32	1/8	3/8	1-1/2	0.010	std	**CCMG-403-R010**	11061	51061
3/32	1/8	3/8	1-1/2	0.015	std	**CCMG-403-R015**	11063	51063
3/32	1/8	3/8	1-1/2	0.020	std	**CCMG-403-R020**	11065	51065
1/8	1/8	1/4	1-1/2	0.010	stub	**CCMGS-404-R010**	16904	56904
1/8	1/8	1/2	1-1/2	0.005	std	**CCMG-404-R005**	H1906	H1907
1/8	1/8	1/2	1-1/2	0.010	std	**CCMG-404-R010**	11067	51067
1/8	1/8	1/2	1-1/2	0.015	std	**CCMG-404-R015**	15422	55422
1/8	1/8	1/2	1-1/2	0.020	std	**CCMG-404-R020**	11069	51069
1/8	1/8	1/2	1-1/2	0.030	std	**CCMG-404-R030**	11071	51071
5/32	3/16	5/16	2	0.010	stub	**CCMGS-605-R010**	16905	56905
5/32	3/16	5/16	2	0.010	std	**CCMG-605-R010**	H2076	H1910
5/32	3/16	5/16	2	0.015	std	**CCMG-605-R015**	H1911	H1912
5/32	3/16	5/16	2	0.030	std	**CCMG-605-R030**	H1913	H1914
3/16	3/16	5/16	2	0.010	stub	**CCMGS-606-R010**	16906	56906
3/16	3/16	5/8	2	0.010	std	**CCMG-606-R010**	11073	51073
3/16	3/16	5/8	2	0.015	std	**CCMG-606-R015**	11075	51075
3/16	3/16	5/8	2	0.020	std	**CCMG-606-R020**	15424	55424
3/16	3/16	5/8	2	0.030	std	**CCMG-606-R030**	15426	55426
3/16	3/16	5/8	2	0.045	std	**CCMG-606-R045**	H1915	H1916
7/32	1/4	3/8	2	0.020	stub	**CCMGS-807-R020**	16907	56907
1/4	1/4	1/2	2	0.020	stub	**CCMGS-808-R020**	16463	56463
1/4	1/4	3/4	2-1/2	0.010	std	**CCMG-808-R010**	H1918	H1919
1/4	1/4	3/4	2-1/2	0.015	std	**CCMG-808-R015**	15360	55360
1/4	1/4	3/4	2-1/2	0.020	std	**CCMG-808-R020**	15362	55362
1/4	1/4	3/4	2-1/2	0.030	std	**CCMG-808-R030**	15364	55364
1/4	1/4	3/4	2-1/2	0.045	std	**CCMG-808-R045**	15366	55366
1/4	1/4	3/4	2-1/2	0.060	std	**CCMG-808-R060**	H1921	H1922

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General Purpose Carbide End Mill

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Series: CCMG-___-R__

DIA	SHK	LOC	OAL	RADIUS	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
5/16	5/16	7/16	2	0.020	stub	**CCMGS-1010-R020**	16909	56909
5/16	5/16	1/2	2	0.030	stub	**CCMGS-1010-R030**	16338	56338
5/16	5/16	13/16	2-1/2	0.015	std	**CCMG-1010-R015**	11077	51077
5/16	5/16	13/16	2-1/2	0.020	std	**CCMG-1010-R020**	15368	55368
5/16	5/16	13/16	2-1/2	0.030	std	**CCMG-1010-R030**	15370	55370
5/16	5/16	13/16	2-1/2	0.045	std	**CCMG-1010-R045**	15372	55372
5/16	5/16	13/16	2-1/2	0.060	std	**CCMG-1010-R060**	11079	51079
3/8	3/8	1/2	2	0.020	stub	**CCMGS-1212-R020**	16910	56910
3/8	3/8	1	2-1/2	0.015	std	**CCMG-1212-R015**	11081	51081
3/8	3/8	1	2-1/2	0.020	std	**CCMG-1212-R020**	15374	55374
3/8	3/8	1	2-1/2	0.030	std	**CCMG-1212-R030**	15376	55376
3/8	3/8	1	2-1/2	0.045	std	**CCMG-1212-R045**	15378	55378
3/8	3/8	1	2-1/2	0.060	std	**CCMG-1212-R060**	11083	51083
7/16	7/16	9/16	2-1/2	0.020	stub	**CCMGS-1414-R020**	16911	56911
1/2	1/2	5/8	2-1/2	0.030	stub	**CCMGS-1616-R030**	16912	56912
1/2	1/2	1	3	0.015	std	**CCMG-1616-R015**	11085	51085
1/2	1/2	1	3	0.020	std	**CCMG-1616-R020**	15380	55380
1/2	1/2	1	3	0.030	std	**CCMG-1616-R030**	15382	55382
1/2	1/2	1	3	0.045	std	**CCMG-1616-R045**	15384	55384
1/2	1/2	1	3	0.060	std	**CCMG-1616-R060**	15386	55386
1/2	1/2	1	3	0.090	std	**CCMG-1616-R090**	11087	51087
1/2	1/2	1	3	0.125	std	**CCMG-1616-R125**	11089	51089
5/8	5/8	3/4	3	0.030	stub	**CCMGS-2020-R030**	16913	56913
5/8	5/8	1-1/4	3-1/2	0.015	std	**CCMG-2020-R015**	11091	51091
5/8	5/8	1-1/4	3-1/2	0.020	std	**CCMG-2020-R020**	15388	55388
5/8	5/8	1-1/4	3-1/2	0.030	std	**CCMG-2020-R030**	15390	55390
5/8	5/8	1-1/4	3-1/2	0.045	std	**CCMG-2020-R045**	15392	55392
5/8	5/8	1-1/4	3-1/2	0.060	std	**CCMG-2020-R060**	15394	55394
5/8	5/8	1-1/4	3-1/2	0.090	std	**CCMG-2020-R090**	15396	55396
3/4	3/4	1	3	0.030	stub	**CCMGS-2424-R030**	16914	56914
3/4	3/4	1-1/2	4	0.015	std	**CCMG-2424-R015**	11093	51093
3/4	3/4	1-1/2	4	0.020	std	**CCMG-2424-R020**	15398	55398
3/4	3/4	1-1/2	4	0.030	std	**CCMG-2424-R030**	15400	55400
3/4	3/4	1-1/2	4	0.045	std	**CCMG-2424-R045**	15402	55402
3/4	3/4	1-1/2	4	0.060	std	**CCMG-2424-R060**	15404	55404
3/4	3/4	1-1/2	4	0.090	std	**CCMG-2424-R090**	15406	55406
3/4	3/4	1-1/2	4	0.125	std	**CCMG-2424-R125**	15408	55408
1	1	1-1/2	4	0.015	std	**CCMG-3232-R015**	11095	51095
1	1	1-1/2	4	0.020	std	**CCMG-3232-R020**	15410	55410
1	1	1-1/2	4	0.030	std	**CCMG-3232-R030**	15412	55412
1	1	1-1/2	4	0.045	std	**CCMG-3232-R045**	15414	55414
1	1	1-1/2	4	0.060	std	**CCMG-3232-R060**	15416	55416
1	1	1-1/2	4	0.090	std	**CCMG-3232-R090**	15418	55418
1	1	1-1/2	4	0.125	std	**CCMG-3232-R125**	15420	55420

General Purpose Carbide End Mill

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Series: CCMG-M_M_-R_ _

DIA	SHK	LOC	OAL	RADIUS	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
2mm	3mm	9mm	38mm	0.4mm	std	**CCMG-M3M2-R0.4**	16870	56870
2.5mm	3mm	12mm	38mm	0.4mm	std	**CCMG-M3M2.5-R0.4**	16871	56871
3mm	3mm	12mm	38mm	0.2mm	std	**CCMG-M3M3-R0.2**	14728	54728
3mm	3mm	12mm	38mm	0.4mm	std	**CCMG-M3M3-R0.4**	16872	56872
3.5mm	4mm	12mm	50mm	0.4mm	std	**CCMG-M4M3.5-R0.4**	16873	56873
4mm	4mm	14mm	50mm	0.4mm	std	**CCMG-M4M4-R0.4**	16874	56874
4.5mm	5mm	14mm	50mm	0.4mm	std	**CCMG-M5M4.5-R0.4**	16875	56875
5mm	5mm	16mm	50mm	0.3mm	std	**CCMG-M5M5-R0.3**	14733	54733
5mm	5mm	16mm	50mm	0.4mm	std	**CCMG-M5M5-R0.4**	16876	56876
5mm	5mm	16mm	65mm	0.5mm	med	**CCMG-M5M5-MR0.5**	14734	54734
6mm	6mm	20mm	63mm	0.5mm	std	**CCMG-M6M6-R0.5**	16877	56877
6mm	6mm	20mm	63mm	0.8mm	std	**CCMG-M6M6-R0.8**	14736	54736
6mm	6mm	20mm	63mm	1.0mm	std	**CCMG-M6M6-R1.0**	14737	54737
6mm	6mm	20mm	63mm	1.5mm	std	**CCMG-M6M6-R1.5**	14738	54738
6mm	6mm	20mm	63mm	2.0mm	std	**CCMG-M6M6-R2.0**	14739	54739
7mm	8mm	22mm	63mm	0.5mm	std	**CCMG-M8M7-R0.5**	16878	56878
8mm	8mm	22mm	63mm	0.5mm	std	**CCMG-M8M8-R0.5**	16879	56879
8mm	8mm	22mm	63mm	0.8mm	std	**CCMG-M8M8-R0.8**	14745	54745
8mm	8mm	22mm	63mm	1.0mm	std	**CCMG-M8M8-R1.0**	14746	54746
8mm	8mm	22mm	63mm	1.5mm	std	**CCMG-M8M8-R1.5**	14747	54747
8mm	8mm	22mm	63mm	2.0mm	std	**CCMG-M8M8-R2.0**	14748	54748
8mm	8mm	22mm	63mm	2.5mm	std	**CCMG-M8M8-R2.5**	14749	54749
8mm	8mm	22mm	63mm	3.0mm	std	**CCMG-M8M8-R3.0**	14750	54750
9mm	10mm	22mm	70mm	0.7mm	std	**CCMG-M10M9-R0.7**	16880	56880
10mm	10mm	25mm	70mm	0.5mm	std	**CCMG-M10M10-R0.5**	14753	54753
10mm	10mm	25mm	70mm	0.7mm	std	**CCMG-M10M10-R0.7**	16881	56881
10mm	10mm	25mm	70mm	0.8mm	std	**CCMG-M10M10-R0.8**	14759	54759
10mm	10mm	25mm	70mm	1.0mm	std	**CCMG-M10M10-R1.0**	14754	54754
10mm	10mm	25mm	70mm	1.5mm	std	**CCMG-M10M10-R1.5**	14755	54755
10mm	10mm	25mm	70mm	2.0mm	std	**CCMG-M10M10-R2.0**	14756	54756
10mm	10mm	25mm	70mm	2.5mm	std	**CCMG-M10M10-R2.5**	14757	54757
10mm	10mm	25mm	70mm	3.0mm	std	**CCMG-M10M10-R3.0**	14758	54758
12mm	12mm	25mm	76mm	0.5mm	std	**CCMG-M12M12-R0.5**	14762	54762
12mm	12mm	25mm	76mm	0.7mm	std	**CCMG-M12M12-R0.7**	16882	56882
12mm	12mm	25mm	76mm	1.0mm	std	**CCMG-M12M12-R1.0**	14763	54763
12mm	12mm	25mm	76mm	1.5mm	std	**CCMG-M12M12-R1.5**	14764	54764
12mm	12mm	25mm	76mm	2.0mm	std	**CCMG-M12M12-R2.0**	14765	54765
12mm	12mm	25mm	76mm	2.5mm	std	**CCMG-M12M12-R2.5**	14766	54766
12mm	12mm	25mm	76mm	3.0mm	std	**CCMG-M12M12-R3.0**	14767	54767
14mm	14mm	32mm	89mm	0.8mm	std	**CCMG-M14M14-R0.8**	16883	56883
16mm	16mm	38mm	89mm	0.5mm	std	**CCMG-M16M16-R0.5**	14771	54771
16mm	16mm	38mm	89mm	0.8mm	std	**CCMG-M16M16-R0.8**	16884	56884
16mm	16mm	38mm	89mm	1.0mm	std	**CCMG-M16M16-R1.0**	14772	54772
16mm	16mm	38mm	89mm	2.0mm	std	**CCMG-M16M16-R2.0**	14773	54773
16mm	16mm	38mm	89mm	2.5mm	std	**CCMG-M16M16-R2.5**	14770	54770
16mm	16mm	38mm	89mm	3.0mm	std	**CCMG-M16M16-R3.0**	14774	54774
16mm	16mm	38mm	89mm	4.0mm	std	**CCMG-M16M16-R4.0**	14775	54775
20mm	20mm	38mm	100mm	1.0mm	std	**CCMG-M20M20-R1.0**	16886	56886
20mm	20mm	38mm	100mm	2.0mm	std	**CCMG-M20M20-R2.0**	14778	54778

General Purpose Carbide End Mill

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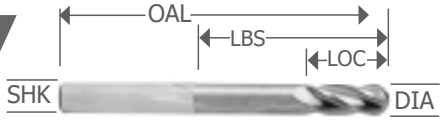

Series: CCMG-__-B

DIA	SHK	LOC	LBS	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/64	1/8	3/64		1-1/2	std	**CCMG-400-1/2-B**	13488	53488
1/32	1/8	1/16		1-1/2	stub	**CCMGS-401-B**	16239	56239
1/32	1/8	3/32		1-1/2	std	**CCMG-401-B**	15928	55928
1/32	1/8	0.150		2-1/2	long	**CCMG-401-LF-B**	12395	52395
3/64	1/8	3/32		1-1/2	stub	**CCMGS-401-1/2-B**	16240	56240
3/64	1/8	1/8		1-1/2	std	**CCMG-401-1/2-B**	15929	55929
3/64	1/8	1/4		2-1/2	long	**CCMG-401-1/2-LF-B**	12398	52398
1/16	1/8	1/8		1-1/2	stub	**CCMGS-402-B**	16241	56241
1/16	1/8	3/16		1-1/2	std	**CCMG-402-B**	15930	55930
1/16	1/8	1/4		1-1/2	med	**CCMG-402-MB**	11205	51205
1/16	1/8	3/8		1-1/2	long	**CCMG-402-LB**	19528	59528
1/16	1/8	1/2		2-1/2	long	**CCMG-402-LF-B**	12401	52401
5/64	1/8	3/16		1-1/2	std	**CCMG-402-1/2-B**	15931	55931
5/64	1/8	1/2		2-1/2	long	**CCMG-402-1/2-LF-B**	13023	53023
3/32	1/8	3/16		1-1/2	stub	**CCMGS-403-B**	16242	56242
3/32	1/8	3/8		1-1/2	std	**CCMG-403-B**	15932	55932
3/32	1/8	1/2		2	med	**CCMG-403-MB**	19529	59529
3/32	1/8	0.600		2-1/2	long	**CCMG-403-LF-B**	12595	52595
7/64	1/8	7/32		1-1/2	stub	**CCMGS-403-1/2-B**	13985	53985
7/64	1/8	3/8		1-1/2	std	**CCMG-403-1/2-B**	15933	55933
1/8	1/8	1/4		1-1/2	stub	**CCMGS-404-B**	16243	56243
1/8	1/8	1/2		1-1/2	std	**CCMG-404-B**	14176	54176
1/8	1/8	5/8	1	2	ext neck	**CCMGN-404-B**	16767	56767
1/8	1/8	3/4		2-1/4	med	**CCMG-404-MB**	10997	50997
1/8	1/8	3/4		3	long	**CCMG-404-LB**	16188	56188
1/8	1/8	1		3	xl	**CCMG-404-EB**	16254	56254
9/64	3/16	9/32		1-1/2	stub	**CCMGS-604-1/2-B**	10970	50970
9/64	3/16	9/16		2	std	**CCMG-604-1/2-B**	16204	56204
5/32	3/16	5/16		1-1/2	stub	**CCMGS-605-B**	16244	56244
5/32	3/16	9/16		2	std	**CCMG-605-B**	15852	55852
11/64	3/16	9/16		2	std	**CCMG-605-1/2-B**	16205	56205
3/16	3/16	3/8		1-1/2	stub	**CCMGS-606-B**	16245	56245
3/16	3/16	5/8		2	std	**CCMG-606-B**	14178	54178
3/16	3/16	3/4		2-1/2	med	**CCMG-606-MB**	19556	59556
3/16	3/16	1	1-5/8	3	ext neck	**CCMGN-606-B**	16768	56768
3/16	3/16	3/4		3	long	**CCMG-606-LB**	16189	56189
3/16	3/16	1	2-5/8	4	ext neck	**CCMGN-606-2B**	16769	56769
3/16	3/16	1-1/8		3	xl	**CCMG-606-EB**	16255	56255
13/64	1/4	5/8		2-1/2	std	**CCMG-806-1/2-B**	16206	56206
7/32	1/4	1/2		2	stub	**CCMGS-807-B**	16246	56246
7/32	1/4	5/8		2-1/2	std	**CCMG-807-B**	15934	55934
15/64	1/4	3/4		2-1/2	std	**CCMG-807-1/2-B**	16207	56207
1/4	1/4	1/2		2	stub	**CCMGS-808-B**	16247	56247
1/4	1/4	3/4		2-1/2	std	**CCMG-808-B**	14180	54180
1/4	1/4	1	2-1/4	4	ext neck	**CCMGN-808-B**	16770	56770
1/4	1/4	1-1/8		3	long	**CCMG-808-LB**	16190	56190
1/4	1/4	1-1/2		4	xl	**CCMG-808-EB**	16256	56256
1/4	1/4	1-1/2	4-1/4	6	ext neck	**CCMGN-808-2B**	16771	56771
17/64	5/16	3/4		2-1/2	std	**CCMG-1008-1/2-B**	16208	56208

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Series: CCMG-_ _ -B

DIA	SHK	LOC	LBS	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
9/32	5/16	3/4		2-1/2	std	**CCMG-1009-B**	15935	55935
19/64	5/16	13/16		2-1/2	std	**CCMG-1009-1/2-B**	16209	56209
5/16	5/16	1/2		2	stub	**CCMGS-1010-B**	16248	56248
5/16	5/16	13/16		2-1/2	std	**CCMG-1010-B**	14182	54182
5/16	5/16	1	2-5/16	4	ext neck	**CCMGN-1010-B**	16772	56772
5/16	5/16	1-1/8		3	long	**CCMG-1010-LB**	16191	56191
5/16	5/16	1-1/2	4-5/16	6	ext neck	**CCMGN-1010-2B**	16773	56773
5/16	5/16	1-5/8		4	xl	**CCMG-1010-EB**	16257	56257
21/64	3/8	7/8		2-1/2	std	**CCMG-1210-1/2-B**	16210	56210
11/32	3/8	7/8		2-1/2	std	**CCMG-1211-B**	16211	56211
23/64	3/8	7/8		2-1/2	std	**CCMG-1211-1/2-B**	16212	56212
3/8	3/8	5/8		2	stub	**CCMGS-1212-B**	16249	56249
3/8	3/8	1		2-1/2	std	**CCMG-1212-B**	14184	54184
3/8	3/8	1	2-3/8	4	ext neck	**CCMGN-1212-B**	16774	56774
3/8	3/8	1-1/8		3	long	**CCMG-1212-LB**	16192	56192
3/8	3/8	1-1/2	4-3/8	6	ext neck	**CCMGN-1212-2B**	16775	56775
3/8	3/8	1-3/4		4	xl	**CCMG-1212-EB**	16258	56258
25/64	7/16	1		2-3/4	std	**CCMG-1412-1/2-B**	16213	56213
13/32	7/16	1		2-3/4	std	**CCMG-1413-B**	16214	56214
27/64	7/16	1		2-3/4	std	**CCMG-1413-1/2-B**	16215	56215
7/16	7/16	5/8		2-1/2	stub	**CCMGS-1414-B**	16250	56250
7/16	7/16	1		2-3/4	std	**CCMG-1414-B**	15936	55936
7/16	7/16	1	2-1/4	4	ext neck	**CCMGN-1414-B**	16776	56776
7/16	7/16	1-1/2	4-1/4	6	ext neck	**CCMGN-1414-2B**	16777	56777
7/16	7/16	2		4	long	**CCMG-1414-LB**	16193	56193
7/16	7/16	3		6	xl	**CCMG-1414-EB**	16259	56259
29/64	1/2	1		3	std	**CCMG-1614-1/2-B**	16216	56216
15/32	1/2	1		3	std	**CCMG-1615-B**	16217	56217
31/64	1/2	1		3	std	**CCMG-1615-1/2-B**	16218	56218
1/2	1/2	5/8		2-1/2	stub	**CCMGS-1616-B**	16251	56251
1/2	1/2	1		3	std	**CCMG-1616-B**	14186	54186
1/2	1/2	1	2	4	ext neck	**CCMGN-1616-B**	16778	56778
1/2	1/2	1-1/2		4	med	**CCMG-1616-MB**	11078	51078
1/2	1/2	1-1/2	4	6	ext neck	**CCMGN-1616-2B**	16779	56779
1/2	1/2	2		4	long	**CCMG-1616-LB**	16194	56194
1/2	1/2	3		6	xl	**CCMG-1616-EB**	16260	56260
9/16	9/16	1-1/4		3-1/2	std	**CCMG-1818-B**	16219	56219
9/16	9/16	2	3-3/4	6	ext neck	**CCMGN-1818-B**	16780	56780
5/8	5/8	3/4		3	stub	**CCMGS-2020-B**	16252	56252
5/8	5/8	1-1/4		3-1/2	std	**CCMG-2020-B**	16220	56220
5/8	5/8	2	3-3/4	6	ext neck	**CCMGN-2020-B**	16782	56782
5/8	5/8	2-1/4		5	long	**CCMG-2020-LB**	16195	56195
5/8	5/8	3		6	xl	**CCMG-2020-EB**	16261	56261
11/16	3/4	1-3/8		4	std	**CCMG-2422-B**	19576	59576
3/4	3/4	1		3	stub	**CCMGS-2424-B**	16253	56253
3/4	3/4	1-1/2		4	std	**CCMG-2424-B**	16221	56221
3/4	3/4	2	3-1/2	6	ext neck	**CCMGN-2424-B**	16783	56783
3/4	3/4	2-1/4		5	long	**CCMG-2424-LB**	16196	56196
3/4	3/4	3		6	xl	**CCMG-2424-EB**	16262	56262
7/8	7/8	1-1/2		4	std	**CCMG-2828-B**	16222	56222
1	1	1-1/2		4	std	**CCMG-3232-B**	16223	56223
1	1	2	3-1/2	6	ext neck	**CCMGN-3232-B**	16784	56784
1	1	2-1/4		5	long	**CCMG-3232-LB**	12093	52093
1	1	3		6	xl	**CCMG-3232-EB**	16263	56263

General Purpose Carbide End Mill

4 Flute • Ball Nose End Mills

Series: CCMG-M_M_-B

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1mm	3mm	2mm	38mm	stub	**CCMGS-M3M1-B**	19546	59546
1mm	3mm	3mm	38mm	std	**CCMG-M3M1-B**	16801	56801
1.5mm	3mm	3mm	38mm	stub	**CCMGS-M3M1.5-B**	10804	50804
1.5mm	3mm	6mm	38mm	std	**CCMG-M3M1.5-B**	16802	56802
2mm	3mm	4mm	38mm	stub	**CCMGS-M3M2-B**	19547	59547
2mm	3mm	9mm	38mm	std	**CCMG-M3M2-B**	16572	56572
2.5mm	3mm	5mm	38mm	stub	**CCMGS-M3M2.5-B**	19548	59548
2.5mm	3mm	12mm	38mm	std	**CCMG-M3M2.5-B**	16573	56573
3mm	3mm	6mm	38mm	stub	**CCMGS-M3M3-B**	11211	51211
3mm	3mm	12mm	38mm	std	**CCMG-M3M3-B**	16574	56574
3mm	3mm	18mm	57mm	long	**CCMG-M3M3-LB**	13643	53643
3.5mm	4mm	7mm	51mm	stub	**CCMGS-M4M3.5-B**	19550	59550
3.5mm	4mm	12mm	51mm	std	**CCMG-M4M3.5-B**	16575	56575
4mm	4mm	8mm	51mm	stub	**CCMGS-M4M4-B**	19551	59551
4mm	4mm	14mm	51mm	std	**CCMG-M4M4-B**	16576	56576
4mm	4mm	20mm	63mm	long	**CCMG-M4M4-LB**	13644	53644
4.5mm	5mm	14mm	51mm	std	**CCMG-M5M4.5-B**	16577	56577
5mm	5mm	10mm	51mm	stub	**CCMGS-M5M5-B**	19552	59552
5mm	5mm	20mm	51mm	std	**CCMG-M5M5-B**	16578	56578
5mm	5mm	25mm	64mm	long	**CCMG-M5M5-LB**	14029	54029
6mm	6mm	12mm	51mm	stub	**CCMGS-M6M6-B**	19727	59727
6mm	6mm	20mm	63mm	std	**CCMG-M6M6-B**	16579	56579
6mm	6mm	28mm	75mm	long	**CCMG-M6M6-LB**	13645	53645
6mm	6mm	32mm	100mm	x long	**CCMG-M6M6-LLB**	14743	54743
7mm	8mm	12mm	51mm	stub	**CCMGS-M8M7-B**	19728	59728
7mm	8mm	20mm	63mm	std	**CCMG-M8M7-B**	16580	56580
8mm	8mm	12mm	51mm	stub	**CCMGS-M8M8-B**	19729	59729
8mm	8mm	20mm	63mm	std	**CCMG-M8M8-B**	16581	56581
8mm	8mm	32mm	75mm	long	**CCMG-M8M8-LB**	13646	53646
8mm	8mm	41mm	100mm	x long	**CCMG-M8M8-LLB**	14752	54752
9mm	10mm	22mm	70mm	std	**CCMG-M10M9-B**	16582	56582
10mm	10mm	25mm	70mm	std	**CCMG-M10M10-B**	16583	56583
10mm	10mm	29mm	76mm	med	**CCMG-M10M10-MB**	10304	50304
10mm	10mm	40mm	100mm	long	**CCMG-M10M10-LB**	13647	53647
10mm	10mm	75mm	150mm	xl	**CCMG-M10M10-EB**	14761	54761
11mm	12mm	25mm	75mm	std	**CCMG-M12M11-B**	10286	50286
12mm	12mm	25mm	76mm	std	**CCMG-M12M12-B**	16584	56584
12mm	12mm	50mm	100mm	long	**CCMG-M12M12-LB**	13648	53648
14mm	14mm	32mm	89mm	std	**CCMG-M14M14-B**	16585	56585
16mm	16mm	32mm	89mm	std	**CCMG-M16M16-B**	16586	56586
16mm	16mm	57mm	127mm	long	**CCMG-M16M16-LB**	19762	59762
18mm	18mm	38mm	100mm	std	**CCMG-M18M18-B**	16587	56587
18mm	18mm	57mm	127mm	long	**CCMG-M18M18-LB**	19763	59763
20mm	20mm	38mm	100mm	std	**CCMG-M20M20-B**	16588	56588
20mm	20mm	57mm	127mm	long	**CCMG-M20M20-LB**	13962	53962
22mm	22mm	38mm	100mm	std	**CCMG-M22M22-B**	16803	56803
25mm	25mm	38mm	100mm	std	**CCMG-M25M25-B**	16804	56804

General Purpose Carbide End Mill

2 Flute • NC Tolerance End Mills

Carbide | 2 | 30° | Bright AlTiN | +.001 -.000 | Square | HRc <48 | P K M S N

Series: AMG-_ _-NC

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/16	1/8	3/16	1-1/2	std	**AMG-402-NC**	16968	56968
3/32	1/8	3/8	1-1/2	std	**AMG-403-NC**	16969	56969
1/8	1/8	1/2	1-1/2	std	**AMG-404-NC**	16970	56970
5/32	3/16	9/16	2	std	**AMG-605-NC**	16971	56971
3/16	3/16	5/8	2	std	**AMG-606-NC**	16972	56972
7/32	1/4	5/8	2-1/2	std	**AMG-807-NC**	16973	56973
1/4	1/4	3/4	2-1/2	std	**AMG-808-NC**	16974	56974
9/32	5/16	3/4	2-1/2	std	**AMG-1009-NC**	16975	56975
5/16	5/16	13/16	2-1/2	std	**AMG-1010-NC**	16976	56976
3/8	3/8	1	2-1/2	std	**AMG-1212-NC**	16977	56977
7/16	7/16	1	2-3/4	std	**AMG-1414-NC**	16978	56978
1/2	1/2	1	3	std	**AMG-1616-NC**	16979	56979
5/8	5/8	1-1/4	3-1/2	std	**AMG-2020-NC**	16980	56980
3/4	3/4	1-1/2	4	std	**AMG-2424-NC**	16981	56981
1	1	1-1/2	4	std	**AMG-3232-NC**	16982	56982

2 Flute • NC Tolerance Ball Nose End Mills

Carbide | 2 | 30° | Bright AlTiN | +.001 -.000 | Ball | HRc <48 | P K M S N

Series: AMG-_ _-NCB

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/16	1/8	3/16	1-1/2	std	**AMG-402-NCB**	16938	56938
3/32	1/8	3/8	1-1/2	std	**AMG-403-NCB**	16939	56939
1/8	1/8	1/2	1-1/2	std	**AMG-404-NCB**	16940	56940
5/32	3/16	9/16	2	std	**AMG-605-NCB**	16941	56941
3/16	3/16	5/8	2	std	**AMG-606-NCB**	16942	56942
7/32	1/4	5/8	2-1/2	std	**AMG-807-NCB**	16943	56943
1/4	1/4	3/4	2-1/2	std	**AMG-808-NCB**	16944	56944
9/32	5/16	3/4	2-1/2	std	**AMG-1009-NCB**	16945	56945
5/16	5/16	13/16	2-1/2	std	**AMG-1010-NCB**	16946	56946
3/8	3/8	1	2-1/2	std	**AMG-1212-NCB**	16947	56947
7/16	7/16	1	2-3/4	std	**AMG-1414-NCB**	16948	56948
1/2	1/2	1	3	std	**AMG-1616-NCB**	16949	56949
5/8	5/8	1-1/4	3-1/2	std	**AMG-2020-NCB**	16950	56950
3/4	3/4	1-1/2	4	std	**AMG-2424-NCB**	16951	56951
1	1	1-1/2	4	std	**AMG-3232-NCB**	16952	56952

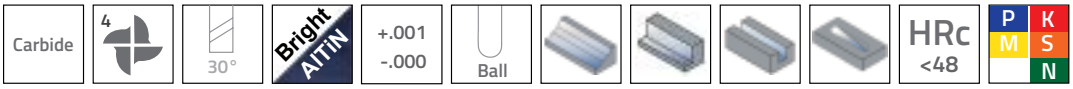
General Purpose Carbide End Mill

4 Flute • NC Tolerance End Mills

Series: CCMG-__-NC

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/16	1/8	3/16	1-1/2	std	**CCMG-402-NC**	16983	56983
3/32	1/8	3/8	1-1/2	std	**CCMG-403-NC**	16984	56984
1/8	1/8	1/2	1-1/2	std	**CCMG-404-NC**	16985	56985
5/32	3/16	9/16	2	std	**CCMG-605-NC**	16986	56986
3/16	3/16	5/8	2	std	**CCMG-606-NC**	16987	56987
7/32	1/4	5/8	2-1/2	std	**CCMG-807-NC**	16988	56988
1/4	1/4	3/4	2-1/2	std	**CCMG-808-NC**	16989	56989
9/32	5/16	3/4	2-1/2	std	**CCMG-1009-NC**	16990	56990
5/16	5/16	13/16	2-1/2	std	**CCMG-1010-NC**	16991	56991
3/8	3/8	1	2-1/2	std	**CCMG-1212-NC**	16992	56992
7/16	7/16	1	2-3/4	std	**CCMG-1414-NC**	16993	56993
1/2	1/2	1	3	std	**CCMG-1616-NC**	16994	56994
5/8	5/8	1-1/4	3-1/2	std	**CCMG-2020-NC**	16995	56995
3/4	3/4	1-1/2	4	std	**CCMG-2424-NC**	16996	56996
1	1	1-1/2	4	std	**CCMG-3232-NC**	16997	56997

4 Flute • NC Tolerance Ball Nose End Mills



Series: CCMG-__-NCB

DIA D_1	SHK D_2	LOC L_2	OAL L_1	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/16	1/8	3/16	1-1/2	std	**CCMG-402-NCB**	16953	56953
3/32	1/8	3/8	1-1/2	std	**CCMG-403-NCB**	16954	56954
1/8	1/8	1/2	1-1/2	std	**CCMG-404-NCB**	16955	56955
5/32	3/16	9/16	2	std	**CCMG-605-NCB**	16956	56956
3/16	3/16	5/8	2	std	**CCMG-606-NCB**	16957	56957
7/32	1/4	5/8	2-1/2	std	**CCMG-807-NCB**	16958	56958
1/4	1/4	3/4	2-1/2	std	**CCMG-808-NCB**	16959	56959
9/32	5/16	3/4	2-1/2	std	**CCMG-1009-NCB**	16960	56960
5/16	5/16	13/16	2-1/2	std	**CCMG-1010-NCB**	16961	56961
3/8	3/8	1	2-1/2	std	**CCMG-1212-NCB**	16962	56962
7/16	7/16	1	2-3/4	std	**CCMG-1414-NCB**	16963	56963
1/2	1/2	1	3	std	**CCMG-1616-NCB**	16964	56964
5/8	5/8	1-1/4	3-1/2	std	**CCMG-2020-NCB**	16965	56965
3/4	3/4	1-1/2	4	std	**CCMG-2424-NCB**	16966	56966
1	1	1-1/2	4	std	**CCMG-3232-NCB**	16967	56967

General Purpose Carbide End Mill

2 Flute • Double End Stub Length End Mills

Carbide | 2 | 30° | Bright AlTiN | +.0005 -.0005 <1/8 | +.000 -.002 | Square | HRc <48 | P K M S N

Series: BSMG

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP
1/32	1/8	1/16	1-1/2	stub	**BSMG-401**	14070
3/64	1/8	3/32	1-1/2	stub	**BSMG-401-1/2**	14072
1/16	1/8	1/8	1-1/2	stub	**BSMG-402**	14074
5/64	1/8	1/8	1-1/2	stub	**BSMG-402-1/2**	14076
3/32	1/8	3/16	1-1/2	stub	**BSMG-403**	14078
7/64	1/8	1/4	1-1/2	stub	**BSMG-403-1/2**	17848
1/8	1/8	1/4	1-1/2	stub	**BSMG-404**	14080
1/8	3/16	1/4	2	stub	**BSMG-604**	11739
9/64	3/16	5/16	2	stub	**BSMG-604-1/2**	17849
5/32	3/16	5/16	2	stub	**BSMG-605**	14084
11/64	3/16	3/8	2	stub	**BSMG-605-1/2**	16319
3/16	3/16	3/8	2	stub	**BSMG-606**	14086
13/64	1/4	1/2	2-1/2	stub	**BSMG-806-1/2**	17850
7/32	1/4	1/2	2-1/2	stub	**BSMG-807**	14092
15/64	1/4	1/2	2-1/2	stub	**BSMG-807-1/2**	16320
1/4	1/4	1/2	2-1/2	stub	**BSMG-808**	14094
5/16	5/16	1/2	2-1/2	stub	**BSMG-1010**	14098
3/8	3/8	9/16	2-1/2	stub	**BSMG-1212**	14102
7/16	7/16	5/8	3	stub	**BSMG-1414**	15915
1/2	1/2	5/8	3	stub	**BSMG-1616**	14106
5/8	5/8	3/4	4	stub	**BSMG-2020**	17851
3/4	3/4	1	4	stub	**BSMG-2424**	17852

2 Flute • Double End, End Mills

Carbide | 2 | 30° | BRIGHT | +.000 -.002 | Square | HRc <48 | P K M S N

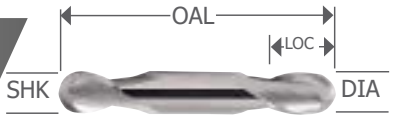
Series: BMG

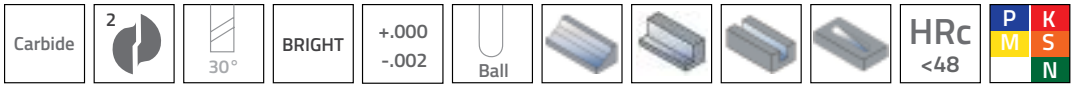
DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP
1/8	1/8	3/8	2	std	**BMG-404**	16070
1/8	3/8	3/8	3-1/16	std	**BMG-1204**	14082
5/32	3/8	7/16	3-1/4	std	**BMG-1205**	11357
3/16	3/8	1/2	3-1/4	std	**BMG-1206**	14090
7/32	3/8	5/8	3-1/2	std	**BMG-1207**	11581
1/4	3/8	5/8	3-1/2	std	**BMG-1208**	14096
9/32	3/8	11/16	3-1/2	std	**BMG-1209**	15914
5/16	3/8	3/4	3-1/2	std	**BMG-1210**	14100
3/8	3/8	3/4	3-1/2	std	**BMG-1212***	14104
1/2	1/2	1	4	std	**BMG-1616***	14108

* = Weldon Flat

General Purpose Carbide End Mill

2 Flute • Double End Stub Ball Nose End Mills

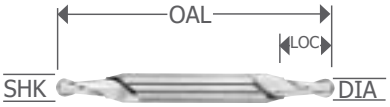


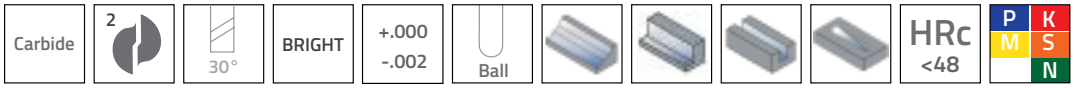


Series: BSMG-_ _-B

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP
1/8	1/8	1/4	1-1/2	stub	**BSMG-404-B**	14110
1/8	3/16	1/4	2	stub	**BSMG-604-B**	11795
5/32	3/16	5/16	2	stub	**BSMG-605-B**	15916
3/16	3/16	3/8	2	stub	**BSMG-606-B**	14112
7/32	1/4	1/2	2-1/2	stub	**BSMG-807-B**	15917
1/4	1/4	1/2	2-1/2	stub	**BSMG-808-B**	14114
5/16	5/16	1/2	2-1/2	stub	**BSMG-1010-B**	14116
3/8	3/8	9/16	2-1/2	stub	**BSMG-1212-B**	14118
7/16	7/16	5/8	3	stub	**BSMG-1414-B**	15918
1/2	1/2	5/8	3	stub	**BSMG-1616-B**	14120

2 Flute • Double End Ball Nose End Mills



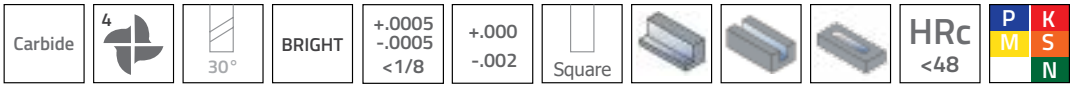


Series: BMG-_ _-B

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP
1/8	1/8	3/8	2	std	**BMG-404-B**	11696
1/8	3/8	3/8	3-1/16	std	**BMG-1204-B**	16271
5/32	3/8	7/16	3-1/4	std	**BMG-1205-B**	10438
3/16	3/8	1/2	3-1/4	std	**BMG-1206-B**	16272
7/32	3/8	5/8	3-1/2	std	**BMG-1207-B**	16317
1/4	3/8	5/8	3-1/2	std	**BMG-1208-B**	16273
9/32	3/8	11/16	3-1/2	std	**BMG-1209-B**	16274
5/16	3/8	3/4	3-1/2	std	**BMG-1210-B**	16275
11/32	3/8	3/4	3-1/2	std	**BMG-1211-B**	10196
3/8	3/8	3/4	3-1/2	std	**BMG-1212-B***	16276
1/2	1/2	1	4	std	**BMG-1616-B***	16277

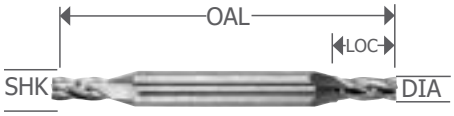
* = Weldon Flat

4 Flute • Double End Stub Length End Mills



Series: DDSMG

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP
1/32	1/8	1/16	1-1/2	stub	**DDSMG-401**	14188
3/64	1/8	3/32	1-1/2	stub	**DDSMG-401-1/2**	14190
1/16	1/8	1/8	1-1/2	stub	**DDSMG-402**	14192
5/64	1/8	1/8	1-1/2	stub	**DDSMG-402-1/2**	14194
3/32	1/8	3/16	1-1/2	stub	**DDSMG-403**	14196
7/64	1/8	1/4	1-1/2	stub	**DDSMG-403-1/2**	17853
1/8	1/8	1/4	1-1/2	stub	**DDSMG-404**	14198
1/8	3/16	1/4	2	stub	**DDSMG-604**	13075
9/64	3/16	5/16	2	stub	**DDSMG-604-1/2**	17854
5/32	3/16	5/16	2	stub	**DDSMG-605**	14202
11/64	3/16	3/8	2	stub	**DDSMG-605-1/2**	17855
3/16	3/16	3/8	2	stub	**DDSMG-606**	14204
13/64	1/4	1/2	2-1/2	stub	**DDSMG-806-1/2**	17856
7/32	1/4	1/2	2-1/2	stub	**DDSMG-807**	14208
15/64	1/4	1/2	2-1/2	stub	**DDSMG-807-1/2**	17857
1/4	1/4	1/2	2-1/2	stub	**DDSMG-808**	14210
5/16	5/16	1/2	2-1/2	stub	**DDSMG-1010**	14214
3/8	3/8	9/16	2-1/2	stub	**DDSMG-1212**	14218
7/16	7/16	5/8	3	stub	**DDSMG-1414**	15938
1/2	1/2	5/8	3	stub	**DDSMG-1616**	14222
5/8	5/8	3/4	4	stub	**DDSMG-2020**	17858
3/4	3/4	1	4	stub	**DDSMG-2424**	17859



4 Flute • Double End, End Mills

Series: DDMG

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP
1/8	1/8	3/8	2	std	**DDMG-404**	16321
1/8	3/8	3/8	3-1/16	std	**DDMG-1204**	14200
5/32	3/8	7/16	3-1/4	std	**DDMG-1205**	10845
3/16	3/8	1/2	3-1/4	std	**DDMG-1206**	14206
7/32	3/8	5/8	3-1/2	std	**DDMG-1207**	12217
1/4	3/8	5/8	3-1/2	std	**DDMG-1208**	14212
9/32	3/8	11/16	3-1/2	std	**DDMG-1209**	15937
5/16	3/8	3/4	3-1/2	std	**DDMG-1210**	14216
11/32	3/8	3/4	3-1/2	std	**DDMG-1211**	13937
3/8	3/8	3/4	3-1/2	std	**DDMG-1212***	14220
7/16	1/2	7/8	4	std	**DDMG-1614**	13061
1/2	1/2	1	4	std	**DDMG-1616***	14224

* = Weldon Flat

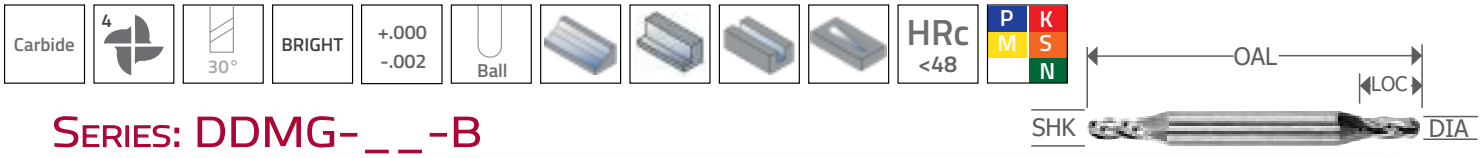
General Purpose Carbide End Mill

4 Flute • Double End Stub Length Ball Nose End Mills

Series: DDSMG-__-B

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP
1/8	1/8	1/4	1-1/2	stub	**DDSMG-404-B**	14226
1/8	3/16	1/4	2	stub	**DDSMG-604-B**	11730
5/32	3/16	5/16	2	stub	**DDSMG-605-B**	15939
3/16	3/16	3/8	2	stub	**DDSMG-606-B**	14228
7/32	1/4	1/2	2-1/2	stub	**DDSMG-807-B**	15940
1/4	1/4	1/2	2-1/2	stub	**DDSMG-808-B**	14230
5/16	5/16	1/2	2-1/2	stub	**DDSMG-1010-B**	14232
3/8	3/8	9/16	2-1/2	stub	**DDSMG-1212-B**	14234
7/16	7/16	5/8	3	stub	**DDSMG-1414-B**	15941
1/2	1/2	5/8	3	stub	**DDSMG-1616-B**	14236

4 Flute • Double End Ball Nose End Mills



Series: DDMG-__-B

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP
1/8	1/8	3/8	2	std	**DDMG-404-B**	11791
1/8	3/8	3/8	3-1/16	std	**DDMG-1204-B**	16264
5/32	3/8	7/16	3-1/4	std	**DDMG-1205-B**	10951
3/16	3/8	1/2	3-1/4	std	**DDMG-1206-B**	16265
7/32	3/8	5/8	3-1/2	std	**DDMG-1207-B**	16318
1/4	3/8	5/8	3-1/2	std	**DDMG-1208-B**	16266
9/32	3/8	11/16	3-1/2	std	**DDMG-1209-B**	16267
5/16	3/8	3/4	3-1/2	std	**DDMG-1210-B**	16268
3/8	3/8	3/4	3-1/2	std	**DDMG-1212-B***	16269
1/2	1/2	1	4	std	**DDMG-1616-B***	16270

* = Weldon Flat

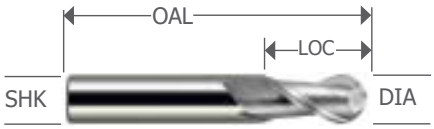
General Purpose Carbide End Mill

2 Flute • 40° Helix End Mills

Carbide | 2 | 40° | Bright AlTiN | +.0005 -.0005 <1/8 | +.0000 -.0020 ≥1/8 | Square | HRc <48 | M S

Series: AMG40

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/32	1/8	3/32	1-1/2	std	**AMG40-401**	12191	52191
3/64	1/8	1/8	1-1/2	std	**AMG40-401-1/2**	12121	52121
1/16	1/8	3/16	1-1/2	std	**AMG40-402**	12081	52081
1/16	1/8	1/8	1-1/2	stub	**AMGS40-402**	12202	52202
3/32	1/8	3/8	1-1/2	std	**AMG40-403**	12083	52083
1/8	1/8	1/2	1-1/2	std	**AMG40-404**	11997	51997
1/8	1/8	1/4	1-1/2	stub	**AMGS40-404**	12203	52203
9/64	3/16	9/16	2	std	**AMG40-604-1/2**	12129	52129
5/32	3/16	9/16	2	std	**AMG40-605**	12085	52085
11/64	3/16	9/16	2	std	**AMG40-605-1/2**	12131	52131
3/16	3/16	3/8	1-1/2	stub	**AMGS40-606**	12115	52115
3/16	3/16	5/8	2	std	**AMG40-606**	11999	51999
13/64	1/4	5/8	2-1/2	std	**AMG40-806-1/2**	12135	52135
7/32	1/4	5/8	2-1/2	std	**AMG40-807**	12137	52137
15/64	1/4	3/4	2-1/2	std	**AMG40-807-1/2**	12001	52001
1/4	1/4	1/2	2	stub	**AMGS40-808**	12035	52035
1/4	1/4	3/4	2-1/2	std	**AMG40-808**	12003	52003
1/4	1/4	1-1/2	4	xl	**AMG40-808-E**	13987	53987
17/64	5/16	3/4	2-1/2	std	**AMG40-1008-1/2**	12117	52117
5/16	5/16	13/16	2-1/2	std	**AMG40-1010**	12118	52118
5/16	5/16	1-5/8	4	xl	**AMG40-1010-E**	13948	53948
3/8	3/8	5/8	2	stub	**AMGS40-1212**	12204	52204
3/8	3/8	1	2-1/2	std	**AMG40-1212**	12005	52005
3/8	3/8	1-1/8	3	long	**AMG40-1212-L**	14047	54047
7/16	7/16	1	2-3/4	std	**AMG40-1414**	13091	53091
1/2	1/2	5/8	2-1/2	stub	**AMGS40-1616**	12113	52113
1/2	1/2	1	3	std	**AMG40-1616**	12075	52075
1/2	1/2	2	4	long	**AMG40-1616-L**	13730	53730
5/8	5/8	1-1/4	3-1/2	std	**AMG40-2020**	13093	53093
3/4	3/4	1-1/2	4	std	**AMG40-2424**	12080	52080



2 Flute • 40° Helix Ball Nose End Mills

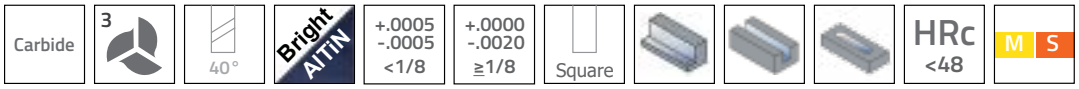
Carbide | 2 | 40° | Bright AlTiN | +.0005 -.0005 <1/8 | +.0000 -.0020 ≥1/8 | Ball | HRc <48 | M S

Series: AMG40-__-B

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/32	1/8	3/32	1-1/2	std	**AMG40-401-B**	12123	52123
1/16	1/8	3/16	1-1/2	std	**AMG40-402-B**	12125	52125
3/32	1/8	3/8	1-1/2	std	**AMG40-403-B**	12127	52127
1/8	1/8	1/2	1-1/2	std	**AMG40-404-B**	12009	52009
5/32	3/16	9/16	2	std	**AMG40-605-B**	12099	52099
3/16	3/16	5/8	2	std	**AMG40-606-B**	12133	52133
1/4	1/4	3/4	2-1/2	std	**AMG40-808-B**	12139	52139
5/16	5/16	13/16	2-1/2	std	**AMG40-1010-B**	13095	53095
3/8	3/8	1	2-1/2	std	**AMG40-1212-B**	12119	52119
1/2	1/2	1	3	std	**AMG40-1616-B**	12079	52079

General Purpose Carbide End Mill

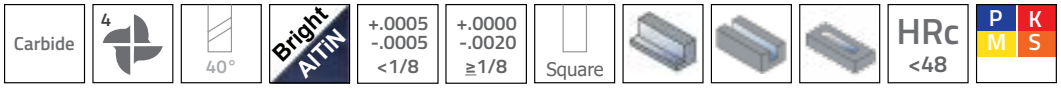
3 Flute • 40° Helix End Mills



Series: EMG40

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/32	1/8	3/32	1-1/2	std	**EMG40-401**	10722	50722
3/64	1/8	1/8	1-1/2	std	**EMG40-401-1/2**	10724	50724
1/16	1/8	1/8	1-1/2	stub	**EMGS40-402**	19485	59485
1/16	1/8	3/16	1-1/2	std	**EMG40-402**	10726	50726
3/32	1/8	3/8	1-1/2	std	**EMG40-403**	10728	50728
1/8	1/8	1/4	1-1/2	stub	**EMGS40-404**	19500	59500
1/8	1/8	1/2	1-1/2	std	**EMG40-404**	10730	50730
9/64	3/16	9/16	2	std	**EMG40-604-1/2**	10732	50732
5/32	3/16	9/16	2	std	**EMG40-605**	10750	50750
11/64	3/16	9/16	2	std	**EMG40-605-1/2**	10754	50754
3/16	3/16	3/8	1-1/2	stub	**EMGS40-606**	19290	59290
3/16	3/16	5/8	2	std	**EMG40-606**	10768	50768
13/64	1/4	5/8	2-1/2	std	**EMG40-806-1/2**	10772	50772
7/32	1/4	5/8	2-1/2	std	**EMG40-807**	10776	50776
15/64	1/4	3/4	2-1/2	std	**EMG40-807-1/2**	10780	50780
1/4	1/4	3/4	2-1/2	std	**EMG40-808**	10782	50782
17/64	5/16	3/4	2-1/2	std	**EMG40-1008-1/2**	10784	50784
5/16	5/16	13/16	2-1/2	std	**EMG40-1010**	10786	50786
5/16	5/16	1-5/8	4	xl	**EMG40-1010-E**	10788	50788
3/8	3/8	5/8	2	stub	**EMGS40-1212**	11990	51990
3/8	3/8	1	2-1/2	std	**EMG40-1212**	10790	50790
3/8	3/8	1-1/8	3	long	**EMG40-1212-L**	10796	50796
7/16	7/16	1	2-3/4	std	**EMG40-1414**	10453	50453
1/2	1/2	5/8	2-1/2	stub	**EMGS40-1616**	19527	59527
1/2	1/2	1	3	std	**EMG40-1616**	10798	50798
1/2	1/2	2	4	long	**EMG40-1616-L**	10799	50799
5/8	5/8	1-1/4	3-1/2	std	**EMG40-2020**	10800	50800
5/8	5/8	2-1/4	5	long	**EMG40-2020-L**	10801	50801
3/4	3/4	1-1/2	4	std	**EMG40-2424**	10802	50802

4 Flute • 40° Helix End Mills



Series: CCMG40

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/32	1/8	3/32	1-1/2	std	**CCMG40-401**	12169	52169
3/64	1/8	1/8	1-1/2	std	**CCMG40-401-1/2**	12171	52171
1/16	1/8	1/8	1-1/2	stub	**CCMGS40-402**	12109	52109
1/16	1/8	3/16	1-1/2	std	**CCMG40-402**	12175	52175
5/64	1/8	3/16	1-1/2	std	**CCMG40-402-1/2**	12177	52177
3/32	1/8	3/16	1-1/2	stub	**CCMGS40-403**	12111	52111
3/32	1/8	3/8	1-1/2	std	**CCMG40-403**	12087	52087
7/64	1/8	3/8	1-1/2	std	**CCMG40-403-1/2**	12013	52013
1/8	1/8	1/4	1-1/2	stub	**CCMGS40-404**	12102	52102
1/8	1/8	1/2	1-1/2	std	**CCMG40-404**	12076	52076

sizes continued on next page

4 Flute • 40° Helix End Mills

Series: CCMG40

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
9/64	3/16	9/16	2	std	**CCMG40-604-1/2**	12015	52015
5/32	3/16	3/8	1-1/2	stub	**CCMGS40-605**	12097	52097
5/32	3/16	9/16	2	std	**CCMG40-605**	12017	52017
11/64	3/16	9/16	2	std	**CCMG40-605-1/2**	12181	52181
3/16	3/16	3/8	1-1/2	stub	**CCMGS40-606**	12065	52065
3/16	3/16	5/8	2	std	**CCMG40-606**	12019	52019
13/64	1/4	5/8	2-1/2	std	**CCMG40-806-1/2**	12183	52183
7/32	1/4	5/8	2-1/2	std	**CCMG40-807**	12185	52185
15/64	1/4	3/4	2-1/2	std	**CCMG40-807-1/2**	12187	52187
1/4	1/4	1/2	2	stub	**CCMGS40-808**	12037	52037
1/4	1/4	3/4	2-1/2	std	**CCMG40-808**	12089	52089
17/64	5/16	3/4	2-1/2	std	**CCMG40-1008-1/2**	12020	52020
9/32	5/16	3/4	2-1/2	std	**CCMG40-1009**	12021	52021
5/16	5/16	1/2	2	stub	**CCMGS40-1010**	12107	52107
5/16	5/16	13/16	2-1/2	std	**CCMG40-1010**	12023	52023
21/64	3/8	7/8	2-1/2	std	**CCMG40-1210-1/2**	12143	52143
11/32	3/8	7/8	2-1/2	std	**CCMG40-1211**	12145	52145
3/8	3/8	5/8	2	stub	**CCMGS40-1212**	12103	52103
3/8	3/8	1	2-1/2	std	**CCMG40-1212**	12147	52147
13/32	7/16	1	2-3/4	std	**CCMG40-1413**	12151	52151
27/64	7/16	1	2-3/4	std	**CCMG40-1413-1/2**	12153	52153
7/16	7/16	1	2-3/4	std	**CCMG40-1414**	12155	52155
29/64	1/2	1	3	std	**CCMG40-1614-1/2**	12157	52157
1/2	1/2	5/8	2-1/2	stub	**CCMGS40-1616**	12063	52063
1/2	1/2	1	3	std	**CCMG40-1616**	12077	52077
9/16	9/16	1-1/4	3-1/2	std	**CCMG40-1818**	12161	52161
5/8	5/8	3/4	3	stub	**CCMGS40-2020**	12105	52105
5/8	5/8	1-1/4	3-1/2	std	**CCMG40-2020**	12163	52163
3/4	3/4	1-1/2	4	std	**CCMG40-2424**	12165	52165
1	1	1-1/2	4	std	**CCMG40-3232**	12167	52167

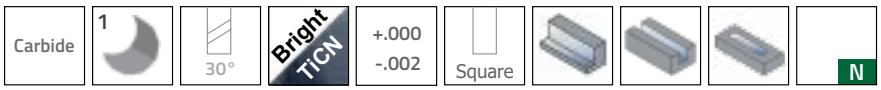
4 Flute • 40° Helix Ball Nose End Mills

Series: CCMG40-_ _-B

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/32	1/8	3/32	1-1/2	std	**CCMG40-401-B**	12173	52173
1/16	1/8	3/16	1-1/2	std	**CCMG40-402-B**	12101	52101
3/32	1/8	3/8	1-1/2	std	**CCMG40-403-B**	12179	52179
1/8	1/8	1/2	1-1/2	std	**CCMG40-404-B**	12025	52025
5/32	3/16	9/16	2	std	**CCMG40-605-B**	12027	52027
3/16	3/16	5/8	2	std	**CCMG40-606-B**	12029	52029
7/32	1/4	5/8	2-1/2	std	**CCMG40-807-B**	12189	52189
1/4	1/4	3/4	2-1/2	std	**CCMG40-808-B**	12031	52031
5/16	5/16	13/16	2-1/2	std	**CCMG40-1010-B**	12141	52141
3/8	3/8	1	2-1/2	std	**CCMG40-1212-B**	12149	52149
1/2	1/2	1	3	std	**CCMG40-1616-B**	12159	52159

Special Use Carbide End Mills

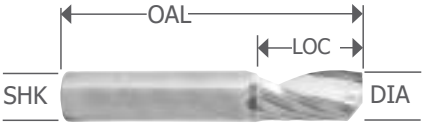
1 Flute • Routers For Aluminum

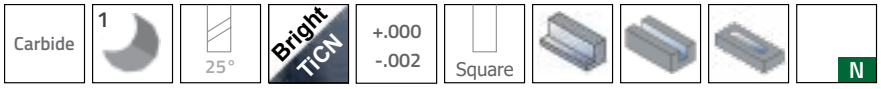


Series: ARMG

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	TICN EDP
1/16	1/8	1/4	1-1/2	std	**ARMG-402**	12855	42855
1/16	1/4	1/4	2	std	**ARMG-802**	12865	42865
1/8	1/8	1/4	1-1/2	stub	**ARMG-404-S**	12857	42857
1/8	1/8	1/2	1-1/2	std	**ARMG-404**	12859	42859
1/8	1/4	1/4	2	stub	**ARMG-804-S**	12867	42867
1/8	1/4	1/2	2	std	**ARMG-804**	12869	42869
3/16	3/16	3/8	2	stub	**ARMG-606-S**	12861	42861
3/16	1/4	1/2	2	stub	**ARMG-806-S**	12873	42873
3/16	3/16	5/8	2	std	**ARMG-606**	12863	42863
3/16	1/4	5/8	2	std	**ARMG-806**	12875	42875
5/32	1/4	5/8	2	std	**ARMG-805**	12871	42871
7/32	1/4	3/4	2-1/2	std	**ARMG-807**	12877	42877
1/4	1/4	3/8	2-1/2	stub	**ARMG-808-S**	12879	42879
1/4	1/4	3/4	2-1/2	std	**ARMG-808**	12881	42881
1/4	1/4	1-1/4	3	long	**ARMG-808-L**	12883	42883
3/8	3/8	1-1/8	3	std	**ARMG-1212**	12885	42885
1/2	1/2	1	3	std	**ARMG-1616**	12887	42887
1/2	1/2	1-1/2	3-1/2	med	**ARMG-1616-M**	12889	42889

1 Flute • Routers for Plastic





Series: PRMG

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	TICN EDP
1/16	1/8	1/4	1-1/2	std	**PRMG-402**	12819	42819
1/16	1/4	1/4	2	std	**PRMG-802**	12829	42829
1/8	1/8	1/4	1-1/2	stub	**PRMG-404-S**	12821	42821
1/8	1/4	1/4	2	stub	**PRMG-804-S**	12831	42831
1/8	1/8	1/2	1-1/2	std	**PRMG-404**	12823	42823
1/8	1/4	1/2	2	std	**PRMG-804**	12833	42833
3/16	3/16	3/8	2	stub	**PRMG-606-S**	12825	42825
3/16	1/4	1/2	2	stub	**PRMG-806-S**	12837	42837
3/16	3/16	5/8	2	std	**PRMG-606**	12827	42827
3/16	1/4	5/8	2	std	**PRMG-806**	12839	42839
5/32	1/4	5/8	2	std	**PRMG-805**	12835	42835
7/32	1/4	3/4	2-1/2	std	**PRMG-807**	12841	42841
1/4	1/4	3/8	2-1/2	stub	**PRMG-808-S**	12843	42843
1/4	1/4	3/4	2-1/2	std	**PRMG-808**	12845	42845
1/4	1/4	1-1/4	3	long	**PRMG-808-L**	12847	42847
3/8	3/8	1-1/8	3	std	**PRMG-1212**	12849	42849
1/2	1/2	1	3	std	**PRMG-1616**	12851	42851
1/2	1/2	1-1/2	3-1/2	med	**PRMG-1616-M**	12853	42853

Special Use Carbide End Mills

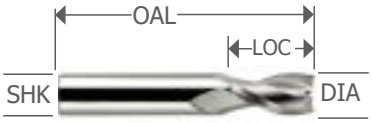
2 Flute • Straight Flute End Mills

Carbide | 2 | 0° | Bright AlTiN | +.000 -.002 | Square | HRc <48 | P K M S N

Series: SAMG

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/16	1/8	3/16	1-1/2	std	**SAMG-402***	11493	51493
3/32	1/8	9/32	1-1/2	std	**SAMG-403***	11495	51495
1/8	1/8	1/2	1-1/2	std	**SAMG-404***	11497	51497
5/32	3/16	1/2	2	std	**SAMG-605**	11499	51499
3/16	3/16	5/8	2	std	**SAMG-606***	11501	51501
7/32	1/4	5/8	2-1/2	std	**SAMG-807**	11503	51503
1/4	1/4	3/4	2-1/2	std	**SAMG-808**	11505	51505
5/16	5/16	13/16	2-1/2	std	**SAMG-1010**	11507	51507
3/8	3/8	1	2-1/2	std	**SAMG-1212***	11509	51509
7/16	7/16	1	2-3/4	std	**SAMG-1414***	11511	51511
1/2	1/2	1	3	std	**SAMG-1616***	11513	51513

*4 Flute • Straight Flute End Mills Available in Stock. Call Customer Service for Details

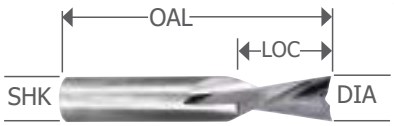


2 Flute • Wood Router - Up Cut (RHS/RHC)

Carbide | 2 | 30° | Bright AlTiN | +.000 -.002 | Square | HRc <48 | N

Series: WRUMG

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/8	1/8	1/2	1-1/2	std	**WRUMG-404**	10693	50693
1/8	1/4	1/2	2-1/2	std	**WRUMG-804**	10695	50695
3/16	1/4	5/8	2-1/2	std	**WRUMG-806**	10697	50697
1/4	1/4	3/4	2-1/2	std	**WRUMG-808**	10699	50699
1/4	1/4	1-1/8	3	long	**WRUMG-808-L**	10701	50701
5/16	5/16	13/16	2-1/2	std	**WRUMG-1010**	10703	50703
3/8	3/8	7/8	2-1/2	std	**WRUMG-1212**	10705	50705
3/8	3/8	1-1/4	3	long	**WRUMG-1212-L**	10707	50707
1/2	1/2	1	3	std	**WRUMG-1616**	10709	50709
1/2	1/2	2	4	long	**WRUMG-1616-L**	10711	50711



2 Flute • Wood Router - Down Cut (LHS/RHC)

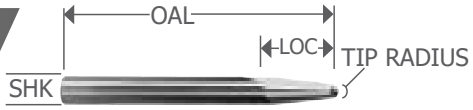
Carbide | 2 | 30° | Bright AlTiN | +.000 -.002 | Square | N

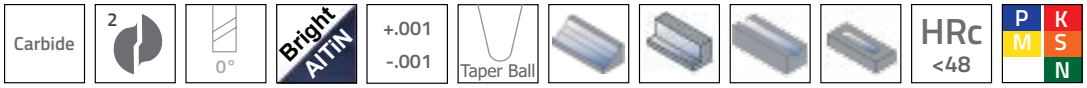
Series: WRDMG

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/8	1/8	1/2	1-1/2	std	**WRDMG-404**	10713	50713
1/8	1/4	1/2	2-1/2	std	**WRDMG-804**	10715	50715
3/16	1/4	5/8	2-1/2	std	**WRDMG-806**	10717	50717
1/4	1/4	3/4	2-1/2	std	**WRDMG-808**	10719	50719
1/4	1/4	1-1/8	3	long	**WRDMG-808-L**	10721	50721
5/16	5/16	13/16	2-1/2	std	**WRDMG-1010**	10723	50723
3/8	3/8	7/8	2-1/2	std	**WRDMG-1212**	10725	50725
3/8	3/8	1-1/4	3	long	**WRDMG-1212-L**	10727	50727
1/2	1/2	1	3	std	**WRDMG-1616**	10729	50729
1/2	1/2	2	4	long	**WRDMG-1616-L**	10731	50731

Special Use Carbide End Mills

2 Flute • Die Sinking End Mills





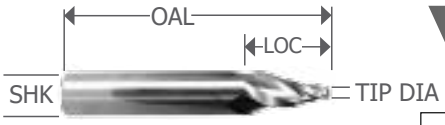
Series: AMGDS

DEG/ SIDE	TIP RADIUS	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
3°	.0156	1/8	7/8	2	std	**AMGDS-401-3B**	16998	56998
3°	.0313	1/8	9/16	2	std	**AMGDS-402-3B**	16999	56999
3°	.0469	3/16	7/8	2	std	**AMGDS-603-3B**	17607	57607
3°	.0625	1/4	1	2-1/2	std	**AMGDS-804-3B**	17608	57608
3°	.0781	5/16	1	2-1/2	std	**AMGDS-1005-3B**	17609	57609
3°	.0938	3/8	1	2-1/2	std	**AMGDS-1206-3B**	17610	57610
3°	.1094	7/16	1	2-3/4	std	**AMGDS-1407-3B**	17611	57611
3°	.1250	1/2	1	3	std	**AMGDS-1608-3B**	17612	57612

DEG/ SIDE	TIP RADIUS	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
5°	.0156	1/8	1/2	2	std	**AMGDS-401-5B**	17613	57613
5°	.0313	1/8	5/16	2	std	**AMGDS-402-5B**	17614	57614
5°	.0469	3/16	1/2	2	std	**AMGDS-603-5B**	17615	57615
5°	.0625	1/4	11/16	2-1/2	std	**AMGDS-804-5B**	17616	57616
5°	.0781	5/16	7/8	2-1/2	std	**AMGDS-1005-5B**	17617	57617
5°	.0938	3/8	1	2-1/2	std	**AMGDS-1206-5B**	17618	57618
5°	.1094	7/16	1	2-3/4	std	**AMGDS-1407-5B**	17619	57619
5°	.1250	1/2	1	3	std	**AMGDS-1608-5B**	17620	57620

DEG/ SIDE	TIP RADIUS	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
7°	.0156	1/8	3/8	1-1/2	std	**AMGDS-401-7B**	17621	57621
7°	.0313	1/8	1/4	1-1/2	std	**AMGDS-402-7B**	17622	57622
7°	.0469	3/16	3/8	2	std	**AMGDS-603-7B**	17623	57623
7°	.0625	1/4	1/2	2-1/2	std	**AMGDS-804-7B**	17624	57624
7°	.0781	5/16	5/8	2-1/2	std	**AMGDS-1005-7B**	17625	57625
7°	.0938	3/8	3/4	2-1/2	std	**AMGDS-1206-7B**	17626	57626
7°	.1094	7/16	7/8	2-3/4	std	**AMGDS-1407-7B**	17627	57627
7°	.1250	1/2	1	3	std	**AMGDS-1608-7B**	17628	57628

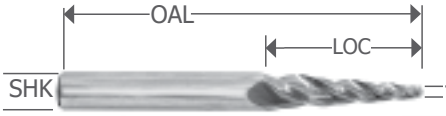
DEG/ SIDE	TIP RADIUS	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
10°	.0156	1/8	1/4	1-1/2	std	**AMGDS-401-10B**	17629	57629
10°	.0313	1/8	3/16	1-1/2	std	**AMGDS-402-10B**	17630	57630
10°	.0469	3/16	1/4	2	std	**AMGDS-603-10B**	17631	57631
10°	.0625	1/4	5/16	2-1/2	std	**AMGDS-804-10B**	17632	57632
10°	.0781	5/16	7/16	2-1/2	std	**AMGDS-1005-10B**	17633	57633
10°	.0938	3/8	9/16	2-1/2	std	**AMGDS-1206-10B**	17634	57634
10°	.1094	7/16	5/8	2-3/4	std	**AMGDS-1407-10B**	17635	57635
10°	.1250	1/2	11/16	3	std	**AMGDS-1608-10B**	17636	57636



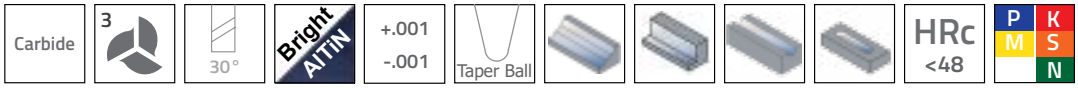
3 FLUTE • TAPERED END MILLS

SERIES: EMG-_ _-_T

TAPER/ SIDE	TIP DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1°	1/8	1/4	1-1/2	3	std	**EMG-804-1T**	10257	50257
1°	3/16	3/8	1-3/4	3-1/2	std	**EMG-1206-1T**	10259	50259
1° 30'	1/8	1/4	1-1/2	3	std	**EMG-804-1.5T**	10261	50261
1° 30'	3/16	3/8	1-3/4	3-1/2	std	**EMG-1206-1.5T**	10263	50263
2°	1/8	1/4	1	3	std	**EMG-804-2T**	10265	50265
2°	3/16	3/8	1-3/4	3-1/2	std	**EMG-1206-2T**	10267	50267
2°	1/4	1/2	2	4	std	**EMG-1608-2T**	10269	50269
3°	1/8	1/4	1	3	std	**EMG-804-3T**	10271	50271
3°	5/32	3/8	1-3/4	3-1/2	std	**EMG-1205-3T**	10273	50273
3°	1/4	1/2	2	4	std	**EMG-1608-3T**	10275	50275
5°	1/8	1/4	3/4	3	std	**EMG-804-5T**	10277	50277
5°	1/8	3/8	1-1/2	3-1/2	std	**EMG-1204-5T**	10279	50279
5°	1/4	1/2	1-1/4	4	std	**EMG-1608-5T**	10281	50281
7°	1/8	1/4	1/2	3	std	**EMG-804-7T**	10283	50283
7°	5/32	3/8	3/4	3-1/2	std	**EMG-1205-7T**	10285	50285
7°	3/16	1/2	1-1/4	4	std	**EMG-1606-7T**	10287	50287



3 FLUTE • TAPERED BALL NOSE END MILLS



SERIES: EMG-_ _-_TB

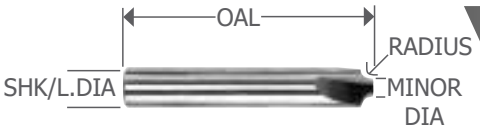
TAPER/ SIDE	TIP DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1°	1/8	1/4	1-1/2	3	std	**EMG-804-1TB**	10289	50289
1°	3/16	3/8	1-3/4	3-1/2	std	**EMG-1206-1TB**	10291	50291
1° 30'	1/8	1/4	1-1/2	3	std	**EMG-804-1.5TB**	10293	50293
1° 30'	3/16	3/8	1-3/4	3-1/2	std	**EMG-1206-1.5TB**	10295	50295
2°	1/8	1/4	1	3	std	**EMG-804-2TB**	10297	50297
2°	3/16	3/8	1-3/4	3-1/2	std	**EMG-1206-2TB**	10299	50299
2°	1/4	1/2	2	4	std	**EMG-1608-2TB**	10301	50301
3°	1/8	1/4	1	3	std	**EMG-804-3TB**	10303	50303
3°	5/32	3/8	1-3/4	3-1/2	std	**EMG-1205-3TB**	10305	50305
3°	1/4	1/2	2	4	std	**EMG-1608-3TB**	10307	50307
5°	1/8	1/4	3/4	3	std	**EMG-804-5TB**	10309	50309
5°	1/8	3/8	1-1/2	3-1/2	std	**EMG-1204-5TB**	10311	50311
5°	1/4	1/2	1-1/4	4	std	**EMG-1608-5TB**	10313	50313
7°	1/8	1/4	1/2	3	std	**EMG-804-7TB**	10315	50315
7°	5/32	3/8	3/4	3-1/2	std	**EMG-1205-7TB**	10317	50317
7°	3/16	1/2	1-1/4	4	std	**EMG-1606-7TB**	10319	50319

Special Use Carbide End Mills

2 Flute • Double End Corner Rounders

Series: BRMG

RADIUS	MINOR DIA	SHK/ LARGE DIA	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
0.010	0.047	1/8	1-1/2	stub	**BRMG-4010-S**	11178	51178
0.010	0.105	1/8	1-1/2	std	**BRMG-4010**	16293	56293
0.015	0.047	1/8	1-1/2	stub	**BRMG-4015-S**	11179	51179
0.015	0.095	1/8	1-1/2	std	**BRMG-4015**	16294	56294
0.020	0.047	1/8	1-1/2	stub	**BRMG-4020-S**	11181	51181
0.020	0.085	1/8	1-1/2	std	**BRMG-4020**	16295	56295
0.025	0.075	1/8	1-1/2	std	**BRMG-4025**	16296	56296
0.030	0.047	1/8	1-1/2	stub	**BRMG-4030-S**	11703	51703
0.031	0.047	1/8	1-1/2	stub	**BRMG-4031-S**	11182	51182
0.031	0.063	1/8	1-1/2	std	**BRMG-4031**	16297	56297
0.035	0.055	1/8	1-1/2	std	**BRMG-4035**	16298	56298
0.039	0.047	1/8	1-1/2	std	**BRMG-4039**	16299	56299
0.047	0.047	3/16	2	stub	**BRMG-6047-S**	11183	51183
0.047	0.094	3/16	2	std	**BRMG-6047**	16300	56300
0.050	0.088	3/16	2	std	**BRMG-6050**	16301	56301
0.055	0.078	3/16	2	std	**BRMG-6055**	16302	56302
0.062	0.047	3/16	2	stub	**BRMG-6062-S**	11185	51185
0.062	0.064	3/16	2	std	**BRMG-6062**	16303	56303
0.072	0.106	1/4	2-1/2	std	**BRMG-8072**	16304	56304
0.078	0.047	1/4	2	stub	**BRMG-8078-S**	11186	51186
0.078	0.094	1/4	2-1/2	std	**BRMG-8078**	16305	56305
0.093	0.064	1/4	2-1/2	std	**BRMG-8093**	16306	56306
0.094	0.047	1/4	2	stub	**BRMG-8094-S**	11187	51187
0.100	0.050	1/4	2-1/2	std	**BRMG-8100**	16307	56307
0.109	0.095	5/16	2-1/2	std	**BRMG-10109**	16308	56308
0.118	0.077	5/16	2-1/2	std	**BRMG-10118**	16309	56309
0.125	0.063	5/16	2-1/2	std	**BRMG-10125**	16310	56310
0.140	0.095	3/8	2-1/2	std	**BRMG-12140**	16311	56311
0.156	0.063	3/8	2-1/2	std	**BRMG-12156**	16312	56312



3 FLUTE • CORNER ROUNDING END MILLS

Carbide | 3 | 0° | Bright AlTiN | +.001 -.001 radius | Corner Round | HRc <48 | P K M S N

SERIES: RMG

RADIUS	MINOR DIA	SHK/ LARGE DIA	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/32	1/8	3/16	2	std	**RMG-601**	16092	56092
1/16	1/8	1/4	2-1/2	std	**RMG-802**	16093	56093
3/32	3/16	3/8	2-1/2	std	**RMG-1203**	16094	56094
1/8	1/4	1/2	3	std	**RMG-1604**	16095	56095
5/32	5/16	5/8	3-1/2	std	**RMG-2005**	16096	56096
3/16	3/8	3/4	4	std	**RMG-2406**	16097	56097
1/4	1/2	1	4	std	**RMG-3208**	16098	56098

4 FLUTE • CORNER ROUNDING END MILLS

Carbide | 4 | 0° | Bright AlTiN | +.001 -.001 radius | Corner Round | HRc <48 | P K M S N

SERIES: RCMG

RADIUS	MINOR DIA	SHK/LARGE DIA	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/32	1/8	3/16	2	std	**RCMG-601**	16099	56099
1/16	1/8	1/4	2-1/2	std	**RCMG-802**	16100	56100
3/32	3/16	3/8	2-1/2	std	**RCMG-1203**	16101	56101
1/8	1/4	1/2	3	std	**RCMG-1604**	16102	56102
5/32	5/16	5/8	3-1/2	std	**RCMG-2005**	16103	56103
3/16	3/8	3/4	4	std	**RCMG-2406**	16104	56104
1/4	1/2	1	4	std	**RCMG-3208**	16105	56105

4 FLUTE • CORNER ROUNDING END MILLS

Carbide | 4 | 0° | Bright AlTiN | +.025mm -.025mm radius | Corner Round | HRc <48 | P K M S N

SERIES: RCMG

RADIUS	MINOR DIA	SHK/LARGE DIA	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1mm	4mm	6mm	63mm	std	**RCMG-M6M1**	13632	53632
1.5mm	3mm	6mm	63mm	std	**RCMG-M6M1.5**	13633	53633
2mm	4mm	8mm	63mm	std	**RCMG-M8M2**	13634	53634
3mm	6mm	12mm	76mm	std	**RCMG-M12M3**	13635	53635
4mm	8mm	16mm	89mm	std	**RCMG-M16M4**	13636	53636

Special Use Carbide End Mills

2 Flute • 60° or 90° Chamfer End Mills

Carbide | MULTI FLUTES | Bright AlTiN | +.0000 -.0020 | Drill Pt. | HRc <48 | P K M S N

Series: CMG2

DIA	SHK	LOC	OAL	ANGLE	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/4	1/4	3/16	2-1/2	60°	std	**CMG2-808-60**	16281	56281
3/8	3/8	5/16	2-1/2	60°	std	**CMG2-1212-60**	16282	56282
1/2	1/2	7/16	3	60°	std	**CMG2-1616-60**	16283	56283
3/4	3/4	5/8	4	60°	std	**CMG2-2424-60**	11575	51575

DIA	SHK	LOC	OAL	ANGLE	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/8	1/8	1/16	1-1/2	90°	std	**CMG2-404-90**	12091	52091
1/4	1/4	1/8	2-1/2	90°	std	**CMG2-808-90**	16284	56284
3/8	3/8	3/16	2-1/2	90°	std	**CMG2-1212-90**	16278	56278
1/2	1/2	1/4	3	90°	std	**CMG2-1616-90**	16285	56285
3/4	3/4	3/8	4	90°	std	**CMG2-2424-90**	12293	52293

2 Flute • 90° Double End Chamfer End Mills

Series: DMG2

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP
1/8	1/8	1/16	1-1/2	std	**DMG2-404-90**	10971
3/16	3/16	3/32	2	std	**DMG2-606-90**	10973
1/4	1/4	1/8	2-1/2	std	**DMG2-808-90**	10975
3/8	3/8	3/16	2-1/2	std	**DMG2-1212-90**	10977
1/2	1/2	1/4	3	std	**DMG2-1616-90**	10979
5/8	5/8	5/16	3-1/2	std	**DMG2-2020-90**	13097
3/4	3/4	3/8	4	std	**DMG2-2424-90**	13099

4 Flute • 60° or 90° Chamfer End Mills

Series: CMG4

DIA	SHK	LOC	OAL	ANGLE	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/4	1/4	3/16	2-1/2	60°	std	**CMG4-808-60**	16286	56286
3/8	3/8	5/16	2-1/2	60°	std	**CMG4-1212-60**	16287	56287
1/2	1/2	7/16	3	60°	std	**CMG4-1616-60**	16288	56288
3/4	3/4	5/8	4	60°	std	**CMG4-2424-60**	16289	56289

DIA	SHK	LOC	OAL	ANGLE	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/4	1/4	1/8	2-1/2	90°	std	**CMG4-808-90**	16290	56290
3/8	3/8	3/16	2-1/2	90°	std	**CMG4-1212-90**	16279	56279
1/2	1/2	1/4	3	90°	std	**CMG4-1616-90**	16291	56291
3/4	3/4	3/8	4	90°	std	**CMG4-2424-90**	16292	56292

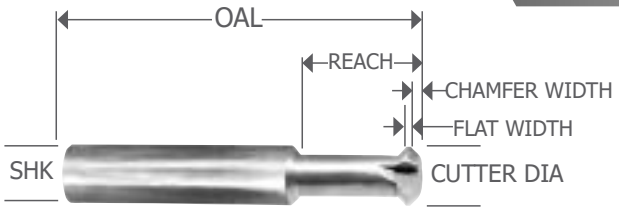
MULTI FLUTE • BACK CHAMFER END MILLS

Carbide | MULTI FLUTES | 0° | BRIGHT | +.0000 -.0050 O.D. | HRc <48 | P K M S N

SERIES: BC

CUTTER DIA	SHANK DIA	OAL	WIDTH	FLAT	NECK DIA	NECK WIDTH	FLUTES	TOOL	BRIGHT EDP
3/8	1/4	2-5/8	.125	0.031	.220	.365	4	**BC-3/8**	12340
1/2	5/16	2-5/8	.125	0.031	.295	.365	5	**BC-1/2**	12341
3/4	3/8	2-21/32	.156	0.031	-----	-----	6	**BC-3/4**	12342
1	1/2	3-3/16	.188	0.031	-----	-----	7	**BC-1**	12343

1 FLUTE • BACK CHAMFER FOR LATHES



Carbide | 1 | 0° | BRIGHT | +.0000 -.0050 O.D. | HRc <48 | P K M S N

SERIES: BCL

CUTTER DIA	SHANK DIA	OAL	CHAMFER WIDTH	FLAT WIDTH	NECK DIA	REACH	TOOL	BRIGHT EDP
.177	3/16	2-1/2	0.026	0.031	0.125	0.775	**BCL-3/16**	12333
1/4	1/4	2-1/2	0.035	0.031	0.170	0.775	**BCL-1/4**	12334
1/4	1/4	2-1/2	0.035	0.031	0.170	1.275	**BCL-1/4-L**	12335
.300	5/16	2-1/2	0.045	0.031	0.210	0.775	**BCL-5/16**	12336
.360	3/8	2-1/2	0.055	0.031	0.250	0.775	**BCL-3/8**	12337
.360	3/8	2-1/2	0.055	0.031	0.250	1.275	**BCL-3/8-L**	12338
.490	1/2	3	0.070	0.031	0.350	1.000	**BCL-1/2**	12339

Special Use Carbide End Mills

2 Flute • 60°, 82° & 90° Drill Point End Mills

Carbide | 2 | 30° | Bright AlTiN | +.0005 -.0005 <1/8 | +.0000 -.0020 ≥1/8 | Drill Pt. | HRc <48 | P K M S N

Series: AMG-__-DP60

DIA	SHK	LOC	OAL	ANGLE	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/16	1/8	3/16	1-1/2	60°	std	**AMG-402-DP60**	12199	52199
3/32	1/8	3/8	1-1/2	60°	std	**AMG-403-DP60**	12200	52200
1/8	1/8	1/2	1-1/2	60°	std	**AMG-404-DP60**	11663	51663
3/16	3/16	5/8	2	60°	std	**AMG-606-DP60**	12201	52201
1/4	1/4	3/4	2-1/2	60°	std	**AMG-808-DP60**	11665	51665
5/16	5/16	13/16	2-1/2	60°	std	**AMG-1010-DP60**	12193	52193
3/8	3/8	1	2-1/2	60°	std	**AMG-1212-DP60**	11667	51667
7/16	7/16	1	2-3/4	60°	std	**AMG-1414-DP60**	12195	52195
1/2	1/2	1	3	60°	std	**AMG-1616-DP60**	11669	51669
5/8	5/8	1-1/4	3-1/2	60°	std	**AMG-2020-DP60**	12196	52196
3/4	3/4	1-1/2	4	60°	std	**AMG-2424-DP60**	12197	52197

Series: AMG-__-DP82

DIA	SHK	LOC	OAL	ANGLE	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/8	1/8	1/2	1-1/2	82°	std	**AMG-404-DP82**	12455	52455
1/4	1/4	3/4	2-1/2	82°	std	**AMG-808-DP82**	16590	56590
3/8	3/8	1	2-1/2	82°	std	**AMG-1212-DP82**	16591	56591
1/2	1/2	1	3	82°	std	**AMG-1616-DP82**	16592	56592
5/8	5/8	1-1/4	3-1/2	82°	std	**AMG-2020-DP82**	16593	56593
3/4	3/4	1-1/2	4	82°	std	**AMG-2424-DP82**	16594	56594

Series: AMG-__-DP

DIA	SHK	LOC	OAL	ANGLE	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
.015	1/8	.045	1-1/2	90°	std	**AMG-.015-DP**	13039	53039
.020	1/8	.060	1-1/2	90°	std	**AMG-.020-DP**	13029	53029
.025	1/8	.075	1-1/2	90°	std	**AMG-.025-DP**	13031	53031
.030	1/8	.090	1-1/2	90°	std	**AMG-.030-DP**	13033	53033
.045	1/8	.105	1-1/2	90°	std	**AMG-.045-DP**	13035	53035
.060	1/8	.180	1-1/2	90°	std	**AMG-.060-DP**	13037	53037
1/16	1/8	3/16	1-1/2	90°	std	**AMG-402-DP**	11623	51623
3/32	1/8	3/8	1-1/2	90°	std	**AMG-403-DP**	11625	51625
1/8	1/8	1/2	1-1/2	90°	std	**AMG-404-DP**	16083	56083
1/8	1/8	1/2	1-1/2	90°	std	**AMG-404-DP-1**	16703	56703
3/16	3/16	5/8	2	90°	std	**AMG-606-DP**	16084	56084
3/16	3/16	5/8	2	90°	std	**AMG-606-DP-1**	16704	56704
1/4	1/4	3/4	2-1/2	90°	std	**AMG-808-DP**	16085	56085
1/4	1/4	3/4	2-1/2	90°	std	**AMG-808-DP-1**	16712	56712
5/16	5/16	13/16	2-1/2	90°	std	**AMG-1010-DP**	16086	56086
5/16	5/16	13/16	2-1/2	90°	std	**AMG-1010-DP-1**	16705	56705
3/8	3/8	1	2-1/2	90°	std	**AMG-1212-DP**	16087	56087
3/8	3/8	1	2-1/2	90°	std	**AMG-1212-DP-1**	16462	56462
7/16	7/16	1	2-3/4	90°	std	**AMG-1414-DP**	16088	56088
1/2	1/2	1	3	90°	std	**AMG-1616-DP**	16089	56089
1/2	1/2	1	3	90°	std	**AMG-1616-DP-1**	16707	56707
5/8	5/8	1-1/4	3-1/2	90°	std	**AMG-2020-DP**	16090	56090
5/8	5/8	1-1/4	3-1/2	90°	std	**AMG-2020-DP-1**	16706	56706
3/4	3/4	1-1/2	4	90°	std	**AMG-2424-DP**	16091	56091

Tool names with "-1" have a .005 sharp point for groove milling

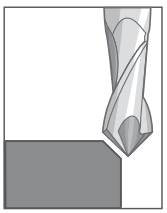
2 FLUTE • 90° DRILL POINT END MILLS

Carbide | 2 | 30° | Bright AlTiN | +.0005 -.0005 <1/8 | +.0000 -.0020 ≥1/8 | Drill Pt. | HRc <48 | P K M S N

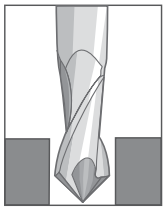
SERIES: AMG-_ _-DP

DIA	SHK	LOC	OAL	ANGLE	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
0.5mm	3mm	2.0mm	38mm	90°	std	**AMG-M3M0.5-DP**	13364	53364
0.6mm	3mm	2.5mm	38mm	90°	std	**AMG-M3M0.6-DP**	13365	53365
0.7mm	3mm	2.5mm	38mm	90°	std	**AMG-M3M0.7-DP**	13366	53366
0.8mm	3mm	3.0mm	38mm	90°	std	**AMG-M3M0.8-DP**	13367	53367
0.9mm	3mm	3.5mm	38mm	90°	std	**AMG-M3M0.9-DP**	13368	53368
1.0mm	3mm	4.0mm	38mm	90°	std	**AMG-M3M1-DP**	13369	53369
1.2mm	3mm	4.5mm	38mm	90°	std	**AMG-M3M1.2-DP**	13370	53370
1.4mm	3mm	5.5mm	38mm	90°	std	**AMG-M3M1.4-DP**	13371	53371
1.5mm	3mm	6.0mm	38mm	90°	std	**AMG-M3M1.5-DP**	13372	53372
1.8mm	3mm	7.0mm	38mm	90°	std	**AMG-M3M1.8-DP**	13373	53373
2.0mm	3mm	8.0mm	38mm	90°	std	**AMG-M3M2-DP**	13374	53374
2.5mm	3mm	10mm	38mm	90°	std	**AMG-M3M2.5-DP**	13375	53375
3.0mm	3mm	12mm	38mm	90°	std	**AMG-M3M3-DP**	13376	53376
4.0mm	4mm	14mm	51mm	90°	std	**AMG-M4M4-DP**	13377	53377
5.0mm	5mm	20mm	51mm	90°	std	**AMG-M5M5-DP**	13378	53378
6.0mm	6mm	20mm	63mm	90°	std	**AMG-M6M6-DP**	13379	53379
8.0mm	8mm	20mm	63mm	90°	std	**AMG-M8M8-DP**	13380	53380
10.0mm	10mm	25mm	70mm	90°	std	**AMG-M10M10-DP**	13381	53381
12.0mm	12mm	25mm	76mm	90°	std	**AMG-M12M12-DP**	13382	53382
16.0mm	16mm	32mm	89mm	90°	std	**AMG-M16M16-DP**	13383	53383
20.0mm	20mm	38mm	100mm	90°	std	**AMG-M20M20-DP**	13384	53384

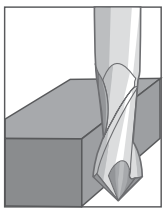
CHAMFERING



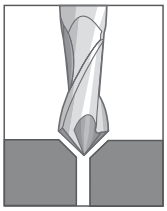
DRILLING



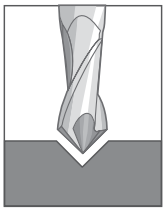
SIDE MILLING



COUNTERSINKING



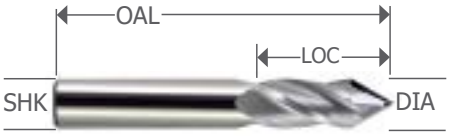
SPOTTING



Special Use Carbide End Mills

4 Flute • 60°, 82°, 90° Drill Point End Mills

Carbide | 4 | 30° | Bright AlTiN | +.0005 -.0005 <1/8 | +.0000 -.0020 ≧1/8 | Drill Pt. | HRc <48 | P K M S N



Series: CCMG-__-DP60

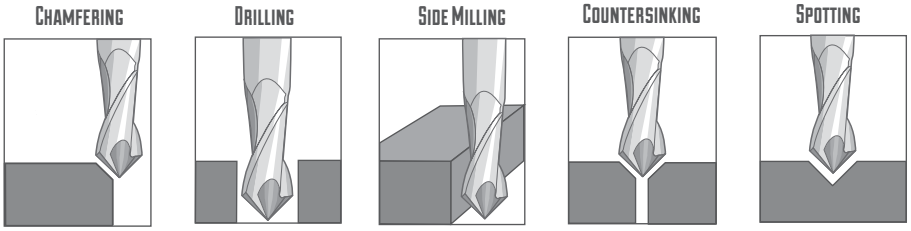
DIA	SHK	LOC	OAL	ANGLE	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/16	1/8	3/16	1-1/2	60°	std	**CCMG-402-DP60**	19764	59764
3/32	1/8	3/8	1-1/2	60°	std	**CCMG-403-DP60**	19765	59765
1/8	1/8	1/2	1-1/2	60°	std	**CCMG-404-DP60**	19766	59766
3/16	3/16	5/8	2	60°	std	**CCMG-606-DP60**	19767	59767
1/4	1/4	3/4	2-1/2	60°	std	**CCMG-808-DP60**	19768	59768
5/16	5/16	13/16	2-1/2	60°	std	**CCMG-1010-DP60**	19769	59769
3/8	3/8	1	2-1/2	60°	std	**CCMG-1212-DP60**	19770	59770
7/16	7/16	1	2-3/4	60°	std	**CCMG-1414-DP60**	19771	59771
1/2	1/2	1	3	60°	std	**CCMG-1616-DP60**	19772	59772
5/8	5/8	1-1/4	3-1/2	60°	std	**CCMG-2020-DP60**	19773	59773
3/4	3/4	1-1/2	4	60°	std	**CCMG-2424-DP60**	19774	59774

Series: CCMG-__-DP82

DIA	SHK	LOC	OAL	ANGLE	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/16	1/8	3/16	1-1/2	82°	std	**CCMG-402-DP82**	19775	59775
3/32	1/8	3/8	1-1/2	82°	std	**CCMG-403-DP82**	19776	59776
1/8	1/8	1/2	1-1/2	82°	std	**CCMG-404-DP82**	19777	59777
3/16	3/16	5/8	2	82°	std	**CCMG-606-DP82**	19778	59778
1/4	1/4	3/4	2-1/2	82°	std	**CCMG-808-DP82**	19779	59779
5/16	5/16	13/16	2-1/2	82°	std	**CCMG-1010-DP82**	19780	59780
3/8	3/8	1	2-1/2	82°	std	**CCMG-1212-DP82**	19781	59781
1/2	1/2	1	3	82°	std	**CCMG-1616-DP82**	19783	59783
5/8	5/8	1-1/4	3-1/2	82°	std	**CCMG-2020-DP82**	19784	59784
3/4	3/4	1-1/2	4	82°	std	**CCMG-2424-DP82**	19785	59785

Series: CCMG-__-DP

DIA	SHK	LOC	OAL	ANGLE	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
1/16	1/8	3/16	1-1/2	90°	std	**CCMG-402-DP**	11629	51629
3/32	1/8	3/8	1-1/2	90°	std	**CCMG-403-DP**	11631	51631
1/8	1/8	1/2	1-1/2	90°	std	**CCMG-404-DP**	11633	51633
3/16	3/16	5/8	2	90°	std	**CCMG-606-DP**	11635	51635
1/4	1/4	3/4	2-1/2	90°	std	**CCMG-808-DP**	11637	51637
5/16	5/16	13/16	2-1/2	90°	std	**CCMG-1010-DP**	11639	51639
3/8	3/8	1	2-1/2	90°	std	**CCMG-1212-DP**	11640	51640
7/16	7/16	1	2-3/4	90°	std	**CCMG-1414-DP**	11641	51641
1/2	1/2	1	3	90°	std	**CCMG-1616-DP**	11642	51642
5/8	5/8	1-1/4	3-1/2	90°	std	**CCMG-2020-DP**	11643	51643
3/4	3/4	1-1/2	4	90°	std	**CCMG-2424-DP**	11644	51644

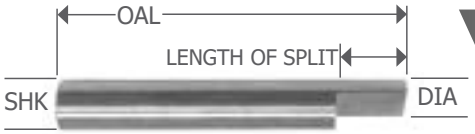


BLANKS • CENTERLESS GROUND BLANKS

Carbide | BRIGHT | +.0010 -.0000

SIZE	CENTERLESS GROUND EDP
1/8 x 1-1/2	10455
1/8 x 2	10457
1/8 x 3	10459
3/16 x 2	10461
3/16 x 3	10463
1/4 x 2	10465
1/4 x 2-1/2	10467
1/4 x 3	10469
1/4 x 4	10471
5/16 x 2-1/2	10473
5/16 x 3	10475
5/16 x 4	10477
3/8 x 2-1/2	10479
3/8 x 3	10481
3/8 x 3-1/2	10483
3/8 x 4	10485
3/8 x 6	10487

SIZE	CENTERLESS GROUND EDP
7/16 x 2-1/2	10489
7/16 x 2-3/4	10491
7/16 x 3	10493
7/16 x 4	10495
1/2 x 3	10499
1/2 x 4	10501
1/2 x 6	10503
9/16 x 3-1/2	10505
5/8 x 3-1/2	10507
5/8 x 6	10509
3/4 x 4	10511
3/4 x 6	10513
7/8 x 4	10515
1 x 4	10517
1 x 6	10519



BLANKS • ENGRAVING BLANKS

DIA	SHK	LENGTH OF SPLIT	OAL	SINGLE END EDP	DOUBLE END EDP
1/8	1/8	3/8	1-1/2	10521	10565
1/8	1/8	3/8	2	10523	10567
1/8	1/8	3/8	3	10525	10569
3/16	3/16	1/2	2	10527	10571
3/16	3/16	1/2	3	10529	10573
1/4	1/4	1/2	2	10531	10575
1/4	1/4	1/2	2-1/2	10533	10577
1/4	1/4	1/2	3	10535	10579
1/4	1/4	1/2	4	10537	10581
5/16	5/16	1/2	2-1/2	10539	10583
5/16	5/16	1/2	3	10541	10585
5/16	5/16	1/2	4	10543	10587
3/8	3/8	1/2	2-1/2	10545	10589
3/8	3/8	1/2	3	10547	10591
3/8	3/8	1/2	4	10549	10593
3/8	3/8	1/2	6	10551	10595
7/16	7/16	5/8	2-1/2	10553	10597
7/16	7/16	5/8	3	10555	10599
7/16	7/16	5/8	4	10557	10601
1/2	1/2	5/8	3	10559	10603
1/2	1/2	5/8	4	10561	10605
1/2	1/2	5/8	6	10563	10607

Special Use Carbide End Mills

Blanks • Half Round - Relieved for Right Hand Cut

Carbide | BRIGHT | +.0010 -.0000

DIA	SHK	LENGTH OF SPLIT	OAL	HALF ROUND BALL
1/8	1/8	3/16	1-1/2	**91073**
5/32	5/32	3/16	1-1/2	**91074**
3/16	3/16	1/4	1-1/2	**91075**
1/4	1/4	3/8	2	**91076**
5/16	5/16	3/8	2	**91077**
3/8	3/8	1/2	2	**91078**
7/16	7/16	1/2	2	**91079**
1/2	1/2	9/16	2	**91080**

Blanks • Half Round 60° Conical- Relieved for Right Hand Cut

Carbide | BRIGHT | +.0010 -.0000

DIA	SHK	LENGTH OF SPLIT	OAL	HALF ROUND 60° CONICAL
1/8	1/8	3/16	1-1/2	**91081**
5/32	5/32	3/16	1-1/2	**91082**
3/16	3/16	1/4	1-1/2	**91083**
1/4	1/4	3/8	2	**91084**
5/16	5/16	3/8	2	**91085**
3/8	3/8	1/2	2	**91086**
7/16	7/16	1/2	2	**91087**
1/2	1/2	1/2	2	**91088**

Blanks • Half Round Square - Relieved for Right Hand Cut

Carbide | BRIGHT | +.0010 -.0000

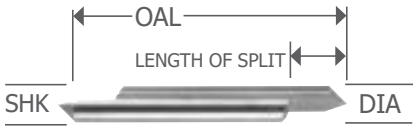
DIA	SHK	LENGTH OF SPLIT	OAL	HALF ROUND SQUARE
1/8	1/8	3/16	1-1/2	**91089**
5/32	5/32	3/16	1-1/2	**91090**
3/16	3/16	1/4	1-1/2	**91091**
1/4	1/4	3/8	2	**91092**
5/16	5/16	3/8	2	**91093**
3/8	3/8	1/2	2	**91094**
7/16	7/16	1/2	2	**91095**
1/2	1/2	1/2	2	**91096**

Blanks • 30°, 60°, 90° Conical - Relieved for Right Hand Cut

Carbide | BRIGHT | +.0010 -.0000

DIA	SHK	LENGTH OF SPLIT	OAL	30°	60°	90°
1/8	1/8	3/8	1-1/2	91001	91013	91025
1/8	1/8	3/8	3	91002	91014	91026
3/16	3/16	7/16	2	91003	91015	91027
3/16	3/16	7/16	3	91004	91016	91028
1/4	1/4	1/2	2	91005	91017	91029
1/4	1/4	1/2	4	91006	91018	91030
5/16	5/16	1/2	2-1/2	91007	91019	91031
5/16	5/16	1/2	4	91008	91020	91032
3/8	3/8	1/2	2-1/2	91009	91021	91033
3/8	3/8	1/2	4	91010	91022	91034
1/2	1/2	5/8	3	91011	91023	91035
1/2	1/2	5/8	4	91012	91024	91036

Blanks • 30°, 60°, 90° Double End Conical - Relieved for Right Hand Cut



Carbide | BRIGHT | +.0010 -.0000

DIA	SHK	LENGTH OF SPLIT	OAL	30°	60°	90°
1/8	1/8	3/8	2	91037	91049	91061
1/8	1/8	3/8	3	91038	91050	91062
3/16	3/16	7/16	2	91039	91051	91063
3/16	3/16	7/16	3	91040	91052	91064
1/4	1/4	1/2	2-1/2	91041	91053	91065
1/4	1/4	1/2	4	91042	91054	91066
5/16	5/16	1/2	2-1/2	91043	91055	91067
5/16	5/16	1/2	4	91044	91056	91068
3/8	3/8	1/2	2-1/2	91045	91057	91069
3/8	3/8	1/2	4	91046	91058	91070
1/2	1/2	5/8	3	91047	91059	91071
1/2	1/2	5/8	4	91048	91060	91072

Special Use Carbide End Mills

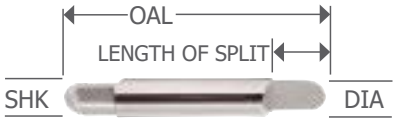
Blanks • Split Ball Nose - Relieved for Right Hand Cut

Carbide | BRIGHT | +.0010 -.0000

DIA	SHK	LENGTH OF SPLIT	OAL	SINGLE END
1/8	1/8	3/8	1-1/2	**12344**
1/8	1/8	3/8	3	**12345**
3/16	3/16	3/8	2	**12346**
3/16	3/16	3/8	3	**12347**
1/4	1/4	3/8	2-1/2	**12348**
1/4	1/4	3/8	4	**12349**
5/16	5/16	1/2	2-1/2	**12350**
3/8	3/8	1/2	2-1/2	**12351**
1/2	1/2	5/8	3	**12352**

Blanks • Double End Split Ball Nose - Relieved for Right Hand Cut

Carbide | BRIGHT | +.0010 -.0000



DIA	SHK	LENGTH OF SPLIT	OAL	DOUBLE END
1/8	1/8	3/8	1-1/2	**12353**
1/8	1/8	3/8	3	**12354**
3/16	3/16	3/8	2	**12355**
3/16	3/16	3/8	3	**12356**
1/4	1/4	3/8	2-1/2	**12357**
1/4	1/4	3/8	4	**12358**
5/16	5/16	1/2	2-1/2	**12359**
3/8	3/8	1/2	2-1/2	**12360**
1/2	1/2	5/8	3	**12361**
1/2	1/2	5/8	4	**12363**

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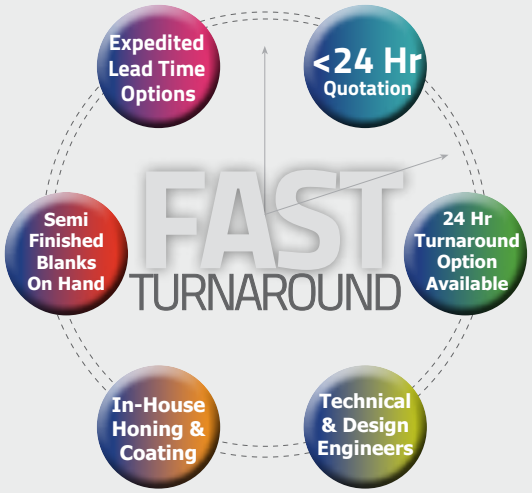

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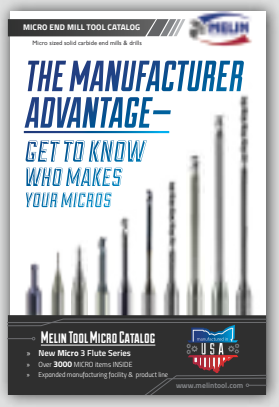

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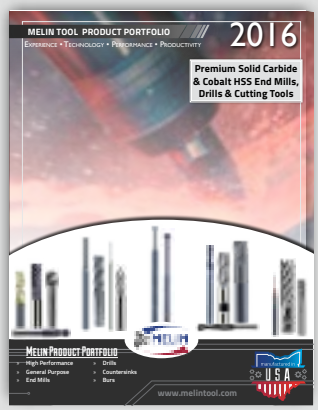

Product Portfolio

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General Purpose Powdered Metal End Mills

Multi Flute • Fine Pitch CC Roughing End Mills

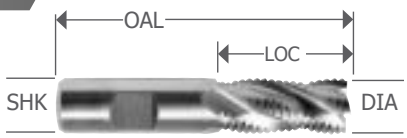
HSSCo PM | MULTI FLUTES | 30° | Bright AlTiN | +.005 -.005 | Chamfer | Fine Pitch | HRc <48 | P K M S

Series: CCFPM

DIA	SHK	LOC	OAL	LENGTH	FLUTE	TOOL	BRIGHT EDP	ALTIN EDP
3/8	3/8	3/4	2-1/2	std	4	**CCFPM-1212**	12893	52893
3/8	3/8	1-1/2	3-1/4	long	4	**CCFPM-1212-L**	12895	52895
1/2	1/2	5/8	2-5/8	stub	4	**CCFPM-1616-S**	12897	52897
1/2	1/2	1-1/4	3-1/4	std	4	**CCFPM-1616**	12899	52899
1/2	1/2	2	4	long	4	**CCFPM-1616-L**	12901	52901
5/8	5/8	3/4	2-7/8	stub	4	**CCFPM-2020-S**	12903	52903
5/8	5/8	1-5/8	3-3/4	std	4	**CCFPM-2020**	12905	52905
5/8	5/8	2-1/2	4-5/8	long	4	**CCFPM-2020-L**	12907	52907
3/4	3/4	3/4	3	stub	4	**CCFPM-2424-S**	12909	52909
3/4	3/4	1-5/8	3-7/8	std	4	**CCFPM-2424**	12911	52911
3/4	3/4	2-1/4	4-1/2	med	4	**CCFPM-2424-M**	12913	52913
3/4	3/4	3	5-1/4	long	4	**CCFPM-2424-L**	12915	52915
1	1	2	4-1/2	std	5	**CCFPM-3232**	12917	52917
1	1	3	5-1/2	med	5	**CCFPM-3232-M**	12919	52919
1	1	4	6-1/2	long	5	**CCFPM-3232-L**	12921	52921
1-1/4	1-1/4	2	4-1/2	std	6	**CCFPM-4040**	12923	52923
1-1/4	1-1/4	4	6-1/2	long	6	**CCFPM-4040-L**	12925	52925

Multi Flute • Coarse Pitch CC Roughing End Mills

HSSCo PM | MULTI FLUTES | 30° | Bright AlTiN | +.005 -.005 | Chamfer | Coarse Pitch | HRc <48 | P K M S

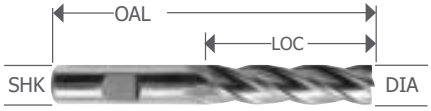


Series: CCRPM

DIA	SHK	LOC	OAL	LENGTH	FLUTE	TOOL	BRIGHT EDP	ALTIN EDP
3/8	3/8	3/4	2-1/2	std	4	**CCRPM-1212**	12927	52927
3/8	3/8	1-1/2	3-1/4	long	4	**CCRPM-1212-L**	12929	52929
1/2	1/2	5/8	2-5/8	stub	4	**CCRPM-1616-S**	12931	52931
1/2	1/2	1-1/4	3-1/4	std	4	**CCRPM-1616**	12933	52933
1/2	1/2	2	4	long	4	**CCRPM-1616-L**	12935	52935
5/8	5/8	3/4	2-7/8	stub	4	**CCRPM-2020-S**	12937	52937
5/8	5/8	1-5/8	3-3/4	std	4	**CCRPM-2020**	12939	52939
5/8	5/8	2-1/2	4-5/8	long	4	**CCRPM-2020-L**	12941	52941
3/4	3/4	3/4	3	stub	4	**CCRPM-2424-S**	12943	52943
3/4	3/4	1-5/8	3-7/8	std	4	**CCRPM-2424**	12945	52945
3/4	3/4	2-1/4	4-1/2	med	4	**CCRPM-2424-M**	12947	52947
3/4	3/4	3	5-1/4	long	4	**CCRPM-2424-L**	12949	52949
1	1	2	4-1/2	std	5	**CCRPM-3232**	12951	52951
1	1	3	5-1/2	med	5	**CCRPM-3232-M**	12953	52953
1	1	4	6-1/2	long	5	**CCRPM-3232-L**	12955	52955
1-1/4	1-1/4	2	4-1/2	std	6	**CCRPM-4040**	12959	52959
1-1/4	1-1/4	4	6-1/2	long	6	**CCRPM-4040-L**	12961	52961

General Purpose Powdered Metal End Mills

4 Flute • CC Finishing End Mills



HSSCo PM | 4 | 30° | Bright AlTiN | +.0015 -.0000 | Square | HRc <48 | P K M S

Series: CCPM

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	ALTIN EDP
3/8	3/8	3/4	2-1/2	std	**CCPM-1212**	12969	52969
3/8	3/8	1-1/2	3-1/4	long	**CCPM-1212-L**	12971	52971
1/2	1/2	5/8	2-5/8	stub	**CCPM-1616-S**	12973	52973
1/2	1/2	1-1/4	3-1/4	std	**CCPM-1616**	12975	52975
1/2	1/2	2	4	long	**CCPM-1616-L**	12977	52977
5/8	5/8	3/4	2-7/8	stub	**CCPM-2020-S**	12979	52979
5/8	5/8	1-5/8	3-3/4	std	**CCPM-2020**	12981	52981
5/8	5/8	2-1/2	4-5/8	long	**CCPM-2020-L**	12983	52983
3/4	3/4	3/4	3	stub	**CCPM-2424-S**	12985	52985
3/4	3/4	1-5/8	3-7/8	std	**CCPM-2424**	12987	52987
3/4	3/4	2-1/4	4-1/2	med	**CCPM-2424-M**	12989	52989
3/4	3/4	3	5-1/4	long	**CCPM-2424-L**	12991	52991
1	1	2	4-1/2	std	**CCPM-3232**	12993	52993
1	1	3	5-1/2	med	**CCPM-3232-M**	12995	52995
1	1	4	6-1/2	long	**CCPM-3232-L**	12997	52997
1-1/4	1-1/4	2	4-1/2	std	**CCPM-4040**	12999	52999
1-1/4	1-1/4	4	6-1/2	long	**CCPM-4040-L**	13001	53001

4 Flute • CC Variable Flute End Mills

HSSCo PM | 4 | Variable | nACo | +.0015 -.0000 | Radius | HRc <48 | P K M S

Series: VHPM

DIA	SHK	LOC	OAL	RADIUS	LENGTH	TOOL	NACO EDP
3/8	3/8	3/4	2-1/2	0.015-0.020	std	**VHPM-1212**	13003
1/2	1/2	5/8	2-5/8	0.025-0.030	stub	**VHPM-1616-S**	13005
1/2	1/2	1-1/4	3-1/4	0.025-0.030	std	**VHPM-1616**	13007
5/8	5/8	3/4	2-7/8	0.030-0.035	stub	**VHPM-2020-S**	13009
5/8	5/8	1-5/8	3-3/4	0.030-0.035	std	**VHPM-2020**	13011
3/4	3/4	3/4	3	0.030-0.035	stub	**VHPM-2424-S**	13013
3/4	3/4	1-5/8	3-7/8	0.030-0.035	std	**VHPM-2424**	13015
1	1	2	4-1/2	0.030-0.035	std	**VHPM-3232**	13017
1-1/4	1-1/4	2	4-1/2	0.030-0.035	std	**VHPM-4040**	13019

Cobalt & HSS Roughing End Mills

Multi Flute • Fine Pitch Center Cutting Roughing End Mills

HSSCo M42 | MULTI FLUTES | 30° | Bright TiCN | +.005 -.005 | Chamfer | Fine Pitch | HRc <44 | P K M S

Series: CCFP

DIA	SHK	LOC	OAL	FLUTE	LENGTH	TOOL	BRIGHT EDP	TICN EDP
3/16	3/8	1/2	2-3/8	4	std	**CCFP-1206**	17672	47672
1/4	3/8	5/8	2-7/16	4	std	**CCFP-1208**	17673	47673
1/4	3/8	1-1/8	3-1/16	4	long	**CCFP-1208-L**	17674	47674
5/16	3/8	3/4	2-1/2	4	std	**CCFP-1210**	17675	47675
5/16	3/8	1-3/8	3-1/8	4	long	**CCFP-1210-L**	17676	47676
3/8	3/8	3/8	2-1/8	4	stub	**CCFPS-1212**	16453	46453
3/8	3/8	3/4	2-1/2	4	std	**CCFP-1212**	17677	47677
3/8	3/8	1-1/2	3-1/4	4	long	**CCFP-1212-L**	17678	47678
7/16	3/8	1	2-11/16	4	std	**CCFP-1214**	17679	47679
1/2	1/2	1/2	2-1/2	4	stub	**CCFPS-1616**	16454	46454
1/2	1/2	5/8	2-5/8	4	stub	**CCFP-1616-2**	17680	47680
1/2	1/2	1	3	4	std	**CFPS-1616**	15536	45536
1/2	1/2	1-1/4	3-1/4	4	std	**CCFP-1616**	17681	47681
1/2	1/2	1-5/8	3-5/8	4	med	**CCFP-1616-M**	17682	47682
1/2	1/2	2	4	4	long	**CCFP-1616-L**	16031	46031
1/2	1/2	2-1/2	4-1/2	4	long	**CFP-1616-LL**	15682	45682
1/2	1/2	3	5	4	xl	**CFP-1616-E**	15684	45684
9/16	1/2	1-3/8	3-3/8	4	std	**CFP-1618**	15540	45540
5/8	5/8	5/8	2-3/4	4	stub	**CCFPS-2020**	16455	46455
5/8	5/8	3/4	2-7/8	4	stub	**CFPS-2020**	15544	45544
5/8	5/8	1-1/4	3-3/4	4	std	**CFP-2020-2**	15686	45686
5/8	5/8	1-5/8	3-3/4	4	std	**CCFP-2020**	17683	47683
5/8	5/8	2-1/8	4-1/4	4	med	**CFP-2020-M**	15688	45688
5/8	5/8	2-1/2	4-5/8	4	long	**CCFP-2020-L**	16032	46032
5/8	5/8	3-1/8	5-1/4	4	xl	**CFP-2020-E**	15692	45692
3/4	5/8	1-5/8	3-3/4	4	std	**CCFP-2024**	17684	47684
3/4	3/4	3/4	3	4	stub	**CCFPS-2424**	16456	46456
3/4	3/4	1-5/8	3-7/8	4	std	**CCFP-2424**	17685	47685
3/4	3/4	2-1/4	4-1/2	4	med	**CCFP-2424-M**	17686	47686
3/4	3/4	3	5-1/4	4	long	**CCFP-2424-L**	16033	46033
7/8	3/4	1-7/8	4-1/8	5	std	**CCFP-2428**	12324	42324
1	3/4	2	4-1/4	5	med	**CCFP-2432-M**	17687	47687
1	1	2	4-1/2	5	std	**CCFP-3232**	17688	47688
1	1	3	5-1/2	5	med	**CCFP-3232-M**	17689	47689
1	1	4	6-1/2	5	long	**CCFP-3232-L**	16034	46034
1-1/4	1-1/4	1-3/8	3-7/8	6	stub	**CCFPS-4040**	11319	41319
1-1/4	1-1/4	2	4-1/2	6	std	**CCFP-4040**	10733	40733
1-1/4	1-1/4	3	5-1/2	6	med	**CCFP-4040-M**	16035	46035
1-1/4	1-1/4	4	6-1/2	6	long	**CCFP-4040-L**	16036	46036
1-1/2	1-1/4	2	4-1/2	6	std	**CCFP-4048**	12568	42568
1-1/2	1-1/4	3	5-1/2	6	med	**CCFP-4048-M**	12781	42781
1-1/2	1-1/4	4	6-1/2	6	long	**CCFP-4048-L**	12323	42323

MULTI FLUTE • FINE PITCH NON-CENTER CUTTING ROUGHING END MILLS

HSSCo M42 | MULTI FLUTES | 30° | Bright TiCN | +.005 -.005 | Chamfer | Fine Pitch | HRc <44 | P K M S

SERIES: CFP

DIA	SHK	LOC	OAL	FLUTE	LENGTH	TOOL	BRIGHT EDP	TICN EDP
* All roughers 5/8 and under are only available center cutting. See table on page 134								
11/16	5/8	1-5/8	3-3/4	4	std	**CFP-2022**	15694	45694
3/4	3/4	3/4	3	4	stub	**CFPS-2424**	15548	45548
3/4	3/4	1-1/4	3-1/2	4	std	**CFP-2424-2**	15698	45698
3/4	5/8	1-5/8	3-3/4	4	std	**CFP-2024**	15696	45696
3/4	3/4	1-5/8	3-7/8	4	std	**CFP-2424**	15546	45546
3/4	3/4	2-1/2	4-3/4	4	med	**CFP-2424-M**	15550	45550
3/4	3/4	3	5-1/4	4	long	**CFP-2424-L**	15552	45552
3/4	3/4	4-1/8	6-3/8	4	xl	**CFP-2424-E**	15700	45700
13/16	3/4	1-7/8	4-1/8	5	std	**CFP-2426**	15702	45702
7/8	3/4	1-1/8	3-3/8	5	stub	**CFPS-2428**	15706	45706
7/8	3/4	1-7/8	4-1/8	5	std	**CFP-2428**	15704	45704
7/8	7/8	1-7/8	4-1/8	5	std	**CFP-2828**	15738	45738
7/8	3/4	3-1/2	5-3/4	5	long	**CFP-2428-L**	15708	45708
7/8	7/8	3-1/2	5-3/4	5	long	**CFP-2828-L**	15740	45740
1	3/4	1-1/8	3-3/8	5	stub	**CFPS-2432**	15554	45554
1	1	1-1/8	3-5/8	5	stub	**CFPS-3232-2**	15742	45742
1	3/4	1-1/2	3-3/4	5	std	**CFP-2432**	15794	45794
1	1	1-5/8	4-1/8	5	stub	**CFPS-3232**	15560	45560
1	3/4	2	4-1/4	5	med	**CFP-2432-M**	15556	45556
1	1	2	4-1/2	5	std	**CFP-3232**	15558	45558
1	1	3	5-1/2	5	med	**CFP-3232-M**	15562	45562
1	3/4	4	6-1/4	5	long	**CFP-2432-L**	15710	45710
1	1	4	6-1/2	5	long	**CFP-3232-L**	15744	45744
1	1	6	8-1/2	5	xl	**CFP-3232-E**	15746	45746
1-1/8	3/4	1-1/8	3-3/8	6	stub	**CFPS-2436**	CALL	CALL
1-1/8	3/4	2	4-1/4	6	std	**CFP-2436**	15712	45712
1-1/8	1	2	4-1/2	6	std	**CFP-3236**	15748	45748
1-1/8	1	3-1/2	6	6	long	**CFP-3236-L**	15750	45750
1-1/4	3/4	1-1/8	3-3/8	6	stub	**CFPS-2440**	15716	45716
1-1/4	3/4	2	4-1/4	6	med	**CFP-2440-M**	15718	45718
1-1/4	1-1/4	2	4-1/2	6	std	**CFP-4040**	15564	45564
1-1/4	1-1/4	3	5-1/2	6	med	**CFP-4040-M**	15566	45566
1-1/4	1-1/4	4	6-1/2	6	long	**CFP-4040-L**	15568	45568
1-1/4	1-1/4	6	8-1/2	6	xl	**CFP-4040-E**	15570	45570
1-3/8	3/4	1-1/8	3-3/8	6	stub	**CFPS-2444**	15722	45722
1-3/8	3/4	2	4-1/4	6	std	**CFP-2444**	15720	45720
1-1/2	3/4	1-1/8	3-3/8	6	stub	**CFPS-2448**	15728	45728
1-1/2	3/4	1-1/2	3-3/4	6	std	**CFP-2448**	15724	45724
1-1/2	3/4	2	4-1/4	6	std	**CFP-2448-2**	15726	45726
1-1/2	1-1/4	2	4-1/2	6	std	**CFP-4048**	15752	45752
1-1/2	1-1/4	3	5-1/2	6	med	**CFP-4048-M**	15754	45754
1-1/2	1-1/4	4	6-1/2	6	long	**CFP-4048-L**	15756	45756
1-1/2	1-1/4	6	8-1/2	6	xl	**CFP-4048-E**	15758	45758
1-3/4	3/4	1-1/8	3-3/8	6	stub	**CFPS-2456**	15732	45732
1-3/4	3/4	2	4-1/4	6	std	**CFP-2456**	15730	45730
2	3/4	1-1/8	3-3/8	8	stub	**CFPS-2464**	CALL	CALL
2	3/4	2	4-1/4	8	std	**CFP-2464**	15734	45734
2	1-1/4	2	4-1/2	8	std	**CFP-4064**	15760	45760
2	2	4	7-3/4	8	med	**CFP-6464-M**	15764	45764

Cobalt & HSS Roughing End Mills

Multi Flute • Fine Pitch Center Cutting Roughing End Mills

HSSCo M42 | MULTI FLUTES | 30° | Bright TiCN | +.125mm -.125mm | Chamfer | Fine Pitch | HRc <44 | P K M S

Series: CCFP

DIA	SHK	LOC	OAL	FLUTE	LENGTH	TOOL	BRIGHT EDP	TICN EDP
6mm	6mm	13mm	57mm	3	std	**CCFP-M6M6**	16391	46391
7mm	10mm	16mm	69mm	3	std	**CCFP-M10M7**	16392	46392
8mm	10mm	19mm	69mm	3	std	**CCFP-M10M8**	16393	46393
9mm	10mm	19mm	69mm	4	std	**CCFP-M10M9**	16394	46394
10mm	10mm	22mm	72mm	4	std	**CCFP-M10M10**	16395	46395
11mm	12mm	22mm	79mm	4	std	**CCFP-M12M11**	16396	46396
12mm	12mm	26mm	83mm	4	std	**CCFP-M12M12**	16397	46397
13mm	12mm	26mm	83mm	4	std	**CCFP-M12M13**	16398	46398
14mm	12mm	26mm	83mm	4	std	**CCFP-M12M14**	16399	46399
15mm	12mm	26mm	83mm	4	std	**CCFP-M12M15**	16400	46400
16mm	16mm	32mm	92mm	4	std	**CCFP-M16M16**	16401	46401
18mm	16mm	32mm	92mm	4	std	**CCFP-M16M18**	16402	46402
20mm	20mm	38mm	104mm	4	std	**CCFP-M20M20**	16403	46403
22mm	20mm	38mm	104mm	5	std	**CCFP-M20M22**	16404	46404
24mm	25mm	45mm	121mm	5	std	**CCFP-M25M24**	16405	46405
25mm	25mm	45mm	121mm	5	std	**CCFP-M25M25**	16406	46406
28mm	25mm	45mm	121mm	6	std	**CFP-M25M28***	16407	46407
32mm	32mm	53mm	133mm	6	std	**CFP-M32M32***	16409	46409

*=Non-Centercutting

Multi Flute • Fine Pitch Center Cutting Ball Nose Roughing End Mills

HSSCo M42 | MULTI FLUTES | 30° | Bright TiCN | +.005 -.005 | Ball | Fine Pitch | HRc <44 | P K M S

Series: CCFP-__-B

DIA	SHK	LOC	OAL	FLUTE	LENGTH	TOOL	BRIGHT EDP	TICN EDP
1/4	3/8	5/8	2-7/16	4	std	**CCFP-1208-B**	15840	45840
3/8	3/8	3/4	2-1/2	4	std	**CCFP-1212-B**	15842	45842
1/2	1/2	1-1/4	3-1/4	4	std	**CCFP-1616-B**	15844	45844
5/8	5/8	1-5/8	3-3/4	4	std	**CCFP-2020-B**	15846	45846
3/4	3/4	1-5/8	3-7/8	4	std	**CCFP-2424-B**	15848	45848
1	1	2	4-1/2	5	std	**CCFP-3232-B**	15850	45850

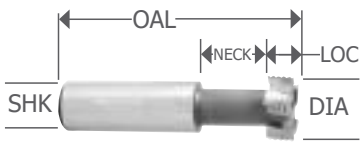
MULTI FLUTE • COARSE PITCH NON-CENTER CUTTING ROUGHING END MILL

HSS | MULTI FLUTES | 30° | Bright TiCN | +.005 -.005 | Coarse Pitch | HRc <44 | P K M S

SERIES: CR

DIA	SHK	LOC	OAL	FLUTE	LENGTH	TOOL	BRIGHT EDP	TICN EDP
3/8	3/8	3/4	2-1/2	4	std	**CR-1212**	16510	46510
3/8	3/8	1-1/2	3-1/4	4	long	**CR-1212-L**	16601	46601
7/16	3/8	1	2-11/16	4	std	**CR-1214**	16698	46698
1/2	1/2	1-1/4	3-1/4	4	std	**CR-1616**	16511	46511
1/2	1/2	1	3	4	stub	**CRS-1616**	16512	46512
1/2	1/2	2	4	4	long	**CR-1616-L**	16513	46513
5/8	5/8	1-5/8	3-3/4	4	std	**CR-2020**	16514	46514
5/8	5/8	2-1/2	4-5/8	4	long	**CR-2020-L**	16515	46515
3/4	5/8	1-5/8	3-3/4	4	std	**CR-2024**	16602	46602
3/4	3/4	1-5/8	3-7/8	4	std	**CR-2424**	16516	46516
3/4	3/4	3/4	3	4	stub	**CRS-2424**	16603	46603
3/4	3/4	3	5-1/4	4	long	**CR-2424-L**	16517	46517
7/8	3/4	1-1/8	3-3/8	5	std	**CR-2428**	16518	46518
7/8	3/4	3-1/2	5-3/4	5	long	**CR-2428-L**	16519	46519
1	3/4	1-1/2	3-3/4	5	std	**CR-2432**	16699	46699
1	3/4	1-1/8	3-3/8	5	stub	**CRS-2432**	16520	46520
1	3/4	1-7/8	4-1/8	5	med	**CR-2432-M**	16521	46521
1	3/4	4	6-1/4	5	long	**CR-2432-L**	16522	46522
1-1/8	3/4	1-1/8	3-3/8	6	stub	**CRS-2436**	16523	46523
1-1/4	3/4	1-1/2	3-3/4	6	std	**CR-2440**	16700	46700
1-1/4	3/4	1-1/8	3-3/8	6	stub	**CRS-2440-2**	16524	46524
1-1/4	3/4	2	4-1/2	6	med	**CR-2440-M**	16525	46525
1-1/2	3/4	1-1/2	3-3/4	6	std	**CR-2448**	16605	46605
1-1/2	3/4	2-1/4	4-1/2	6	std	**CR-2448-2**	16526	46526
1-1/2	3/4	1-1/8	3-3/8	6	stub	**CRS-2448-2**	16527	46527
2	3/4	1-1/8	3-3/8	8	stub	**CRS-2464-2**	16528	46528
1	1	2	4-1/2	5	std	**CR-3232**	16529	46529
1	1	3	5-1/2	5	med	**CR-3232-M**	16530	46530
1	1	4	6-1/2	5	long	**CR-3232-L**	16531	46531
1-1/8	1	2	4-1/2	6	std	**CR-3236**	16701	46701
1-1/4	1-1/4	2	4-1/2	6	std	**CR-4040**	16532	46532
1-1/4	1-1/4	3	5-1/2	6	med	**CR-4040-M**	CALL	CALL
1-1/4	1-1/4	4	6-1/2	6	long	**CR-4040-L**	16534	46534
1-1/2	1-1/4	2	4-1/2	6	std	**CR-4048**	16535	46535
1-1/2	1-1/4	3	5-1/2	6	med	**CR-4048-M**	CALL	CALL
1-1/2	1-1/4	4	6-1/2	6	long	**CR-4048-L**	16537	46537

MULTI FLUTE • COARSE PITCH T-SLOT ROUGHING END MILLS



HSSCo M42 | MULTI FLUTES | 20° | Bright TiCN | +.005 -.005 | Chamfer | Coarse Pitch | HRc <44 | P K M S

SERIES: CRPN

DIA	SHK	LOC	NECK	OAL	BOLT SIZE	FLUTE	LENGTH	TOOL	BRIGHT EDP	TICN EDP
0.9588	3/4	.3856	1.019	3-7/16	1/2	5	std	**CRPN-2431**	12757	42757
1.2400	1	.4790	1.117	3-15/16	5/8	6	std	**CRPN-3240**	12759	42759
1.4590	1	.6200	1.537	4-7/16	3/4	6	std	**CRPN-3247**	12761	42761
1.8338	1-1/4	.8230	1.706	4-13/16	1	8	std	**CRPN-4059**	12763	42763
2.2090	1-1/4	1.088	2.006	5-3/8	1-1/4	8	std	**CRPN-4071**	12765	42765
2.6460	1-1/4	1.339	2.296	5-29/32	1-1/2	8	std	**CRPN-4085**	12767	42767

Cobalt & HSS Roughing End Mills

Multi Flute • Coarse Pitch Center Cutting Roughing End Mill

Series: CCRP

DIA	SHK	LOC	OAL	FLUTE	LENGTH	TOOL	BRIGHT EDP	TICN EDP
3/16	3/8	1/2	2-3/8	4	std	**CCRP-1206**	15600	45600
1/4	3/8	5/8	2-7/16	4	std	**CCRP-1208**	15602	45602
1/4	3/8	1-1/8	3-1/16	4	long	**CCRP-1208-L**	15604	45604
1/4	3/8	1-1/4	3-1/16	4	long	**CRP-1208-LL**	15766	45766
5/16	3/8	3/4	2-1/2	4	std	**CCRP-1210**	15606	45606
5/16	3/8	1-3/8	3-1/8	4	long	**CCRP-1210-L**	15608	45608
3/8	3/8	3/4	2-1/2	4	std	**CCRP-1212**	15610	45610
3/8	3/8	1-1/2	3-1/4	4	long	**CCRP-1212-L**	15612	45612
7/16	3/8	1	2-11/16	4	std	**CCRP-1214**	15614	45614
1/2	1/2	5/8	2-5/8	4	std	**CCRP-1616-2**	15796	45796
1/2	1/2	1	3	4	stub	**CCRPS-1616**	15616	45616
1/2	1/2	1-1/4	3-1/4	4	std	**CCRP-1616**	12664	42664
1/2	1/2	1-5/8	3-5/8	4	med	**CCRP-1616-M**	15618	45618
1/2	1/2	2	4	4	long	**CCRP-1616-L**	12678	42678
9/16	1/2	1-3/8	3-3/8	4	std	**CRP-1618**	15584	45584
5/8	5/8	3/4	2-7/8	4	stub	**CRPS-2020**	15586	45586
5/8	5/8	1-5/8	3-3/4	4	std	**CCRP-2020**	12666	42666
5/8	5/8	2-1/2	4-5/8	4	long	**CCRP-2020-L**	12680	42680
3/4	5/8	1-5/8	3-3/4	4	std	**CCRP-2024**	15620	45620
3/4	3/4	1-5/8	3-7/8	4	std	**CCRP-2424**	12668	42668
3/4	3/4	2-1/4	4-1/2	4	med	**CCRP-2424-M**	15622	45622
3/4	3/4	3	5-1/4	4	long	**CCRP-2424-L**	12682	42682
7/8	3/4	1-7/8	4-1/8	5	std	**CCRP-2428**	12451	42451
1	3/4	2	4-1/4	5	med	**CCRP-2432-M**	15624	45624
1	1	2	4-1/2	5	std	**CCRP-3232**	12670	42670
1	1	3	5-1/2	5	med	**CCRP-3232-M**	15626	45626
1	1	4	6-1/2	5	long	**CCRP-3232-L**	12684	42684
1-1/4	3/4	2	4-1/4	6	med	**CCRP-2440-M**	13055	43055
1-1/4	1-1/4	2	4-1/2	6	std	**CCRP-4040**	12672	42672
1-1/4	1-1/4	3	5-1/2	6	med	**CCRP-4040-M**	12457	42457
1-1/4	1-1/4	4	6-1/2	6	long	**CCRP-4040-L**	12686	42686
1-1/2	1-1/4	2	4-1/2	6	std	**CCRP-4048**	12674	42674
1-1/2	1-1/4	3	5-1/2	6	med	**CCRP-4048-M**	12459	42459
1-1/2	1-1/4	4	6-1/2	6	long	**CCRP-4048-L**	12688	42688

MULTI FLUTE • COARSE PITCH NON-CENTER CUTTING ROUGHING END MILL

HSSCo M42 | MULTI FLUTES | 30° | Bright TiCN | +.005 -.005 | Chamfer | Coarse Pitch | HRc <44 | P K M S

SERIES: CRP

DIA	SHK	LOC	OAL	FLUTE	LENGTH	TOOL	BRIGHT EDP	TICN EDP
* All roughers 5/8 and under are only available center cutting. See table on page 138								
11/16	5/8	1-5/8	3-3/4	4	std	**CRP-2022**	15588	45588
3/4	3/4	3/4	3	4	stub	**CRPS-2424**	12588	42588
3/4	5/8	1-5/8	3-3/4	4	std	**CRP-2024**	12584	42584
3/4	3/4	1-5/8	3-7/8	4	std	**CRP-2424**	12586	42586
3/4	3/4	2-1/2	4-3/4	4	med	**CRP-2424-M**	15590	45590
3/4	3/4	3	5-1/4	4	long	**CRP-2424-L**	12624	42624
13/16	3/4	1-7/8	4-1/8	4	std	**CRP-2426**	15592	45592
7/8	3/4	1-7/8	4-1/8	5	std	**CRP-2428**	12590	42590
7/8	7/8	1-7/8	4-1/8	5	std	**CRP-2828**	12606	42606
7/8	3/4	3-1/2	5-3/4	5	long	**CRP-2428-L**	12626	42626
7/8	7/8	3-1/2	5-3/4	5	long	**CRP-2828-L**	CALL	CALL
1	3/4	3/4	3	5	stub	**CRPS-2432**	12594	42594
1	3/4	1-1/2	3-3/4	5	std	**CRP-2432**	12592	42592
1	1	1-5/8	4-1/8	5	stub	**CRPS-3232**	15598	45598
1	3/4	2	4-1/4	5	med	**CRP-2432-M**	15594	45594
1	1	2	4-1/2	5	std	**CRP-3232**	12608	42608
1	1	3	5-1/2	5	med	**CRP-3232-M**	12630	42630
1	1	4	6-1/2	5	long	**CRP-3232-L**	12632	42632
1	1	6	8-1/2	5	xl	**CRP-3232-E**	12634	42634
1-1/8	1	2	4-1/2	6	std	**CRP-3236**	12610	42610
1-1/4	3/4	3/4	3	6	stub	**CRPS-2440**	CALL	CALL
1-1/4	3/4	1-1/2	3-3/4	6	std	**CRP-2440**	12596	42596
1-1/4	3/4	2	4-1/2	6	med	**CRP-2440-M**	15596	45596
1-1/4	1-1/4	2	4-1/2	6	std	**CRP-4040**	12612	42612
1-1/4	1-1/4	3	5-1/2	6	med	**CRP-4040-M**	12636	42636
1-1/4	1-1/4	4	6-1/2	6	long	**CRP-4040-L**	12638	42638
1-1/4	1-1/4	6	8-1/2	6	xl	**CRP-4040-E**	12640	42640
1-1/2	3/4	3/4	3	6	stub	**CRPS-2448**	12602	42602
1-1/2	3/4	1-1/2	3-3/4	6	std	**CRP-2448**	12600	42600
1-1/2	1-1/4	2	4-1/2	6	std	**CRP-4048**	12614	42614
1-1/2	1-1/4	3	5-1/2	6	med	**CRP-4048-M**	12642	42642
1-1/2	1-1/4	4	6-1/2	6	long	**CRP-4048-L**	12644	42644
1-1/2	1-1/4	5	7-1/2	6	xl	**CRP-4048-E**	12646	42646
1-1/2	1-1/4	8	10-1/2	6	xxl	**CRP-4048-EE**	12648	42648
1-3/4	1-1/4	2-1/2	5-1/4	6	std	**CRP-4056**	12616	42616
1-3/4	1-1/4	4	6-1/2	6	long	**CRP-4056-L**	12650	42650
2	3/4	3/4	3	8	stub	**CRPS-2464**	12604	42604
2	1-1/4	2	4-1/2	8	std	**CRP-4064**	12618	42618
2	2	4	7-3/4	8	med	**CRP-6464-M**	15882	45882
2	2	6	9-3/4	8	long	**CRP-6464-L**	12658	42658

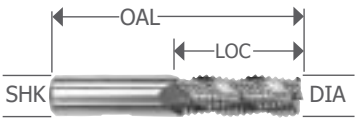
Cobalt & HSS Roughing End Mills

3 Flute • Fine Pitch Roughers with 35° High Helix for Aluminum

Series: EFP

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	TICN EDP
1/4	3/8	1/4	2-1/8	stub	**EFPS-1208**	15784	45784
1/4	3/8	5/8	2-1/2	std	**EFP-1208**	15786	45786
5/16	3/8	3/4	2-1/2	std	**EFP-1210**	10993	40993
3/8	3/8	3/8	2-1/8	stub	**EFPS-1212**	15788	45788
3/8	3/8	3/4	2-1/2	std	**EFP-1212**	15884	45884
1/2	1/2	1/2	2-9/16	stub	**EFPS-1616-2**	15790	45790
1/2	1/2	1-1/4	3-1/4	std	**EFP-1616**	15886	45886
1/2	1/2	2	4	long	**EFP-1616-L**	16458	46458
5/8	5/8	1-5/8	3-3/4	std	**EFP-2020**	15888	45888
3/4	3/4	3/4	3	stub	**EFPS-2424**	15792	45792
3/4	3/4	1-5/8	3-7/8	std	**EFP-2424**	15890	45890
3/4	3/4	2-1/4	4-1/2	med	**EFP-2424-M**	10268	40268
3/4	3/4	3	5-1/4	long	**EFP-2424-L**	16460	46460
1	1	2	4-1/2	std	**EFP-3232**	15892	45892

3 FLUTE • COARSE PITCH ROUGHERS WITH 35° HIGH HELIX FOR ALUMINUM



SERIES: ERP

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	TICN EDP
3/16	3/8	1/2	2-3/8	std	**ERP-1206**	15628	45628
1/4	3/8	5/8	2-7/16	std	**ERP-1208**	15630	45630
1/4	3/8	1-1/8	2-15/16	long	**ERP-1208-L**	15632	45632
5/16	3/8	3/4	2-1/2	std	**ERP-1210**	15634	45634
5/16	3/8	1-3/8	3-1/8	long	**ERP-1210-L**	15636	45636
3/8	3/8	3/4	2-1/2	std	**ERP-1212**	15638	45638
3/8	3/8	1-1/2	3-1/4	long	**ERP-1212-L**	15640	45640
7/16	3/8	1	2-11/16	std	**ERP-1214**	15642	45642
1/2	1/2	1/2	2-9/16	stub	**ERPS-1616-2**	15780	45780
1/2	1/2	1	3	stub	**ERPS-1616**	15646	45646
1/2	1/2	1-1/4	3-1/4	std	**ERP-1616**	15644	45644
1/2	1/2	1-5/8	3-5/8	med	**ERP-1616-M**	15648	45648
1/2	1/2	2	4	long	**ERP-1616-L**	15650	45650
5/8	5/8	3/4	2-7/8	stub	**ERPS-2020**	15654	45654
5/8	5/8	1-5/8	3-3/4	std	**ERP-2020**	15652	45652
5/8	5/8	2-1/2	4-5/8	long	**ERP-2020-L**	15656	45656
3/4	3/4	3/4	3	stub	**ERPS-2424**	15660	45660
3/4	3/4	1-5/8	3-7/8	std	**ERP-2424**	15658	45658
3/4	3/4	2	4-1/4	std	**ERP-2424-2**	15798	45798
3/4	3/4	2-1/2	4-3/4	med	**ERP-2424-M**	15662	45662
3/4	3/4	3	5-1/4	long	**ERP-2424-L**	15664	45664
1	3/4	1-1/8	3-3/8	stub	**ERPS-2432**	15782	45782
1	3/4	1-1/2	3-3/4	std	**ERP-2432**	15778	45778
1	1	2	4-1/2	std	**ERP-3232**	15666	45666
1	1	3	5-1/2	med	**ERP-3232-M**	15668	45668
1	1	4	6-1/2	long	**ERP-3232-L**	13089	43089

3 FLUTE • FINE PITCH ROUGHER/FINISHERS WITH 35° HIGH HELIX FOR ALUMINUM

SERIES: ERFP

DIA	SHK	LOC	OAL	LENGTH	TOOL	BRIGHT EDP	TICN EDP
3/16	3/8	1/2	2-3/8	std	**ERFP-1206**	17691	47691
1/4	3/8	5/8	2-7/16	std	**ERFP-1208**	17692	47692
3/8	3/8	3/4	2-1/2	std	**ERFP-1212**	17693	47693
1/2	1/2	1-1/4	3-1/4	std	**ERFP-1616**	17694	47694
5/8	5/8	1-5/8	3-3/4	std	**ERFP-2020**	16711	46711
3/4	3/4	1-5/8	3-7/8	std	**ERFP-2424**	17695	47695
1	1	2	4-1/2	std	**ERFP-3232**	17696	47696

Cobalt & HSS Roughing End Mills

Multi Flute • Center Cutting Rougher/Finisher

HSSCo M42 | MULTI FLUTES | 30° | Bright TiCN | +.005 -.005 | Chamfer | Rough/Finish | HRc <48 | P K M S

Series: CCRFP

DIA	SHK	LOC	OAL	FLUTE	LENGTH	TOOL	BRIGHT EDP	TICN EDP
3/16	3/8	1/2	2-3/8	4	std	**CCRFP-1206**	13101	43101
1/4	3/8	5/8	2-7/16	4	std	**CCRFP-1208**	13103	43103
5/16	3/8	3/4	2-1/2	4	std	**CCRFP-1210**	11907	41907
5/16	3/8	1-3/8	3-1/8	4	long	**CCRFP-1210-L**	11839	41839
3/8	3/8	3/4	2-1/2	4	std	**CCRFP-1212**	11841	41841
7/16	3/8	1	2-11/16	4	std	**CCRFP-1214**	12281	42281
1/2	1/2	1	3	4	stub	**CRFPS-1616**	15510	45510
1/2	1/2	1-1/4	3-1/4	4	std	**CCRFP-1616**	11873	41873
1/2	1/2	1-5/8	3-5/8	4	med	**CRFP-1616-M**	15512	45512
1/2	1/2	2	4	4	long	**CCRFP-1616-L**	12236	42236
1/2	1/2	3	5	4	xl	**CCRFP-1616-E**	11843	41843
9/16	1/2	1-3/8	3-3/8	4	std	**CCRFP-1618**	11875	41875
5/8	5/8	1-1/4	3-3/4	4	std	**CRFP-2020-2**	11255	41255
5/8	5/8	1-5/8	3-3/4	4	std	**CCRFP-2020**	11877	41877
5/8	5/8	2-1/2	4-5/8	4	long	**CCRFP-2020-L**	11879	41879
11/16	5/8	1-5/8	3-3/4	4	std	**CCRFP-2022**	11845	41845
3/4	5/8	1-5/8	3-3/4	4	std	**CCRFP-2024**	11847	41847
3/4	3/4	1-5/8	3-7/8	4	std	**CCRFP-2424**	11849	41849
3/4	3/4	3	5-1/4	4	long	**CCRFP-2424-L**	11851	41851
3/4	3/4	4-1/8	6-3/8	4	xl	**CCRFP-2424-E**	11853	41853
13/16	3/4	1-7/8	4-1/8	5	std	**CCRFP-2426**	11855	41855
7/8	3/4	1-7/8	4-1/8	5	std	**CCRFP-2428**	11857	41857
1	3/4	2	4-1/4	5	med	**CCRFP-2432-M**	12539	42539
1-1/8	3/4	2	4-1/4	6	std	**CCRFP-2436**	11913	41913
1-1/2	3/4	2	4-1/4	6	std	**CCRFP-2448**	11911	41911
1	1	2	4-1/2	5	std	**CCRFP-3232**	11861	41861
1	1	3	5-1/2	5	med	**CCRFP-3232-M**	11865	41865
1	1	4	6-1/2	5	long	**CCRFP-3232-L**	11863	41863
1	1	6	8-1/2	5	xl	**CCRFP-3232-E**	11909	41909
1-1/4	3/4	2	4-1/2	6	med	**CCRFP-2440-M**	10987	40987
1-1/4	1-1/4	2	4-1/2	6	std	**CCRFP-4040**	13053	43053
1-1/4	1-1/4	3	5-1/2	6	med	**CCRFP-4040-M**	12891	42891
1-1/4	1-1/4	4	6-1/2	6	long	**CCRFP-4040-L**	12331	42331
1-1/4	1-1/4	6	8-1/2	6	xl	**CCRFP-4040-E**	11867	41867
1-1/2	1-1/4	2	4-1/2	6	std	**CCRFP-4048**	11869	41869
1-1/2	1-1/4	3	5-1/2	6	med	**CCRFP-4048-M**	10262	40262
1-1/2	1-1/4	4	6-1/2	6	long	**CCRFP-4048-L**	11915	41915
1-1/2	1-1/4	6	8-1/2	6	xl	**CCRFP-4048-E**	12332	42332

MULTI FLUTE • NON-CENTER CUTTING ROUGHER/FINISHER

HSSCo M42 | MULTI FLUTES | Non-Center Cutting | 30° | Bright TiCN | +.005 -.005 | Chamfer | Rough/Finish | HRc <48 | P K M S

SERIES: CRFP

DIA	SHK	LOC	OAL	FLUTE	LENGTH	TOOL	BRIGHT EDP	TICN EDP
* All rougher/finishers 5/8 and under are only available center cutting. See table on page 144								
3/4	3/4	3/4	3	4	stub	**CRFPS-2424**	11259	41259
3/4	3/4	1-1/4	3-1/2	4	std	**CRFP-2424-2**	11257	41257
3/4	3/4	1-5/8	3-7/8	4	std	**CRFP-2424**	15514	45514
3/4	3/4	2-1/2	4-3/4	4	med	**CRFP-2424-M**	15516	45516
3/4	3/4	3	5-1/4	4	long	**CRFP-2424-L**	15518	45518
1	3/4	2	4-1/4	5	med	**CRFP-2432-M**	11261	41261
1	1	2	4-1/2	5	std	**CRFP-3232**	15520	45520
1	1	3	5-1/2	5	med	**CRFP-3232-M**	15522	45522
1	1	4	6-1/2	5	long	**CRFP-3232-L**	11263	41263
1-1/4	1-1/4	6	8-1/2	6	xl	**CRFP-4040-E**	11265	41265

General Purpose Cobalt & HSS End Mills

2 Flute • Center Cutting End Mills

M42 - HSS | 2 | 30° | Bright TiCN | +.0015 -.0000 | Square | HRc <48 | P K M S N

Series: A

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1/32	3/16	3/32	1-1/2	std	M42	**A-601**	10002	40002
3/64	3/16	9/64	1-1/2	std	M42	**A-601-1/2**	10004	40004
1/16	3/16	3/16	1-1/2	std	M42	**A-602**	10006	40006
5/64	3/16	15/64	1-1/2	std	M42	**A-602-1/2**	10008	40008
3/32	3/16	9/32	1-1/2	std	M42	**A-603**	10010	40010
7/64	3/16	21/64	1-1/2	std	M42	**A-603-1/2**	10012	40012
1/8	3/16	3/8	1-1/2	std	M42	**A-604**	10014	40014
9/64	3/16	27/64	1-1/2	std	M42	**A-604-1/2**	10016	40016
5/32	3/16	7/16	1-1/2	std	M42	**A-605**	10018	40018
11/64	3/16	1/2	1-1/2	std	M42	**A-605-1/2**	10020	40020
3/16	3/16	1/2	1-1/2	std	M42	**A-606**	10022	40022
1/4	1/4	3/4	2-1/2	std	M42	**A-808**	10024	40024

If shank and mill diameters are the same, tolerance is +.0000/-.0025

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3/32	3/8	5/16	2-1/4	std	M42	**A-1203**	10026	40026
1/8	3/8	3/16	2-1/8	stub	M42	**AS-1204**	10030	40030
1/8	3/8	3/8	2-5/16	std	M42	**A-1204**	10028	40028
1/8	3/8	1/2	2-3/8	med	M42	**A-1204-M**	12802	42802
1/8	3/8	3/4	2-5/8	long	M42	**A-1204-L**	12804	42804
5/32	3/8	3/16	2-1/16	stub	M42	**AS-1205**	10034	40034
5/32	3/8	7/16	2-5/16	std	M42	**A-1205**	10032	40032
5/32	3/8	5/8	2-1/2	med	M42	**A-1205-M**	12806	42806
5/32	3/8	3/4	2-5/8	long	M42	**A-1205-L**	12808	42808
3/16	3/8	3/16	2-1/16	stub	M42	**AS-1206**	10038	40038
3/16	3/8	7/16	2-5/16	std	M42	**A-1206**	10036	40036
3/16	3/8	5/8	2-1/2	med	M42	**A-1206-M**	12810	42810
3/16	3/8	3/4	2-5/8	long	M42	**A-1206-L**	10474	40474
3/16	3/8	1-1/4	3-1/8	xl	M42	**A-1206-E**	12812	42812
7/32	3/8	1/4	2-1/8	stub	M42	**AS-1207**	10042	40042
7/32	3/8	1/2	2-3/8	std	M42	**A-1207**	10040	40040
7/32	3/8	7/8	2-3/4	med	M42	**A-1207-M**	12814	42814
7/32	3/8	1-1/4	3-1/8	long	M42	**A-1207-L**	10476	40476
7/32	3/8	1-1/2	3-3/8	xl	M42	**A-1207-E**	12816	42816
1/4	3/8	1/4	2-1/16	stub	M42	**AS-1208**	10046	40046
1/4	3/8	1/2	2-5/16	std	M42	**A-1208**	10044	40044
1/4	3/8	7/8	2-3/4	med	M42	**A-1208-M**	12818	42818
1/4	3/8	1-1/4	3-1/16	long	M42	**A-1208-L**	10478	40478
1/4	3/8	1-3/4	3-9/16	xl	M42	**A-1208-E**	12820	42820
9/32	3/8	5/16	2-1/8	stub	M42	**AS-1209**	10050	40050
9/32	3/8	9/16	2-3/8	std	M42	**A-1209**	10048	40048
9/32	3/8	1	2-3/4	med	M42	**A-1209-M**	12822	42822
9/32	3/8	1-3/8	3-1/8	long	M42	**A-1209-L**	10480	40480
9/32	3/8	1-3/4	3-5/8	xl	M42	**A-1209-E**	12824	42824
19/64	3/8	9/16	2-5/16	std	M42	**A-1209-1/2**	14414	44414
5/16	3/8	5/16	2-1/16	stub	M42	**AS-1210**	10054	40054
5/16	3/8	9/16	2-5/16	std	M42	**A-1210**	10052	40052
5/16	3/8	1	2-3/4	med	M42	**A-1210-M**	12826	42826
5/16	3/8	1-3/8	3-1/8	long	M42	**A-1210-L**	10482	40482
5/16	3/8	2	3-3/4	xl	M42	**A-1210-E**	12828	42828
11/32	3/8	3/8	2-3/16	stub	M42	**AS-1211**	10058	40058
11/32	3/8	3/4	2-1/2	std	M42	**A-1211**	10056	40056
11/32	3/8	1	2-3/4	med	M42	**A-1211-M**	12830	42830
11/32	3/8	1-1/2	3-1/4	long	M42	**A-1211-L**	10484	40484
11/32	3/8	2	3-3/4	xl	M42	**A-1211-E**	12832	42832

sizes continued on next page

2 Flute • Center Cutting End Mills

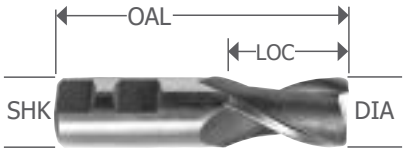
Series: A

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3/8	3/8	3/8	2-1/8	stub	M42	**AS-1212**	10062	40062
3/8	3/8	9/16	2-5/16	std	M42	**A-1212**	10060	40060
3/8	3/8	1	2-3/4	med	M42	**A-1212-M**	10486	40486
3/8	3/8	1-1/2	3-1/4	long	M42	**A-1212-L**	10488	40488
3/8	3/8	2-1/2	4-1/4	xl	M42	**A-1212-E**	10490	40490
13/32	3/8	13/16	2-1/2	std	M42	**A-1213**	10064	40064
7/16	3/8	7/16	2-1/8	stub	M42	**AS-1214**	12794	42794
7/16	3/8	13/16	2-1/2	std	M42	**A-1214**	10066	40066
7/16	1/2	13/16	2-13/16	std	M42	**A-1614**	10070	40070
7/16	3/8	1-1/4	3-1/4	med	M42	**A-1214-M**	12834	42834
7/16	1/2	1-3/4	3-3/4	long	M42	**A-1614-L**	10492	40492
7/16	3/8	2-3/4	4-3/4	xl	M42	**A-1214-E**	12836	42836
15/32	1/2	1	3	std	M42	**A-1615**	10072	40072
1/2	3/8	1/2	2-3/16	stub	M42	**AS-1216**	12796	42796
1/2	3/8	13/16	2-1/2	std	M42	**A-1216**	10068	40068
1/2	1/2	1	3	std	M42	**A-1616**	10074	40074
1/2	1/2	1-1/2	3-1/2	med	M42	**A-1616-M**	10494	40494
1/2	1/2	2	4	long	M42	**A-1616-L**	10496	40496
1/2	1/2	3	5	xl	M42	**A-1616-E**	10498	40498
17/32	1/2	1-1/8	3-1/8	std	M42	**A-1617**	10076	40076
9/16	1/2	1-1/8	3-1/8	std	M42	**A-1618**	10078	40078
19/32	1/2	1-1/8	3-1/8	std	M42	**A-1619**	10080	40080
5/8	1/2	5/8	2-3/4	stub	M42	**AS-1620**	12798	42798
5/8	1/2	1-1/8	3-1/8	std	M42	**A-1620**	10082	40082
5/8	5/8	1-5/16	3-7/16	std	M42	**A-2020**	10108	40108
5/8	5/8	2	4-1/8	med	M42	**A-2020-M**	10500	40500
5/8	5/8	2-1/2	4-5/8	long	M42	**A-2020-L**	10502	40502
5/8	5/8	4	6-1/8	xl	M42	**A-2020-E**	12838	42838
21/32	1/2	1-5/16	3-5/16	std	M42	**A-1621**	10084	40084
11/16	1/2	1-5/16	3-5/16	std	M42	**A-1622**	10086	40086
11/16	5/8	1-5/16	3-7/16	std	M42	**A-2022**	10110	40110
23/32	1/2	1-5/16	3-5/16	std	M42	**A-1623**	10088	40088
3/4	1/2	5/8	2-5/8	stub	M42	**AS-1624**	16470	46470
3/4	1/2	1-5/16	3-5/16	std	M42	**A-1624**	10090	40090
3/4	5/8	1-5/16	3-7/16	std	M42	**A-2024**	10112	40112
3/4	3/4	3/4	3	stub	M42	**AS-2424**	12800	42800
3/4	3/4	1-5/16	3-9/16	std	M42	**A-2424**	10122	40122
3/4	3/4	2-1/4	4-1/2	med	M42	**A-2424-M**	10504	40504
3/4	3/4	3	5-1/4	long	M42	**A-2424-L**	10506	40506
3/4	3/4	4	6-1/4	xl	M42	**A-2424-E**	12840	42840
25/32	1/2	1-1/2	3-1/2	std	M42	**A-1625**	10092	40092
13/16	1/2	1-1/2	3-1/2	std	M42	**A-1626**	10094	40094
13/16	5/8	1-1/2	3-5/8	std	M42	**A-2026**	10114	40114
13/16	3/4	1-1/2	3-3/4	std	M42	**A-2426**	10124	40124
27/32	1/2	1-1/2	3-1/2	std	M42	**A-1627**	10096	40096
7/8	1/2	5/8	2-5/8	stub	M42	**AS-1628**	16471	46471
7/8	1/2	1-1/2	3-1/2	std	M42	**A-1628**	10098	40098
7/8	5/8	1-1/2	3-5/8	std	M42	**A-2028**	10116	40116
7/8	3/4	1-1/2	3-3/4	std	M42	**A-2428**	10126	40126
7/8	7/8	1-1/2	3-3/4	std	M42	**A-2828**	10152	40152
7/8	7/8	2-1/2	4-3/4	med	M42	**A-2828-M**	10508	40508
7/8	7/8	3-1/2	5-3/4	long	M42	**A-2828-L**	10510	40510
29/32	1/2	1-1/2	3-1/2	std	M42	**A-1629**	10100	40100
29/32	7/8	1-5/8	3-3/4	std	M42	**A-2829**	14418	44418
15/16	1/2	1-1/2	3-1/2	std	M42	**A-1630**	10102	40102
15/16	5/8	1-1/2	3-5/8	std	M42	**A-2030**	10118	40118
15/16	3/4	1-1/2	3-3/4	std	M42	**A-2430**	10128	40128
15/16	7/8	1-1/2	3-3/4	std	M42	**A-2830**	10154	40154

sizes continued on next page

General Purpose Cobalt & HSS End Mills

2 Flute • Center Cutting End Mills



Series: A

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
31/32	1/2	1-1/2	3-1/2	std	M42	**A-1631**	10104	40104
31/32	1	1-5/8	4-1/8	std	M42	**A-3231**	14417	44417
1	1/2	3/4	2-3/4	stub	M42	**AS-1632**	16472	46472
1	1/2	1-1/2	3-1/2	std	M42	**A-1632**	10106	40106
1	5/8	3/4	2-7/8	stub	M42	**AS-2032**	16474	46474
1	5/8	1-1/2	3-5/8	std	M42	**A-2032**	10120	40120
1	3/4	3/4	3	stub	M42	**AS-2432**	16476	46476
1	3/4	1-1/2	3-3/4	std	M42	**A-2432**	10130	40130
1	7/8	1-1/2	3-3/4	std	M42	**A-2832**	10156	40156
1	1	1-5/8	4-1/8	std	M42	**A-3232**	10162	40162
1	1	3	5-1/2	med	M42	**A-3232-M**	10512	40512
1	1	4	6-1/2	long	M42	**A-3232-L**	10514	40514
1-1/16	3/4	1-1/2	3-3/4	std	M42	**A-2434**	10132	40132
1-1/16	1	1-5/8	4-1/8	std	M42	**A-3234**	10164	40164
1-1/8	3/4	3/4	3	stub	M42	**AS-2436**	16477	46477
1-1/8	3/4	1-5/8	3-7/8	std	M42	**A-2436**	10134	40134
1-1/8	7/8	1-5/8	3-7/8	std	M42	**A-2836**	10158	40158
1-1/8	1	1-5/8	4-1/8	std	M42	**A-3236**	10166	40166
1-1/8	1	3	5-1/2	med	M42	**A-3236-M**	10516	40516
1-3/16	3/4	1-5/8	3-7/8	std	M42	**A-2438**	10136	40136
1-3/16	1	1-5/8	4-1/8	std	M42	**A-3238**	10168	40168
1-1/4	1/2	3/4	2-3/4	stub	M42	**AS-1640**	16473	46473
1-1/4	5/8	3/4	2-7/8	stub	M42	**AS-2040**	16475	46475
1-1/4	3/4	3/4	3	stub	M42	**AS-2440**	16478	46478
1-1/4	3/4	1-5/8	3-7/8	std	M42	**A-2440**	10138	40138
1-1/4	7/8	1-5/8	3-7/8	std	M42	**A-2840**	10160	40160
1-1/4	1	1-5/8	4-1/8	std	M42	**A-3240**	10170	40170
1-1/4	1-1/4	1-5/8	4-1/8	std	M42	**A-4040**	10180	40180
1-1/4	1	3	5-1/2	med	M42	**A-3240-M**	10518	40518
1-1/4	1-1/4	3	5-1/2	med	M42	**A-4040-M**	10522	40522
1-1/4	1-1/4	4	6-1/2	long	M42	**A-4040-L**	10524	40524
1-5/16	1	1-5/8	4-1/8	std	HSS	**A-3242**	10172	40172
1-3/8	3/4	3/4	3	stub	HSS	**AS-2444**	16479	46479
1-3/8	3/4	1-5/8	3-7/8	std	HSS	**A-2444**	10140	40140
1-3/8	1	1-5/8	4-1/8	std	HSS	**A-3244**	10174	40174
1-3/8	1	3	5-1/2	med	HSS	**A-3244-M**	10520	40520
1-7/16	1	1-5/8	4-1/8	std	HSS	**A-3246**	10176	40176
1-1/2	3/4	1-5/8	3-7/8	std	HSS	**A-2448**	10142	40142
1-1/2	1	1-5/8	4-1/8	std	HSS	**A-3248**	10178	40178
1-1/2	1-1/4	1-5/8	4-1/8	std	HSS	**A-4048**	10184	40184
1-1/2	3/4	3/4	3	stub	HSS	**AS-2448**	16480	46480
1-1/2	3/4	1-5/8	3-7/8	std	M42	**AP-2448**	15278	45278
1-1/2	1-1/4	1-5/8	4-1/8	std	M42	**AP-4048**	10792	40792
1-1/2	1-1/4	3	5-1/2	med	HSS	**A-4048-M**	10526	40526
1-1/2	1-1/4	4	6-1/2	long	HSS	**A-4048-L**	10528	40528
1-9/16	1-1/4	1-5/8	4-1/8	std	HSS	**A-4050**	10186	40186
1-5/8	3/4	1-5/8	3-7/8	std	HSS	**A-2452**	10144	40144
1-5/8	1-1/4	1-5/8	4-1/8	std	HSS	**A-4052**	10188	40188
1-3/4	3/4	1-5/8	3-7/8	std	HSS	**A-2456**	10146	40146
1-3/4	1-1/4	1-5/8	4-1/8	std	HSS	**A-4056**	10190	40190
1-3/4	1-1/4	1-5/8	4-1/8	std	M42	**AP-4056**	CALL	CALL
1-3/4	1-1/4	3	5-1/2	med	HSS	**A-4056-M**	10532	40532
1-7/8	3/4	1-5/8	3-7/8	std	HSS	**A-2460**	10148	40148
1-7/8	1-1/4	1-5/8	4-1/8	std	HSS	**A-4060**	10192	40192
1-7/8	1-1/4	3	5-1/2	med	HSS	**A-4060-M**	CALL	CALL
2	3/4	1-5/8	3-7/8	std	HSS	**A-2464**	10150	40150
2	1-1/4	1-5/8	4-1/8	std	HSS	**A-4064**	10194	40194

sizes continued on next page

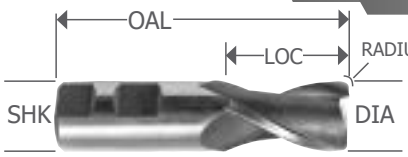
General Purpose Cobalt & HSS End Mills

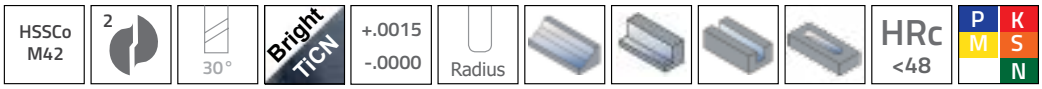
2 Flute • Center Cutting End Mills

Series: A

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
2	3/4	1-5/8	3-7/8	std	M42	**AP-2464**	15286	45286
2	1-1/4	3	5-1/2	med	HSS	**A-4064-M**	10538	40538
2-1/8	1-1/4	1-5/8	4-1/8	std	HSS	**A-4068**	10198	40198
2-1/4	1-1/4	1-5/8	4-1/8	std	HSS	**A-4072**	10200	40200
2-1/4	1-1/4	3	5-1/2	med	HSS	**A-4072-M**	10542	40542
2-1/2	1-1/4	1-5/8	4-1/8	std	HSS	**A-4080**	10202	40202
2-1/2	1-1/4	3	5-1/2	med	HSS	**A-4080-M**	10544	40544

2 Flute • Corner Radius Center Cutting End Mills



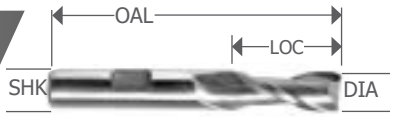


Series: A-__-R__

DIA	SHK	LOC	OAL	RADIUS	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1/8	3/8	3/8	2-5/16	0.015	std	M42	**A-1204-R015**	15146	45146
3/16	3/8	7/16	2-5/16	0.020	std	M42	**A-1206-R020**	15148	45148
3/16	3/8	7/16	2-5/16	0.030	std	M42	**A-1206-R030**	15150	45150
1/4	3/8	1/2	2-5/16	0.020	std	M42	**A-1208-R020**	15152	45152
1/4	3/8	1/2	2-5/16	0.030	std	M42	**A-1208-R030**	15154	45154
1/4	3/8	1/2	2-5/16	0.045	std	M42	**A-1208-R045**	15156	45156
5/16	3/8	9/16	2-5/16	0.020	std	M42	**A-1210-R020**	15158	45158
5/16	3/8	9/16	2-5/16	0.030	std	M42	**A-1210-R030**	15160	45160
5/16	3/8	9/16	2-5/16	0.045	std	M42	**A-1210-R045**	15162	45162
3/8	3/8	9/16	2-5/16	0.020	std	M42	**A-1212-R020**	15164	45164
3/8	3/8	9/16	2-5/16	0.030	std	M42	**A-1212-R030**	15166	45166
3/8	3/8	9/16	2-5/16	0.045	std	M42	**A-1212-R045**	15168	45168
1/2	1/2	1	3	0.020	std	M42	**A-1616-R020**	15170	45170
1/2	1/2	1	3	0.030	std	M42	**A-1616-R030**	15172	45172
1/2	1/2	1	3	0.045	std	M42	**A-1616-R045**	15174	45174
1/2	1/2	1	3	0.060	std	M42	**A-1616-R060**	15176	45176
5/8	5/8	1-5/16	3-7/16	0.020	std	M42	**A-2020-R020**	15178	45178
5/8	5/8	1-5/16	3-7/16	0.030	std	M42	**A-2020-R030**	15180	45180
5/8	5/8	1-5/16	3-7/16	0.045	std	M42	**A-2020-R045**	15182	45182
5/8	5/8	1-5/16	3-7/16	0.060	std	M42	**A-2020-R060**	15184	45184
5/8	5/8	1-5/16	3-7/16	0.090	std	M42	**A-2020-R090**	15186	45186
3/4	3/4	1-5/16	3-9/16	0.020	std	M42	**A-2424-R020**	15188	45188
3/4	3/4	1-5/16	3-9/16	0.030	std	M42	**A-2424-R030**	15190	45190
3/4	3/4	1-5/16	3-9/16	0.045	std	M42	**A-2424-R045**	15192	45192
3/4	3/4	1-5/16	3-9/16	0.060	std	M42	**A-2424-R060**	15194	45194
3/4	3/4	1-5/16	3-9/16	0.090	std	M42	**A-2424-R090**	15196	45196
3/4	3/4	1-5/16	3-9/16	0.125	std	M42	**A-2424-R125**	15198	45198
1	1	1-5/8	4-1/8	0.020	std	M42	**A-3232-R020**	15200	45200
1	1	1-5/8	4-1/8	0.030	std	M42	**A-3232-R030**	15202	45202
1	1	1-5/8	4-1/8	0.045	std	M42	**A-3232-R045**	15204	45204
1	1	1-5/8	4-1/8	0.060	std	M42	**A-3232-R060**	15206	45206
1	1	1-5/8	4-1/8	0.090	std	M42	**A-3232-R090**	15208	45208
1	1	1-5/8	4-1/8	0.125	std	M42	**A-3232-R125**	15210	45210

General Purpose Cobalt & HSS End Mills

2 Flute • Center Cutting Metric/Inch End Mills

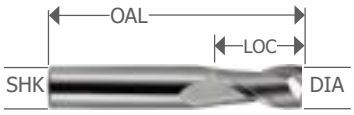


HSSCo M42 | 2 | 30° | Bright TiCN | +.0015 -.0000 | Square | HRc <48 | P M K S N

Series: AP-_M_

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3mm	3/8	3/8	2-5/16	std	M42	**AP-12M3**	10812	40812
3.5mm	3/8	7/16	2-5/16	std	M42	**AP-12M3.5**	11813	41813
4mm	3/8	7/16	2-5/16	std	M42	**AP-12M4**	10814	40814
4.5mm	3/8	7/16	2-5/16	std	M42	**AP-12M4.5**	10815	40815
5mm	3/8	1/2	2-5/16	std	M42	**AP-12M5**	10816	40816
5.5mm	3/8	1/2	2-3/8	std	M42	**AP-12M5.5**	10817	40817
6mm	3/8	1/2	2-5/16	std	M42	**AP-12M6**	10818	40818
6.5mm	3/8	9/16	2-3/8	std	M42	**AP-12M6.5**	10819	40819
7mm	3/8	9/16	2-3/8	std	M42	**AP-12M7**	10820	40820
7.5mm	3/8	9/16	2-5/16	std	M42	**AP-12M7.5**	10821	40821
8mm	3/8	9/16	2-5/16	std	M42	**AP-12M8**	10822	40822
8.5mm	3/8	9/16	2-5/16	std	M42	**AP-12M8.5**	10823	40823
9mm	3/8	9/16	2-5/16	std	M42	**AP-12M9**	10824	40824
9.5mm	3/8	9/16	2-5/16	std	M42	**AP-12M9.5**	10825	40825
10mm	3/8	13/16	2-1/2	std	M42	**AP-12M10**	10826	40826
10.5mm	3/8	13/16	2-1/2	std	M42	**AP-12M10.5**	10827	40827
11mm	3/8	13/16	2-1/2	std	M42	**AP-12M11**	10828	40828
11.5mm	3/8	13/16	2-1/2	std	M42	**AP-12M11.5**	10829	40829
12mm	3/8	13/16	2-1/2	std	M42	**AP-12M12**	10830	40830
12.5mm	1/2	1	3	std	M42	**AP-16M12.5**	10831	40831
13mm	1/2	1-1/8	3-1/8	std	M42	**AP-16M13**	10832	40832
13.5mm	1/2	1-1/8	3-1/8	std	M42	**AP-16M13.5**	10833	40833
14mm	1/2	1-1/8	3-1/8	std	M42	**AP-16M14**	10834	40834
14.5mm	1/2	1-1/8	3-1/8	std	M42	**AP-16M14.5**	10835	40835
15mm	1/2	1-1/8	3-1/8	std	M42	**AP-16M15**	10836	40836
16mm	5/8	1-5/16	3-7/16	std	M42	**AP-20M16**	10838	40838
17mm	5/8	1-5/16	3-7/16	std	M42	**AP-20M17**	10840	40840
18mm	5/8	1-5/16	3-7/16	std	M42	**AP-20M18**	10842	40842
19mm	3/4	1-5/8	3-7/8	std	M42	**AP-24M19**	10844	40844
20mm	3/4	1-1/2	3-3/4	std	M42	**AP-24M20**	10846	40846
21mm	3/4	1-1/2	3-3/4	std	M42	**AP-24M21**	10848	40848
22mm	3/4	1-1/2	3-3/4	std	M42	**AP-24M22**	10850	40850
23mm	7/8	1-7/8	4-1/8	std	M42	**AP-28M23**	10852	40852
24mm	1	2	4-1/2	std	M42	**AP-32M24**	10854	40854
25mm	1	2	4-1/2	std	M42	**AP-32M25**	10856	40856
28mm	1	2	4-1/2	std	M42	**AP-32M28**	10858	40858
32mm	1	2	4-1/2	std	M42	**AP-32M32**	10860	40860
35mm	1	2	4-1/2	std	M42	**AP-32M35**	10862	40862
36mm	1	2	4-1/2	std	M42	**AP-32M36**	10864	40864
40mm	1-1/4	2	4-1/2	std	M42	**AP-40M40**	10866	40866
45mm	1-1/4	2	4-1/2	std	M42	**AP-40M45**	10868	40868
50mm	1-1/4	2	4-1/2	std	M42	**AP-40M50**	CALL	CALL

General Purpose Cobalt & HSS End Mills



2 Flute • Center Cutting End Mills

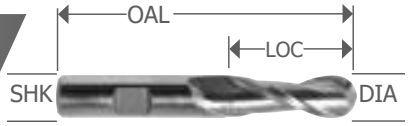
HSSCo M42 | 2 | 30° | Bright TiCN | +.040mm -.0000 | Square | HRc <48 | P K M S N

Series: A-M_M_

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
2mm	6mm	7mm	57mm	std	M42	**A-M6M2**	16339	46339
3mm	6mm	8mm	57mm	std	M42	**A-M6M3**	16340	46340
4mm	6mm	11mm	57mm	std	M42	**A-M6M4**	16341	46341
5mm	6mm	13mm	57mm	std	M42	**A-M6M5**	16342	46342
6mm	6mm	13mm	57mm	std	M42	**A-M6M6**	16343	46343
7mm	10mm	16mm	69mm	std	M42	**A-M10M7**	16344	46344
8mm	10mm	19mm	69mm	std	M42	**A-M10M8**	16345	46345
9mm	10mm	19mm	69mm	std	M42	**A-M10M9**	16346	46346
10mm	10mm	22mm	72mm	std	M42	**A-M10M10**	16347	46347
11mm	12mm	22mm	79mm	std	M42	**A-M12M11**	16348	46348
12mm	12mm	26mm	83mm	std	M42	**A-M12M12**	16349	46349
13mm	12mm	26mm	83mm	std	M42	**A-M12M13**	16350	46350
14mm	12mm	26mm	83mm	std	M42	**A-M12M14**	16351	46351
15mm	12mm	26mm	83mm	std	M42	**A-M12M15**	16352	46352
16mm	16mm	32mm	92mm	std	M42	**A-M16M16**	16353	46353
17mm	16mm	32mm	92mm	std	M42	**A-M16M17**	16354	46354
18mm	16mm	32mm	92mm	std	M42	**A-M16M18**	16355	46355
19mm	16mm	32mm	92mm	std	M42	**A-M16M19**	16356	46356
20mm	20mm	38mm	104mm	std	M42	**A-M20M20**	16357	46357
21mm	20mm	38mm	104mm	std	M42	**A-M20M21**	16358	46358
22mm	20mm	38mm	104mm	std	M42	**A-M20M22**	16359	46359
23mm	20mm	38mm	104mm	std	M42	**A-M20M23**	16360	46360
24mm	25mm	45mm	121mm	std	M42	**A-M25M24**	16361	46361
25mm	25mm	45mm	121mm	std	M42	**A-M25M25**	16362	46362
30mm	25mm	45mm	121mm	std	M42	**A-M25M30**	16363	46363
32mm	32mm	53mm	133mm	std	M42	**A-M32M32**	16364	46364

General Purpose Cobalt & HSS End Mills

2 Flute • Center Cutting Ball Nose End Mill



M42 - HSS | 2 | 30° | Bright TiCN | +.0005 -.0005 ≤5/8 | +.0010 -.0010 >5/8 | Ball | HRc <48 | P K M S N

Series: A-_ _-B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3/32	3/8	5/16	2-1/4	std	M42	**A-1203-B**	10350	40350
1/8	3/8	3/8	2-5/16	std	M42	**A-1204-B**	10352	40352
5/32	3/8	7/16	2-5/16	std	M42	**A-1205-B**	10354	40354
3/16	3/8	1/2	2-3/8	std	M42	**A-1206-B**	10356	40356
3/16	3/8	3/4	2-5/8	long	M42	**A-1206-LB**	10546	40546
7/32	3/8	9/16	2-3/8	std	M42	**A-1207-B**	10358	40358
7/32	3/8	1-1/4	3-1/8	long	M42	**A-1207-LB**	10548	40548
1/4	3/8	5/8	2-7/16	std	M42	**A-1208-B**	10360	40360
1/4	3/8	1-1/4	3-1/16	long	M42	**A-1208-LB**	10550	40550
9/32	3/8	9/16	2-3/8	std	M42	**A-1209-B**	10362	40362
9/32	3/8	1-3/8	3-1/8	long	M42	**A-1209-LB**	10552	40552
5/16	3/8	3/4	2-1/2	std	M42	**A-1210-B**	10364	40364
5/16	3/8	1-3/8	3-1/8	long	M42	**A-1210-LB**	10554	40554
11/32	3/8	3/4	2-1/2	std	M42	**A-1211-B**	10366	40366
11/32	3/8	1-1/2	3-1/4	long	M42	**A-1211-LB**	10556	40556
3/8	3/8	3/4	2-1/2	std	M42	**A-1212-B**	10368	40368
3/8	3/8	1	2-3/4	med	M42	**A-1212-MB**	10558	40558
3/8	3/8	1-1/2	3-1/4	long	M42	**A-1212-LB**	10560	40560
13/32	3/8	13/16	2-1/2	std	M42	**A-1213-B**	10370	40370
7/16	3/8	13/16	2-1/2	std	M42	**A-1214-B**	10372	40372
7/16	1/2	1	3	std	M42	**A-1614-B**	10376	40376
7/16	1/2	1-3/4	3-3/4	long	M42	**A-1614-LB**	10562	40562
15/32	1/2	1	3	std	M42	**A-1615-B**	10378	40378
1/2	3/8	13/16	2-1/2	std	M42	**A-1216-B**	10374	40374
1/2	1/2	1	3	std	M42	**A-1616-B**	10380	40380
1/2	1/2	1-1/2	3-1/2	med	M42	**A-1616-MB**	10564	40564
1/2	1/2	2	4	long	M42	**A-1616-LB**	10566	40566
17/32	1/2	1-1/8	3-1/8	std	M42	**A-1617-B**	10382	40382
9/16	1/2	1-1/8	3-1/8	std	M42	**A-1618-B**	10384	40384
19/32	1/2	1-1/8	3-1/8	std	M42	**A-1619-B**	10386	40386
5/8	1/2	1-1/8	3-1/8	std	M42	**A-1620-B**	10388	40388
5/8	5/8	1-3/8	3-1/2	std	M42	**A-2020-B**	10414	40414
5/8	5/8	2	4-1/8	med	M42	**A-2020-MB**	10568	40568
5/8	5/8	2-1/2	4-5/8	long	M42	**A-2020-LB**	10570	40570
21/32	1/2	1-5/16	3-5/16	std	M42	**A-1621-B**	10390	40390
11/16	1/2	1-5/16	3-5/16	std	M42	**A-1622-B**	10392	40392
11/16	5/8	1-5/16	3-7/16	std	M42	**A-2022-B**	10416	40416
23/32	1/2	1-5/16	3-5/16	std	M42	**A-1623-B**	10394	40394
3/4	1/2	1-5/16	3-5/16	std	M42	**A-1624-B**	10396	40396
3/4	5/8	1-5/16	3-7/16	std	M42	**A-2024-B**	10418	40418
3/4	3/4	1-5/8	3-7/8	std	M42	**A-2424-B**	10428	40428
3/4	3/4	2-1/4	4-1/2	med	M42	**A-2424-MB**	10572	40572
3/4	3/4	3	5-1/4	long	M42	**A-2424-LB**	10574	40574
25/32	1/2	1-1/2	3-1/2	std	M42	**A-1625-B**	10398	40398
13/16	1/2	1-1/2	3-1/2	std	M42	**A-1626-B**	10400	40400
13/16	5/8	1-1/2	3-5/8	std	M42	**A-2026-B**	10420	40420
27/32	1/2	1-1/2	3-1/2	std	M42	**A-1627-B**	10402	40402
7/8	1/2	1-1/2	3-1/2	std	M42	**A-1628-B**	10404	40404
7/8	3/4	2	4-1/4	std	M42	**A-2428-B**	10430	40430
7/8	7/8	2	4-1/4	std	M42	**A-2828-B**	10434	40434
29/32	1/2	1-1/2	3-1/2	std	M42	**A-1629-B**	10406	40406

sizes continued on next page

2 Flute • Center Cutting Ball Nose End Mill

Series: A-_ _-B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
15/16	1/2	1-1/2	3-1/2	std	M42	**A-1630-B**	10408	40408
15/16	5/8	1-1/2	3-5/8	std	M42	**A-2030-B**	10424	40424
15/16	7/8	1-1/2	3-3/4	std	M42	**A-2830-B**	10436	40436
31/32	1/2	1-1/2	3-1/2	std	M42	**A-1631-B**	10410	40410
1	1/2	1-1/2	3-1/2	std	M42	**A-1632-B**	10412	40412
1	5/8	1-1/2	3-5/8	std	M42	**A-2032-B**	10426	40426
1	3/4	2-1/4	4-1/2	std	M42	**A-2432-B**	10432	40432
1	1	2-1/4	4-3/4	std	M42	**A-3232-B**	10444	40444
1	1	3	5-1/2	med	M42	**A-3232-MB**	10580	40580
1	1	4	6-1/2	long	M42	**A-3232-LB**	10582	40582
1-1/16	1	1-5/8	4-1/8	std	M42	**A-3234-B**	10446	40446
1-1/8	1	2-1/4	4-3/4	std	M42	**A-3236-B**	10448	40448
1-3/16	1	1-5/8	4-1/8	std	M42	**A-3238-B**	10450	40450
1-1/4	7/8	1-5/8	3-7/8	std	M42	**A-2840-B**	10442	40442
1-1/4	1	1-5/8	4-1/8	std	M42	**A-3240-B**	10452	40452
1-1/4	1-1/4	2-1/2	5	std	M42	**A-4040-B**	10462	40462
1-5/16	1	1-5/8	4-1/8	std	HSS	**A-3242-B**	10454	40454
1-3/8	1	1-5/8	4-1/8	std	HSS	**A-3244-B**	10456	40456
1-7/16	1	1-5/8	4-1/8	std	HSS	**A-3246-B**	10458	40458
1-1/2	1	1-5/8	4-1/8	std	HSS	**A-3248-B**	10460	40460
1-1/2	1-1/4	2-1/2	5	std	HSS	**A-4048-B**	10464	40464
1-5/8	1-1/4	1-5/8	4-1/8	std	HSS	**A-4052-B**	10466	40466
1-3/4	1-1/4	1-5/8	4-1/8	std	HSS	**A-4056-B**	10468	40468
1-7/8	1-1/4	1-5/8	4-1/8	std	HSS	**A-4060-B**	10470	40470
2	1-1/4	1-5/8	4-1/8	std	HSS	**A-4064-B**	CALL	CALL

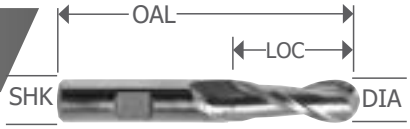
2 Flute • Center Cutting Ball Nose End Mill

Series: AP-_M_-B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3mm	3/8	5/16	2-5/16	std	M42	**AP-12M3-B**	12898	42898
4mm	3/8	7/16	2-5/16	std	M42	**AP-12M4-B**	12900	42900
5mm	3/8	1/2	2-5/16	std	M42	**AP-12M5-B**	12902	42902
6mm	3/8	1/2	2-5/16	std	M42	**AP-12M6-B**	12904	42904
7mm	3/8	9/16	2-3/8	std	M42	**AP-12M7-B**	12906	42906
8mm	3/8	9/16	2-5/16	std	M42	**AP-12M8-B**	12908	42908
9mm	3/8	9/16	2-5/16	std	M42	**AP-12M9-B**	12910	42910
10mm	3/8	13/16	2-1/2	std	M42	**AP-12M10-B**	12912	42912
11mm	3/8	13/16	2-1/2	std	M42	**AP-12M11-B**	12914	42914
12mm	3/8	13/16	2-1/2	std	M42	**AP-12M12-B**	12916	42916
13mm	1/2	1-1/8	3-1/8	std	M42	**AP-16M13-B**	12918	42918
14mm	1/2	1-1/8	3-1/8	std	M42	**AP-16M14-B**	12920	42920

General Purpose Cobalt & HSS End Mills

2 Flute • Center Cutting Ball Nose End Mill



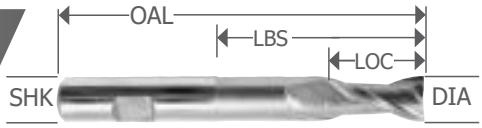
HSSCo M42 | 2 | 30° | Bright TiCN | +.015mm -.015mm | Ball | HRc <48 | P K M S N

Series: A-M_M_-B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
2mm	6mm	7mm	57mm	std	M42	**A-M6M2-B**	16411	46411
3mm	6mm	8mm	57mm	std	M42	**A-M6M3-B**	16412	46412
4mm	6mm	11mm	57mm	std	M42	**A-M6M4-B**	16413	46413
5mm	6mm	13mm	57mm	std	M42	**A-M6M5-B**	16414	46414
6mm	6mm	13mm	57mm	std	M42	**A-M6M6-B**	16415	46415
7mm	10mm	16mm	69mm	std	M42	**A-M10M7-B**	16416	46416
8mm	10mm	19mm	69mm	std	M42	**A-M10M8-B**	16417	46417
9mm	10mm	19mm	69mm	std	M42	**A-M10M9-B**	16418	46418
10mm	10mm	22mm	72mm	std	M42	**A-M10M10-B**	16419	46419
11mm	12mm	22mm	79mm	std	M42	**A-M12M11-B**	16420	46420
12mm	12mm	26mm	83mm	std	M42	**A-M12M12-B**	16421	46421
13mm	12mm	26mm	83mm	std	M42	**A-M12M13-B**	16422	46422
14mm	12mm	26mm	83mm	std	M42	**A-M12M14-B**	16423	46423
15mm	12mm	26mm	83mm	std	M42	**A-M12M15-B**	16424	46424
16mm	16mm	32mm	92mm	std	M42	**A-M16M16-B**	16425	46425
17mm	16mm	32mm	92mm	std	M42	**A-M16M17-B**	16426	46426
18mm	16mm	32mm	92mm	std	M42	**A-M16M18-B**	16427	46427
19mm	16mm	32mm	92mm	std	M42	**A-M16M19-B**	16428	46428
20mm	20mm	38mm	104mm	std	M42	**A-M20M20-B**	16429	46429
21mm	20mm	38mm	104mm	std	M42	**A-M20M21-B**	CALL	CALL
22mm	20mm	38mm	104mm	std	M42	**A-M20M22-B**	14631	44631
23mm	20mm	38mm	104mm	std	M42	**A-M20M23-B**	CALL	CALL
24mm	25mm	45mm	121mm	std	M42	**A-M25M24-B**	16433	46433
25mm	25mm	45mm	121mm	std	M42	**A-M25M25-B**	16434	46434
30mm	25mm	45mm	121mm	std	M42	**A-M25M30-B**	16435	46435
32mm	32mm	53mm	133mm	std	M42	**A-M32M32-B**	16436	46436

Note: under 20mm shank will not have flat

2 Flute • Center Cutting Extended Neck

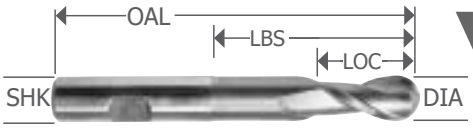


HSSCo M42 | 2 | 30° | Bright TiCN | +.0015 -.0000 | Square | HRc <48 | P K M S N

Series: AN

DIA	SHK	LOC	LBS	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1/8	3/8	3/8	1	2-9/16	std	M42	**AN-1204**	10734	40734
3/16	3/8	1/2	1-1/8	2-11/16	std	M42	**AN-1206**	10736	40736
1/4	3/8	5/8	1-1/2	3-1/16	std	M42	**AN-1208**	10738	40738
5/16	3/8	3/4	1-3/4	3-5/16	std	M42	**AN-1210**	10740	40740
3/8	3/8	3/4	1-3/4	3-5/16	std	M42	**AN-1212**	10742	40742
1/2	1/2	1	2-1/4	4	std	M42	**AN-1616**	10744	40744
5/8	5/8	1-3/8	2-3/4	4-5/8	std	M42	**AN-2020**	10746	40746
3/4	3/4	1-5/8	3-3/8	5-3/8	std	M42	**AN-2424**	10748	40748
1	1	2-1/2	5	7-1/4	std	M42	**AN-3232**	10752	40752

General Purpose Cobalt & HSS End Mills

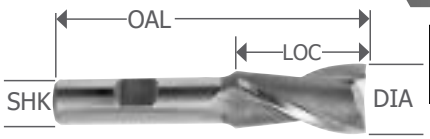


2 Flute • Center Cutting Extended Neck

Series: AN-_ _-B

DIA	SHK	LOC	LBS	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1/8	3/8	3/8	1	2-9/16	std	M42	**AN-1204-B**	10756	40756
3/16	3/8	1/2	1-1/8	2-11/16	std	M42	**AN-1206-B**	10758	40758
1/4	3/8	5/8	1-1/2	3-1/16	std	M42	**AN-1208-B**	10760	40760
5/16	3/8	3/4	1-3/4	3-5/16	std	M42	**AN-1210-B**	10762	40762
3/8	3/8	3/4	1-3/4	3-5/16	std	M42	**AN-1212-B**	10764	40764
1/2	1/2	1	2-1/4	4	std	M42	**AN-1616-B**	10766	40766
3/4	3/4	1-5/8	3-3/8	5-3/8	std	M42	**AN-2424-B**	10770	40770
1	1	2-1/2	5	7-1/4	std	M42	**AN-3232-B**	10774	40774

2 Flute • Center Cutting Keyway Tolerances

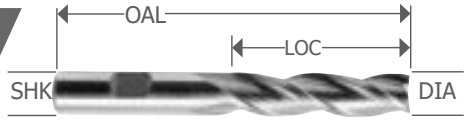


Series: AK

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
1/8	3/8	3/8	2-5/16	std	M42	**AK-1204**	10208
3/16	3/8	7/16	2-5/16	std	M42	**AK-1206**	10212
1/4	3/8	1/2	2-5/16	std	M42	**AK-1208**	10216
5/16	3/8	9/16	2-5/16	std	M42	**AK-1210**	10220
3/8	3/8	9/16	2-5/16	std	M42	**AK-1212**	10224
7/16	3/8	13/16	2-1/2	std	M42	**AK-1214**	10228
1/2	3/8	13/16	2-1/2	std	M42	**AK-1216**	10230
1/2	1/2	1	3	std	M42	**AK-1616**	10236
9/16	1/2	1-1/8	3-1/8	std	M42	**AK-1618**	10240
5/8	1/2	1-1/8	3-1/8	std	M42	**AK-1620**	10244
5/8	5/8	1-5/16	3-7/16	std	M42	**AK-2020**	10270
3/4	5/8	1-5/16	3-7/16	std	M42	**AK-2024**	10274
3/4	3/4	1-5/16	3-9/16	std	M42	**AK-2424**	10284
7/8	5/8	1-1/2	3-5/8	std	M42	**AK-2028**	10278
7/8	7/8	1-1/2	3-3/4	std	M42	**AK-2828**	10306
1	5/8	1-1/2	3-5/8	std	M42	**AK-2032**	10282
1	1	1-5/8	4-1/8	std	M42	**AK-3232**	10316
1-1/4	1	1-5/8	4-1/8	std	M42	**AK-3240**	10324
1-1/2	1-1/4	1-5/8	4-1/8	std	HSS	**AK-4048**	10336
2	1-1/4	1-5/8	4-1/8	std	HSS	**AK-4064**	10344

General Purpose Cobalt & HSS End Mills

3 Flute • Center Cutting End Mill



Series: E

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3/32	3/8	5/16	2-1/4	std	M42	**E-1203**	12022	42022
1/8	3/8	3/8	2-5/16	std	M42	**E-1204**	12024	42024
5/32	3/8	7/16	2-5/16	std	M42	**E-1205**	12026	42026
3/16	3/8	1/2	2-3/8	std	M42	**E-1206**	12028	42028
3/16	3/8	3/4	2-5/8	long	M42	**E-1206-L**	12266	42266
7/32	3/8	1/2	2-3/8	std	M42	**E-1207**	12030	42030
7/32	3/8	1-1/4	3-1/8	long	M42	**E-1207-L**	12268	42268
1/4	3/8	5/8	2-7/16	std	M42	**E-1208**	12032	42032
1/4	3/8	1-1/4	3-1/16	long	M42	**E-1208-L**	12270	42270
9/32	3/8	11/16	2-1/2	std	M42	**E-1209**	12034	42034
9/32	3/8	1-3/8	3-1/8	long	M42	**E-1209-L**	12272	42272
5/16	3/8	3/4	2-1/2	std	M42	**E-1210**	12036	42036
5/16	3/8	1-3/8	3-1/8	long	M42	**E-1210-L**	12274	42274
11/32	3/8	3/4	2-1/2	std	M42	**E-1211**	12038	42038
11/32	3/8	1-1/2	3-1/4	long	M42	**E-1211-L**	12276	42276
3/8	3/8	3/4	2-1/2	std	M42	**E-1212**	12040	42040
3/8	3/8	1-1/2	3-1/4	long	M42	**E-1212-L**	12278	42278
13/32	3/8	1	2-11/16	std	M42	**E-1213**	12042	42042
7/16	3/8	1	2-11/16	std	M42	**E-1214**	12044	42044
7/16	1/2	1-3/4	3-3/4	long	M42	**E-1614-L**	12280	42280
15/32	1/2	1-1/4	3-1/4	std	M42	**E-1615**	12048	42048
1/2	3/8	1	2-11/16	std	M42	**E-1216**	12046	42046
1/2	1/2	1-1/4	3-1/4	std	M42	**E-1616**	12050	42050
1/2	1/2	2	4	long	M42	**E-1616-L**	12282	42282
17/32	1/2	1-3/8	3-3/8	std	M42	**E-1617**	12052	42052
9/16	1/2	1-3/8	3-3/8	std	M42	**E-1618**	12054	42054
19/32	1/2	1-3/8	3-3/8	std	M42	**E-1619**	12056	42056
5/8	1/2	1-3/8	3-3/8	std	M42	**E-1620**	12058	42058
5/8	5/8	1-5/8	3-3/4	std	M42	**E-2020**	12084	42084
5/8	5/8	2-1/2	4-5/8	long	M42	**E-2020-L**	12284	42284
21/32	1/2	1-5/8	3-5/8	std	M42	**E-1621**	12060	42060
11/16	1/2	1-5/8	3-5/8	std	M42	**E-1622**	12062	42062
23/32	1/2	1-5/8	3-5/8	std	M42	**E-1623**	12064	42064
3/4	1/2	1-5/8	3-5/8	std	M42	**E-1624**	12066	42066
3/4	5/8	1-5/8	3-3/4	std	M42	**E-2024**	12086	42086
3/4	3/4	1-5/8	3-7/8	std	M42	**E-2424**	12096	42096
3/4	3/4	3	5-1/4	long	M42	**E-2424-L**	12286	42286
25/32	1/2	1-5/8	3-5/8	std	M42	**E-1625**	12068	42068
13/16	1/2	1-5/8	3-5/8	std	M42	**E-1626**	12070	42070
13/16	5/8	1-7/8	4	std	M42	**E-2026**	12088	42088
13/16	3/4	1-7/8	4-1/8	std	M42	**E-2426**	12098	42098
27/32	1/2	1-5/8	3-5/8	std	M42	**E-1627**	12072	42072
7/8	1/2	1-5/8	3-5/8	std	M42	**E-1628**	12074	42074
7/8	5/8	1-7/8	4	std	M42	**E-2028**	12090	42090
7/8	3/4	1-7/8	4-1/8	std	M42	**E-2428**	12100	42100
7/8	7/8	1-7/8	4-1/8	std	M42	**E-2828**	12116	42116
15/16	1/2	1-7/8	3-7/8	std	M42	**E-1630**	12078	42078
15/16	5/8	1-7/8	4	std	M42	**E-2030**	12092	42092
1	1/2	1-7/8	3-7/8	std	M42	**E-1632**	CALL	CALL
1	3/4	1-7/8	4-1/8	std	M42	**E-2432**	12104	42104
1	1	2	4-1/2	std	M42	**E-3232**	12122	42122
1	1	3	5-1/2	med	M42	**E-3232-M**	12292	42292
1	1	4	6-1/2	long	M42	**E-3232-L**	12294	42294

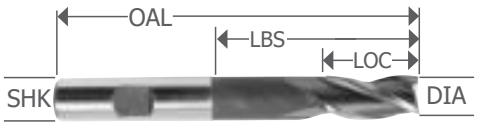
sizes continued on next page

3 Flute • Center Cutting End Mill

Series: E

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1-1/16	3/4	2	4-1/4	std	M42	**E-2434**	12106	42106
1-1/16	1	2	4-1/2	std	M42	**E-3234**	CALL	CALL
1-1/8	3/4	2	4-1/4	std	M42	**E-2436**	12108	42108
1-1/8	1	2	4-1/2	std	M42	**E-3236**	12126	42126
1-3/16	3/4	2	4-1/4	std	M42	**E-2438**	12110	42110
1-3/16	1	2	4-1/2	std	M42	**E-3238**	12128	42128
1-1/4	3/4	2	4-1/4	std	M42	**E-2440**	12112	42112
1-1/4	1	2	4-1/2	std	M42	**E-3240**	12130	42130
1-1/4	1-1/4	4	6-1/2	long	M42	**E-4040-L**	12296	42296
1-5/16	1	2	4-1/2	std	HSS	**E-3242**	12132	42132
1-3/8	1	2	4-1/2	std	HSS	**E-3244**	12134	42134
1-1/2	1-1/4	2	4-1/2	std	HSS	**E-4048**	12144	42144
1-3/4	1-1/4	2	4-1/2	std	HSS	**E-4056**	11660	41660
2	1-1/4	2	4-1/2	std	HSS	**E-4064**	12150	42150

3 Flute • Center Cutting Extended Neck



Series: EN

DIA	SHK	LOC	LBS	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1/8	3/8	3/8	1	2-9/16	std	M42	**EN-1204**	12362	42362
3/16	3/8	1/2	1-5/16	2-7/8	std	M42	**EN-1206**	12366	42366
1/4	3/8	5/8	1-1/2	3-1/16	std	M42	**EN-1208**	12370	42370
5/16	3/8	3/4	1-3/4	3-5/16	std	M42	**EN-1210**	12372	42372
3/8	3/8	3/4	1-3/4	3-5/16	std	M42	**EN-1212**	12374	42374
1/2	1/2	1	2-7/32	4-1/16	std	M42	**EN-1616**	12378	42378

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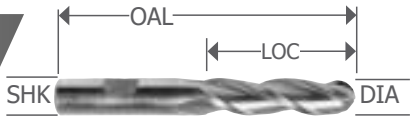
General Purpose Cobalt & HSS End Mills

3 Flute • Center Cutting Ball Nose End Mills



HSSCo M42 | 3 | 30° | Bright TiCN | +.0005 -.0005 ≤5/8 | +.0010 -.0010 >5/8 | Ball | HRc <48 | P M K S N

Series: E-_ _-B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1/8	3/8	3/8	2-5/16	std	M42	**E-1204-B**	12156	42156
3/16	3/8	1/2	2-3/8	std	M42	**E-1206-B**	12160	42160
3/16	3/8	3/4	2-5/8	long	M42	**E-1206-LB**	12306	42306
1/4	3/8	5/8	2-1/2	std	M42	**E-1208-B**	12164	42164
1/4	3/8	1-1/4	3-1/16	long	M42	**E-1208-LB**	12310	42310
5/16	3/8	3/4	2-1/2	std	M42	**E-1210-B**	12168	42168
5/16	3/8	1-3/8	3-1/8	long	M42	**E-1210-LB**	12314	42314
3/8	3/8	3/4	2-1/2	std	M42	**E-1212-B**	12172	42172
3/8	3/8	1-1/2	3-1/4	long	M42	**E-1212-LB**	12318	42318
7/16	1/2	1-3/4	3-3/4	long	M42	**E-1614-LB**	12320	42320
1/2	1/2	1-1/4	3-1/4	std	M42	**E-1616-B**	12182	42182
1/2	1/2	2	4	long	M42	**E-1616-LB**	12322	42322
17/32	1/2	1-3/8	3-3/8	std	M42	**E-1617-B**	CALL	CALL
9/16	1/2	1-3/8	3-3/8	std	M42	**E-1618-B**	12186	42186
5/8	5/8	1-5/8	3-3/4	std	M42	**E-2020-B**	12216	42216
3/4	1/2	1-5/8	3-5/8	std	M42	**E-1624-B**	12198	42198
3/4	3/4	3	5-1/4	long	M42	**E-2424-LB**	12326	42326
13/16	5/8	1-7/8	4	std	M42	**E-2026-B**	12220	42220
7/8	3/4	1-7/8	4-1/8	std	M42	**E-2428-B**	CALL	CALL
1	3/4	1-7/8	4-1/8	std	M42	**E-2432-B**	12232	42232

4 Flute • Center Cutting End Mills

HSSCo M42 | 4 | 30° | Bright TiCN | +.0015 -.0000 | Square | HRc <48 | P M K S N

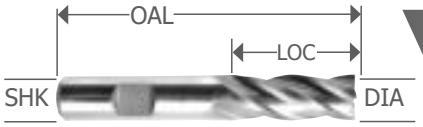
Series: C

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1/16	3/16	3/16	1-1/2	std	M42	**C-602**	11136	41136
5/64	3/16	1/4	1-1/2	std	M42	**C-602-1/2**	11138	41138
3/32	3/16	9/32	1-1/2	std	M42	**C-603**	11140	41140
7/64	3/16	21/64	1-1/2	std	M42	**C-603-1/2**	11142	41142
1/8	3/16	3/8	1-1/2	std	M42	**C-604**	11144	41144
9/64	3/16	27/64	1-1/2	std	M42	**C-604-1/2**	11146	41146
5/32	3/16	7/16	1-1/2	std	M42	**C-605**	11148	41148
11/64	3/16	1/2	1-1/2	std	M42	**C-605-1/2**	11150	41150
3/16	3/16	1/2	1-1/2	std	M42	**C-606***	11152	41152
1/4	1/4	5/8	2-1/2	std	M42	**C-808***	11154	41154

* Tolerance is +.000/-.0025

sizes continued on next page

General Purpose Cobalt & HSS End Mills



Multi Flute • Center Cutting End Mills

HSSCo M42 | 4 | 30° | Bright TiCN | +.0015 -.0000 | Square | HRc <48 | P K M S N

Series: CC

DIA	SHK	LOC	OAL	FLUTE	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1/8	3/8	3/16	2-1/8	4	stub	M42	**CCS-1204**	11434	41434
1/8	3/8	3/8	2-5/16	4	std	M42	**CC-1204**	11432	41432
1/8	3/8	1/2	2-3/8	4	med	M42	**CC-1204-M**	12972	42972
1/8	3/8	3/4	2-5/8	4	long	M42	**CC-1204-L**	12974	42974
9/64	3/8	7/16	2-5/16	4	std	M42	**CC-1204-1/2**	11369	41369
5/32	3/8	3/16	2-1/8	4	stub	M42	**CCS-1205**	11438	41438
5/32	3/8	7/16	2-5/16	4	std	M42	**CC-1205**	11436	41436
5/32	3/8	5/8	2-1/2	4	med	M42	**CC-1205-M**	12976	42976
5/32	3/8	3/4	2-5/8	4	long	M42	**CC-1205-L**	12978	42978
11/64	3/8	1/2	2-3/8	4	std	M42	**CC-1205-1/2**	11389	41389
3/16	3/8	3/16	2-1/16	4	stub	M42	**CCS-1206**	11442	41442
3/16	3/8	1/2	2-3/8	4	std	M42	**CC-1206**	11440	41440
3/16	3/8	5/8	2-1/2	4	med	M42	**CC-1206-M**	12980	42980
3/16	3/8	3/4	2-5/8	4	long	M42	**CC-1206-L**	11582	41582
3/16	3/8	1-1/4	3-1/8	4	xl	M42	**CC-1206-E**	12962	42962
3/16	3/8	1-3/4	3-9/16	4	xxl	M42	**CC-1206-EE**	11273	41273
13/64	3/8	1/2	2-3/8	4	std	M42	**CC-1206-1/2**	11365	41365
7/32	3/8	1/4	2-3/16	4	stub	M42	**CCS-1207**	11446	41446
7/32	3/8	1/2	2-3/8	4	std	M42	**CC-1207**	11444	41444
7/32	3/8	7/8	2-3/4	4	med	M42	**CC-1207-M**	12982	42982
7/32	3/8	1-1/4	3-1/8	4	long	M42	**CC-1207-L**	11584	41584
7/32	3/8	1-1/2	3-5/16	4	xl	M42	**CC-1207-E**	12964	42964
7/32	3/8	1-3/4	3-9/16	4	xxl	M42	**CC-1207-EE**	11339	41339
15/64	3/8	5/8	2-7/16	4	std	M42	**CC-1207-1/2**	11337	41337
1/4	3/8	1/4	2-1/8	4	stub	M42	**CCS-1208**	11450	41450
1/4	3/8	5/8	2-7/16	4	std	M42	**CC-1208**	11448	41448
1/4	3/8	7/8	2-11/16	4	med	M42	**CC-1208-M**	11588	41588
1/4	3/8	1-1/4	3-1/16	4	long	M42	**CC-1208-L**	11586	41586
1/4	3/8	1-3/4	3-9/16	4	xl	M42	**CC-1208-E**	11536	41536
1/4	3/8	2-1/4	4-1/8	4	xxl	M42	**CC-1208-EE**	11538	41538
17/64	3/8	11/16	2-1/2	4	std	M42	**CC-1208-1/2**	11207	41207
9/32	3/8	5/16	2-1/8	4	stub	M42	**CCS-1209**	11454	41454
9/32	3/8	11/16	2-1/2	4	std	M42	**CC-1209**	11452	41452
9/32	3/8	1	2-3/4	4	med	M42	**CC-1209-M**	12984	42984
9/32	3/8	1-3/8	3-1/8	4	long	M42	**CC-1209-L**	11590	41590
9/32	3/8	1-3/4	3-1/2	4	xl	M42	**CC-1209-E**	12966	42966
19/64	3/8	3/4	2-1/2	4	std	M42	**CC-1209-1/2**	11390	41390
5/16	3/8	5/16	2-1/16	4	stub	M42	**CCS-1210**	11458	41458
5/16	3/8	3/4	2-1/2	4	std	M42	**CC-1210**	11456	41456
5/16	3/8	1	2-3/4	4	med	M42	**CC-1210-M**	12986	42986
5/16	3/8	1-3/8	3-1/8	4	long	M42	**CC-1210-L**	11592	41592
5/16	3/8	2	3-3/4	4	xl	M42	**CC-1210-E**	11540	41540
21/64	3/8	3/4	2-1/2	4	std	M42	**CC-1210-1/2**	11367	41367
11/32	3/8	3/8	2-1/8	4	stub	M42	**CCS-1211**	11462	41462
11/32	3/8	3/4	2-1/2	4	std	M42	**CC-1211**	11460	41460
11/32	3/8	1	2-3/4	4	med	M42	**CC-1211-M**	12988	42988
11/32	3/8	1-1/2	3-1/4	4	long	M42	**CC-1211-L**	11594	41594
11/32	3/8	2-1/2	4-1/4	4	xl	M42	**CC-1211-E**	12968	42968
23/64	3/8	3/4	2-1/2	4	std	M42	**CC-1211-1/2**	11340	41340
3/8	3/8	3/8	2-1/8	4	stub	M42	**CCS-1212**	11466	41466
3/8	3/8	3/4	2-1/2	4	std	M42	**CC-1212**	11464	41464
3/8	3/8	1	2-3/4	4	med	M42	**CC-1212-M**	12990	42990
3/8	3/8	1-1/2	3-1/4	4	long	M42	**CC-1212-L**	11596	41596
3/8	3/8	2-1/2	4-1/4	4	xl	M42	**CC-1212-E**	11542	41542

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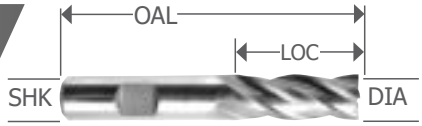
General Purpose Cobalt & HSS End Mills

Multi Flute • Center Cutting End Mill



Series: CC

DIA	SHK	LOC	OAL	FLUTE	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
25/64	3/8	1	2-11/16	4	std	M42	**CC-1212-1/2**	11311	41311
13/32	3/8	1	2-11/16	4	std	M42	**CC-1213**	11174	41174
27/64	3/8	1	2-11/16	4	std	M42	**CC-1213-1/2**	11335	41335
7/16	3/8	9/16	2-1/4	4	stub	M42	**CCS-1214**	12956	42956
7/16	3/8	1	2-11/16	4	std	M42	**CC-1214**	11468	41468
7/16	3/8	1-3/4	3-3/4	4	long	M42	**CC-1214-L**	11338	41338
7/16	1/2	1-1/4	3-1/4	4	med	M42	**CC-1614-M**	12992	42992
7/16	1/2	1-3/4	3-3/4	4	long	M42	**CC-1614-L**	12994	42994
7/16	1/2	2-3/4	4-3/4	4	xl	M42	**CC-1614-E**	12970	42970
29/64	3/8	1	2-11/16	4	std	M42	**CC-1214-1/2**	14419	44419
15/32	3/8	1	2-11/16	4	std	M42	**CC-1215**	10310	40310
15/32	1/2	1-1/4	3-1/4	4	std	M42	**CC-1615**	11180	41180
31/64	1/2	1-1/4	3-1/4	4	std	M42	**CC-1615-1/2**	11363	41363
1/2	1/2	1/2	2-1/2	4	stub	M42	**CCS-1616**	12957	42957
1/2	3/8	1	2-11/16	4	std	M42	**CC-1216**	11470	41470
1/2	1/2	1-1/4	3-1/4	4	std	M42	**CC-1616**	11472	41472
1/2	1/2	1-1/4	3-1/4	6	std	M42	**CC-1616-A**	15050	45050
1/2	1/2	1-5/8	3-5/8	4	med	M42	**CC-1616-M**	12996	42996
1/2	1/2	2	4	4	long	M42	**CC-1616-L**	11598	41598
1/2	1/2	3	5	4	xl	M42	**CC-1616-E**	11544	41544
1/2	1/2	4	6	4	xxl	M42	**CC-1616-EE**	11344	41344
33/64	1/2	1-1/4	3-1/4	4	std	M42	**CC-1616-1/2**	12540	42540
17/32	1/2	1-3/8	3-3/8	4	std	M42	**CC-1617**	11184	41184
9/16	1/2	1-3/8	3-3/8	4	std	M42	**CC-1618**	11474	41474
9/16	1/2	2-1/2	4-1/2	4	long	M42	**CC-1618-L**	11392	41392
9/16	1/2	3-1/2	5-1/2	4	xl	M42	**CC-1618-E**	11346	41346
19/32	1/2	1-3/8	3-3/8	4	std	M42	**CC-1619**	11188	41188
5/8	5/8	5/8	2-3/4	4	stub	M42	**CCS-2020**	12958	42958
5/8	1/2	1-3/8	3-3/8	4	std	M42	**CC-1620**	11190	41190
5/8	5/8	1-5/8	3-3/4	4	std	M42	**CC-2020**	11476	41476
5/8	5/8	1-5/8	3-3/4	6	std	M42	**CC-2020-A**	15054	45054
5/8	5/8	2	4-1/8	4	med	M42	**CC-2020-M**	12998	42998
5/8	5/8	2-1/2	4-5/8	4	long	M42	**CC-2020-L**	11600	41600
5/8	5/8	4	6-1/8	4	xl	M42	**CC-2020-E**	11546	41546
5/8	5/8	5	7-1/8	4	xxl	M42	**CC-2020-EE**	11548	41548
41/64	5/8	1-5/8	3-3/4	4	std	M42	**CC-2020-1/2**	14411	44411
21/32	5/8	1-5/8	3-3/4	4	std	M42	**CC-2021**	14412	44412
11/16	1/2	1-5/8	3-5/8	4	std	M42	**CC-1622**	11355	41355
11/16	5/8	1-5/8	3-3/4	4	std	M42	**CC-2022**	11478	41478
23/32	3/4	1-5/8	3-7/8	4	std	M42	**CC-2423**	14409	44409
3/4	1/2	1-5/8	3-5/8	4	std	M42	**CC-1624**	11201	41201
3/4	1/2	3	5	4	std	M42	**CC-1624-L**	14410	44410
3/4	3/4	3/4	3	4	stub	M42	**CCS-2424**	12960	42960
3/4	5/8	1-5/8	3-3/4	4	std	M42	**CC-2024**	15058	45058
3/4	3/4	1-5/8	3-7/8	4	std	M42	**CC-2424**	11480	41480
3/4	3/4	1-5/8	3-7/8	6	std	M42	**CC-2424-A**	15062	45062
3/4	3/4	2-1/4	4-1/2	4	med	M42	**CC-2424-M**	13000	43000
3/4	3/4	3	5-1/4	4	long	M42	**CC-2424-L**	11602	41602
3/4	3/4	3	5-1/4	6	long	M42	**CC-2424-LA**	11383	41383
3/4	3/4	4	6-1/4	4	xl	M42	**CC-2424-E**	11550	41550
3/4	3/4	4	6-1/4	6	xl	M42	**CC-2424-EA**	10805	40805
3/4	3/4	6	8-1/4	4	xxl	M42	**CC-2424-EE**	11552	41552
49/64	3/4	1-7/8	4-1/8	4	std	M42	**CC-2424-1/2**	12541	42541
25/32	3/4	1-7/8	4-1/8	4	std	M42	**CC-2425**	14413	44413
13/16	3/4	1-7/8	4-1/8	4	std	M42	**CC-2426**	11482	41482

sizes continued on next page

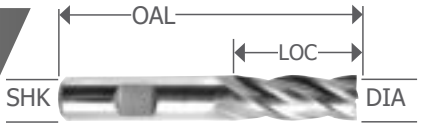
Multi Flute • Center Cutting End Mill

Series: CC

DIA	SHK	LOC	OAL	FLUTE	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
27/32	7/8	1-7/8	4-1/8	4	std	M42	**CC-2827**	12544	42544
7/8	1/2	1-5/8	3-5/8	4	std	M42	**CC-1628**	15854	45854
7/8	3/4	1-7/8	4-1/8	4	std	M42	**CC-2428**	15066	45066
7/8	7/8	1-7/8	4-1/8	4	std	M42	**CC-2828**	11484	41484
7/8	7/8	1-7/8	4-1/8	6	std	M42	**CC-2828-A**	15096	45096
7/8	7/8	3-1/2	5-3/4	4	long	M42	**CC-2828-L**	11604	41604
7/8	7/8	5	7-1/4	4	xl	M42	**CC-2828-E**	11554	41554
29/32	7/8	1-7/8	4-1/8	4	std	M42	**CC-2829**	14421	44421
15/16	3/4	1-7/8	4-1/8	4	std	M42	**CC-2430**	15068	45068
15/16	7/8	1-7/8	4-1/8	4	std	M42	**CC-2830**	11486	41486
1	5/8	1-7/8	4	4	std	M42	**CC-2032**	15060	45060
1	3/4	1-7/8	4-1/8	4	std	M42	**CC-2432**	15070	45070
1	1/2	1-7/8	3-7/8	4	std	M42	**CC-1632**	15856	45856
1	1	2	4-1/2	4	std	M42	**CC-3232**	11488	41488
1	1	2	4-1/2	6	std	M42	**CC-3232-A**	15098	45098
1	1	3	5-1/2	4	med	M42	**CC-3232-M**	11608	41608
1	1	4	6-1/2	4	long	M42	**CC-3232-L**	11606	41606
1	1	4	6-1/2	6	long	M42	**CC-3232-LA**	11385	41385
1	1	6	8-1/2	4	xl	M42	**CC-3232-E**	11556	41556
1	1	8	10-1/2	4	xxl	M42	**CC-3232-EE**	11558	41558
1-1/16	3/4	1-5/8	3-7/8	6	std	M42	**CC-2434**	15072	45072
1-1/8	3/4	1-5/8	3-7/8	6	std	M42	**CC-2436**	15074	45074
1-1/8	1	2	4-1/2	4	std	M42	**CC-3236**	11490	41490
1-3/16	3/4	1-5/8	3-7/8	6	std	M42	**CC-2438**	15076	45076
1-1/4	3/4	1-5/8	3-7/8	6	std	M42	**CC-2440**	15078	45078
1-1/4	1	2	4-1/2	6	std	M42	**CC-3240**	15102	45102
1-1/4	1-1/4	2	4-1/2	4	std	M42	**CC-4040**	11492	41492
1-1/4	1-1/4	2	4-1/2	6	std	M42	**CC-4040-A**	11662	41662
1-1/4	1-1/4	4	6-1/2	4	long	M42	**CC-4040-L**	11610	41610
1-1/4	1-1/4	4	6-1/2	6	long	M42	**CC-4040-LA**	11386	41386
1-1/4	1-1/4	6	8-1/2	4	xl	M42	**CC-4040-E**	11560	41560
1-1/4	1-1/4	6	8-1/2	6	xl	M42	**CC-4040-EA**	11230	41230
1-5/16	3/4	2	4-1/4	6	std	M42	**CCP-2442**	15080	45080
1-3/8	3/4	2	4-1/4	6	std	M42	**CCP-2444**	15082	45082
1-7/16	3/4	2	4-1/4	6	std	M42	**CCP-2446**	15084	45084
1-1/2	3/4	2	4-1/4	6	std	M42	**CCP-2448**	15086	45086
1-1/2	1	2	4-1/2	6	std	M42	**CCP-3248**	15106	45106
1-1/2	1	4	6-1/2	4	long	HSS	**CC-3248-L**	11271	41271
1-1/2	1-1/4	2	4-1/2	4	std	HSS	**CC-4048**	11494	41494
1-1/2	1-1/4	2	4-1/2	4	std	M42	**CCP-4048**	11664	41664
1-1/2	1-1/4	2	4-1/2	6	std	HSS	**CC-4048-A**	11269	41269
1-1/2	1-1/4	2	4-1/2	6	std	M42	**CCP-4048-A**	11666	41666
1-1/2	1-1/4	4	6-1/2	4	long	HSS	**CC-4048-L**	11612	41612
1-1/2	1-1/4	8	10-1/2	4	xl	M42	**CCP-4048-E**	11698	41698
1-5/8	3/4	2	4-1/4	6	std	M42	**CCP-2452**	15088	45088
1-5/8	1-1/4	2	4-1/2	6	std	M42	**CCP-4052**	11673	41673
1-3/4	3/4	2	4-1/4	6	std	M42	**CCP-2456**	15090	45090
1-3/4	1-1/4	2	4-1/2	6	std	M42	**CCP-4056**	15108	45108
1-7/8	3/4	2	4-1/4	6	std	M42	**CCP-2460**	15092	45092
2	3/4	2	4-1/4	6	std	M42	**CCP-2464**	15094	45094
2	1-1/4	2	4-1/2	4	std	M42	**CCP-4064**	11668	41668
2	1-1/4	2	4-1/2	6	std	M42	**CCP-4064-A**	11670	41670
2	1-1/4	4	6-1/2	4	long	M42	**CCP-4064-L**	11712	41712

General Purpose Cobalt & HSS End Mills

Multi Flute • Non-Center Cutting End Mill



M42 - HSS | MULTI FLUTES | 30° | Bright TiCN | +.0015 -.0000 | Square | HRc <48 | P K M S N

Series: C

DIA	SHK	LOC	OAL	FLUTE	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
21/32	1/2	1-5/8	3-5/8	4	std	M42	**C-1621**	11192	41192
11/16	1/2	1-5/8	3-5/8	4	std	M42	**C-1622**	11194	41194
11/16	5/8	1-5/8	3-3/4	4	std	M42	**C-2022**	11218	41218
23/32	1/2	1-5/8	3-5/8	4	std	M42	**C-1623**	11196	41196
3/4	1/2	5/8	2-5/8	4	stub	M42	**CS-1624**	16481	46481
3/4	1/2	5/8	2-5/8	6	stub	M42	**CS-1624-A**	16482	46482
3/4	1/2	1-5/8	3-5/8	4	std	M42	**C-1624**	11198	41198
3/4	5/8	1-5/8	3-3/4	4	std	M42	**C-2024**	11220	41220
3/4	3/4	1-1/2	3-7/8	6	std	M42	**C-2424-A**	16491	46491
3/4	3/4	1-5/8	3-7/8	4	std	M42	**C-2424**	11238	41238
3/4	3/4	3	5-1/4	4	long	M42	**C-2424-L**	11396	41396
3/4	3/4	4	6-1/4	4	xl	M42	**C-2424-E**	11352	41352
3/4	3/4	6	8-1/4	4	xxl	M42	**C-2424-EE**	11354	41354
25/32	1/2	1-5/8	3-5/8	4	std	M42	**C-1625**	11200	41200
13/16	1/2	1-5/8	3-5/8	4	std	M42	**C-1626**	11202	41202
13/16	5/8	1-7/8	4	4	std	M42	**C-2026**	11222	41222
13/16	5/8	1-7/8	4	6	std	M42	**C-2026-A**	11224	41224
13/16	3/4	1-7/8	4-1/8	4	std	M42	**C-2426**	11240	41240
27/32	1/2	1-5/8	3-5/8	4	std	M42	**C-1627**	11204	41204
7/8	1/2	5/8	2-5/8	4	stub	M42	**CS-1628**	16483	46483
7/8	1/2	5/8	2-5/8	6	stub	M42	**CS-1628-A**	16484	46484
7/8	1/2	1-5/8	3-5/8	4	std	M42	**C-1628**	11206	41206
7/8	5/8	1-7/8	4	4	std	M42	**C-2028**	11226	41226
7/8	5/8	1-7/8	4	6	std	M42	**C-2028-A**	11228	41228
7/8	3/4	1-7/8	4-1/8	4	std	M42	**C-2428**	11242	41242
7/8	7/8	1-7/8	4-1/8	4	std	M42	**C-2828**	11268	41268
7/8	7/8	3-1/2	5-3/4	4	long	M42	**C-2828-L**	11398	41398
7/8	7/8	5	7-1/4	4	xl	M42	**C-2828-E**	11356	41356
29/32	1/2	1-7/8	3-7/8	4	std	M42	**C-1629**	11208	41208
15/16	1/2	1-7/8	3-7/8	4	std	M42	**C-1630**	11210	41210
15/16	5/8	1-7/8	4	6	std	M42	**C-2030-A**	11232	41232
15/16	3/4	1-7/8	4-1/8	4	std	M42	**C-2430**	11244	41244
31/32	1/2	1-7/8	3-7/8	4	std	M42	**C-1631**	11212	41212
1	1/2	3/4	2-3/4	4	stub	M42	**CS-1632**	16485	46485
1	1/2	3/4	2-3/4	8	stub	M42	**CS-1632-A8**	16486	46486
1	1/2	1-7/8	3-7/8	4	std	M42	**C-1632**	11214	41214
1	5/8	3/4	2-7/8	8	stub	M42	**CS-2032-A8**	16487	46487
1	5/8	1-7/8	4	4	std	M42	**C-2032**	11234	41234
1	5/8	1-7/8	4	6	std	M42	**C-2032-A**	11236	41236
1	3/4	3/4	3	4	stub	M42	**CS-2432**	16492	46492
1	3/4	3/4	3	8	stub	M42	**CS-2432-A8**	16493	46493
1	3/4	1-1/2	3-3/4	8	std	M42	**C-2432-A8**	16494	46494
1	3/4	1-7/8	4-1/8	4	std	M42	**C-2432**	11246	41246
1	7/8	1-7/8	4-1/8	4	std	M42	**C-2832**	11272	41272
1	1	2	4-1/2	4	std	M42	**C-3232**	11278	41278
1	1	3	5-1/2	4	med	M42	**C-3232-M**	11400	41400
1	1	4	6-1/2	4	long	M42	**C-3232-L**	11402	41402
1	1	6	8-1/2	4	xl	M42	**C-3232-E**	11358	41358
1	1	8	10-1/2	4	xxl	M42	**C-3232-EE**	11360	41360
1-1/16	3/4	2	4-1/4	6	std	M42	**C-2434**	11248	41248
1-1/16	1	2	4-1/2	6	std	M42	**C-3234**	11280	41280

sizes continued on next page

Series: C

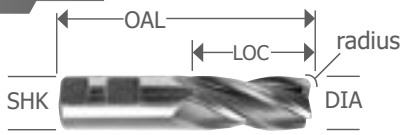
Multi Flute • Non-Center Cutting End Mill

DIA	SHK	LOC	OAL	FLUTE	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1-1/8	5/8	3/4	2-7/8	8	stub	M42	**CS-2036-A8**	16488	46488
1-1/8	3/4	3/4	3	6	stub	M42	**CS-2436-A**	16495	46495
1-1/8	3/4	3/4	3	8	stub	M42	**CS-2436-A8**	16497	46497
1-1/8	3/4	1-1/2	3-3/4	6	std	M42	**C-2436-A**	16496	46496
1-1/8	3/4	1-1/2	3-3/4	8	std	M42	**C-2436-A8**	16498	46498
1-1/8	3/4	2	4-1/4	6	std	M42	**C-2436**	11250	41250
1-1/8	1	2	4-1/2	6	std	M42	**C-3236**	11282	41282
1-1/8	1	4	6-1/2	6	long	M42	**C-3236-L**	11404	41404
1-3/16	3/4	2	4-1/4	6	std	M42	**C-2438**	11252	41252
1-3/16	1	2	4-1/2	6	std	M42	**C-3238**	11284	41284
1-1/4	5/8	3/4	2-7/8	6	stub	M42	**CS-2040-A**	16489	46489
1-1/4	3/4	3/4	3	6	stub	M42	**CS-2440-A**	16499	46499
1-1/4	3/4	1-1/2	3-3/4	6	std	M42	**C-2440-A**	16500	46500
1-1/4	3/4	1-1/2	3-3/4	8	std	M42	**C-2440-A8**	16501	46501
1-1/4	3/4	2	4-1/4	6	std	M42	**C-2440**	11254	41254
1-1/4	1	2	4-1/2	6	std	M42	**C-3240**	11286	41286
1-1/4	1-1/4	2	4-1/2	6	std	M42	**C-4040**	11296	41296
1-1/4	1-1/4	3	5-1/2	4	med	M42	**C-4040-M**	11412	41412
1-1/4	1	4	6-1/2	6	long	M42	**C-3240-L**	11406	41406
1-1/4	1-1/4	4	6-1/2	6	long	M42	**C-4040-L**	11414	41414
1-1/4	1-1/4	6	8-1/2	6	xl	M42	**C-4040-E**	11362	41362
1-5/16	1	2	4-1/2	6	std	HSS	**C-3242**	11288	41288
1-3/8	5/8	3/4	2-7/8	6	stub	HSS	**CS-2044-A**	16490	46490
1-3/8	3/4	3/4	3	6	stub	HSS	**CS-2444-A**	16502	46502
1-3/8	3/4	1-1/2	3-7/8	6	std	HSS	**C-2444-A**	16503	46503
1-3/8	3/4	2	4-1/4	6	std	HSS	**C-2444**	11256	41256
1-3/8	1	2	4-1/2	6	std	HSS	**C-3244**	11290	41290
1-3/8	1-1/4	2	4-1/2	6	std	HSS	**C-4044**	11298	41298
1-3/8	1	4	6-1/2	6	long	HSS	**C-3244-L**	11408	41408
1-7/16	1	2	4-1/2	6	std	HSS	**C-3246**	11292	41292
1-1/2	3/4	3/4	3	6	stub	HSS	**CS-2448-A**	16504	46504
1-1/2	3/4	1-1/2	3-3/4	6	std	HSS	**C-2448-A**	16505	46505
1-1/2	3/4	2	4-1/4	6	std	HSS	**C-2448**	11258	41258
1-1/2	3/4	2	4-1/4	8	std	HSS	**C-2448-A8**	16506	46506
1-1/2	1	2	4-1/2	6	std	HSS	**C-3248**	11294	41294
1-1/2	1	4	6-1/2	6	long	HSS	**C-3248-L**	CALL	CALL
1-1/2	1-1/4	2	4-1/2	6	std	HSS	**C-4048**	11300	41300
1-1/2	1-1/4	2	4-1/2	6	std	M42	**CP-4048**	15046	45046
1-1/2	1-1/4	4	6-1/2	6	long	HSS	**C-4048-L**	11418	41418
1-1/2	1-1/4	8	10-1/2	6	xl	HSS	**C-4048-E**	11364	41364
1-9/16	1-1/4	2	4-1/2	6	std	HSS	**C-4050**	11302	41302
1-5/8	3/4	2	4-1/4	6	std	HSS	**C-2452**	11260	41260
1-5/8	1-1/4	2	4-1/2	6	std	HSS	**C-4052**	11304	41304
1-3/4	3/4	1-1/2	3-3/4	6	std	HSS	**C-2456-A**	16507	46507
1-3/4	3/4	2	4-1/4	6	std	HSS	**C-2456**	11262	41262
1-3/4	1-1/4	2	4-1/2	6	std	HSS	**C-4056**	10978	40978
1-3/4	1-1/4	4	6-1/2	6	long	HSS	**C-4056-L**	11420	41420
1-3/4	1-1/4	8	10-1/2	8	xl	HSS	**C-4056-E**	CALL	CALL
1-7/8	3/4	2	4-1/4	6	std	HSS	**C-2460**	11264	41264
2	3/4	2	4-1/4	6	std	HSS	**C-2464**	11266	41266
2	1-1/4	2	4-1/2	6	std	HSS	**C-4064-A**	11312	41312
2	3/4	2	4-1/4	8	std	HSS	**C-2464-8**	10959	40959
2	1-1/4	2	4-1/2	8	std	HSS	**C-4064**	11314	41314
2	1-1/4	2	4-1/2	6	std	M42	**CP-4064**	15048	45048
2	1-1/4	4	6-1/2	8	long	HSS	**C-4064-L**	11426	41426
2	2	6	9-3/4	6	long	HSS	**C-6464-L**	11430	41430
2	2	10	13-3/4	6	xxl	HSS	**C-6464-EE**	11372	41372
2-1/8	1-1/4	2	4-1/2	4	std	HSS	**C-4068**	11316	41316
2-1/4	1-1/4	2	4-1/2	4	std	HSS	**C-4072**	11318	41318
2-1/2	1-1/4	2	4-1/2	6	std	HSS	**C-4080-A**	11322	41322

General Purpose Cobalt & HSS End Mills

4 Flute • Center Cutting Corner Radius End Mill

HSSCo M42 | 4 | 30° | Bright TiCN | +.0015 -.0000 | Radius | HRc <48 | P K M S N

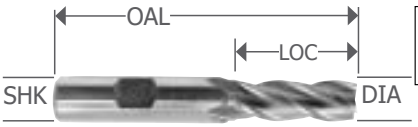


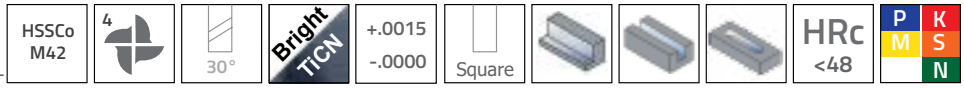
Series: CC-_ _-R

DIA	SHK	LOC	OAL	LENGTH	RADIUS	MAT	TOOL	BRIGHT EDP	TICN EDP
1/8	3/8	3/8	2-5/16	std	0.015	M42	**CC-1204-R015**	15212	45212
3/16	3/8	1/2	2-3/8	std	0.020	M42	**CC-1206-R020**	15214	45214
3/16	3/8	1/2	2-3/8	std	0.030	M42	**CC-1206-R030**	15216	45216
1/4	3/8	5/8	2-7/16	std	0.020	M42	**CC-1208-R020**	15218	45218
1/4	3/8	5/8	2-7/16	std	0.030	M42	**CC-1208-R030**	15220	45220
1/4	3/8	5/8	2-7/16	std	0.045	M42	**CC-1208-R045**	15222	45222
5/16	3/8	3/4	2-1/2	std	0.020	M42	**CC-1210-R020**	15224	45224
5/16	3/8	3/4	2-1/2	std	0.030	M42	**CC-1210-R030**	15226	45226
5/16	3/8	3/4	2-1/2	std	0.045	M42	**CC-1210-R045**	15228	45228
3/8	3/8	3/4	2-1/2	std	0.020	M42	**CC-1212-R020**	15230	45230
3/8	3/8	3/4	2-1/2	std	0.030	M42	**CC-1212-R030**	15232	45232
3/8	3/8	3/4	2-1/2	std	0.045	M42	**CC-1212-R045**	15234	45234
1/2	1/2	1-1/4	3-1/4	std	0.020	M42	**CC-1616-R020**	15236	45236
1/2	1/2	1-1/4	3-1/4	std	0.030	M42	**CC-1616-R030**	15238	45238
1/2	1/2	1-1/4	3-1/4	std	0.045	M42	**CC-1616-R045**	15240	45240
1/2	1/2	1-1/4	3-1/4	std	0.060	M42	**CC-1616-R060**	15242	45242
5/8	5/8	1-5/8	3-3/4	std	0.020	M42	**CC-2020-R020**	15244	45244
5/8	5/8	1-5/8	3-3/4	std	0.030	M42	**CC-2020-R030**	15246	45246
5/8	5/8	1-5/8	3-3/4	std	0.045	M42	**CC-2020-R045**	15248	45248
5/8	5/8	1-5/8	3-3/4	std	0.060	M42	**CC-2020-R060**	15250	45250
5/8	5/8	1-5/8	3-3/4	std	0.090	M42	**CC-2020-R090**	15252	45252
3/4	3/4	1-5/8	3-7/8	std	0.020	M42	**CC-2424-R020**	15254	45254
3/4	3/4	1-5/8	3-7/8	std	0.030	M42	**CC-2424-R030**	15256	45256
3/4	3/4	1-5/8	3-7/8	std	0.045	M42	**CC-2424-R045**	15258	45258
3/4	3/4	1-5/8	3-7/8	std	0.060	M42	**CC-2424-R060**	15260	45260
3/4	3/4	1-5/8	3-7/8	std	0.090	M42	**CC-2424-R090**	15262	45262
3/4	3/4	1-5/8	3-7/8	std	0.125	M42	**CC-2424-R125**	15264	45264
1	1	2	4-1/2	std	0.020	M42	**CC-3232-R020**	15266	45266
1	1	2	4-1/2	std	0.030	M42	**CC-3232-R030**	15268	45268
1	1	2	4-1/2	std	0.045	M42	**CC-3232-R045**	15270	45270
1	1	2	4-1/2	std	0.060	M42	**CC-3232-R060**	15272	45272
1	1	2	4-1/2	std	0.090	M42	**CC-3232-R090**	15274	45274
1	1	2	4-1/2	std	0.125	M42	**CC-3232-R125**	15276	45276

General Purpose Cobalt & HSS End Mills

4 Flute • Center Cutting Metric/Inch End Mill



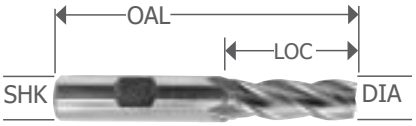


Series: CCP

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3mm	3/8	3/8	2-5/16	std	M42	**CCP-12M3**	11740	41740
3.5mm	3/8	7/16	2-5/16	std	M42	**CCP-12M3.5**	11741	41741
4mm	3/8	7/16	2-5/16	std	M42	**CCP-12M4**	11742	41742
4.5mm	3/8	7/16	2-5/16	std	M42	**CCP-12M4.5**	11743	41743
5mm	3/8	9/16	2-1/2	std	M42	**CCP-12M5**	11744	41744
5.5mm	3/8	5/8	2-1/2	std	M42	**CCP-12M5.5**	11745	41745
6mm	3/8	5/8	2-1/2	std	M42	**CCP-12M6**	11746	41746
6.5mm	3/8	11/16	2-1/2	std	M42	**CCP-12M6.5**	11747	41747
7mm	3/8	11/16	2-1/2	std	M42	**CCP-12M7**	11748	41748
7.5mm	3/8	3/4	2-1/2	std	M42	**CCP-12M7.5**	11749	41749
8mm	3/8	3/4	2-1/2	std	M42	**CCP-12M8**	11750	41750
8.5mm	3/8	3/4	2-1/2	std	M42	**CCP-12M8.5**	11751	41751
9mm	3/8	3/4	2-1/2	std	M42	**CCP-12M9**	11752	41752
9.5mm	3/8	3/4	2-1/2	std	M42	**CCP-12M9.5**	11753	41753
10mm	3/8	1	2-11/16	std	M42	**CCP-12M10**	11754	41754
10.5mm	3/8	1	2-11/16	std	M42	**CCP-12M10.5**	11755	41755
11mm	3/8	1	2-11/16	std	M42	**CCP-12M11**	11756	41756
11.5mm	3/8	1	2-11/16	std	M42	**CCP-12M11.5**	11757	41757
12mm	3/8	1	2-11/16	std	M42	**CCP-12M12**	11758	41758
12.5mm	1/2	1-1/4	3-1/4	std	M42	**CCP-16M12.5**	11759	41759
13mm	1/2	1-3/8	3-3/8	std	M42	**CCP-16M13**	11760	41760
13.5mm	1/2	1-3/8	3-3/8	std	M42	**CCP-16M13.5**	11761	41761
14mm	1/2	1-3/8	3-3/8	std	M42	**CCP-16M14**	11762	41762
14.5mm	1/2	1-3/8	3-3/8	std	M42	**CCP-16M14.5**	11763	41763
15mm	1/2	1-3/8	3-3/8	std	M42	**CCP-16M15**	11764	41764
16mm	5/8	1-5/8	3-3/4	std	M42	**CCP-20M16**	11766	41766
17mm	5/8	1-5/8	3-3/4	std	M42	**CCP-20M17**	11768	41768
18mm	5/8	1-5/8	3-3/4	std	M42	**CCP-20M18**	11770	41770
19mm	3/4	1-5/8	3-7/8	std	M42	**CCP-24M19**	11772	41772
20mm	3/4	1-7/8	4-1/8	std	M42	**CCP-24M20**	11774	41774
21mm	3/4	1-7/8	4-1/8	std	M42	**CCP-24M21**	11776	41776
22mm	3/4	1-7/8	4-1/8	std	M42	**CCP-24M22**	11778	41778
23mm	7/8	1-7/8	4-1/8	std	M42	**CCP-28M23**	11780	41780
24mm	1	2	4-1/2	std	M42	**CCP-32M24**	11782	41782
25mm	1	2	4-1/2	std	M42	**CCP-32M25**	11784	41784
28mm	1	2	4-1/2	std	M42	**CCP-32M28**	11786	41786
32mm	1	2	4-1/2	std	M42	**CCP-32M32**	11788	41788
35mm	1	2	4-1/2	std	M42	**CCP-32M35**	11790	41790
36mm	1	2	4-1/2	std	M42	**CCP-32M36**	11792	41792
40mm	1-1/4	2	4-1/2	std	M42	**CCP-40M40**	11794	41794
45mm	1-1/4	2	4-1/2	std	M42	**CCP-40M45**	11796	41796
50mm	1-1/4	2	4-1/2	std	M42	**CCP-40M50**	11798	41798

General Purpose Cobalt & HSS End Mills

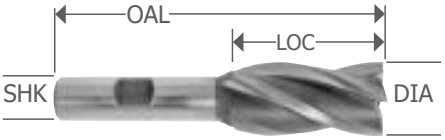
4 Flute • Center Cutting Metric End Mill

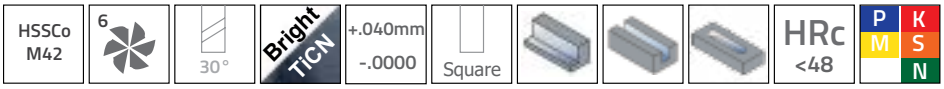


Series: CC-M_M_

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
2mm	6mm	7mm	57mm	std	M42	**CC-M6M2**	16365	46365
3mm	6mm	8mm	57mm	std	M42	**CC-M6M3**	16366	46366
4mm	6mm	11mm	57mm	std	M42	**CC-M6M4**	16367	46367
5mm	6mm	13mm	57mm	std	M42	**CC-M6M5**	16368	46368
6mm	6mm	13mm	57mm	std	M42	**CC-M6M6**	16369	46369
7mm	10mm	16mm	69mm	std	M42	**CC-M10M7**	16370	46370
8mm	10mm	19mm	69mm	std	M42	**CC-M10M8**	16371	46371
9mm	10mm	19mm	69mm	std	M42	**CC-M10M9**	16372	46372
10mm	10mm	22mm	72mm	std	M42	**CC-M10M10**	16373	46373
11mm	12mm	22mm	79mm	std	M42	**CC-M12M11**	16374	46374
12mm	12mm	26mm	83mm	std	M42	**CC-M12M12**	16375	46375
13mm	12mm	26mm	83mm	std	M42	**CC-M12M13**	16376	46376
14mm	12mm	26mm	83mm	std	M42	**CC-M12M14**	16377	46377
15mm	12mm	26mm	83mm	std	M42	**CC-M12M15**	16378	46378
16mm	16mm	32mm	92mm	std	M42	**CC-M16M16**	16379	46379
17mm	16mm	32mm	92mm	std	M42	**CC-M16M17**	16380	46380
18mm	16mm	32mm	92mm	std	M42	**CC-M16M18**	16381	46381
19mm	16mm	32mm	92mm	std	M42	**CC-M16M19**	16382	46382
20mm	20mm	38mm	104mm	std	M42	**CC-M20M20**	16383	46383

6 Flute • Non-Center Cutting Metric End Mill





Series: C-M_M_

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
21mm	20mm	38mm	104mm	std	M42	**C-M20M21**	16384	46384
22mm	20mm	38mm	104mm	std	M42	**C-M20M22**	16385	46385
23mm	20mm	38mm	104mm	std	M42	**C-M20M23**	CALL	CALL
24mm	25mm	45mm	121mm	std	M42	**C-M25M24**	16387	46387
25mm	25mm	45mm	121mm	std	M42	**C-M25M25**	16388	46388
30mm	25mm	45mm	121mm	std	M42	**C-M25M30**	16389	46389
32mm	32mm	53mm	133mm	std	M42	**C-M32M32**	16390	46390

4 Flute • Center Cutting Extended Neck End Mill

M42 - HSS | 4 | 30° | Bright TiCN | +.0015 -.0000 | Square | HRc <48 | P K M S N

Series: CCN

DIA	SHK	LOC	LBS	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3/8	3/8	1	3-1/4	5	std	M42	**CCN-1212**	11235	41235
1/2	1/2	1-1/4	4	6	std	HSS	**CCN-1616**	11237	41237
5/8	5/8	1-1/2	5	7-1/8	std	HSS	**CCN-2020**	11239	41239
3/4	3/4	2	6	8-1/4	std	HSS	**CCN-2424**	11241	41241
1	1	2-1/2	8	10-1/4	std	HSS	**CCN-3232**	11243	41243

Multi Flute • Non-Center Cutting Extended Neck End Mill

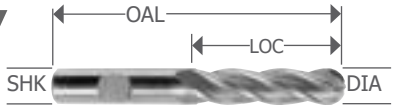
M42 - HSS | MULTI FLUTES | 30° | Bright TiCN | +.0015 -.0000 | Square | HRc <48 | P K M S N

Series: CN

DIA	SHK	LOC	LBS	OAL	FLUTE	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3/8	3/8	1	3	5	4	std	M42	**CN-1212**	11221	41221
1/2	1/2	1-1/4	4	6	4	std	HSS	**CN-1616**	11223	41223
5/8	5/8	1-1/2	5	7-1/8	4	std	HSS	**CN-2020**	11225	41225
3/4	3/4	2	6	8-1/4	4	std	HSS	**CN-2424**	11227	41227
1	1	2-1/2	8	10-1/4	4	std	HSS	**CN-3232**	11229	41229
1-1/4	1-1/4	3-1/2	10	12-1/2	6	std	HSS	**CN-4040**	11231	41231
2	2	4	12	15-1/4	6	std	HSS	**CN-6464**	11233	41233

General Purpose Cobalt & HSS End Mills

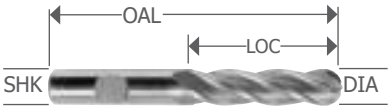
4 Flute • Center Cutting Ball Nose End Mill

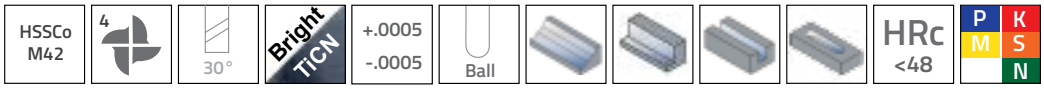


Series: CC-_ _-B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1/8	3/8	3/8	2-5/16	std	M42	**CC-1204-B**	11496	41496
5/32	3/8	7/16	2-5/16	std	M42	**CC-1205-B**	11498	41498
3/16	3/8	1/2	2-3/8	std	M42	**CC-1206-B**	11500	41500
3/16	3/8	3/4	2-5/8	long	M42	**CC-1206-LB**	11614	41614
7/32	3/8	1/2	2-3/8	std	M42	**CC-1207-B**	11502	41502
1/4	3/8	3/4	2-9/16	std	M42	**CC-1208-B**	11504	41504
1/4	3/8	1-1/4	3-1/16	long	M42	**CC-1208-LB**	11618	41618
1/4	3/8	1-3/4	3-9/16	xl	M42	**CC-1208-EB**	11564	41564
9/32	3/8	11/16	2-1/2	std	M42	**CC-1209-B**	11506	41506
9/32	3/8	1-3/8	3-1/8	long	M42	**CC-1209-LB**	11620	41620
5/16	3/8	1	2-3/4	std	M42	**CC-1210-B**	11508	41508
5/16	3/8	1-3/8	3-1/8	long	M42	**CC-1210-LB**	11622	41622
5/16	3/8	2	3-3/4	xl	M42	**CC-1210-EB**	11566	41566
11/32	3/8	3/4	2-1/2	std	M42	**CC-1211-B**	11510	41510
11/32	3/8	1-1/2	3-1/4	long	M42	**CC-1211-LB**	11624	41624
3/8	3/8	1	2-3/4	std	M42	**CC-1212-B**	11512	41512
3/8	3/8	1-1/2	3-1/4	long	M42	**CC-1212-LB**	11626	41626
3/8	3/8	2-1/2	4-1/4	xl	M42	**CC-1212-EB**	11568	41568
7/16	3/8	1	2-11/16	std	M42	**CC-1214-B**	11514	41514
1/2	3/8	1	2-11/16	std	M42	**CC-1216-B**	11516	41516
1/2	1/2	1-1/4	3-1/4	std	M42	**CC-1616-B**	11518	41518
1/2	1/2	2	4	long	M42	**CC-1616-LB**	11628	41628
1/2	1/2	3	5	xl	M42	**CC-1616-EB**	11570	41570
5/8	5/8	1-5/8	3-3/4	std	M42	**CC-2020-B**	11520	41520
5/8	5/8	2-1/2	4-5/8	long	M42	**CC-2020-LB**	11630	41630
5/8	5/8	4	6-1/8	xl	M42	**CC-2020-EB**	11572	41572
11/16	5/8	1-5/8	3-3/4	std	M42	**CC-2022-B**	11522	41522
3/4	3/4	1-5/8	3-7/8	std	M42	**CC-2424-B**	11524	41524
3/4	3/4	3	5-1/4	long	M42	**CC-2424-LB**	11632	41632
3/4	3/4	4	6-1/4	xl	M42	**CC-2424-EB**	11574	41574
7/8	7/8	1-7/8	4-1/8	std	M42	**CC-2828-B**	11526	41526
7/8	7/8	3-1/2	5-3/4	long	M42	**CC-2828-LB**	11634	41634
1	1	2	4-1/2	std	M42	**CC-3232-B**	11528	41528
1	1	4	6-1/2	long	M42	**CC-3232-LB**	11636	41636
1	1	6	8-1/2	xl	M42	**CC-3232-EB**	11578	41578
1-1/8	1	2	4-1/2	std	M42	**CC-3236-B**	11530	41530
1-1/4	1-1/4	2	4-1/2	std	M42	**CC-4040-B**	11532	41532
1-1/4	1-1/4	4	6-1/2	long	M42	**CC-4040-LB**	11638	41638
1-1/4	1-1/4	6	8-1/2	xl	M42	**CC-4040-EB**	11580	41580
1-1/2	1-1/4	2	4-1/2	std	HSS	**CC-4048-B**	11534	41534
1-1/2	1-1/4	4	6-1/2	long	HSS	**CC-4048-LB**	11333	41333

4 Flute • Center Cutting Ball Nose Metric/ Inch End Mill

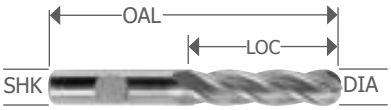


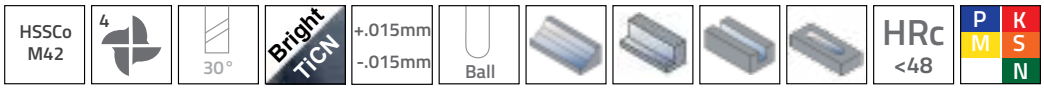


Series: CCP-_M_-B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3mm	3/8	3/8	2-5/16	std	M42	**CCP-12M3-B**	13002	43002
4mm	3/8	7/16	2-5/16	std	M42	**CCP-12M4-B**	13004	43004
5mm	3/8	9/16	2-1/2	std	M42	**CCP-12M5-B**	13006	43006
6mm	3/8	5/8	2-1/2	std	M42	**CCP-12M6-B**	13008	43008
7mm	3/8	11/16	2-1/2	std	M42	**CCP-12M7-B**	13010	43010
8mm	3/8	3/4	2-1/2	std	M42	**CCP-12M8-B**	13012	43012
9mm	3/8	3/4	2-1/2	std	M42	**CCP-12M9-B**	13014	43014
10mm	3/8	1	2-11/16	std	M42	**CCP-12M10-B**	13016	43016
11mm	3/8	1	2-11/16	std	M42	**CCP-12M11-B**	13018	43018
12mm	3/8	1	2-11/16	std	M42	**CCP-12M12-B**	13020	43020
13mm	1/2	1-1/4	3-1/4	std	M42	**CCP-16M13-B**	13022	43022
14mm	1/2	1-3/8	3-3/8	std	M42	**CCP-16M14-B**	13024	43024

4 Flute • Center Cutting Ball Nose Metric End Mill





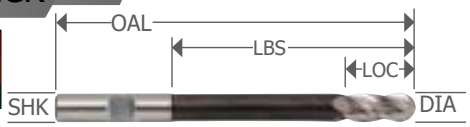
Series: CC-M_M_-B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
2mm	6mm	7mm	57mm	std	M42	**CC-M6M2-B**	17964	47964
3mm	6mm	8mm	57mm	std	M42	**CC-M6M3-B**	17965	47965
4mm	6mm	11mm	57mm	std	M42	**CC-M6M4-B**	17966	47966
5mm	6mm	13mm	57mm	std	M42	**CC-M6M5-B**	17967	47967
6mm	6mm	13mm	57mm	std	M42	**CC-M6M6-B**	17968	47968
7mm	10mm	16mm	69mm	std	M42	**CC-M10M7-B**	17969	47969
8mm	10mm	19mm	69mm	std	M42	**CC-M10M8-B**	17970	47970
9mm	10mm	19mm	69mm	std	M42	**CC-M10M9-B**	17971	47971
10mm	10mm	22mm	72mm	std	M42	**CC-M10M10-B**	17972	47972
11mm	12mm	22mm	79mm	std	M42	**CC-M12M11-B**	17973	47973
12mm	12mm	26mm	83mm	std	M42	**CC-M12M12-B**	17974	47974
13mm	12mm	26mm	83mm	std	M42	**CC-M12M13-B**	17975	47975
14mm	12mm	26mm	83mm	std	M42	**CC-M12M14-B**	17976	47976
15mm	12mm	26mm	83mm	std	M42	**CC-M12M15-B**	17977	47977
16mm	16mm	32mm	92mm	std	M42	**CC-M16M16-B**	17978	47978
17mm	16mm	32mm	92mm	std	M42	**CC-M16M17-B**	17979	47979
18mm	16mm	32mm	92mm	std	M42	**CC-M16M18-B**	17980	47980
19mm	16mm	32mm	92mm	std	M42	**CC-M16M19-B**	17981	47981
20mm	20mm	38mm	104mm	std	M42	**CC-M20M20-B**	17982	47982
21mm	20mm	38mm	104mm	std	M42	**CC-M20M21-B**	17983	47983
22mm	20mm	38mm	104mm	std	M42	**CC-M20M22-B**	17984	47984
23mm	20mm	38mm	104mm	std	M42	**CC-M20M23-B**	17985	47985
24mm	25mm	45mm	121mm	std	M42	**CC-M25M24-B**	17986	47986
25mm	25mm	45mm	121mm	std	M42	**CC-M25M25-B**	17987	47987
30mm	25mm	45mm	121mm	std	M42	**CC-M25M30-B**	17988	47988
32mm	32mm	53mm	133mm	std	M42	**CC-M32M32-B**	17989	47989

General Purpose Cobalt & HSS End Mills

4 Flute • Center Cutting Ball Nose Extended Neck

M42 - HSS | 4 | 30° | Bright TiCN | +.0005 -.0005 | Ball | HRc <48 | P K M S N

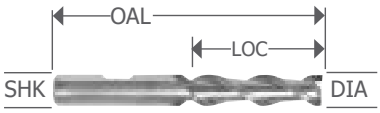


Series: CCN-_ _-B

DIA	SHK	LOC	LBS	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3/8	3/8	1	3	5	std	M42	**CCN-1212-B**	11245	41245
1/2	1/2	1-1/4	4	6	std	HSS	**CCN-1616-B**	11247	41247
5/8	5/8	1-1/2	5	7-1/8	std	HSS	**CCN-2020-B**	11249	41249
3/4	3/4	2	6	8-1/4	std	HSS	**CCN-2424-B**	11251	41251
1	1	2-1/2	8	10-1/4	std	HSS	**CCN-3232-B**	11253	41253

2 Flute • 40° Center Cutting For Aluminum End Mill

M42 - HSS | 2 | 40° | Bright TiCN | +.0015 -.0000 | Square | N



Series: AA

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3/16	3/8	7/16	2-5/16	std	M42	**AA-1206**	10614	40614
3/16	3/8	3/4	2-5/8	long	M42	**AA-1206-L**	10646	40646
3/16	3/8	1-1/4	3-1/8	xl	M42	**AA-1206-E**	10698	40698
1/4	3/8	1/2	2-5/16	std	M42	**AA-1208**	10616	40616
1/4	3/8	5/8	2-7/16	med	M42	**AA-1208-M**	10648	40648
1/4	3/8	3/4	2-5/8	med/med	M42	**AA-1208-MM**	10650	40650
1/4	3/8	1	2-7/8	med/long	M42	**AA-1208-ML**	10652	40652
1/4	3/8	1-1/4	3-1/16	long	M42	**AA-1208-L**	10654	40654
1/4	3/8	1-1/2	3-3/8	long/long	M42	**AA-1208-LL**	10656	40656
1/4	3/8	1-3/4	3-9/16	xl	M42	**AA-1208-E**	10700	40700
5/16	3/8	9/16	2-5/16	std	M42	**AA-1210**	10618	40618
5/16	3/8	3/4	2-1/2	med	M42	**AA-1210-M**	10658	40658
5/16	3/8	1	2-3/4	med/med	M42	**AA-1210-MM**	10660	40660
5/16	3/8	1-3/8	3-1/8	long	M42	**AA-1210-L**	10662	40662
5/16	3/8	2	3-3/4	xl	M42	**AA-1210-E**	10702	40702
3/8	3/8	9/16	2-5/16	std	M42	**AA-1212**	10620	40620
3/8	3/8	3/4	2-1/2	med	M42	**AA-1212-M**	10664	40664
3/8	3/8	1	2-3/4	med/med	M42	**AA-1212-MM**	10666	40666
3/8	3/8	1-1/2	3-1/4	long	M42	**AA-1212-L**	10668	40668
3/8	3/8	2	3-3/4	long/long	M42	**AA-1212-LL**	10670	40670
3/8	3/8	2-1/2	4-1/4	xl	M42	**AA-1212-E**	10704	40704
7/16	3/8	1	2-11/16	std	M42	**AA-1214**	10622	40622
7/16	1/2	1-3/4	3-3/4	long	M42	**AA-1614-L**	10672	40672
1/2	1/2	1	3	std	M42	**AA-1616**	10624	40624
1/2	1/2	1-1/4	3-1/4	med	M42	**AA-1616-M**	10674	40674
1/2	1/2	1-3/4	3-3/4	med/med	M42	**AA-1616-MM**	10676	40676
1/2	1/2	2	4	long	M42	**AA-1616-L**	10678	40678
1/2	1/2	2-1/2	4-1/2	long/long	M42	**AA-1616-LL**	10680	40680
1/2	1/2	3	5	xl	M42	**AA-1616-E**	10708	40708
5/8	5/8	1-3/8	3-1/2	stub	M42	**AAS-2020**	10628	40628
5/8	5/8	1-5/8	3-3/4	std	M42	**AA-2020**	10626	40626
5/8	5/8	2-1/2	4-5/8	long	M42	**AA-2020-L**	10682	40682
5/8	5/8	4	6-1/8	xl	M42	**AA-2020-E**	10710	40710

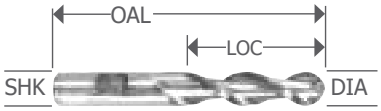
sizes continued on next page

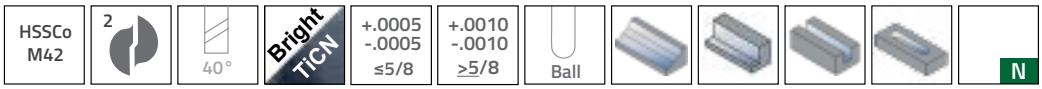
2 Flute • 40° Center Cutting For Aluminum End Mill

Series: AA

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
3/4	3/4	1-5/8	3-7/8	std	M42	**AA-2424**	10630	40630
3/4	3/4	2	4-1/4	med	M42	**AA-2424-M**	10684	40684
3/4	3/4	3	5-1/4	long	M42	**AA-2424-L**	10686	40686
3/4	3/4	4	6-1/4	xl	M42	**AA-2424-E**	10712	40712
7/8	7/8	1-7/8	4-1/8	std	M42	**AA-2828**	10634	40634
1	3/4	1-7/8	4-1/8	std	M42	**AA-2432**	10632	40632
1	1	2	4-1/2	std	M42	**AA-3232**	10636	40636
1	1	4	6-1/2	long	M42	**AA-3232-L**	10690	40690
1	1	6	8-1/2	xl	M42	**AA-3232-E**	10716	40716
1-1/4	1-1/4	2	4-1/2	std	M42	**AA-4040**	10638	40638
1-1/2	1-1/4	2	4-1/2	std	HSS	**AA-4048**	CALL	CALL
1-1/2	1-1/4	4	6-1/2	long	HSS	**AA-4048-L**	CALL	CALL

2 Flute • 40° Center Cutting Ball Nose For Aluminum End Mill



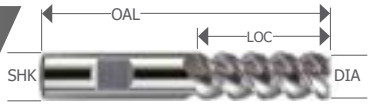


Series: AA-_ _-B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP	TICN EDP
1/4	3/8	1/2	2-5/16	std	M42	**AA-1208-B**	12842	42842
1/4	3/8	5/8	2-1/2	med	M42	**AA-1208-MB**	11713	41713
1/4	3/8	1-1/4	3-1/16	long	M42	**AA-1208-LB**	12844	42844
1/4	3/8	1-3/4	3-9/16	xl	M42	**AA-1208-EB**	12846	42846
5/16	3/8	9/16	2-5/16	std	M42	**AA-1210-B**	12848	42848
5/16	3/8	3/4	2-1/2	med	M42	**AA-1210-MB**	11714	41714
5/16	3/8	1-3/8	3-1/8	long	M42	**AA-1210-LB**	12850	42850
5/16	3/8	2	3-3/4	xl	M42	**AA-1210-EB**	12852	42852
3/8	3/8	9/16	2-5/16	std	M42	**AA-1212-B**	12854	42854
3/8	3/8	3/4	2-1/2	med	M42	**AA-1212-MB**	11715	41715
3/8	3/8	1-1/2	3-1/4	long	M42	**AA-1212-LB**	12856	42856
3/8	3/8	2-1/2	4-1/4	xl	M42	**AA-1212-EB**	12858	42858
7/16	3/8	1	2-11/16	std	M42	**AA-1214-B**	12860	42860
7/16	1/2	1-3/4	3-3/4	long	M42	**AA-1614-LB**	12862	42862
7/16	1/2	2-3/4	4-3/4	xl	M42	**AA-1614-EB**	12864	42864
1/2	1/2	1	3	std	M42	**AA-1616-B**	12866	42866
1/2	1/2	2	4	long	M42	**AA-1616-LB**	12868	42868
1/2	1/2	3	5	xl	M42	**AA-1616-EB**	12870	42870
5/8	5/8	1-5/8	3-3/4	std	M42	**AA-2020-B**	12872	42872
5/8	5/8	2-1/2	4-5/8	long	M42	**AA-2020-LB**	12874	42874
5/8	5/8	4	6-1/8	xl	M42	**AA-2020-EB**	12876	42876
3/4	3/4	1-5/8	3-7/8	std	M42	**AA-2424-B**	12878	42878
3/4	3/4	3	5-1/4	long	M42	**AA-2424-LB**	12880	42880
3/4	3/4	4	6-1/4	xl	M42	**AA-2424-EB**	12882	42882
7/8	7/8	1-7/8	4-1/8	std	M42	**AA-2828-B**	12886	42886
7/8	7/8	3-1/2	5-3/4	long	M42	**AA-2828-LB**	12888	42888
1	3/4	1-7/8	4-1/8	std	M42	**AA-2432-B**	12884	42884
1	1	2	4-1/2	std	M42	**AA-3232-B**	12892	42892
1	1	4	6-1/2	long	M42	**AA-3232-LB**	12894	42894
1	1	6	8-1/2	xl	M42	**AA-3232-EB**	12896	42896

General Purpose Cobalt & HSS End Mills

3 Flute • 60° Helix Center Cutting End Mill



HSSCo M42 | 3 | 60° | BRIGHT | +.0015 -.0000 | Square | HRc <48 | P M S

Series: E60

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
1/4	3/8	5/8	2-7/16	std	M42	**E60-1208**	15460
5/16	3/8	3/4	2-1/2	std	M42	**E60-1210**	15462
3/8	3/8	3/4	2-1/2	std	M42	**E60-1212**	15464
3/8	3/8	1-1/2	3-1/4	long	M42	**E60-1212-L**	15466
1/2	1/2	1-1/4	3-1/4	std	M42	**E60-1616**	15468
1/2	1/2	2	4	long	M42	**E60-1616-L**	15470
1/2	1/2	3	5	xl	M42	**E60-1616-E**	15472
5/8	5/8	1-5/8	3-3/4	std	M42	**E60-2020**	15474
5/8	5/8	2-1/2	4-5/8	long	M42	**E60-2020-L**	15476
3/4	3/4	1-5/8	3-7/8	std	M42	**E60-2424**	15478
3/4	3/4	3	5-1/4	long	M42	**E60-2424-L**	15480
1	1	2	4-1/2	std	M42	**E60-3232**	15486
1	1	4	6-1/2	long	M42	**E60-3232-L**	15488

3 Flute • Non-Center Cutting Corner Rounding End Mill

M42 - HSS | 3 | Non - Center Cutting | 0° | BRIGHT | +.001 -.001 radius | Corner Round | HRc <48 | P K M S N

Series: R

RADIUS	MINOR DIA	LARGE DIA	SHK	OAL	MAT	TOOL	BRIGHT EDP
1/32	5/16	3/8	3/8	2-1/2	M42	**R-1201**	12694
1/32	7/16	1/2	1/2	2-5/8	M42	**R-1601**	12700
1/16	5/16	7/16	3/8	2-1/2	M42	**R-1202**	12696
1/16	3/8	1/2	1/2	2-5/8	M42	**R-1602**	12702
3/32	5/16	1/2	3/8	2-1/2	M42	**R-1203**	12698
3/32	5/16	1/2	1/2	2-5/8	M42	**R-1603**	12704
1/8	3/8	5/8	1/2	2-7/8	M42	**R-1604**	12706
5/32	5/16	5/8	1/2	2-7/8	M42	**R-1605**	12708
3/16	3/8	3/4	1/2	3	M42	**R-1606**	12710
3/16	3/8	3/4	3/4	3-1/8	M42	**R-2406**	12732
7/32	7/16	7/8	1/2	3	M42	**R-1607**	12712
1/4	3/8	7/8	1/2	3	M42	**R-1608**	12714
1/4	3/8	7/8	3/4	3-1/4	M42	**R-2408**	12734
9/32	7/16	1	1/2	3	M42	**R-1609**	12716
5/16	3/8	1	1/2	3	M42	**R-1610**	12718
5/16	3/8	1	3/4	3-1/4	M42	**R-2410**	12736
11/32	7/16	1-1/8	1/2	3-1/4	M42	**R-1611**	12720
3/8	3/8	1-1/8	1/2	3-1/4	M42	**R-1612**	12722
3/8	3/8	1-1/8	3/4	3-1/2	M42	**R-2412**	12738
13/32	7/16	1-1/4	1/2	3-1/2	M42	**R-1613**	12724
7/16	3/8	1-1/4	1/2	3-1/2	M42	**R-1614**	12726
15/32	7/16	1-3/8	1/2	3-1/2	HSS	**R-1615**	12728
1/2	3/8	1-3/8	1/2	3-1/2	HSS	**R-1616**	12730
1/2	3/8	1-3/8	3/4	3-3/4	HSS	**R-2416**	12740
9/16	3/8	1-1/2	3/4	3-3/4	HSS	**R-2418**	12742
5/8	3/8	1-5/8	3/4	3-3/4	HSS	**R-2420**	12744
3/4	3/8	1-7/8	3/4	3-3/4	HSS	**R-2424**	12746
1	3/4	2-3/4	3/4	4-1/2	HSS	**R-2432**	12748

4 Flute • Non-Center Cutting Corner Rounding End Mill

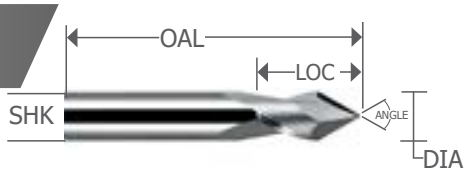
M42 - HSS | 4 | Non - Center Cutting | 0° | BRIGHT | +.001 -.001 radius | Corner Round | HRc <48 | P K M S N

Series: RC

RADIUS	MINOR DIA	LARGE DIA	SHK	OAL	FLT	MAT	TOOL	BRIGHT EDP
1/32	3/8	7/16	3/8	2-1/2	4	M42	**RC-1201**	13060
1/16	5/16	7/16	3/8	2-1/2	4	M42	**RC-1202**	13062
3/32	5/16	1/2	3/8	2-1/2	4	M42	**RC-1203**	13064
1/8	3/8	5/8	1/2	3	4	M42	**RC-1604**	13066
5/32	7/16	3/4	1/2	3	4	M42	**RC-1605**	13068
3/16	1/2	7/8	1/2	2-15/16	4	M42	**RC-1606**	13070
3/16	1/2	7/8	3/4	3-1/8	4	M42	**RC-2406**	13078
1/4	1/2	1	1/2	3	4	M42	**RC-1608**	13072
1/4	1/2	1	3/4	3-1/4	4	M42	**RC-2408**	13080
5/16	1/2	1-1/8	1/2	3-1/2	4	M42	**RC-1610**	13074
5/16	1/2	1-1/8	7/8	3-1/2	4	M42	**RC-2810**	13092
3/8	1/2	1-1/4	1/2	3-3/4	4	M42	**RC-1612**	13076
3/8	1/2	1-1/4	7/8	3-3/4	4	M42	**RC-2812**	13094
7/16	1/2	1-3/8	3/4	3-3/4	4	HSS	**RC-2414**	13082
7/16	1/2	1-3/8	1	4	4	HSS	**RC-3214**	13096
1/2	1/2	1-1/2	3/4	3-7/8	4	HSS	**RC-2416**	13084
1/2	1/2	1-1/2	1	4-1/8	4	HSS	**RC-3216**	13098
5/8	11/16	1-15/16	3/4	4	4	HSS	**RC-2420**	13086
5/8	11/16	1-15/16	1	4-1/4	4	HSS	**RC-3220**	13100
3/4	3/4	2-1/4	3/4	4-1/8	4	HSS	**RC-2424**	13088
3/4	3/4	2-1/4	1	4-5/16	4	HSS	**RC-3224**	13102
1	3/4	2-3/4	3/4	4-1/2	4	HSS	**RC-2432**	13090
1	3/4	2-3/4	1	4-3/4	4	HSS	**RC-3232**	13104

General Purpose Cobalt & HSS End Mills

2 Flute • 60° and 82° Drill Point End Mill



HSSCo M42 | 2 | 30° | BRIGHT | +.0015 -.0000 | Drill Pt. | HRc <48 | P K M S N

Series: A-_ _-DP60

DIA	SHK	LOC	OAL	ANGLE	LENGTH	MAT	TOOL	BRIGHT EDP
1/8	3/8	3/8	2-5/16	60°	std	M42	**A-1204-DP60**	16335
3/16	3/8	7/16	2-5/16	60°	std	M42	**A-1206-DP60**	16337
1/4	3/8	5/8	2-7/16	60°	std	M42	**A-1208-DP60**	16037
1/4	3/8	5/8	2-7/16	60°	std	M42	**A-1208-DP60-1**	16324
5/16	3/8	23/32	2-15/32	60°	std	M42	**A-1210-DP60**	16038
3/8	3/8	3/4	2-1/2	60°	std	M42	**A-1212-DP60**	16039
3/8	3/8	3/4	2-1/2	60°	std	M42	**A-1212-DP60-1**	16327
1/2	1/2	1-1/4	3-1/4	60°	std	M42	**A-1616-DP60**	16041
1/2	1/2	1-1/4	3-1/4	60°	std	M42	**A-1616-DP60-1**	16329
5/8	5/8	1-5/8	3-3/4	60°	std	M42	**A-2020-DP60**	16042
3/4	3/4	1-11/16	3-15/16	60°	std	M42	**A-2424-DP60**	16044
3/4	3/4	1-11/16	3-15/16	60°	std	M42	**A-2424-DP60-1**	16331
7/8	3/4	1-15/16	4-3/16	60°	std	M42	**A-2428-DP60**	16045
1	3/4	2	4-1/4	60°	std	M42	**A-2432-DP60**	16047

Tool names with “-1” have a .005” sharp point for groove milling

Series: A-_ _-DP82

DIA	SHK	LOC	OAL	ANGLE	LENGTH	MAT	TOOL	BRIGHT EDP
1/8	3/8	3/8	2-5/16	82°	std	M42	**A-1204-DP82**	16440
3/16	3/8	7/16	2-5/16	82°	std	M42	**A-1206-DP82**	16441
1/4	3/8	5/8	2-7/16	82°	std	M42	**A-1208-DP82**	16442
5/16	3/8	23/32	2-15/32	82°	std	M42	**A-1210-DP82**	16443
3/8	3/8	3/4	2-1/2	82°	std	M42	**A-1212-DP82**	16444
1/2	1/2	1-1/4	3-1/4	82°	std	M42	**A-1616-DP82**	16446
9/16	1/2	1-13/32	3-13/32	82°	std	M42	**A-1618-DP82**	16447
5/8	5/8	1-5/8	3-3/4	82°	std	M42	**A-2020-DP82**	16448

sizes continued on next page

General Purpose Cobalt & HSS End Mills

2 Flute • 90°, 100° & 120° Drill Point End Mill

HSSCo M42 | 2 | 30° | BRIGHT | +.0015 -.0000 | Drill Pt. | HRc <48 | P K M S N

Series: A-__-DP

DIA	SHK	LOC	OAL	ANGLE	LENGTH	MAT	TOOL	BRIGHT EDP
1/8	3/8	3/8	2-5/16	90°	std	M42	**A-1204-DP**	16334
1/8	3/8	3/8	2-5/16	90°	std	M42	**A-1204-DP-1**	16710
3/16	3/8	7/16	2-5/16	90°	std	M42	**A-1206-DP**	16336
3/16	3/8	7/16	2-5/16	90°	std	M42	**A-1206-DP-1**	16452
1/4	3/8	5/8	2-7/16	90°	std	M42	**A-1208-DP**	15434
1/4	3/8	5/8	2-7/16	90°	std	M42	**A-1208-DP-1**	16323
5/16	3/8	23/32	2-15/32	90°	std	M42	**A-1210-DP**	15436
5/16	3/8	23/32	2-15/32	90°	std	M42	**A-1210-DP-1**	16325
3/8	3/8	3/4	2-1/2	90°	std	M42	**A-1212-DP**	15438
3/8	3/8	3/4	2-1/2	90°	std	M42	**A-1212-DP-1**	16326
7/16	3/8	1-1/32	2-23/32	90°	std	M42	**A-1214-DP**	15440
7/16	3/8	1-1/32	2-23/32	90°	std	M42	**A-1214-DP-1**	16449
1/2	1/2	1-1/4	3-1/4	90°	std	M42	**A-1616-DP**	15442
1/2	1/2	1-1/4	3-1/4	90°	std	M42	**A-1616-DP-1**	16328
9/16	1/2	1-13/32	3-13/32	90°	std	M42	**A-1618-DP**	15444
9/16	1/2	1-13/32	3-13/32	90°	std	M42	**A-1618-DP-1**	16450
5/8	5/8	1-5/8	3-3/4	90°	std	M42	**A-2020-DP**	15446
5/8	5/8	1-5/8	3-3/4	90°	std	M42	**A-2020-DP-1**	16451
11/16	5/8	1-21/32	3-25/32	90°	std	M42	**A-2022-DP**	15448
3/4	3/4	1-11/16	3-15/16	90°	std	M42	**A-2424-DP**	15450
3/4	3/4	1-11/16	3-15/16	90°	std	M42	**A-2424-DP-1**	16330
13/16	3/4	1-29/32	4-5/32	90°	std	M42	**A-2426-DP**	15452
7/8	3/4	1-15/16	4-3/16	90°	std	M42	**A-2428-DP**	15454
15/16	3/4	1-31/32	4-7/32	90°	std	M42	**A-2430-DP**	15456
1	3/4	2	4-1/4	90°	std	M42	**A-2432-DP**	15458
1	3/4	2	4-1/4	90°	std	M42	**A-2432-DP-1**	16332

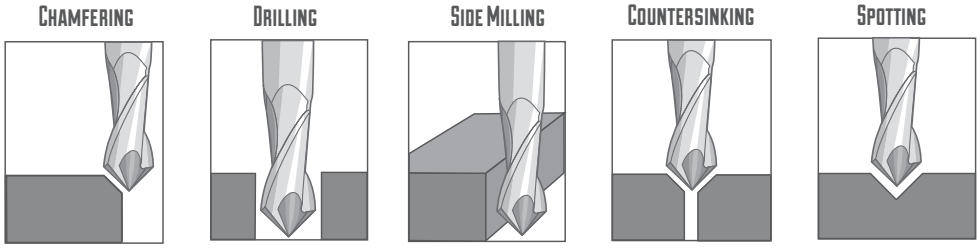
Tool names with "-1" have a .005" sharp point for groove milling

Series: A-__-DP100

DIA	SHK	LOC	OAL	ANGLE	LENGTH	MAT	TOOL	BRIGHT EDP
1/4	3/8	5/8	2-7/16	100°	std	M42	**A-1208-DP100**	16596
3/8	3/8	3/4	2-1/2	100°	std	M42	**A-1212-DP100**	16597

Series: A-__-DP120

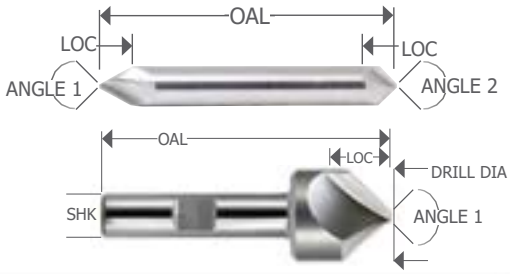
DIA	SHK	LOC	OAL	ANGLE	LENGTH	MAT	TOOL	BRIGHT EDP
1/2	1/2	1-1/4	3-1/4	120°	std	M42	**A-1616-DP120**	16040
3/4	3/4	1-11/16	3-15/16	120°	std	M42	**A-2424-DP120**	16043
1	3/4	2	4-1/4	120°	std	M42	**A-2432-DP120**	16046



General Purpose Cobalt & HSS End Mills

2 Flute • Single/Double End Angle End Mills

HSSCo M42 | 2 | 5° | BRIGHT | Drill Pt. | HRc <48 | P K M S N

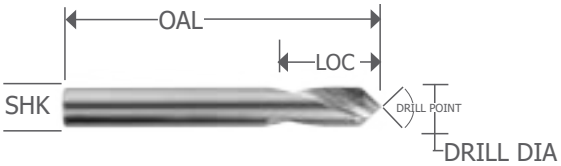


Series: AM

DIA	SHK	OAL	END	LENGTH	ANGLE 1	ANGLE 2	MAT	TOOL	BRIGHT EDP
3/8	3/8	2-3/4	DE	std	60°	90°	M42	**AM-3/8-60/90**	19242
3/8	3/8	2-3/4	DE	std	82°	90°	M42	**AM-3/8-82/90**	19241
3/8	3/8	2-3/4	DE	std	90°	90°	M42	**AM-3/8-90/90**	19240
1/2	1/2	3-3/8	DE	std	60°	90°	M42	**AM-1/2-60/90**	19247
1/2	1/2	3-3/16	DE	std	82°	90°	M42	**AM-1/2-82/90**	19246
1/2	1/2	3-3/16	DE	std	90°	90°	M42	**AM-1/2-90/90**	19245
3/4	3/4	3-3/8	DE	std	60°	90°	M42	**AM-3/4-60/90**	19252
3/4	3/4	3-3/16	DE	std	82°	90°	M42	**AM-3/4-82/90**	19251
3/4	3/8	2-3/8	SE	std	90°	-	M42	**AM-3/4-90**	19243
3/4	3/4	3-3/16	DE	std	90°	90°	M42	**AM-3/4-90/90**	19250
1	1/2	2-15/16	SE	std	90°	-	M42	**AM-1-90**	19248
1-1/4	3/4	3-3/8	SE	std	90°	-	M42	**AM-1-1/4-90**	19253

2 Flute • 82º, 90º or 120º NC Spotting Drills

HSSCo M42 | 2 | 20° | BRIGHT | +.0000 -.0005 | Drill Pt. | HRc <48 | P K M S N

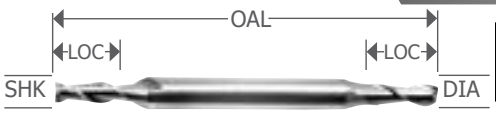


Series: HSNC

DRILL DIA	SHK	LOC	OAL	LENGTH	DRILL POINT	MAT	TOOL	BRIGHT EDP
4mm	4mm	12mm	52mm	std	82°	M42	**HSNC-4M-82**	10847
4mm	4mm	12mm	52mm	std	90°	M42	**HSNC-4M-90**	10849
4mm	4mm	12mm	52mm	std	120°	M42	**HSNC-4M-120**	10851
1/4	1/4	7/8	2-5/8	std	82°	M42	**HSNC-1/4-82**	10853
1/4	1/4	7/8	2-5/8	std	90°	M42	**HSNC-1/4-90**	10855
1/4	1/4	7/8	2-5/8	std	120°	M42	**HSNC-1/4-120**	10857
8mm	8mm	25mm	79mm	std	82°	M42	**HSNC-8M-82**	10859
8mm	8mm	25mm	79mm	std	90°	M42	**HSNC-8M-90**	10861
8mm	8mm	25mm	79mm	std	120°	M42	**HSNC-8M-120**	10863
3/8	3/8	1	3-1/2	std	82°	M42	**HSNC-3/8-82**	10865
3/8	3/8	1	3-1/2	std	90°	M42	**HSNC-3/8-90**	10867
3/8	3/8	1	3-1/2	std	120°	M42	**HSNC-3/8-120**	10869
1/2	1/2	1-3/8	4	std	82°	M42	**HSNC-1/2-82**	10871
1/2	1/2	1-3/8	4	std	90°	M42	**HSNC-1/2-90**	10873
1/2	1/2	1-3/8	4	std	120°	M42	**HSNC-1/2-120**	10875
5/8	5/8	1-3/8	4-1/2	std	82°	M42	**HSNC-5/8-82**	10877
5/8	5/8	1-3/8	4-1/2	std	90°	M42	**HSNC-5/8-90**	10879
5/8	5/8	1-3/8	4-1/2	std	120°	M42	**HSNC-5/8-120**	10881
3/4	3/4	1-1/2	5-3/16	std	82°	M42	**HSNC-3/4-82**	10883
3/4	3/4	1-1/2	5-3/16	std	90°	M42	**HSNC-3/4-90**	10885
3/4	3/4	1-1/2	5-3/16	std	120°	M42	**HSNC-3/4-120**	10887

General Purpose Cobalt & HSS End Mills

2 Flute • Double End Center Cutting End Mills



HSSCo M42 | 2 | 30° | BRIGHT | +.0000 -.0015 | Square | HRc <48 | P K M S N

Series: B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
1/32	3/16	3/64	2	stub	M42	**BS-601**	11082
1/32	3/16	3/32	2-1/4	std	M42	**B-601**	10872
3/64	3/16	1/16	2	stub	M42	**BS-601-1/2**	11084
3/64	3/16	9/64	2-1/4	std	M42	**B-601-1/2**	10874
1/16	3/16	3/32	2	stub	M42	**BS-602**	11086
1/16	3/16	3/16	2-1/4	std	M42	**B-602**	10876
1/16	3/16	7/32	2-1/2	long	M42	**B-602-L**	11048
5/64	3/16	1/8	2	stub	M42	**BS-602-1/2**	11088
5/64	3/16	15/64	2-1/4	std	M42	**B-602-1/2**	10878
3/32	3/16	9/64	2	stub	M42	**BS-603**	11090
3/32	3/16	9/32	2-1/4	std	M42	**B-603**	10880
3/32	3/16	1/2	2-5/8	long	M42	**B-603-L**	11050
7/64	3/16	5/32	2	stub	M42	**BS-603-1/2**	11092
7/64	3/16	21/64	2-1/4	std	M42	**B-603-1/2**	10882
1/8	3/16	3/16	2	stub	M42	**BS-604**	11094
1/8	3/16	3/8	2-1/4	std	M42	**B-604**	10884
1/8	3/16	3/4	3-1/8	long	M42	**B-604-L**	11052
9/64	3/16	7/32	2	stub	M42	**BS-604-1/2**	11096
9/64	3/16	13/32	2-1/4	std	M42	**B-604-1/2**	10886
5/32	3/16	15/64	2	stub	M42	**BS-605**	11098
5/32	3/16	7/16	2-1/4	std	M42	**B-605**	10888
5/32	3/16	7/8	3-1/4	long	M42	**B-605-L**	11054
11/64	3/16	1/4	2	stub	M42	**BS-605-1/2**	11100
11/64	3/16	1/2	2-1/4	std	M42	**B-605-1/2**	10890
3/16	3/16	9/32	2	stub	M42	**BS-606**	11102
3/16	3/16	1/2	2-1/4	std	M42	**B-606**	10892
3/16	3/16	1	3-3/8	long	M42	**B-606-L**	11056

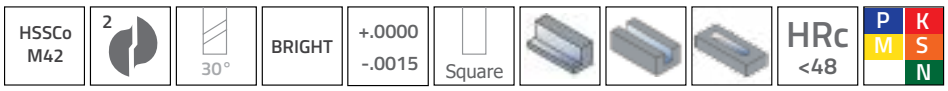
If shank and mill diameters are the same, tolerance is +.0000/-.0025

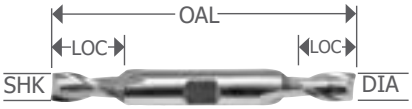
DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
5/64	3/8	5/16	3-1/16	std	M42	**B-1202-1/2**	10894
3/32	3/8	5/16	3-1/16	std	M42	**B-1203**	10896
7/64	3/8	3/8	3-1/16	std	M42	**B-1203-1/2**	10898
1/8	3/8	3/16	2-3/4	stub	M42	**BS-1204**	11104
1/8	3/8	3/8	3-1/16	std	M42	**B-1204**	10900
9/64	3/8	7/16	3-1/8	std	M42	**B-1204-1/2**	10902
5/32	3/8	15/64	2-3/4	stub	M42	**BS-1205**	11106
5/32	3/8	7/16	3-1/8	std	M42	**B-1205**	10904
11/64	3/8	7/16	3-1/8	std	M42	**B-1205-1/2**	10906
3/16	3/8	9/32	2-3/4	stub	M42	**BS-1206**	11108
3/16	3/8	7/16	3-1/4	std	M42	**B-1206**	10908
13/64	3/8	1/2	3-1/4	std	M42	**B-1206-1/2**	10910
7/32	3/8	21/64	2-3/4	stub	M42	**BS-1207**	11110
7/32	3/8	1/2	3-1/4	std	M42	**B-1207**	10912
15/64	3/8	1/2	3-3/8	std	M42	**B-1207-1/2**	10914
1/4	3/8	3/8	2-3/4	stub	M42	**BS-1208**	11112
1/4	3/8	1/2	3-3/8	std	M42	**B-1208**	10916
17/64	3/8	9/16	3-3/8	std	M42	**B-1208-1/2**	10918
9/32	3/8	9/16	3-3/8	std	M42	**B-1209**	10920
19/64	3/8	9/16	3-1/2	std	M42	**B-1209-1/2**	10922
5/16	3/8	9/16	3-1/2	std	M42	**B-1210**	10924
21/64	3/8	9/16	3-1/2	std	M42	**B-1210-1/2**	10926
11/32	3/8	9/16	3-1/2	std	M42	**B-1211**	10928

sizes continued on next page

General Purpose Cobalt & HSS End Mills

2 Flute • Double End Center Cutting End Mills



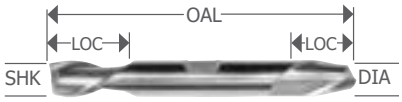


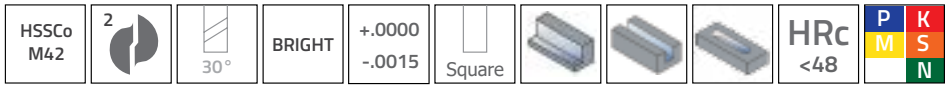
Series: B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
23/64	3/8	9/16	3-1/2	std	M42	**B-1211-1/2**	10930
3/8	3/8	9/16	3-1/2	std	M42	**B-1212**	10932
25/64	1/2	13/16	4-1/8	std	M42	**B-1612-1/2**	10934
13/32	1/2	13/16	4-1/8	std	M42	**B-1613**	10936
27/64	1/2	13/16	4-1/8	std	M42	**B-1613-1/2**	10938
7/16	1/2	13/16	4-1/8	std	M42	**B-1614**	10940
29/64	1/2	13/16	4-1/8	std	M42	**B-1614-1/2**	10942
15/32	1/2	13/16	4-1/8	std	M42	**B-1615**	10944
31/64	1/2	13/16	4-1/8	std	M42	**B-1615-1/2**	10946
1/2	1/2	13/16	4-1/8	std	M42	**B-1616**	10948
17/32	5/8	1-1/8	5	std	M42	**B-2017**	10950
9/16	5/8	1-1/8	5	std	M42	**B-2018**	10952
19/32	5/8	1-1/8	5	std	M42	**B-2019**	10954
5/8	5/8	1-1/8	5	std	M42	**B-2020**	10956
21/32	3/4	1-5/16	5	std	M42	**B-2421**	10958
11/16	3/4	1-5/16	5	std	M42	**B-2422**	10960
23/32	3/4	1-5/16	5	std	M42	**B-2423**	10962
3/4	3/4	1-5/16	5	std	M42	**B-2424**	10964
25/32	7/8	1-9/16	5-1/2	std	M42	**B-2825**	10966
13/16	7/8	1-9/16	5-1/2	std	M42	**B-2826**	10968
7/8	7/8	1-9/16	5-1/2	std	M42	**B-2828**	10972
15/16	1	1-5/8	5-7/8	std	M42	**B-3230**	CALL
1	1	1-5/8	5-7/8	std	M42	**B-3232**	10980

If shank and mill diameters are the same, tolerance is +.0000/-.0025

2 Flute • DE CC Left Hand Spiral, Left Hand Cut End Mill



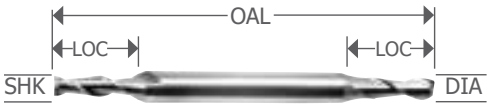


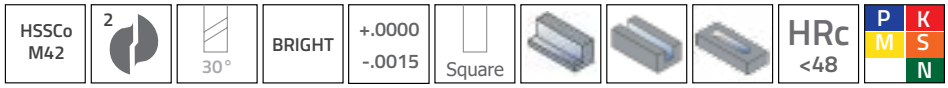
Series: XB

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
1/8	3/8	3/8	3-1/16	std	M42	**XB-1204**	12235
3/16	3/8	7/16	3-1/4	std	M42	**XB-1206**	12750
1/4	3/8	1/2	3-3/8	std	M42	**XB-1208**	12752
5/16	3/8	9/16	3-1/2	std	M42	**XB-1210**	12754
3/8	3/8	9/16	3-1/2	std	M42	**XB-1212**	12756
7/16	1/2	13/16	4-1/8	std	M42	**XB-1614**	12758
1/2	1/2	13/16	4-1/8	std	M42	**XB-1616**	12760

Tolerance +.0000/-.0015. If shank and mill diameters are the same, tolerance is +.0000/-.0025

2 Flute • Double End Center Cutting Metric/Inch End Mill





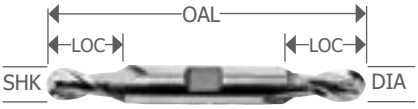
Series: B-_M_

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
3mm	3/8	3/8	3-1/16	std	M42	**B-12M3**	12922
4mm	3/8	7/16	3-1/8	std	M42	**B-12M4**	12924
5mm	3/8	1/2	3-1/4	std	M42	**B-12M5**	12926
6mm	3/8	1/2	3-3/8	std	M42	**B-12M6**	12928
7mm	3/8	9/16	3-3/8	std	M42	**B-12M7**	12930
8mm	3/8	9/16	3-1/2	std	M42	**B-12M8**	12932
9mm	3/8	9/16	3-1/2	std	M42	**B-12M9**	12934
10mm	1/2	13/16	4-1/8	std	M42	**B-16M10**	12936
11mm	1/2	13/16	4-1/8	std	M42	**B-16M11**	12938
12mm	1/2	13/16	4-1/8	std	M42	**B-16M12**	12940
13mm	5/8	1-1/8	5	std	M42	**B-20M13**	12942
14mm	5/8	1-1/8	5	std	M42	**B-20M14**	12944
15mm	5/8	1-1/8	5	std	M42	**B-20M15**	12946
16mm	3/4	1-5/16	5	std	M42	**B-24M16**	12948
18mm	3/4	1-5/16	5	std	M42	**B-24M18**	12950
20mm	7/8	1-9/16	5-1/2	std	M42	**B-28M20**	12952
22mm	7/8	1-9/16	5-1/2	std	M42	**B-28M22**	12954

General Purpose Cobalt & HSS End Mills

2 Flute • Double End Ball Nose Center Cutting End Mills

HSSCo M42 | 2 | 30° | BRIGHT | +.0005 -.0005 | Ball | HRc <48 | P K M S N



Series: B-_ _-B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
1/32	3/16	3/64	2	stub	M42	**BS-601-B**	11114
1/32	3/16	3/32	2-1/4	std	M42	**B-601-B**	10982
3/64	3/16	1/16	2	stub	M42	**BS-601-1/2-B**	11116
3/64	3/16	9/64	2-1/4	std	M42	**B-601-1/2-B**	10984
1/16	3/16	3/32	2	stub	M42	**BS-602-B**	11118
1/16	3/16	3/16	2-1/4	std	M42	**B-602-B**	10986
1/16	3/16	7/32	2-1/2	long	M42	**B-602-LB**	11058
5/64	3/16	1/8	2	stub	M42	**BS-602-1/2-B**	11120
5/64	3/16	15/64	2-1/4	std	M42	**B-602-1/2-B**	10988
3/32	3/16	9/64	2	stub	M42	**BS-603-B**	11122
3/32	3/16	9/32	2-1/4	std	M42	**B-603-B**	10990
3/32	3/16	1/2	2-5/8	long	M42	**B-603-LB**	11060
7/64	3/16	5/32	2	stub	M42	**BS-603-1/2-B**	11124
7/64	3/16	21/64	2-1/4	std	M42	**B-603-1/2-B**	10992
1/8	3/16	3/16	2	stub	M42	**BS-604-B**	11126
1/8	3/16	3/8	2-1/4	std	M42	**B-604-B**	10994
1/8	3/16	3/4	3-1/8	long	M42	**B-604-LB**	11062
9/64	3/16	7/32	2	stub	M42	**BS-604-1/2-B**	11128
9/64	3/16	13/32	2-1/4	std	M42	**B-604-1/2-B**	10996
5/32	3/16	15/64	2	stub	M42	**BS-605-B**	11130
5/32	3/16	7/16	2-1/4	std	M42	**B-605-B**	10998
5/32	3/16	7/8	3-1/4	long	M42	**B-605-LB**	11064
11/64	3/16	1/4	2	stub	M42	**BS-605-1/2-B**	11132
11/64	3/16	1/2	2-1/4	std	M42	**B-605-1/2-B**	11000
3/16	3/16	9/32	2	stub	M42	**BS-606-B**	11134
3/16	3/16	1/2	2-1/4	std	M42	**B-606-B**	11002
3/16	3/16	1	3-3/8	long	M42	**B-606-LB**	11066

If shank and mill diameters are the same, tolerance is +.0000/-.0025

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
3/32	3/8	5/16	3-1/16	std	M42	**B-1203-B**	11004
1/8	3/8	3/8	3-1/16	std	M42	**B-1204-B**	11006
5/32	3/8	7/16	3-1/8	std	M42	**B-1205-B**	11008
3/16	3/8	7/16	3-1/4	std	M42	**B-1206-B**	11010
7/32	3/8	1/2	3-1/4	std	M42	**B-1207-B**	11012
1/4	3/8	1/2	3-3/8	std	M42	**B-1208-B**	11014
9/32	3/8	9/16	3-3/8	std	M42	**B-1209-B**	11016
5/16	3/8	9/16	3-1/2	std	M42	**B-1210-B**	11018
11/32	3/8	9/16	3-1/2	std	M42	**B-1211-B**	11020
3/8	3/8	9/16	3-1/2	std	M42	**B-1212-B**	11022
13/32	1/2	13/16	4-1/8	std	M42	**B-1613-B**	11024
7/16	1/2	13/16	4-1/8	std	M42	**B-1614-B**	11026
15/32	1/2	13/16	4-1/8	std	M42	**B-1615-B**	11028
1/2	1/2	13/16	4-1/8	std	M42	**B-1616-B**	11030
9/16	5/8	1-1/8	5	std	M42	**B-2018-B**	11032
5/8	5/8	1-1/8	5	std	M42	**B-2020-B**	11034
11/16	3/4	1-5/16	5	std	M42	**B-2422-B**	11036
3/4	3/4	1-5/16	5	std	M42	**B-2424-B**	11038

If shank and mill diameters are the same, tolerance is +.0000/-.0025

3 Flute • Double End Center Cutting End Mill

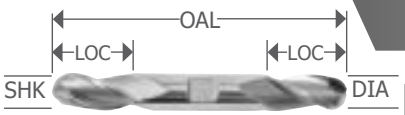
HSSCo M42 | 3 | 30° | BRIGHT | +.0005 -.0015 | Square | HRc <48 | P K M S N

Series: F

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
3/32	3/16	5/32	2	stub	M42	**FS-603**	12564
3/32	3/16	5/16	2-1/4	std	M42	**F-603**	12428
1/8	3/16	3/16	2	stub	M42	**FS-604**	12566
1/8	3/16	3/8	2-1/4	std	M42	**F-604**	12430
3/16	3/16	1/2	2-1/4	std	M42	**F-606**	12434
5/64	3/8	5/16	3-1/16	std	M42	**F-1202-1/2**	12436
3/32	3/8	5/16	3-1/16	std	M42	**F-1203**	12438
7/64	3/8	3/8	3-1/16	std	M42	**F-1203-1/2**	12440
1/8	3/8	3/8	3-1/16	std	M42	**F-1204**	12442
9/64	3/8	7/16	3-1/8	std	M42	**F-1204-1/2**	12444
5/32	3/8	7/16	3-1/8	std	M42	**F-1205**	12446
11/64	3/8	1/2	3-1/8	std	M42	**F-1205-1/2**	12448
3/16	3/8	1/2	3-1/4	std	M42	**F-1206**	12450
13/64	3/8	9/16	3-1/4	std	M42	**F-1206-1/2**	12452
7/32	3/8	9/16	3-1/4	std	M42	**F-1207**	12454
15/64	3/8	5/8	3-3/8	std	M42	**F-1207-1/2**	12456
1/4	3/8	5/8	3-3/8	std	M42	**F-1208**	12458
17/64	3/8	11/16	3-3/8	std	M42	**F-1208-1/2**	12460
9/32	3/8	11/16	3-3/8	std	M42	**F-1209**	12462
19/64	3/8	3/4	3-1/2	std	M42	**F-1209-1/2**	12464
5/16	3/8	3/4	3-1/2	std	M42	**F-1210**	12466
21/64	3/8	3/4	3-1/2	std	M42	**F-1210-1/2**	12468
11/32	3/8	3/4	3-1/2	std	M42	**F-1211**	12470
23/64	3/8	3/4	3-1/2	std	M42	**F-1211-1/2**	12472
3/8	3/8	3/4	3-1/2	std	M42	**F-1212**	12474
25/64	1/2	1	4-1/8	std	M42	**F-1612-1/2**	12476
13/32	1/2	1	4-1/8	std	M42	**F-1613**	12478
27/64	1/2	1	4-1/8	std	M42	**F-1613-1/2**	12480
7/16	1/2	1	4-1/8	std	M42	**F-1614**	12482
29/64	1/2	1	4-1/8	std	M42	**F-1614-1/2**	12484
15/32	1/2	1	4-1/8	std	M42	**F-1615**	12486
1/2	1/2	1	4-1/8	std	M42	**F-1616**	12490
17/32	5/8	1-3/8	5	std	M42	**F-2017**	12492
9/16	5/8	1-3/8	5	std	M42	**F-2018**	12494
5/8	5/8	1-3/8	5	std	M42	**F-2020**	12498
3/4	3/4	1-5/8	5-5/8	std	M42	**F-2424**	12506

If shank and mill diameters are the same, tolerance is +.0000/-.0025

3 Flute • Double End Center Cutting End Mill



HSSCo M42 | 3 | 30° | BRIGHT | +.0005 -.0015 | Ball | HRc <48 | P K M S N

Series: F-__-B

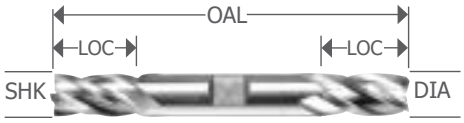
DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
3/32	3/8	5/16	3-1/16	std	M42	**F-1203-B**	12524
1/8	3/8	3/8	3-1/16	std	M42	**F-1204-B**	12526
3/16	3/8	1/2	3-1/4	std	M42	**F-1206-B**	12530
1/4	3/8	5/8	3-3/8	std	M42	**F-1208-B**	12534
5/16	3/8	3/4	3-1/2	std	M42	**F-1210-B**	12538
3/8	3/8	3/4	3-1/2	std	M42	**F-1212-B**	12542
1/2	1/2	1	4-1/8	std	M42	**F-1616-B**	12546

If shank and mill diameters are the same, tolerance is +.0000/-.0025

General Purpose Cobalt & HSS End Mills

4 Flute • Double End Center Cutting End Mill

HSSCo M42 | 4 | 30° | BRIGHT | +.0015 -.0000 | Square | HRc <48 | P K M S N



Series: D

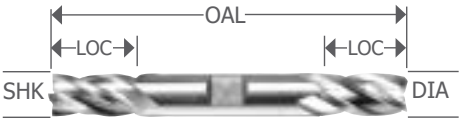
DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
1/16	3/16	3/32	2	stub	M42	**DS-602**	11992
1/16	3/16	3/16	2-1/4	std	M42	**D-602**	11800
1/16	3/16	7/32	2-1/2	long	M42	**D-602-L**	11902
5/64	3/16	1/8	2	stub	M42	**DS-602-1/2**	11994
5/64	3/16	15/64	2-1/4	std	M42	**D-602-1/2**	11802
3/32	3/16	9/64	2	stub	M42	**DS-603**	11996
3/32	3/16	9/32	2-1/4	std	M42	**D-603**	11804
3/32	3/16	1/2	2-5/8	long	M42	**D-603-L**	11904
7/64	3/16	5/32	2	stub	M42	**DS-603-1/2**	11998
7/64	3/16	21/64	2-1/4	std	M42	**D-603-1/2**	11806
1/8	3/16	3/16	2	stub	M42	**DS-604**	12000
1/8	3/16	3/8	2-1/4	std	M42	**D-604**	11808
1/8	3/16	3/4	3-1/8	long	M42	**D-604-L**	11906
9/64	3/16	3/16	2	stub	M42	**DS-604-1/2**	12002
9/64	3/16	27/64	2-1/4	std	M42	**D-604-1/2**	11810
5/32	3/16	15/64	2	stub	M42	**DS-605**	12004
5/32	3/16	7/16	2-1/4	std	M42	**D-605**	11812
5/32	3/16	7/8	3-1/4	long	M42	**D-605-L**	11908
11/64	3/16	1/4	2	stub	M42	**DS-605-1/2**	12006
11/64	3/16	33/64	2-1/4	std	M42	**D-605-1/2**	11814
3/16	3/16	9/32	2	stub	M42	**DS-606**	12008
3/16	3/16	1/2	2-1/4	std	M42	**D-606**	11816
3/16	3/16	1	3-3/8	long	M42	**D-606-L**	11910

If shank and mill diameters are the same, tolerance is +.0000/-.0025

sizes continued on next page

General Purpose Cobalt & HSS End Mills

4 Flute • Double End Center Cutting End Mill



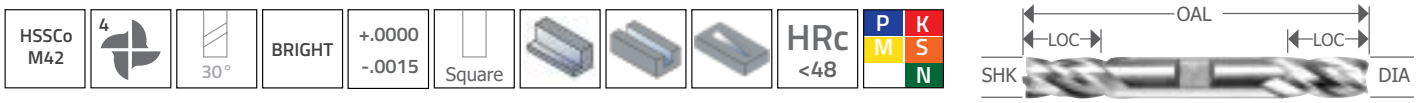
Series: DD

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
7/64	3/8	3/8	3-1/16	std	M42	**DD-1203-1/2**	11818
1/8	3/8	3/16	2-3/4	stub	M42	**DDS-1204**	12010
1/8	3/8	3/8	3-1/16	std	M42	**DD-1204**	11820
1/8	3/8	1/2	3-1/4	med	M42	**DD-1204-M**	11912
1/8	3/8	5/8	3-9/16	long	M42	**DD-1204-L**	11914
9/64	3/8	7/16	3-1/8	std	M42	**DD-1204-1/2**	11822
5/32	3/8	15/64	2-3/4	stub	M42	**DDS-1205**	12012
5/32	3/8	7/16	3-1/8	std	M42	**DD-1205**	11824
11/64	3/8	1/2	3-1/8	std	M42	**DD-1205-1/2**	11826
3/16	3/8	9/32	2-3/4	stub	M42	**DDS-1206**	12014
3/16	3/8	1/2	3-1/4	std	M42	**DD-1206**	11828
3/16	3/8	7/8	4-1/8	long	M42	**DD-1206-L**	11916
13/64	3/8	9/16	3-1/4	std	M42	**DD-1206-1/2**	11830
7/32	3/8	21/64	2-3/4	stub	M42	**DDS-1207**	12016
7/32	3/8	9/16	3-1/4	std	M42	**DD-1207**	11832
15/64	3/8	5/8	3-3/8	std	M42	**DD-1207-1/2**	11834
1/4	3/8	3/8	2-3/4	stub	M42	**DDS-1208**	12018
1/4	3/8	5/8	3-3/8	std	M42	**DD-1208**	11836
17/64	3/8	11/16	3-3/8	std	M42	**DD-1208-1/2**	11838
9/32	3/8	11/16	3-3/8	std	M42	**DD-1209**	11840
19/64	3/8	3/4	3-1/2	std	M42	**DD-1209-1/2**	11842
5/16	3/8	3/4	3-1/2	std	M42	**DD-1210**	11844
21/64	3/8	3/4	3-1/2	std	M42	**DD-1210-1/2**	11846
11/32	3/8	3/4	3-1/2	std	M42	**DD-1211**	11848
23/64	3/8	3/4	3-1/2	std	M42	**DD-1211-1/2**	11850
3/8	3/8	3/4	3-1/2	std	M42	**DD-1212**	11852
25/64	1/2	1	4-1/8	std	M42	**DD-1612-1/2**	11854
13/32	1/2	1	4-1/8	std	M42	**DD-1613**	11856
27/64	1/2	1	4-1/8	std	M42	**DD-1613-1/2**	11858
7/16	1/2	1	4-1/8	std	M42	**DD-1614**	11860
29/64	1/2	1	4-1/8	std	M42	**DD-1614-1/2**	11862
15/32	1/2	1	4-1/8	std	M42	**DD-1615**	11864
31/64	1/2	1	4-1/8	std	M42	**DD-1615-1/2**	11866
1/2	1/2	1	4-1/8	std	M42	**DD-1616**	11868
17/32	5/8	1-3/8	5	std	M42	**DD-2017**	11870
9/16	5/8	1-3/8	5	std	M42	**DD-2018**	11872
19/32	5/8	1-3/8	5	std	M42	**DD-2019**	11874
5/8	5/8	1-3/8	5	std	M42	**DD-2020**	11876
3/4	3/4	1-5/8	5-5/8	std	M42	**DD-2424**	11944
7/8	7/8	1-7/8	6-1/8	std	M42	**DD-2828**	11946
1	1	1-7/8	6-3/8	std	M42	**DD-3232**	11948

If shank and mill diameters are the same, tolerance is +.0000/-.0025

General Purpose Cobalt & HSS End Mills

4 Flute • Double End Center Cutting Metric/Inch End Mill

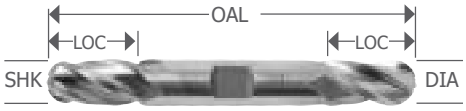


Series: DD-_M_

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
3mm	3/8	3/8	3-1/16	std	M42	**DD-12M3**	13026
4mm	3/8	7/16	3-1/8	std	M42	**DD-12M4**	13028
5mm	3/8	9/16	3-1/4	std	M42	**DD-12M5**	13030
6mm	3/8	5/8	3-3/8	std	M42	**DD-12M6**	13032
7mm	3/8	11/16	3-3/8	std	M42	**DD-12M7**	13034
8mm	3/8	3/4	3-1/2	std	M42	**DD-12M8**	13036
9mm	3/8	3/4	3-1/2	std	M42	**DD-12M9**	13038
10mm	1/2	1	4-1/8	std	M42	**DD-16M10**	13040
11mm	1/2	1	4-1/8	std	M42	**DD-16M11**	13042
12mm	1/2	1	4-1/8	std	M42	**DD-16M12**	13044
13mm	5/8	1-3/8	5	std	M42	**DD-20M13**	13046
14mm	5/8	1-3/8	5	std	M42	**DD-20M14**	13048
15mm	5/8	1-3/8	5	std	M42	**DD-20M15**	13050
16mm	3/4	1-5/8	5-5/8	std	M42	**DD-24M16**	13052
18mm	3/4	1-5/8	5-5/8	std	M42	**DD-24M18**	13054
20mm	7/8	1-7/8	6-1/8	std	M42	**DD-28M20**	13056
22mm	7/8	1-7/8	6-1/8	std	M42	**DD-28M22**	13058

General Purpose Cobalt & HSS End Mills

4 Flute • Double End Ball Nose End Mill



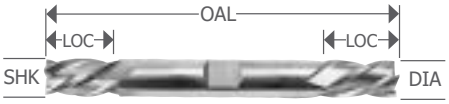
HSSCo M42 | 4 | 30° | BRIGHT | +.0005 -.0005 | Ball | HRc <48 | P K M S N

Series: DD-_ _-B

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
1/8	3/8	3/8	3-1/8	std	M42	**DD-1204-B**	11950
5/32	3/8	7/16	3-1/8	std	M42	**DD-1205-B**	11952
3/16	3/8	1/2	3-1/4	std	M42	**DD-1206-B**	11954
7/32	3/8	9/16	3-1/4	std	M42	**DD-1207-B**	11956
1/4	3/8	5/8	3-3/8	std	M42	**DD-1208-B**	11958
9/32	3/8	11/16	3-3/8	std	M42	**DD-1209-B**	11960
5/16	3/8	3/4	3-1/2	std	M42	**DD-1210-B**	11962
11/32	3/8	3/4	3-1/2	std	M42	**DD-1211-B**	11964
3/8	3/8	3/4	3-1/2	std	M42	**DD-1212-B**	11966
1/2	1/2	1	4-1/8	std	M42	**DD-1616-B**	11968
5/8	5/8	1-3/8	5	std	M42	**DD-2020-B**	11970
3/4	3/4	1-5/8	5-5/8	std	M42	**DD-2424-B**	11972
1	1	1-7/8	6-3/8	std	M42	**DD-3232-B**	11976

If shank and mill diameter are the same, tolerance is +.000/-.0025

4 Flute • Double End Center Cutting Left Hand Spiral/Cut End Mill



HSSCo M42 | 4 | 30° | BRIGHT | +.0020 -.0000 | Square | HRc <48 | P K M S N

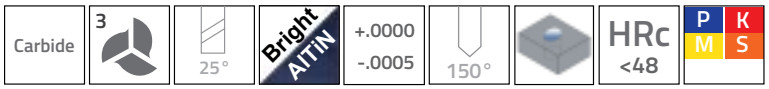
Series: XD

DIA	SHK	LOC	OAL	LENGTH	MAT	TOOL	BRIGHT EDP
1/8	3/8	7/16	3-1/16	std	M42	**XD-1204**	12543
3/16	3/8	1/2	3-1/4	std	M42	**XD-1206**	12772
1/4	3/8	5/8	3-3/8	std	M42	**XD-1208**	12774
5/16	3/8	3/4	3-1/2	std	M42	**XD-1210**	12776
3/8	3/8	3/4	3-1/2	std	M42	**XD-1212**	12778
7/16	1/2	1	4-1/8	std	M42	**XD-1614**	12780
1/2	1/2	1	4-1/8	std	M42	**XD-1616**	12782
9/16	5/8	1-3/8	5	std	M42	**XD-2018**	12784
5/8	5/8	1-3/8	5	std	M42	**XD-2020**	12786
3/4	3/4	1-5/8	5-5/8	std	M42	**XD-2424**	12790

Tolerance +.002/-.000. If shank and mill diameters are the same, tolerance is +.0000/-.0025

General Purpose Carbide Drills

3 Flute • General Purpose Carbide Drill



Series: LDR

DIAMETER		SHK	LOC	OAL	TOOL	BRIGHT EDP	ALTIN EDP
7/64	0.1094	1/8	3/4	2-1/4	**LDR-7/64**	10341	50341
# 33	0.1130	1/8	3/4	2-1/4	**LDR-33**	10343	50343
3mm	0.1181	1/8	20mm	58mm	**LDR-3MM**	10345	50345
1/8	0.1250	1/8	3/4	2-1/4	**LDR-1/8**	10347	50347
# 29	0.1360	4mm	3/4	2-1/4	**LDR-29**	10349	50349
3.5mm	0.1378	4mm	22mm	64mm	**LDR-3.5MM**	10351	50351
9/64	0.1406	4mm	7/8	2-1/2	**LDR-9/64**	10353	50353
5/32	0.1562	4mm	7/8	2-1/2	**LDR-5/32**	10355	50355
4mm	0.1575	4mm	24mm	64mm	**LDR-4MM**	10357	50357
# 21	0.1590	3/16	1	2-1/2	**LDR-21**	10359	50359
11/64	0.1719	3/16	1	2-3/4	**LDR-11/64**	10361	50361
4.5mm	0.1772	3/16	28mm	70mm	**LDR-4.5MM**	10363	50363
3/16	0.1875	3/16	1-1/8	2-3/4	**LDR-3/16**	10365	50365
5mm	0.1969	6mm	30mm	76mm	**LDR-5MM**	10367	50367
# 7	0.2010	6mm	1-1/4	76mm	**LDR-7**	10369	50369
13/64	0.2031	6mm	1-1/4	76mm	**LDR-13/64**	10371	50371
5.5mm	0.2165	6mm	34mm	76mm	**LDR-5.5MM**	10373	50373
7/32	0.2188	6mm	1-1/4	76mm	**LDR-7/32**	10375	50375
15/64	0.2344	6mm	1-3/8	76mm	**LDR-15/64**	10377	50377
6mm	0.2362	6mm	38mm	76mm	**LDR-6MM**	10379	50379
1/4	0.2500	1/4	1-1/2	3	**LDR-1/4**	10381	50381
6.5mm	0.2559	8mm	38mm	76mm	**LDR-6.5MM**	10383	50383
F	0.2570	8mm	1-1/2	76mm	**LDR-F**	10385	50385
17/64	0.2656	8mm	1-1/2	76mm	**LDR-17/64**	10387	50387
I	0.2720	8mm	1-1/2	76mm	**LDR-I**	10389	50389
7mm	0.2756	8mm	42mm	100mm	**LDR-7MM**	10391	50391
9/32	0.2812	8mm	1-3/4	100mm	**LDR-9/32**	10393	50393
7.5mm	0.2953	8mm	45mm	100mm	**LDR-7.5MM**	10395	50395
19/64	0.2969	8mm	1-3/4	100mm	**LDR-19/64**	10397	50397
5/16	0.3125	8mm	1-7/8	100mm	**LDR-5/16**	10399	50399
8mm	0.3150	8mm	48mm	100mm	**LDR-8MM**	10401	50401
21/64	0.3281	3/8	2	4	**LDR-21/64**	10403	50403
Q	0.3320	3/8	2	4	**LDR-Q**	10405	50405
8.5mm	0.3346	3/8	52mm	101mm	**LDR-8.5MM**	10407	50407
11/32	0.3438	3/8	2	4	**LDR-11/32**	10409	50409
9mm	0.3543	3/8	54mm	101mm	**LDR-9MM**	10411	50411
23/64	0.3594	3/8	2-1/4	4-1/4	**LDR-23/64**	10413	50413
U	0.3680	3/8	2-1/4	4-1/4	**LDR-U**	10415	50415
9.5mm	0.3740	3/8	58mm	108mm	**LDR-9.5MM**	10417	50417
3/8	0.3750	3/8	2-1/4	4-1/4	**LDR-3/8**	10419	50419
25/64	0.3906	10mm	2-3/8	4-1/2	**LDR-25/64**	10421	50421
10mm	0.3937	10mm	60mm	114mm	**LDR-10MM**	10423	50423
13/32	0.4062	7/16	2-3/8	4-1/2	**LDR-13/32**	10425	50425
10.5mm	0.4134	7/16	64mm	114mm	**LDR-10.5MM**	10427	50427
27/64	0.4219	7/16	2-1/2	4-1/2	**LDR-27/64**	10429	50429
11mm	0.4331	7/16	68mm	114mm	**LDR-11MM**	10431	50431
7/16	0.4375	7/16	2-1/2	4-1/2	**LDR-7/16**	10433	50433
11.5mm	0.4528	1/2	70mm	127mm	**LDR-11.5MM**	10435	50435
29/64	0.4531	1/2	2-3/4	5	**LDR-29/64**	10437	50437
15/32	0.4688	1/2	2-3/4	5	**LDR-15/32**	10439	50439
12mm	0.4724	1/2	72mm	127mm	**LDR-12MM**	10441	50441
31/64	0.4844	1/2	2-3/4	5	**LDR-31/64**	10443	50443
1/2	0.5000	1/2	2-3/4	5	**LDR-1/2**	10445	50445
9/16	0.5625	9/16	3-1/4	6	**LDR-9/16**	10447	50447
5/8	0.6250	5/8	3-1/2	6	**LDR-5/8**	10449	50449
3/4	0.7500	3/4	3-7/8	6	**LDR-3/4**	10451	50451

2 Flute • Jobber Length Carbide Drill

Series: HDR

DIAMETER		LOC	OAL	TOOL	BRIGHT EDP	ALTIN EDP
1mm	0.0394	16mm	38mm	**HDR-1MM**	11197	51197
# 60	0.0400	3/4	1-1/2	**HDR-60**	14415	54415
# 58	0.0420	3/4	1-1/2	**HDR-58**	17114	57114
# 57	0.0430	3/4	1-1/2	**HDR-57**	17113	57113
# 56	0.0465	3/4	1-1/2	**HDR-56**	17112	57112
3/64	0.0469	3/4	1-1/2	**HDR-3/64**	17001	57001
# 55	0.0520	3/4	1-1/2	**HDR-55**	17111	57111
# 54	0.0550	3/4	1-1/2	**HDR-54**	17110	57110
1.5mm	0.0591	19mm	38mm	**HDR-1.5MM**	17393	57393
# 53	0.0595	3/4	1-1/2	**HDR-53**	17109	57109
1/16	0.0625	3/4	1-1/2	**HDR-1/16**	17002	57002
# 52	0.0635	3/4	1-1/2	**HDR-52**	17108	57108
# 51	0.0670	3/4	1-1/2	**HDR-51**	17107	57107
# 50	0.0700	7/8	1-3/4	**HDR-50**	17106	57106
# 49	0.0730	7/8	1-3/4	**HDR-49**	17105	57105
# 48	0.0760	7/8	1-3/4	**HDR-48**	17104	57104
5/64	0.0781	7/8	1-3/4	**HDR-5/64**	17003	57003
# 47	0.0785	7/8	1-3/4	**HDR-47**	17103	57103
2mm	0.0787	22mm	44mm	**HDR-2MM**	17394	57394
# 46	0.0810	7/8	1-3/4	**HDR-46**	17102	57102
# 45	0.0820	7/8	1-3/4	**HDR-45**	17101	57101
# 44	0.0860	1	2	**HDR-44**	17100	57100
# 43	0.0890	1	2	**HDR-43**	17099	57099
# 42	0.0935	1	2	**HDR-42**	17098	57098
3/32	0.0938	1	2	**HDR-3/32**	17004	57004
# 41	0.0960	1	2	**HDR-41**	17097	57097
# 40	0.0980	1	2	**HDR-40**	17096	57096
2.5mm	0.0984	25mm	51mm	**HDR-2.5MM**	17395	57395
# 39	0.0995	1-1/4	2-1/4	**HDR-39**	17095	57095
# 38	0.1015	1-1/4	2-1/4	**HDR-38**	17094	57094
# 37	0.1040	1-1/4	2-1/4	**HDR-37**	17093	57093
# 36	0.1065	1-1/4	2-1/4	**HDR-36**	17092	57092
7/64	0.1094	1-1/4	2-1/4	**HDR-7/64**	17005	57005
# 35	0.1100	1-1/4	2-1/4	**HDR-35**	17091	57091
# 34	0.1110	1-1/4	2-1/4	**HDR-34**	17090	57090
# 33	0.1130	1-1/4	2-1/4	**HDR-33**	17089	57089
# 32	0.1160	1-1/4	2-1/4	**HDR-32**	17088	57088
3mm	0.1181	32mm	58mm	**HDR-3MM**	17396	57396
# 31	0.1200	1-1/4	2-1/4	**HDR-31**	17087	57087
1/8	0.1250	1-1/4	2-1/4	**HDR-1/8**	17006	57006
# 30	0.1285	1-1/4	2-1/4	**HDR-30**	17086	57086
# 29	0.1360	1-3/8	2-1/4	**HDR-29**	17085	57085
3.5mm	0.1378	35mm	64mm	**HDR-3.5MM**	17397	57397
# 28	0.1405	1-3/8	2-1/2	**HDR-28**	17084	57084
9/64	0.1406	1-3/8	2-1/2	**HDR-9/64**	17007	57007
# 27	0.1440	1-3/8	2-1/2	**HDR-27**	17083	57083
# 26	0.1470	1-3/8	2-1/2	**HDR-26**	17082	57082
# 25	0.1495	1-3/8	2-1/2	**HDR-25**	17081	57081
# 24	0.1520	1-3/8	2-1/2	**HDR-24**	17080	57080
# 23	0.1540	1-3/8	2-1/2	**HDR-23**	17079	57079
5/32	0.1562	1-3/8	2-1/2	**HDR-5/32**	17008	57008
# 22	0.1570	1-3/8	2-1/2	**HDR-22**	17078	57078
4mm	0.1575	35mm	64mm	**HDR-4MM**	17398	57398
# 21	0.1590	1-3/8	2-1/2	**HDR-21**	17077	57077

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General Purpose Carbide Drills

2 Flute • Jobber Length Carbide Drills

Series: HDR

DIAMETER		LOC	OAL	TOOL	BRIGHT EDP	ALTIN EDP
# 20	0.1610	1-3/8	2-1/2	**HDR-20**	17076	57076
# 19	0.1660	1-5/8	2-3/4	**HDR-19**	17075	57075
# 18	0.1695	1-5/8	2-3/4	**HDR-18**	17074	57074
11/64	0.1719	1-5/8	2-3/4	**HDR-11/64**	17009	57009
# 17	0.1730	1-5/8	2-3/4	**HDR-17**	17073	57073
# 16	0.1770	1-5/8	2-3/4	**HDR-16**	17072	57072
4.5mm	0.1772	41mm	70mm	**HDR-4.5MM**	17399	57399
# 15	0.1800	1-5/8	2-3/4	**HDR-15**	17071	57071
#14	0.1820	1-5/8	2-3/4	**HDR-14**	17070	57070
# 13	0.1850	1-5/8	2-3/4	**HDR-13**	17069	57069
3/16	0.1875	1-5/8	2-3/4	**HDR-3/16**	17010	57010
# 12	0.1890	1-5/8	2-3/4	**HDR-12**	17068	57068
# 11	0.1910	1-5/8	2-3/4	**HDR-11**	17067	57067
# 10	0.1935	1-5/8	2-3/4	**HDR-10**	17066	57066
# 9	0.1960	1-3/4	3	**HDR-9**	17065	57065
5mm	0.1969	44mm	76mm	**HDR-5MM**	17400	57400
# 8	0.1990	1-3/4	3	**HDR-8**	17064	57064
# 7	0.2010	1-3/4	3	**HDR-7**	17063	57063
13/64	0.2031	1-3/4	3	**HDR-13/64**	17011	57011
# 6	0.2040	1-3/4	3	**HDR-6**	17062	57062
# 5	0.2055	1-3/4	3	**HDR-5**	17061	57061
# 4	0.2090	1-3/4	3	**HDR-4**	17060	57060
# 3	0.2130	1-3/4	3	**HDR-3**	17059	57059
5.5mm	0.2165	44mm	76mm	**HDR-5.5MM**	17401	57401
7/32	0.2188	1-3/4	3	**HDR-7/32**	17012	57012
# 2	0.2210	1-3/4	3	**HDR-2**	17058	57058
# 1	0.2280	1-3/4	3	**HDR-1**	17057	57057
A	0.2340	2	3-1/4	**HDR-A**	17031	57031
15/64	0.2344	2	3-1/4	**HDR-15/64**	17013	57013
6mm	0.2362	51mm	83mm	**HDR-6MM**	17402	57402
B	0.2380	2	3-1/4	**HDR-B**	17032	57032
C	0.2420	2	3-1/4	**HDR-C**	17033	57033
D	0.2460	2	3-1/4	**HDR-D**	17034	57034
E	0.2500	2	3-1/4	**HDR-E**	17035	57035
1/4	0.2500	2	3-1/4	**HDR-1/4**	17014	57014
6.5mm	0.2559	51mm	83mm	**HDR-6.5MM**	17403	57403
F	0.2570	2	3-1/4	**HDR-F**	17036	57036
G	0.2610	2-1/8	3-1/2	**HDR-G**	17037	57037
17/64	0.2656	2-1/8	3-1/2	**HDR-17/64**	17015	57015
H	0.2660	2-1/8	3-1/2	**HDR-H**	17038	57038
I	0.2720	2-1/8	3-1/2	**HDR-I**	17039	57039
7mm	0.2756	54mm	90mm	**HDR-7MM**	17404	57404
J	0.2770	2-1/8	3-1/2	**HDR-J**	17040	57040
K	0.2810	2-1/8	3-1/2	**HDR-K**	17041	57041
9/32	0.2812	2-1/8	3-1/2	**HDR-9/32**	17016	57016
L	0.2900	2-1/8	3-1/2	**HDR-L**	17042	57042
M	0.2950	2-3/8	3-3/4	**HDR-M**	17043	57043
7.5mm	0.2953	60mm	95mm	**HDR-7.5MM**	17405	57405
19/64	0.2969	2-3/8	3-3/4	**HDR-19/64**	17017	57017
N	0.3020	2-3/8	3-3/4	**HDR-N**	17044	57044
5/16	0.3125	2-3/8	3-3/4	**HDR-5/16**	17018	57018
8mm	0.3150	60mm	95mm	**HDR-8MM**	17406	57406
O	0.3160	2-3/8	3-3/4	**HDR-O**	17045	57045
P	0.3230	2-3/8	3-3/4	**HDR-P**	17046	57046
21/64	0.3281	2-1/2	4	**HDR-21/64**	17019	57019
Q	0.3320	2-1/2	4	**HDR-Q**	17047	57047

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2 Flute • Jobber Length Carbide Drill

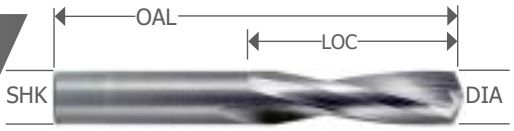
Series: HDR

DIAMETER		LOC	OAL	TOOL	BRIGHT EDP	ALTIN EDP
8.5mm	0.3346	64mm	102mm	**HDR-8.5MM**	17407	57407
R	0.3390	2-1/2	4	**HDR-R**	17048	57048
11/32	0.3438	2-1/2	4	**HDR-11/32**	17020	57020
S	0.3480	2-1/2	4	**HDR-S**	17049	57049
9mm	0.3543	64mm	102mm	**HDR-9MM**	17408	57408
T	0.3580	2-3/4	4-1/4	**HDR-T**	17050	57050
23/64	0.3594	2-3/4	4-1/4	**HDR-23/64**	17021	57021
U	0.3680	2-3/4	4-1/4	**HDR-U**	17051	57051
9.5mm	0.3740	70mm	108mm	**HDR-9.5MM**	17409	57409
3/8	0.3750	2-3/4	4-1/4	**HDR-3/8**	17022	57022
V	0.3770	2-3/4	4-1/4	**HDR-V**	17052	57052
W	0.3860	2-7/8	4-1/2	**HDR-W**	17053	57053
25/64	0.3906	2-7/8	4-1/2	**HDR-25/64**	17023	57023
10mm	0.3937	73mm	114mm	**HDR-10MM**	17410	57410
X	0.3970	2-7/8	4-1/2	**HDR-X**	17054	57054
Y	0.4040	2-7/8	4-1/2	**HDR-Y**	17055	57055
13/32	0.4062	2-7/8	4-1/2	**HDR-13/32**	17024	57024
Z	0.4130	2-7/8	4-1/2	**HDR-Z**	17056	57056
10.5mm	0.4134	73mm	114mm	**HDR-10.5MM**	17411	57411
27/64	0.4219	2-7/8	4-1/2	**HDR-27/64**	17025	57025
11mm	0.4331	73mm	114mm	**HDR-11MM**	17412	57412
7/16	0.4375	2-7/8	4-1/2	**HDR-7/16**	17026	57026
11.5mm	0.4528	76mm	121mm	**HDR-11.5MM**	17413	57413
29/64	0.4531	3	4-3/4	**HDR-29/64**	17027	57027
15/32	0.4688	3	4-3/4	**HDR-15/32**	17028	57028
12mm	0.4724	76mm	121mm	**HDR-12MM**	17414	57414
31/64	0.4844	3	4-3/4	**HDR-31/64**	17029	57029
1/2	0.5000	3	4-3/4	**HDR-1/2**	17030	57030
17/32 (SHK 9/16)	0.5313	3-1/4	6	**HDR-17/32**	17447	57447
9/16	0.5625	3-1/4	6	**HDR-9/16**	17990	57990
19/32 (SHK 5/8)	0.5938	3-1/2	6	**HDR-19/32**	17448	57448
5/8	0.6250	3-1/2	6	**HDR-5/8**	17991	57991
21/32 (SHK 3/4)	0.6563	3-5/8	6	**HDR-21/32**	17449	57449
11/16 (SHK 3/4)	0.6875	3-5/8	6	**HDR-11/16**	17450	57450
23/32 (SHK 3/4)	0.7188	3-7/8	6	**HDR-23/32**	17451	57451
3/4	0.7500	3-7/8	6	**HDR-3/4**	17992	57992

*Shank diameter is equal to cutting diameter unless specified.

General Purpose Carbide Drills

2 Flute • Stub Length Carbide Drills



Carbide | 2 | 15° | Bright AlTiN | +.0000 -.0005 | 135° | HRc <48 | P K M S H

Series: IDR

DIAMETER		LOC	OAL	TOOL	BRIGHT EDP	ALTIN EDP
# 56	0.0465	1/2	1-1/2	**IDR-56**	17249	57249
3/64	0.0469	1/2	1-1/2	**IDR-3/64**	17138	57138
# 55	0.0520	1/2	1-1/2	**IDR-55**	17248	57248
# 54	0.0550	1/2	1-1/2	**IDR-54**	17247	57247
1.5mm	0.0591	13mm	38mm	**IDR-1.5MM**	17415	57415
# 53	0.0595	1/2	1-1/2	**IDR-53**	17246	57246
1/16	0.0625	5/8	1-5/8	**IDR-1/16**	17139	57139
# 52	0.0635	11/16	1-11/16	**IDR-52**	17245	57245
# 51	0.0670	11/16	1-11/16	**IDR-51**	17244	57244
# 50	0.0700	11/16	1-11/16	**IDR-50**	17243	57243
# 49	0.0730	11/16	1-11/16	**IDR-49**	17242	57242
# 48	0.0760	11/16	1-11/16	**IDR-48**	17241	57241
5/64	0.0781	11/16	1-11/16	**IDR-5/64**	17140	57140
# 47	0.0785	3/4	1-3/4	**IDR-47**	17240	57240
2mm	0.0787	19mm	45mm	**IDR-2MM**	17416	57416
# 46	0.0810	3/4	1-3/4	**IDR-46**	17239	57239
# 45	0.0820	3/4	1-3/4	**IDR-45**	17238	57238
# 44	0.0860	3/4	1-3/4	**IDR-44**	17237	57237
# 43	0.0890	3/4	1-3/4	**IDR-43**	17236	57236
# 42	0.0935	3/4	1-3/4	**IDR-42**	17235	57235
3/32	0.0938	3/4	1-3/4	**IDR-3/32**	17141	57141
# 41	0.0960	13/16	1-13/16	**IDR-41**	17234	57234
# 40	0.0980	13/16	1-13/16	**IDR-40**	17233	57233
2.5mm	0.0984	21mm	46mm	**IDR-2.5MM**	17417	57417
# 39	0.0995	13/16	1-13/16	**IDR-39**	17232	57232
# 38	0.1015	13/16	1-13/16	**IDR-38**	17231	57231
# 37	0.1040	13/16	1-13/16	**IDR-37**	17230	57230
# 36	0.1065	13/16	1-13/16	**IDR-36**	17229	57229
7/64	0.1094	13/16	1-13/16	**IDR-7/64**	17142	57142
# 35	0.1100	7/8	1-7/8	**IDR-35**	17228	57228
# 34	0.1110	7/8	1-7/8	**IDR-34**	17227	57227
# 33	0.1130	7/8	1-7/8	**IDR-33**	17226	57226
# 32	0.1160	7/8	1-7/8	**IDR-32**	17225	57225
3mm	0.1181	22mm	48mm	**IDR-3MM**	17418	57418
# 31	0.1200	7/8	1-7/8	**IDR-31**	17224	57224
1/8	0.1250	7/8	1-7/8	**IDR-1/8**	17143	57143
# 30	0.1285	15/16	1-15/16	**IDR-30**	17223	57223
# 29	0.1360	15/16	1-15/16	**IDR-29**	17222	57222
3.5mm	0.1378	24mm	52mm	**IDR-3.5MM**	17419	57419
# 28	0.1405	15/16	1-15/16	**IDR-28**	17221	57221
9/64	0.1406	15/16	1-15/16	**IDR-9/64**	17144	57144
# 27	0.1440	1	2-1/16	**IDR-27**	17220	57220
# 26	0.1470	1	2-1/16	**IDR-26**	17219	57219
# 25	0.1495	1	2-1/16	**IDR-25**	17218	57218
# 24	0.1520	1	2-1/16	**IDR-24**	17217	57217
# 23	0.1540	1	2-1/16	**IDR-23**	17216	57216
5/32	0.1562	1	2-1/16	**IDR-5/32**	17145	57145
# 22	0.1570	1-1/16	2-1/8	**IDR-22**	17215	57215
4mm	0.1575	27mm	53mm	**IDR-4MM**	17420	57420
# 21	0.1590	1-1/16	2-1/8	**IDR-21**	17214	57214
# 20	0.1610	1-1/16	2-1/8	**IDR-20**	17213	57213
# 19	0.1660	1-1/16	2-1/8	**IDR-19**	17212	57212
18	0.1695	1-1/16	2-1/8	**IDR-18**	17211	57211

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2 Flute • Stub Length Carbide Drills

Series: IDR

DIAMETER		LOC	OAL	TOOL	BRIGHT EDP	ALTIN EDP
11/64	0.1719	1-1/16	2-1/8	**IDR-11/64**	17146	57146
# 17	0.1730	1-1/8	2-3/16	**IDR-17**	17210	57210
# 16	0.1770	1-1/8	2-3/16	**IDR-16**	17209	57209
4.5mm	0.1772	29mm	55mm	**IDR-4.5MM**	17421	57421
# 15	0.1800	1-1/8	2-3/16	**IDR-15**	17208	57208
# 14	0.1820	1-1/8	2-3/16	**IDR-14**	17207	57207
# 13	0.1850	1-1/8	2-3/16	**IDR-13**	17206	57206
3/16	0.1875	1-1/8	2-3/16	**IDR-3/16**	17147	57147
# 12	0.1890	1-3/16	2-1/4	**IDR-12**	17205	57205
# 11	0.1910	1-3/16	2-1/4	**IDR-11**	17204	57204
# 10	0.1935	1-3/16	2-1/4	**IDR-10**	17203	57203
# 9	0.1960	1-3/16	2-1/4	**IDR-9**	17202	57202
5mm	0.1969	30mm	57mm	**IDR-5MM**	17422	57422
# 8	0.1990	1-3/16	2-1/4	**IDR-8**	17201	57201
# 7	0.2010	1-3/16	2-1/4	**IDR-7**	17200	57200
13/64	0.2031	1-3/16	2-1/4	**IDR-13/64**	17148	57148
# 6	0.2040	1-1/4	2-3/8	**IDR-6**	17199	57199
# 5	0.2055	1-1/4	2-3/8	**IDR-5**	17198	57198
# 4	0.2090	1-1/4	2-3/8	**IDR-4**	17197	57197
# 3	0.2130	1-1/4	2-3/8	**IDR-3**	17196	57196
5.5mm	0.2165	32mm	60mm	**IDR-5.5MM**	17423	57423
7/32	0.2188	1-1/4	2-3/8	**IDR-7/32**	17149	57149
# 2	0.2210	1-5/16	2-7/16	**IDR-2**	17195	57195
# 1	0.2280	1-5/16	2-7/16	**IDR-1**	17194	57194
A	0.2340	1-5/16	2-7/16	**IDR-A**	17168	57168
15/64	0.2344	1-5/16	2-7/16	**IDR-15/64**	17150	57150
6mm	0.2362	33mm	61mm	**IDR-6MM**	17424	57424
B	0.2380	1-3/8	2-1/2	**IDR-B**	17169	57169
C	0.2420	1-3/8	2-1/2	**IDR-C**	17170	57170
D	0.2460	1-3/8	2-1/2	**IDR-D**	17171	57171
E	0.2500	1-3/8	2-1/2	**IDR-E**	17172	57172
1/4	0.2500	1-3/8	2-1/2	**IDR-1/4**	17151	57151
6.5mm	0.2559	35mm	63mm	**IDR-6.5MM**	17425	57425
F	0.2570	1-7/16	2-5/8	**IDR-F**	17173	57173
G	0.2610	1-7/16	2-5/8	**IDR-G**	17174	57174
17/64	0.2656	1-7/16	2-5/8	**IDR-17/64**	17152	57152
H	0.2660	1-1/2	2-11/16	**IDR-H**	17175	57175
I	0.2720	1-1/2	2-11/16	**IDR-I**	17176	57176
7mm	0.2756	38mm	68mm	**IDR-7MM**	17426	57426
J	0.2770	1-1/2	2-11/16	**IDR-J**	17177	57177
K	0.2810	1-1/2	2-11/16	**IDR-K**	17178	57178
9/32	0.2812	1-1/2	2-11/16	**IDR-9/32**	17153	57153
L	0.2900	1-9/16	2-3/4	**IDR-L**	17179	57179
M	0.2950	1-9/16	2-3/4	**IDR-M**	17180	57180
7.5mm	0.2953	40mm	70mm	**IDR-7.5MM**	17427	57427
19/64	0.2969	1-9/16	2-3/4	**IDR-19/64**	17154	57154
N	0.3020	1-5/8	2-13/16	**IDR-N**	17181	57181
5/16	0.3125	1-5/8	2-13/16	**IDR-5/16**	17155	57155
8mm	0.3150	41mm	71mm	**IDR-8MM**	17428	57428
O	0.3160	1-11/16	2-15/16	**IDR-O**	17182	57182
P	0.3230	1-11/16	2-15/16	**IDR-P**	17183	57183
21/64	0.3281	1-11/16	2-15/16	**IDR-21/64**	17156	57156
Q	0.3320	1-11/16	3	**IDR-Q**	17184	57184
8.5mm	0.3346	24mm	76mm	**IDR-8.5MM**	17429	57429
R	0.3390	1-11/16	3	**IDR-R**	17185	57185
11/32	0.3438	1-11/16	3	**IDR-11/32**	17157	57157
S	0.3480	1-3/4	3-1/16	**IDR-S**	17186	57186
9mm	0.3543	44mm	78mm	**IDR-9MM**	17430	57430

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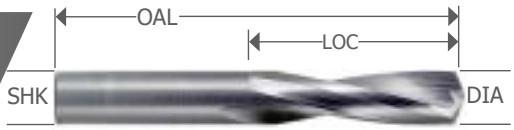

Series: IDR

DIAMETER		LOC	OAL	TOOL	BRIGHT EDP	ALTIN EDP
T	0.3580	1-3/4	3-1/16	**IDR-T**	17187	57187
23/64	0.3594	1-3/4	3-1/16	**IDR-23/64**	17158	57158
U	0.3680	1-13/16	3-1/8	**IDR-U**	17188	57188
9.5mm	0.3740	46mm	79mm	**IDR-9.5MM**	17431	57431
3/8	0.3750	1-13/16	3-1/8	**IDR-3/8**	17159	57159
V	0.3770	1-7/8	3-1/4	**IDR-V**	17189	57189
W	0.3860	1-7/8	3-1/4	**IDR-W**	17190	57190
25/64	0.3906	1-7/8	3-1/4	**IDR-25/64**	17160	57160
10mm	0.3937	48mm	83mm	**IDR-10MM**	17432	57432
X	0.3970	1-15/16	3-5/16	**IDR-X**	17191	57191
Y	0.4040	1-15/16	3-5/16	**IDR-Y**	17192	57192
13/32	0.4062	1-15/16	3-5/16	**IDR-13/32**	17161	57161
Z	0.4130	2	3-3/8	**IDR-Z**	17193	57193
10.5mm	0.4134	51mm	86mm	**IDR-10.5MM**	17433	57433
27/64	0.4219	2	3-3/8	**IDR-27/64**	17162	57162
11mm	0.4331	52mm	87mm	**IDR-11MM**	17434	57434
7/16	0.4375	2-1/16	3-7/16	**IDR-7/16**	17163	57163
11.5mm	0.4528	54mm	90mm	**IDR-11.5MM**	17435	57435
29/64	0.4531	2-1/8	3-9/16	**IDR-29/64**	17164	57164
15/32	0.4688	2-1/8	3-5/8	**IDR-15/32**	17165	57165
12mm	0.4724	54mm	92mm	**IDR-12MM**	17436	57436
31/64	0.4844	2-3/16	3-11/16	**IDR-31/64**	17166	57166
1/2	0.5000	2-1/4	3-3/4	**IDR-1/2**	17167	57167
9/16	0.5625	2-1/2	4	**IDR-9/16**	17993	57993
5/8	0.6250	2-3/4	5	**IDR-5/8**	17994	57994
3/4	0.7500	3	5	**IDR-3/4**	17995	57995

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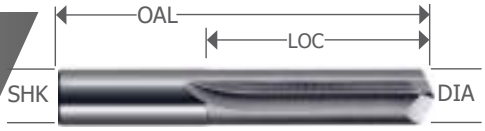

Series: JDR

DIAMETER		LOC	OAL	TOOL	BRIGHT EDP	ALTIN EDP
# 56	0.0465	1/2	1-1/2	**JDR-56**	17361	57361
3/64	0.0469	1/2	1-1/2	**JDR-3/64**	17250	57250
# 55	0.0520	1/2	1-1/2	**JDR-55**	17360	57360
# 54	0.0550	1/2	1-1/2	**JDR-54**	17359	57359
1.5mm	0.0591	13mm	38mm	**JDR-1.5MM**	17371	57371
# 53	0.0595	1/2	1-1/2	**JDR-53**	17358	57358
1/16	0.0625	5/8	1-5/8	**JDR-1/16**	17251	57251
# 52	0.0635	11/16	1-11/16	**JDR-52**	17357	57357
# 51	0.0670	11/16	1-11/16	**JDR-51**	17356	57356
# 50	0.0700	11/16	1-11/16	**JDR-50**	17355	57355
# 49	0.0730	11/16	1-11/16	**JDR-49**	17354	57354
# 48	0.0760	11/16	1-11/16	**JDR-48**	17353	57353
5/64	0.0781	11/16	1-11/16	**JDR-5/64**	17252	57252
# 47	0.0785	3/4	1-3/4	**JDR-47**	17352	57352
2mm	0.0787	19mm	45mm	**JDR-2MM**	17372	57372

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Series: JDR

DIAMETER		LOC	OAL	TOOL	BRIGHT EDP	ALTIN EDP
# 46	0.0810	3/4	1-3/4	**JDR-46**	17351	57351
# 45	0.0820	3/4	1-3/4	**JDR-45**	17350	57350
# 44	0.0860	3/4	1-3/4	**JDR-44**	17349	57349
# 43	0.0890	3/4	1-3/4	**JDR-43**	17348	57348
# 42	0.0935	3/4	1-3/4	**JDR-42**	17347	57347
3/32	0.0938	3/4	1-3/4	**JDR-3/32**	17253	57253
# 41	0.0960	13/16	1-13/16	**JDR-41**	17346	57346
# 40	0.0980	13/16	1-13/16	**JDR-40**	17345	57345
2.5mm	0.0984	21mm	46mm	**JDR-2.5MM**	17373	57373
# 39	0.0995	13/16	1-13/16	**JDR-39**	17344	57344
# 38	0.1015	13/16	1-13/16	**JDR-38**	17343	57343
# 37	0.1040	13/16	1-13/16	**JDR-37**	17342	57342
# 36	0.1065	13/16	1-13/16	**JDR-36**	17341	57341
7/64	0.1094	13/16	1-13/16	**JDR-7/64**	17254	57254
# 35	0.1100	7/8	1-7/8	**JDR-35**	17340	57340
# 34	0.1110	7/8	1-7/8	**JDR-34**	17339	57339
# 33	0.1130	7/8	1-7/8	**JDR-33**	17338	57338
# 32	0.1160	7/8	1-7/8	**JDR-32**	17337	57337
3mm	0.1181	22mm	48mm	**JDR-3MM**	17374	57374
# 31	0.1200	7/8	1-7/8	**JDR-31**	17336	57336
1/8	0.1250	5/8	1-1/2	**JDR-1/8-S**	17437	57437
1/8	0.1250	7/8	1-7/8	**JDR-1/8**	17255	57255
# 30	0.1285	15/16	1-15/16	**JDR-30**	17335	57335
# 29	0.1360	15/16	1-15/16	**JDR-29**	17334	57334
3.5mm	0.1378	24mm	52mm	**JDR-3.5MM**	17375	57375
# 28	0.1405	15/16	1-15/16	**JDR-28**	17333	57333
9/64	0.1406	15/16	1-15/16	**JDR-9/64**	17256	57256
# 27	0.1440	1	2-1/16	**JDR-27**	17332	57332
# 26	0.1470	1	2-1/16	**JDR-26**	17331	57331
# 25	0.1495	1	2-1/16	**JDR-25**	17330	57330
# 24	0.1520	1	2-1/16	**JDR-24**	17329	57329
# 23	0.1540	1	2-1/16	**JDR-23**	17328	57328
5/32	0.1562	1	2-1/16	**JDR-5/32**	17257	57257
# 22	0.1570	1-1/16	2-1/8	**JDR-22**	17327	57327
4mm	0.1575	27mm	53mm	**JDR-4MM**	17376	57376
# 21	0.1590	1-1/16	2-1/8	**JDR-21**	17326	57326
# 20	0.1610	1-1/16	2-1/8	**JDR-20**	17325	57325
# 19	0.1660	1-1/16	2-1/8	**JDR-19**	17324	57324
# 18	0.1695	1-1/16	2-1/8	**JDR-18**	17323	57323
11/64	0.1719	1-1/16	2-1/8	**JDR-11/64**	17258	57258
# 17	0.1730	1-1/8	2-3/16	**JDR-17**	17322	57322
# 16	0.1770	1-1/8	2-3/16	**JDR-16**	17321	57321
4.5mm	0.1772	29mm	55mm	**JDR-4.5MM**	17377	57377
# 15	0.1800	1-1/8	2-3/16	**JDR-15**	17320	57320
# 14	0.1820	1-1/8	2-3/16	**JDR-14**	17319	57319
# 13	0.1850	1-1/8	2-3/16	**JDR-13**	17318	57318
3/16	0.1875	5/8	2	**JDR-3/16-S**	17438	57438
3/16	0.1875	1-1/8	2-3/16	**JDR-3/16**	17259	57259
# 12	0.1890	1-3/16	2-1/4	**JDR-12**	17317	57317
# 11	0.1910	1-3/16	2-1/4	**JDR-11**	17316	57316
# 10	0.1935	1-3/16	2-1/4	**JDR-10**	17315	57315
# 9	0.1960	1-3/16	2-1/4	**JDR-9**	17314	57314
5mm	0.1969	30mm	57mm	**JDR-5MM**	17378	57378
# 8	0.1990	1-3/16	2-1/4	**JDR-8**	17313	57313
# 7	0.2010	1-3/16	2-1/4	**JDR-7**	17312	57312
13/64	0.2031	1-3/16	2-1/4	**JDR-13/64**	17260	57260

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Series: JDR

DIAMETER		LOC	OAL	TOOL	BRIGHT EDP	ALTIN EDP
# 6	0.2040	1-1/4	2-3/8	**JDR-6**	17311	57311
# 5	0.2055	1-1/4	2-3/8	**JDR-5**	17310	57310
# 4	0.2090	1-1/4	2-3/8	**JDR-4**	17309	57309
# 3	0.2130	1-1/4	2-3/8	**JDR-3**	17308	57308
5.5mm	0.2165	32mm	60mm	**JDR-5.5MM**	17379	57379
7/32	0.2188	1-1/4	2-3/8	**JDR-7/32**	17261	57261
# 2	0.2210	1-5/16	2-7/16	**JDR-2**	17307	57307
# 1	0.2280	1-5/16	2-7/16	**JDR-1**	17306	57306
A	0.2340	1-5/16	2-7/16	**JDR-A**	17280	57280
15/64	0.2344	1-5/16	2-7/16	**JDR-15/64**	17262	57262
6mm	0.2362	33mm	61mm	**JDR-6MM**	17380	57380
B	0.2380	1-3/8	2-1/2	**JDR-B**	17281	57281
C	0.2420	1-3/8	2-1/2	**JDR-C**	17282	57282
D	0.2460	1-3/8	2-1/2	**JDR-D**	17283	57283
E	0.2500	1-3/8	2-1/2	**JDR-E**	17284	57284
1/4	0.2500	3/4	2	**JDR-1/4-S**	17439	57439
1/4	0.2500	1-3/8	2-1/2	**JDR-1/4**	17263	57263
6.5mm	0.2559	35mm	63mm	**JDR-6.5MM**	17381	57381
F	0.2570	1-7/16	2-5/8	**JDR-F**	17285	57285
G	0.2610	1-7/16	2-5/8	**JDR-G**	17286	57286
17/64	0.2656	1-7/16	2-5/8	**JDR-17/64**	17264	57264
H	0.2660	1-1/2	2-11/16	**JDR-H**	17287	57287
I	0.2720	1-1/2	2-11/16	**JDR-I**	17288	57288
7mm	0.2756	38mm	68mm	**JDR-7MM**	17382	57382
J	0.2770	1-1/2	2-11/16	**JDR-J**	17289	57289
K	0.2810	1-1/2	2-11/16	**JDR-K**	17290	57290
9/32	0.2812	1-1/2	2-11/16	**JDR-9/32**	17265	57265
L	0.2900	1-9/16	2-3/4	**JDR-L**	17291	57291
M	0.2950	1-9/16	2-3/4	**JDR-M**	17292	57292
7.5mm	0.2953	40mm	70mm	**JDR-7.5MM**	17383	57383
19/64	0.2969	1-9/16	2-3/4	**JDR-19/64**	17266	57266
N	0.3020	1-5/8	2-13/16	**JDR-N**	17293	57293
5/16	0.3125	3/4	2-1/2	**JDR-5/16-S**	17440	57440
5/16	0.3125	1-5/8	2-13/16	**JDR-5/16**	17267	57267
8mm	0.3150	41mm	71mm	**JDR-8MM**	17384	57384
O	0.3160	1-11/16	2-15/16	**JDR-O**	17294	57294
P	0.3230	1-11/16	2-15/16	**JDR-P**	17295	57295
21/64	0.3281	1-11/16	2-15/16	**JDR-21/64**	17268	57268
Q	0.3320	1-11/16	3	**JDR-Q**	17296	57296
8.5mm	0.3346	24mm	76mm	**JDR-8.5MM**	17385	57385
R	0.3390	1-11/16	3	**JDR-R**	17297	57297
11/32	0.3438	1-11/16	3	**JDR-11/32**	17269	57269
S	0.3480	1-3/4	3-1/16	**JDR-S**	17298	57298
9mm	0.3543	44mm	78mm	**JDR-9MM**	17386	57386
T	0.3580	1-3/4	3-1/16	**JDR-T**	17299	57299
23/64	0.3594	1-3/4	3-1/16	**JDR-23/64**	17270	57270
U	0.3680	1-13/16	3-1/8	**JDR-U**	17300	57300
9.5mm	0.3740	46mm	79mm	**JDR-9.5MM**	17387	57387
3/8	0.3750	1	2-1/2	**JDR-3/8-S**	17441	57441
3/8	0.3750	1-13/16	3-1/8	**JDR-3/8**	17271	57271
V	0.3770	1-7/8	3-1/4	**JDR-V**	17301	57301
W	0.3860	1-7/8	3-1/4	**JDR-W**	17302	57302
25/64	0.3906	1-7/8	3-1/4	**JDR-25/64**	17272	57272
10mm	0.3937	48mm	83mm	**JDR-10MM**	17388	57388
X	0.3970	1-15/16	3-5/16	**JDR-X**	17303	57303
Y	0.4040	1-15/16	3-5/16	**JDR-Y**	17304	57304

sizes continued on next page

2 Flute • Straight Flute Carbide Drills

Series: JDR

DIAMETER		LOC	OAL	TOOL	BRIGHT EDP	ALTIN EDP
13/32	0.4062	1-15/16	3-5/16	**JDR-13/32**	17273	57273
Z	0.4130	2	3-3/8	**JDR-Z**	17305	57305
10.5mm	0.4134	51mm	86mm	**JDR-10.5MM**	17389	57389
27/64	0.4219	2	3-3/8	**JDR-27/64**	17274	57274
11mm	0.4331	52mm	87mm	**JDR-11MM**	17390	57390
7/16	0.4375	1	2-3/4	**JDR-7/16-S**	17442	57442
7/16	0.4375	2-1/16	3-7/16	**JDR-7/16**	17275	57275
11.5mm	0.4528	54mm	90mm	**JDR-11.5MM**	17391	57391
29/64	0.4531	2-1/8	3-9/16	**JDR-29/64**	17276	57276
15/32	0.4688	2-1/8	3-5/8	**JDR-15/32**	17277	57277
12mm	0.4724	54mm	92mm	**JDR-12MM**	17392	57392
31/64	0.4844	2-3/16	3-11/16	**JDR-31/64**	17278	57278
1/2	0.5000	1	3	**JDR-1/2-S**	17443	57443
1/2	0.5000	2-1/4	3-3/4	**JDR-1/2**	17279	57279
9/16	0.5625	1-1/8	3-1/2	**JDR-9/16**	17444	57444
5/8	0.6250	1-1/4	3-1/2	**JDR-5/8**	17445	57445
3/4	0.7500	1-1/2	4	**JDR-3/4**	17446	57446

2 Flute • 60º Double End Combined Drill & Countersink

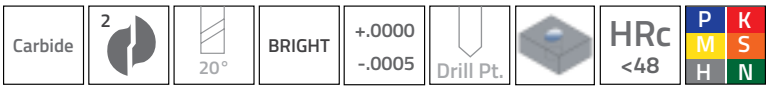
Series: KDR(Carbide) HSCD(HSS)

SIZE	SHK	DRILL DIA	DRILL LENGTH	OAL	CARBIDE TOOL	BRIGHT EDP	HSS TOOL	BRIGHT EDP
00	1/8	0.025	0.030	1-1/2	**KDR-00**	17362	**HSCD-00***	11587
0	1/8	1/32	0.038	1-1/2	**KDR-0**	17363	**HSCD-0***	11589
1	1/8	3/64	3/64	1-1/2	**KDR-1**	17364	**HSCD-1***	11591
2	3/16	5/64	5/64	2	**KDR-2**	17365	**HSCD-2****	11593
3	1/4	7/64	7/64	2	**KDR-3**	17366	**HSCD-3**	11595
4	5/16	1/8	1/8	2-1/8	**KDR-4**	17367	**HSCD-4**	11597
5	7/16	3/16	3/16	2-3/4	**KDR-5**	17368	**HSCD-5**	11599
6	1/2	7/32	7/32	3	**KDR-6**	17369	**HSCD-6**	11601
7	5/8	1/4	1/4	3-1/4	**KDR-7**	10611	**HSCD-7**	11603
8	3/4	5/16	5/16	3-1/2	**KDR-8**	10613	**HSCD-8**	11605

* = 1-1/4 OAL
** = 1-7/8 OAL

General Purpose Carbide Drills

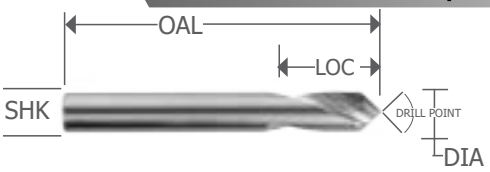
2 Flute • 60º, 90º, 120º NC Carbide Spotting Drill



Series: HDRNC

DIA	SHK	LOC	OAL	ANGLE DEGREE	TOOL	BRIGHT EDP
3mm	3mm	12mm	38mm	60°	**HDRNC-3MM-60**	19491
3mm	3mm	12mm	38mm	90°	**HDRNC-3MM-90**	19492
3mm	4mm	12mm	38mm	120°	**HDRNC-3MM-120**	19493
1/8	1/8	5/8	2	60°	**HDRNC-1/8-60**	19257
1/8	1/8	5/8	2	90°	**HDRNC-1/8-90**	17711
1/8	1/8	5/8	2	120°	**HDRNC-1/8-120**	17716
4mm	4mm	14mm	51mm	60°	**HDRNC-4MM-60**	19494
4mm	4mm	14mm	51mm	90°	**HDRNC-4MM-90**	19498
4mm	5mm	14mm	51mm	120°	**HDRNC-4MM-120**	19499
3/16	3/16	3/4	2	60°	**HDRNC-3/16-60**	19486
3/16	3/16	3/4	2	90°	**HDRNC-3/16-90**	17712
3/16	3/16	3/4	2	120°	**HDRNC-3/16-120**	17717
5mm	5mm	20mm	51mm	60°	**HDRNC-5MM-60**	19501
5mm	5mm	20mm	51mm	90°	**HDRNC-5MM-90**	19502
5mm	6mm	20mm	51mm	120°	**HDRNC-5MM-120**	19503
6mm	6mm	20mm	63mm	60°	**HDRNC-6MM-60**	19504
6mm	6mm	20mm	63mm	90°	**HDRNC-6MM-90**	19505
6mm	8mm	20mm	63mm	120°	**HDRNC-6MM-120**	19506
1/4	1/4	3/4	2-1/2	60°	**HDRNC-1/4-60**	19259
1/4	1/4	3/4	2-1/2	90°	**HDRNC-1/4-90**	17713
1/4	1/4	3/4	2-1/2	120°	**HDRNC-1/4-120**	17718
5/16	5/16	1	2-1/2	60°	**HDRNC-5/16-60**	19487
5/16	5/16	1	2-1/2	90°	**HDRNC-5/16-90**	19488
5/16	5/16	1	2-1/2	120°	**HDRNC-5/16-120**	19489
8mm	8mm	20mm	63mm	60°	**HDRNC-8MM-60**	19507
8mm	8mm	20mm	63mm	90°	**HDRNC-8MM-90**	19508
8mm	10mm	20mm	63mm	120°	**HDRNC-8MM-120**	19509
3/8	3/8	1	3	60°	**HDRNC-3/8-60**	19261
3/8	3/8	1	3	90°	**HDRNC-3/8-90**	17714
3/8	3/8	1	3	120°	**HDRNC-3/8-120**	17719
10mm	10mm	25mm	70mm	60°	**HDRNC-10MM-60**	19525
10mm	10mm	25mm	70mm	90°	**HDRNC-10MM-90**	19526
10mm	12mm	25mm	70mm	120°	**HDRNC-10MM-120**	19553
7/16	7/16	1-1/4	3	60°	**HDRNC-7/16-60**	19264
7/16	7/16	1-1/4	3	90°	**HDRNC-7/16-90**	19262
7/16	7/16	1-1/4	3	120°	**HDRNC-7/16-120**	19263
12mm	12mm	25mm	76mm	60°	**HDRNC-12MM-60**	19555
12mm	12mm	25mm	76mm	90°	**HDRNC-12MM-90**	19579
12mm	12mm	25mm	76mm	120°	**HDRNC-12MM-120**	19580
1/2	1/2	1	3	60°	**HDRNC-1/2-60**	19266
1/2	1/2	1	3	90°	**HDRNC-1/2-90**	17715
1/2	1/2	1	3	120°	**HDRNC-1/2-120**	17720
5/8	5/8	1-1/4	3	60°	**HDRNC-5/8-60**	19269
5/8	5/8	1-1/4	3	90°	**HDRNC-5/8-90**	19267
5/8	5/8	1-1/4	3	120°	**HDRNC-5/8-120**	19268
3/4	3/4	1-3/4	4	60°	**HDRNC-3/4-60**	19272
3/4	3/4	1-3/4	4	90°	**HDRNC-3/4-90**	19270
3/4	3/4	1-3/4	4	120°	**HDRNC-3/4-120**	19271
7/8	7/8	1-3/4	4	60°	**HDRNC-7/8-60**	19490
7/8	7/8	1-3/4	4	90°	**HDRNC-7/8-90**	19273
7/8	7/8	1-3/4	4	120°	**HDRNC-7/8-120**	19274
1	1	1-3/4	4	60°	**HDRNC-1-60**	19277
1	1	1-3/4	4	90°	**HDRNC-1-90**	19275
1	1	1-3/4	4	120°	**HDRNC-1-120**	19276

2 Flute • 82º, 90º, 120º NC HSSCo M42 Spotting Drill



HSSCo M42 | 2 | 20° | BRIGHT | +.0000 -.0005 | Drill Pt. | HRc <48 | P K M S N

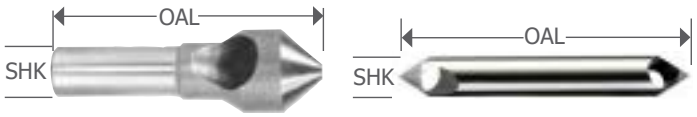
Series: HSNC

DIA	SHK	LOC	OAL	ANGLE DEGREE	MAT	TOOL	BRIGHT EDP
4mm	4mm	12mm	52mm	82°	M42	**HSNC-4M-82**	10847
4mm	4mm	12mm	52mm	90°	M42	**HSNC-4M-90**	10849
4mm	4mm	12mm	52mm	120°	M42	**HSNC-4M-120**	10851
1/4	1/4	7/8	2-5/8	82°	M42	**HSNC-1/4-82**	10853
1/4	1/4	7/8	2-5/8	90°	M42	**HSNC-1/4-90**	10855
1/4	1/4	7/8	2-5/8	120°	M42	**HSNC-1/4-120**	10857
8mm	8mm	25mm	79mm	82°	M42	**HSNC-8M-82**	10859
8mm	8mm	25mm	79mm	90°	M42	**HSNC-8M-90**	10861
8mm	8mm	25mm	79mm	120°	M42	**HSNC-8M-120**	10863
3/8	3/8	1	3-1/2	82°	M42	**HSNC-3/8-82**	10865
3/8	3/8	1	3-1/2	90°	M42	**HSNC-3/8-90**	10867
3/8	3/8	1	3-1/2	120°	M42	**HSNC-3/8-120**	10869
1/2	1/2	1-3/8	4	82°	M42	**HSNC-1/2-82**	10871
1/2	1/2	1-3/8	4	90°	M42	**HSNC-1/2-90**	10873
1/2	1/2	1-3/8	4	120°	M42	**HSNC-1/2-120**	10875
5/8	5/8	1-3/8	4-1/2	82°	M42	**HSNC-5/8-82**	10877
5/8	5/8	1-3/8	4-1/2	90°	M42	**HSNC-5/8-90**	10879
5/8	5/8	1-3/8	4-1/2	120°	M42	**HSNC-5/8-120**	10881
3/4	3/4	1-1/2	5-3/16	82°	M42	**HSNC-3/4-82**	10883
3/4	3/4	1-1/2	5-3/16	90°	M42	**HSNC-3/4-90**	10885
3/4	3/4	1-1/2	5-3/16	120°	M42	**HSNC-3/4-120**	10887

Countersinks

0 Flute • Single Edge Double and Single End Countersink

HSS | 82° | BRIGHT | HRc <52 | P M K S N



Series: HS0

SIZE	SHK	OAL	ENDS	TOOL	EDP
3/16	3/16	1-1/2	DE	**HS0-3/16-82**	19166
1/4	1/4	2	DE	**HS0-1/4-82**	19165
7/16	1/4	2-1/32	SE	**HS0-7/16-82**	19171
9/16	1/4	2	SE	**HS0-9/16-82**	19172
13/16	1/2	2-5/8	SE	**HS0-13/16-82**	19173
1-1/8	1/2	2-7/8	SE	**HS0-1-1/8-82**	19174
1-1/2	1/2	3-1/2	SE	**HS0-1-1/2-82**	19175

- Designed with a radial relieved single edge for fast removal without chatter.
- 3/16" and 1/4" are double end.

0 Flute • Single Edge Double and Single End Countersink

HSSCo M42 | MULTI° | BRIGHT | HRc <52 | P M K S N

Series: HSP0

SIZE	SHK	OAL	ENDS	TOOL	ANGLE/EDP# 60°	82°	90°
1/4	1/4	1-1/2	DE	**HSP0-1/4**	19210	19211	19212
7/16	1/4	2-1/32	SE	**HSP0-7/16**	19213	19214	19215
9/16	1/4	2	SE	**HSP0-9/16**	19216	19217	19218
13/16	1/2	2-5/8	SE	**HSP0-13/16**	19219	19220	19221
1-1/8	1/2	2-7/8	SE	**HSP0-1-1/8**	19222	19223	19224

- Designed with a radial relieved single edge for fast removal without chatter.
- Higher heat and abrasion resistance for use on high-tensile alloys, stainless steel, and other hard to machine abrasive materials.

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HSP0-1/4-**90**).

1 Flute • Carbide Countersink

Carbide | MULTI° | BRIGHT | HRc <52 | P M K S H N

Series: C1

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	120°
1/8	1/8	1-1/2	**C1-1/8**	18328	18329	18330	18331	18332
3/16	3/16	1-1/2	**C1-3/16**	18333	18334	18335	18336	18337
1/4	1/4	2	**C1-1/4**	18338	18339	18340	18341	18342
5/16	1/4	2-1/2	**C1-5/16**	18343	18344	18345	18346	18347
3/8	1/4	2-1/2	**C1-3/8**	18348	18349	18350	18351	18352
1/2	3/8	2-1/2	**C1-1/2**	18353	18354	18355	18356	18357
5/8	3/8	2-5/8	**C1-5/8**	18358	18359	18360	18361	18362
3/4	1/2	2-3/4	**C1-3/4**	18363	18364	18365	18366	18367
1	1/2	3	**C1-1**	18493	18494	18495	18496	18497

- For highly abrasive and hard to machine materials. Applications in **cast iron, alloy steel, or glass reinforced plastics.**
- Carbide eliminates the high cost of tool changes in production situations.
- Rigid set up is a must - not suited for hand held applications.
- Tools 3/8" and larger have solid carbide heads on hardened steel shanks.

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. C1-1/4-**90**).

1 FLUTE • SINGLE FLUTE COUNTERSINKS

HSS | MULTI° | Black Oxide | HRc <52 | P K M S N

SERIES: HS1

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	120°
1/8	1/8	1-1/2	**HS1-1/8**	18000	18001	18002	18003	18004
3/16	3/16	1-1/2	**HS1-3/16**	18005	18006	18007	18008	18009
1/4	1/4	2	**HS1-1/4**	18010	18011	18012	18013	18014
5/16	1/4	2	**HS1-5/16**	19201	19202	19203	19204	19186
3/8	1/4	2	**HS1-3/8**	18015	18016	18017	18018	18019
1/2	3/8	2	**HS1-1/2**	18020	18021	18022	19100	18024
1/2	1/4	2	**HS1-1/2 (1/4)**	19095	19097	19099	18023	19191
5/8	3/8	2-1/4	**HS1-5/8**	19188	19200	10967	19205	19209
5/8	1/4	2-1/4	**HS1-5/8 (1/4)**	18026	18027	18028	19098	18030
5/8	1/2	2-1/4	**HS1-5/8 (1/2)**	19074	19088	19101	18029	N/A
3/4	1/2	2-3/4	**HS1-3/4**	18031	18032	18033	18034	18035
7/8	1/2	2-3/4	**HS1-7/8**	19206	19207	19208	19198	19187
1	1/2	2-3/4	**HS1-1**	18036	18037	18038	18039	18040
1-1/4	1/2	3	**HS1-1-1/4**	18041	18042	18043	19193	19192
1-1/2	3/4	3-1/2	**HS1-1-1/2** **	18044	18045	18046	19176	19189
1-3/4	3/4	4-1/4	**HS1-1-3/4** **	19194	19195	19197	19199	19185
2	3/4	3-3/4	**HS1-2** **	18047	18048	18049	19184	19183
2-1/2	3/4	4-3/4	**HS1-2-1/2** **	19182	18050	18051	19181	N/A
3	3/4	5	**HS1-3** **	19179	19178	19177	N/A	N/A

- Radial relief ensures smooth, chatter-free cutting without overfeeding and makes the tool self-centering.
- Black oxide surface treatment enhances tool life and prevents galling.
- Excellent countersink for use in hand held applications.

** = Drive tang

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HS1-1/4-**90**).

1 FLUTE • EXTENDED LENGTH COUNTERSINKS

HSS | 82° | BRIGHT | HRc <52 | P K M S N

SERIES: HS1EL

SIZE	SHK	OAL	CORNER	TOOL	EDP
1/8	1/8	4	**82°**	**HS1EL-1/8-82**	11945
3/16	3/16	4	**82°**	**HS1EL-3/16-82**	11947
1/4	1/4	6	**82°**	**HS1EL-1/4-82**	11949
5/16	5/16	6	**82°**	**HS1EL-5/16-82**	11951
3/8	3/8	6	**82°**	**HS1EL-3/8-82**	11953
1/2	3/8	6	**82°**	**HS1EL-1/2-82**	11955
5/8	3/8	6	**82°**	**HS1EL-5/8-82**	11979
3/4	1/2	6	**82°**	**HS1EL-3/4-82**	11975
1	1/2	6	**82°**	**HS1EL-1-82**	11977

- Extended length for hard to reach applications.

Countersinks

1 Flute • Single Flute Countersink

HSSCo M42 | MULTI° | BRIGHT | HRc <52 | P K M S N

Series: HSP1

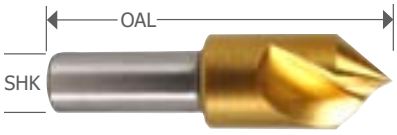
SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	120°
1/8	1/8	1-1/2	**HSP1-1/8**	11141	11143	11145	19674	19675
3/16	3/16	1-1/2	**HSP1-3/16**	11147	11149	11151	10260	19676
1/4	1/4	2	**HSP1-1/4**	11153	11155	11156	10314	19677
3/8	1/4	2	**HSP1-3/8**	11157	11158	11159	11675	10326
1/2	3/8	2	**HSP1-1/2**	11160	11161	11162	10248	10246
5/8	3/8	2-1/4	**HSP1-5/8**	11163	11164	11165	10440	10422
3/4	1/2	2-3/4	**HSP1-3/4**	11166	11167	11168	11677	10340
1	1/2	2-3/4	**HSP1-1**	11169	11170	11171	19678	19679
1-1/4	1/2	3	**HSP1-1-1/4**	11172	11173	11175	19680	19681
1-1/2	3/4	3-1/2	**HSP1-1-1/2 ****	19682	19683	19684	N/A	19686
1-3/4	3/4	3-1/2	**HSP1-1-3/4 ****	19687	19688	19689	N/A	N/A
2	3/4	3-3/4	**HSP1-2 ****	19692	19693	19694	N/A	N/A

** = Drive Tang.

Excellent for countersinking abrasive, high strength, heat resistant, exotic, and other difficult to machine materials.

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HSP1-1/4-**90**).

1 Flute • Single Flute Countersink - TiN Coated



HSSCo M42 | MULTI° | TiN | HRc <52 | P K M S N

Series: HSP1-__-T

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	120°
1/8	1/8	1-1/2	**HSP1-1/8-T**	18136	18137	18138	18139	18140
3/16	3/16	1-1/2	**HSP1-3/16-T**	18141	18142	18143	18144	18145
1/4	1/4	2	**HSP1-1/4-T**	18146	18147	18148	18149	18150
3/8	1/4	2	**HSP1-3/8-T**	18151	18152	18153	18154	18155
1/2	3/8	2	**HSP1-1/2-T**	18156	18157	18158	18159	18160
5/8	3/8	2-1/4	**HSP1-5/8-T**	18161	18162	18163	18164	18165
3/4	1/2	2-3/4	**HSP1-3/4-T**	18166	18167	18168	18169	18170
1	1/2	2-3/4	**HSP1-1-T**	18171	18172	18173	18174	18175
1-1/4	1/2	3	**HSP1-1-1/4-T**	18176	18177	18178	18179	18181
1-1/2	3/4	3-1/2	**HSP1-1-1/2-T ***	19630	19631	19632	19633	19634
1-3/4	3/4	4-1/4	**HSP1-1-3/4-T ***	19635	19636	19637	19638	19639
2	3/4	3-3/4	**HSP1-2-T ***	19640	19641	19642	19643	N/A

Coating can also help enhance productivity and extend tool life.

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HSP1-1/4-**90T**).

* = Drive Tang.

3 FLUTE • CARBIDE COUNTERSINK

Carbide | 3 | MULTI° | BRIGHT | HRc <52 | P K M S H N

SERIES: C3

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°
1/8	1/8	1-1/2	**C3-1/8**	11393	11394	11395
3/16	3/16	1-1/2	**C3-3/16**	11399	11416	11424
1/4	1/4	2	**C3-1/4**	11410	11422	11487
5/16	1/4	2-1/2	**C3-5/16**	11491	11519	11525
3/8	1/4	2-1/2	**C3-3/8**	11527	11531	11533
1/2	3/8	2-1/2	**C3-1/2**	11535	11537	11539
5/8	3/8	2-5/8	**C3-5/8**	11541	11543	11545
3/4	1/2	2-3/4	**C3-3/4**	11547	11549	11553
7/8	1/2	3	**C3-7/8**	11555	11557	11559
1	1/2	3	**C3-1**	11561	11562	11563

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. C3-1/4-**90**).

3 FLUTE • HSS COUNTERSINKS

HSS | 3 | MULTI° | TiN | HRc <52 | P K M S H N

SERIES: HS3

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	120°
1/4	1/4	2	**HS3-1/4-T**	19600	19601	19602	19603	19604
3/8	1/4	2	**HS3-3/8-T**	19605	19606	19607	19608	19609
1/2	3/8	2	**HS3-1/2-T**	19610	19611	19612	19613	19614
5/8	3/8	2-1/4	**HS3-5/8-T**	19615	19616	19617	19618	19619
3/4	1/2	2-3/4	**HS3-3/4-T**	19620	19621	19622	19623	19624
1	1/2	2-3/4	**HS3-1-T**	19625	19626	19627	19628	19629

- Used for countersinking holes for centers or enlarging existing holes.
- Radial relief on the angle contributes to smooth, chatter-free operation.

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HS3-1/4-**90T**).

3 FLUTE • HSSCO M42 COUNTERSINKS

HSSCo M42 | 3 | MULTI° | BRIGHT | HRc <52 | P K M S H N

SERIES: HSP3

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	120°
1/4	1/4	2	**HSP3-1/4**	19697	19698	19699	19700	19701
3/8	1/4	2	**HSP3-3/8**	19702	19703	19704	19705	19706
1/2	3/8	2	**HSP3-1/2**	19707	19708	19709	19710	19711
5/8	3/8	2-1/4	**HSP3-5/8**	19712	19713	19714	19715	19716
3/4	1/2	2-3/4	**HSP3-3/4**	19717	19718	19719	19720	19721
1	1/2	2-3/4	**HSP3-1**	19722	19723	19724	19725	19726

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HSP3-1/4-**90**).

Countersinks

3 Flute • HSSCo M42 TiN Coated Countersinks

HSSCo M42 | 3 | MULTI° | TiN | HRc <52 | P K M S H N

- Used for countersinking holes for centers or enlarging existing holes.
- Radial relief on the angle contributes to smooth, chatter-free operations.

Series: HSP3-_ _ -T

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	120°
1/4	1/4	2	**HSP3-1/4-T**	19645	19646	19647	19648	19649
3/8	1/4	2	**HSP3-3/8-T**	19650	19651	19652	19653	19654
1/2	3/8	2	**HSP3-1/2 -T**	19655	19656	10810	19657	19658
5/8	3/8	2-1/4	**HSP3-5/8-T**	19659	19660	19661	19662	19663
3/4	1/2	2-3/4	**HSP3-3/4-T**	19664	19665	19666	19667	19668
1	1/2	2-3/4	**HSP3-1-T**	19669	19670	19671	19672	19673

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HSP3-1/4-**90T**).

Multi Flute • Center Reamer

HSS | 3 | 4 | MULTI° | Black Oxide | HRc <52 | P K M S H N

Series: HSCR

SIZE	SHK	OAL	FLUTE	TOOL	ANGLE/EDP# 60°	82°	90°	100°
1/4	1/4	2	3	**HSCR-1/4**	19076	19078	19080	19082
3/8	1/4	2	3	**HSCR-3/8**	19084	19086	19075	19090
1/2	3/8	2	3	**HSCR-1/2**	19092	19094	19096	19093
5/8	3/8	2-1/4	3	**HSCR-5/8**	19091	19089	19087	19085
3/4	1/2	2-3/4	3	**HSCR-3/4**	19083	19081	19079	19077
1	1/2	2-3/4	3	**HSCR-1**	19227	19225	19226	12073
1-1/4	1/2	3	4	**HSCR-1-1/4**	19233	19232	19231	N/A
1-1/2	3/4	3-1/4	4	**HSCR-1-1/2**	19236	19235	19234	N/A
1-3/4	3/4	3-1/2	4	**HSCR-1-3/4**	19230	19229	N/A	N/A
2	3/4	3-3/4	4	**HSCR-2**	19237	19238	19239	N/A

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HSCR-1/4-T-**90**).

4 Flute • Carbide Countersink

Carbide | 4 | MULTI° | BRIGHT | HRc <52 | P K M S H N

- For highly abrasive and hard to machine materials.
- Applications in **cast iron, alloy steel, or glass reinforced plastics.**
- Carbide eliminates the high cost of tool changes in production situations.
- Rigid set up is a must - not suited for hand held applications.
- Tools 3/8" and larger have solid carbide heads on hardened steel shanks.
- See page 147 for Nose Diameter

Series: C4

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**C4-1/8**	18956	18823	18957	18958	18959	18960
3/16	3/16	1-1/2	**C4-3/16**	N/A	18824	N/A	N/A	N/A	N/A
1/4	1/4	2	**C4-1/4**	18961	18825	18962	18963	18964	18965
5/16	1/4	2-1/2	**C4-5/16**	N/A	18826	N/A	N/A	N/A	N/A
3/8	1/4	2-1/2	**C4-3/8**	18966	18827	18967	18968	18969	18970
1/2	3/8	2-1/2	**C4-1/2**	18971	18828	18972	18973	18974	18975
5/8	3/8	2-5/8	**C4-5/8**	18976	18829	18977	18978	18979	18980
3/4	1/2	2-3/4	**C4-3/4**	18981	18830	18982	18983	18984	18985
1	1/2	3	**C4-1**	18986	18831	18987	18988	N/A	18990

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. C4-1/4-**90**).

4 FLUTE • HSS COUNTERSINK

♦ See page 147 for Nose Diameter

HSS | 4 | MULTI° | Black Oxide | HRc <52 | P K M S H N

SERIES: HS4

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**HS4-1/8**	18567	18569	18571	18573	18575	18577
3/16	3/16	1-1/2	**HS4-3/16**	18579	18581	18583	18585	18587	18589
1/4	1/4	2	**HS4-1/4**	18591	18593	18595	18597	18599	18601
5/16	1/4	2	**HS4-5/16**	18603	18605	18607	18609	18611	18613
3/8	1/4	2	**HS4-3/8**	18615	18617	18619	18621	18623	18625
1/2	3/8	2	**HS4-1/2**	18627	18629	18631	18633	18635	18637
5/8	3/8	2-1/4	**HS4-5/8**	18639	18641	18643	18645	18647	18649
3/4	1/2	2-3/4	**HS4-3/4**	18651	18653	18655	18657	18659	18661
7/8	1/2	2-3/4	**HS4-7/8**	18663	18665	18667	18669	18671	18673
1	1/2	2-3/4	**HS4-1**	18675	18677	18679	18681	N/A	18685
1-1/4	1/2	3	**HS4-1-1/4**	18687	18692	18688	18689	N/A	18691
1-1/2	3/4	3-1/2	**HS4-1-1/2** **	18693	18694	18695	18696	N/A	18698
2	3/4	3-3/4	**HS4-2** **	18699	18700	18701	18702	N/A	18704
2-1/2	3/4	5	**HS4-2-1/2** **	18705	18706	18707	10897	N/A	10901
3	3/4	5-1/4	**HS4-3** **	18708	18709	18710	10899	N/A	10903

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HS4-1/4-**90**).

** = Drive tang

4 FLUTE • DRILL POINT COUNTERSINK

HSS | 4 | MULTI° | Black Oxide | HRc <52 | P K M S H N

SERIES: HS4DP

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**HS4DP-1/8**	18568	18570	18572	18574	18576	18578
3/16	3/16	1-1/2	**HS4DP-3/16**	18580	18582	18584	18586	18588	18590
1/4	1/4	2	**HS4DP-1/4**	18592	18594	18596	18598	18600	18602
5/16	1/4	2	**HS4DP-5/16**	18604	18606	18608	18610	18612	18614
3/8	1/4	2	**HS4DP-3/8**	18616	18618	18620	18622	18624	18626
1/2	3/8	2	**HS4DP-1/2**	18628	18630	18632	18634	18636	18638
5/8	3/8	2-1/4	**HS4DP-5/8**	18640	18642	18644	18646	18648	18650
3/4	1/2	2-3/4	**HS4DP-3/4**	18652	18654	18656	18658	18660	18662
7/8	1/2	2-3/4	**HS4DP-7/8**	18664	18666	18668	18670	18672	18674
1	1/2	2-3/4	**HS4DP-1**	18676	18678	18680	18682	18684	18686

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HS4DP-1/4-**90**).

4 FLUTE • MACHINE STYLE COUNTERSINK

HSS | 4 | MULTI° | Black Oxide | HRc <52 | P K M S H N

SERIES: HSMC

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°
1/2	1/2	3-7/8	**HSMC-1/2**	19102	19103	12055
5/8	1/2	4	**HSMC-5/8**	19104	19105	N/A
3/4	1/2	4-1/4	**HSMC-3/4**	19106	19107	12783
7/8	1/2	4-1/4	**HSMC-7/8**	19108	19109	19154
1	1/2	4-3/8	**HSMC-1**	19110	19111	19255

♦ Has radial clearance & added shank length for use in turret lathes and screw machine work.

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HSMC-1/2-**90**).

Countersinks

6 Flute • Carbide Countersink

Carbide | 6 | MULTI° | BRIGHT | HRc <52 | P K M S H N

- For highly abrasive and hard to machine materials. Applications in **cast iron, alloy steel, or glass reinforced plastics.**
- Carbide eliminates the high cost of tool changes in production situations.
- Rigid set up is a must - not suited for hand held applications.
- Tools 3/8" and larger have solid carbide heads on hardened steel shanks.
- See page 147 for Nose Diameter

Series: C6

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	120°
1/8	1/8	1-1/2	**C6-1/8**	18368	18369	18370	18371	18372
3/16	3/16	1-1/2	**C6-3/16**	18373	18374	18375	18376	18377
1/4	1/4	2	**C6-1/4**	18378	18379	18380	18381	18382
5/16	1/4	2-1/2	**C6-5/16**	18383	18384	18385	18386	18387
3/8	1/4	2-1/2	**C6-3/8**	18388	18389	18390	18391	18392
1/2	3/8	2-1/2	**C6-1/2**	18393	18394	18395	18396	18397
5/8	3/8	2-5/8	**C6-5/8**	18398	18399	18400	18401	18402
3/4	1/2	2-3/4	**C6-3/4**	18403	18404	18405	18406	18407
7/8	1/2	3	**C6-7/8**	11565	11567	11569	N/A	N/A
1	1/2	3	**C6-1**	18488	18489	18490	18491	18492
1-1/4	3/4	3-3/8	**C6-1-1/4**	10891	10893	10895	N/A	N/A

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. C6-1/4-**90**).

6 Flute • NC - Carbide CNC Precision Countersink

Carbide | 6 | MULTI° | BRIGHT | HRc <52 | P K M S H N

- 2 + 2 staggered flute design for smooth, chatter-free cutting.
- Abundant chip clearance to work well in non-ferrous applications such as **aluminum and plastic.**
- See page 147 for Nose Diameter

Series: C6NC

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
3/16	3/16	1-1/2	**C6NC-3/16**	N/A	18807	N/A	N/A	N/A	N/A
1/4	1/4	2	**C6NC-1/4**	18886	18808	18887	18888	18889	18890
5/16	1/4	2-1/2	**C6NC-5/16**	N/A	18809	N/A	N/A	N/A	N/A
3/8	1/4	2-1/2	**C6NC-3/8**	18891	19070	18892	18893	18894	18895
1/2	3/8	2-1/2	**C6NC-1/2**	18896	18810	18897	18898	18899	18900
5/8	3/8	2-5/8	**C6NC-5/8**	18901	18811	18902	18903	18904	18905
3/4	1/2	2-3/4	**C6NC-3/4**	18906	18812	18907	18908	18909	18910
7/8	1/2	3	**C6NC-7/8**	11441	N/A	N/A	N/A	N/A	N/A
1	1/2	3	**C6NC-1**	18911	18813	18912	18913	18914	N/A

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. C6NC-1/4-**90**).

6 Flute • NC - HSS CNC Precision Countersink

HSS | 6 | MULTI° | Black Oxide | HRc <52 | P K M S H N

- Drill and countersink with one tool.
- A thin web drill point is blended into 2 flutes of a 4 flute countersink to spot drill and countersink in one operation.
- See page 147 for Nose Diameter

Series: HS6NC

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
3/16	3/16	1-1/2	**HS6NC-3/16**	18498	18499	18500	18501	18502	18503
1/4	1/4	2	**HS6NC-1/4**	18504	18505	18506	18507	18508	18509
5/16	1/4	2	**HS6NC-5/16**	18510	18511	18512	18513	18515	18516
3/8	1/4	2	**HS6NC-3/8**	18517	18518	18520	18521	18522	18523
1/2	3/8	2	**HS6NC-1/2**	18524	18525	18526	18527	18528	18529
5/8	3/8	2-1/4	**HS6NC-5/8**	18530	18531	18532	18534	18535	18536
3/4	1/2	2-1/4	**HS6NC-3/4**	18537	18538	18539	18540	18541	18542
7/8	1/2	2-3/4	**HS6NC-7/8**	18543	18544	18545	18547	18548	18549
1	1/2	2-3/4	**HS6NC-1**	18550	18551	18552	18553	18554	18555

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HS6NC-1/4-**90**).

6 FLUTE • HSS COUNTERSINK

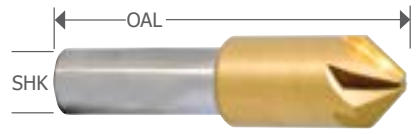
- See page 147 for Nose Diameter

HSS | 6 | MULTI° | Black Oxide | HRc <52 | P K M S N

SERIES: HS6

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**HS6-1/8**	18052	18053	18054	18055	18056	18057
3/16	3/16	1-1/2	**HS6-3/16**	18058	18059	18060	18061	18062	18063
1/4	1/4	2	**HS6-1/4**	18064	18065	18066	18067	18068	18069
5/16	1/4	2	**HS6-5/16**	18070	18071	18072	18073	18074	18075
3/8	1/4	2	**HS6-3/8**	18076	18077	18078	18079	18080	18081
1/2	3/8	2	**HS6-1/2**	18082	18083	18084	18085	18086	18087
1/2	1/4	2	**HS6-1/2 (1/4)**	19310	19311	19312	N/A	N/A	N/A
5/8	1/4	2-1/4	**HS6-5/8 (1/4)**	N/A	13041	N/A	N/A	N/A	N/A
5/8	3/8	2-1/4	**HS6-5/8**	18088	18089	18090	18091	18092	18093
5/8	1/2	2-1/4	**HS6-5/8 (1/2)**	19313	19314	19315	N/A	N/A	N/A
3/4	1/2	2-3/4	**HS6-3/4**	18094	18095	18096	18097	18098	18099
7/8	1/2	2-3/4	**HS6-7/8**	18100	18101	18102	18103	18104	18105
1	1/2	2-3/4	**HS6-1**	18106	18107	18108	18109	18110	18111
1-1/4	1/2	3	**HS6-1-1/4**	18112	18113	18114	18115	N/A	18117
1-1/4	3/4	3	**HS6-1-1/4 (3/4)**	19316	19317	19318	N/A	N/A	N/A
1-1/2	3/4	3-1/2	**HS6-1-1/2 ****	18118	18119	18120	18121	N/A	18123
1-3/4	1	4-1/4	**HS6-1-3/4**	19319	19320	19321	N/A	N/A	N/A
2	3/4	3-3/4	**HS6-2 ****	18124	18125	18126	18127	N/A	18129
2-1/2	3/4	5	**HS6-2-1/2 ****	N/A	18131	18132	N/A	N/A	N/A
3	3/4	5-1/4	**HS6-3 ****	N/A	N/A	18135	N/A	N/A	N/A

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HS6-1/4-**90**).
**-= Drive Tang



6 FLUTE • HSSCO M42 COUNTERSINK

- See page 147 for Nose Diameter

HSSCo M42 | 6 | MULTI° | TiN | HRc <52 | P K M S N

SERIES: HSP6-__-T

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**HSP6-1/8-T**	18182	18183	18184	18185	18186	18187
3/16	3/16	1-1/2	**HSP6-3/16-T**	18188	18189	18190	18191	18192	18193
1/4	1/4	2	**HSP6-1/4-T**	18194	18195	18196	18197	18198	18199
5/16	1/4	2	**HSP6-5/16-T**	18200	18201	18202	18203	18204	18205
3/8	1/4	2	**HSP6-3/8-T**	18206	18207	18208	18209	18210	18211
1/2	3/8	2	**HSP6-1/2-T**	18212	18213	18214	18215	18216	18217
5/8	3/8	2-1/4	**HSP6-5/8-T**	18218	18219	18220	18221	18222	18223
3/4	1/2	2-3/4	**HSP6-3/4-T**	18224	18225	18226	18227	18228	18229
7/8	1/2	2-3/4	**HSP6-7/8-T**	18230	18231	18232	18233	18234	18235
1	1/2	2-3/4	**HSP6-1-T**	18236	18237	18238	18239	18240	18241
1-1/4	1/2	3	**HSP6-1-1/4-T**	18242	18243	18244	N/A	N/A	N/A

- Excellent for countersinking abrasive, high-strength, heat resistant, exotic, and other difficult to machine materials.

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. HSP6-1/4-**90T**).

Countersinks

6 Flute • Extended Length Countersink

HSS | 6 | 82° | BRIGHT | HRc <52 | P K M S N

Series: HS6EL

SIZE	SHK	OAL	CORNER	TOOL	EDP
1/8	1/8	4	82°	HS6EL-1/8-82	11961
3/16	3/16	4	82°	HS6EL-3/16-82	11963
1/4	1/4	6	82°	HS6EL-1/4-82	11965
5/16	5/16	6	82°	HS6EL-5/16-82	11967
3/8	3/8	6	82°	HS6EL-3/8-82	11969
1/2	3/8	6	82°	HS6EL-1/2-82	11971
5/8	3/8	6	82°	HS6EL-5/8-82	11973
3/4	1/2	6	82°	HS6EL-3/4-82	11957
1	1/2	6	82°	HS6EL-1-82	11959

- Extended length for hard to reach applications.

2 Flute • 60º Double End Combined Drill Countersink

HSS | Carbide | 2 | 60° | BRIGHT | HRc <52 | M S H N (HSS) | P K M S H N (Carbide)

Series: HSCD or KDR

SIZE	SHK	DRILL DIA	DRILL LENGTH	OAL	HSS TOOL	HSS BRIGHT EDP	CARBIDE TOOL	CARBIDE BRIGHT EDP
00	1/8	0.025	0.030	1-1/2	HSCD-00*	11587	KDR-00	17362
0	1/8	1/32	0.038	1-1/2	HSCD-0*	11589	KDR-0	17363
1	1/8	3/64	3/64	1-1/2	HSCD-1*	11591	KDR-1	17364
2	3/16	5/64	5/64	2	HSCD-2**	11593	KDR-2	17365
3	1/4	7/64	7/64	2	HSCD-3	11595	KDR-3	17366
4	5/16	1/8	1/8	2-1/8	HSCD-4	11597	KDR-4	17367
5	7/16	3/16	3/16	2-3/4	HSCD-5	11599	KDR-5	17368
6	1/2	7/32	7/32	3	HSCD-6	11601	KDR-6	17369
7	5/8	1/4	1/4	3-1/4	HSCD-7	11603	KDR-7	10611
8	3/4	5/16	5/16	3-1/2	HSCD-8	11605	KDR-8	10613

- For centering and spot drilling applications when high accuracy is necessary
  * = 1-1/4 OAL
  ** = 1-7/8 OAL

1 FLUTE • DOUBLE END CARBIDE COUNTERSINK

Carbide | MULTI° | BRIGHT | HRc <52 | P K M S H N

SERIES: DC1

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**DC1-1/8**	18408	18409	18410	18411	10919	18412
3/16	3/16	2	**DC1-3/16**	18413	18414	18415	18416	10921	18417
1/4	1/4	2	**DC1-1/4**	18418	18419	18420	18421	10923	18422
5/16	5/16	2-1/2	**DC1-5/16**	18423	18424	18425	18426	10925	18427
3/8	3/8	2-1/2	**DC1-3/8**	18428	18429	18430	18431	10927	18432
1/2	1/2	3	**DC1-1/2**	18433	18434	18435	18436	10929	18437
5/8	5/8	3-1/2	**DC1-5/8**	18438	18439	18440	18441	10931	18442
3/4	3/4	4	**DC1-3/4**	18443	18444	18445	18446	10933	18447

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. DC1-1/4-**90**).

1 FLUTE • DOUBLE END HSS COUNTERSINK

HSS | MULTI° | Black Oxide | HRc <52 | P K M S N

SERIES: DHS1

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**DHS1-1/8**	18248	18249	18250	18251	10905	18252
3/16	3/16	2	**DHS1-3/16**	18253	18254	18255	18256	10907	18257
1/4	1/4	2	**DHS1-1/4**	18258	18259	18260	18261	10909	18262
5/16	5/16	2-1/2	**DHS1-5/16**	18263	18264	18265	18266	10911	18267
3/8	3/8	2-1/2	**DHS1-3/8**	18268	18269	18270	18271	10913	18272
1/2	1/2	3	**DHS1-1/2**	18273	18274	18275	18276	19163	18277
5/8	5/8	3-1/2	**DHS1-5/8**	18278	18279	18280	18281	10915	18282
3/4	3/4	4	**DHS1-3/4**	18283	18284	18285	18286	10917	18287

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. DHS1-1/4-**90**).

4 FLUTE • DOUBLE END CARBIDE DRILL POINT COUNTERSINK

Carbide | MULTI° | BRIGHT | HRc <52 | P K M S H N

SERIES: DC4DP

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**DC4DP-1/8**	18992	18833	18994	18996	18998	19000
3/16	3/16	2	**DC4DP-3/16**	19002	18835	19004	19006	19008	19010
1/4	1/4	2	**DC4DP-1/4**	19012	18837	19014	19016	19018	19020
5/16	5/16	2-1/2	**DC4DP-5/16**	19022	19071	19024	19026	19028	19030
3/8	3/8	2-1/2	**DC4DP-3/8**	19032	18840	19034	19036	19038	19040
1/2	1/2	3	**DC4DP-1/2**	19042	18842	19044	19046	19048	19050
5/8	5/8	3-1/2	**DC4DP-5/8**	19052	18843	19054	19056	19058	19060
3/4	3/4	4	**DC4DP-3/4**	19061	18845	19063	19065	19067	19069

- Drill and countersink with one tool.
- Can save setup and production time by combining two operations into one.

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. DHS1-1/4-**90**).

Countersinks

4 Flute • Double End Carbide Countersink

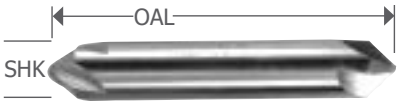
Carbide | 4 | MULTI° | BRIGHT | HRc <52 | P K M S H N

Series: DC4

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**DC4-1/8**	18991	18832	18993	18995	18997	18999
3/16	3/16	2	**DC4-3/16**	19001	18834	19003	19005	19007	19009
1/4	1/4	2	**DC4-1/4**	19011	18836	19013	19015	19017	19019
5/16	5/16	2-1/2	**DC4-5/16**	19021	18838	19023	19025	19027	19029
3/8	3/8	2-1/2	**DC4-3/8**	19031	18839	19033	19035	19037	19039
1/2	1/2	3	**DC4-1/2**	19041	18841	19043	19045	19047	19049
5/8	5/8	3-1/2	**DC4-5/8**	19051	18479	19053	19055	19057	19059
3/4	3/4	4	**DC4-3/4**	19072	18844	19062	19064	19066	19068

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. DC4-1/4-**90**).

4 Flute • Double End HSS Countersink



HSS | 4 | MULTI° | BRIGHT | HRc <52 | P K M S H N

Series: DHS4

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**DHS4-1/8**	18711	18713	18715	18717	18719	18721
3/16	3/16	2	**DHS4-3/16**	18723	18725	18727	18729	18731	18733
1/4	1/4	2	**DHS4-1/4**	18735	18737	18739	18741	18743	18745
5/16	5/16	2-1/2	**DHS4-5/16**	18747	18749	18751	18753	18755	18757
3/8	3/8	2-1/2	**DHS4-3/8**	18759	18761	18763	18765	18767	18769
1/2	1/2	3	**DHS4-1/2**	18771	18773	18775	18777	18779	18781
5/8	5/8	3-1/2	**DHS4-5/8**	18783	18785	18787	18789	18791	18793
3/4	3/4	4	**DHS4-3/4**	18795	18797	18799	18801	18803	18805

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. DHS4-1/4-**90**).

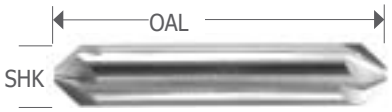
4 Flute • Double End HSS Drill Point Countersink

HSS | 4 | BRIGHT | HRc <52 | P K M S H N

Series: DHS4DP

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**DHS4DP-1/8**	18712	18714	18716	18718	18720	18722
3/16	3/16	2	**DHS4DP-3/16**	18724	18726	18728	18730	18732	18734
1/4	1/4	2	**DHS4DP-1/4**	18736	18738	18740	18742	18744	18746
5/16	5/16	2-1/2	**DHS4DP-5/16**	18748	18750	18752	18754	18756	18758
3/8	3/8	2-1/2	**DHS4DP-3/8**	18760	18762	18764	18766	18768	18770
1/2	1/2	3	**DHS4DP-1/2**	18772	18774	18776	18778	18780	18782
5/8	5/8	3-1/2	**DHS4DP-5/8**	18784	18786	18788	18790	18792	18794
3/4	3/4	4	**DHS4DP-3/4**	18796	18798	18800	18802	18804	18806

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. DHS4DP-1/4-**90**).



6 FLUTE • DOUBLE END CARBIDE COUNTERSINK

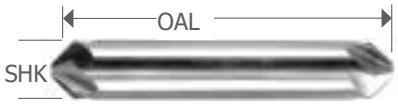
♦ See page 147 for Nose Diameter

Carbide | 6 | MULTI° | BRIGHT | HRc <52 | P K M S H N

SERIES: DC6

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**DC6-1/8**	18448	18449	18450	18451	N/A	18452
3/16	3/16	2	**DC6-3/16**	18453	18454	18455	18456	N/A	18457
1/4	1/4	2	**DC6-1/4**	18458	18459	18460	18461	19073	18462
5/16	5/16	2-1/2	**DC6-5/16**	18463	18464	18465	18466	N/A	18467
3/8	3/8	2-1/2	**DC6-3/8**	18468	18469	18470	18471	N/A	18472
1/2	1/2	3	**DC6-1/2**	18473	18474	18475	18476	N/A	18477
5/8	5/8	3-1/2	**DC6-5/8**	18478	18820	18480	18481	N/A	18482
3/4	3/4	4	**DC6-3/4**	18483	18484	18485	18486	N/A	18487

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. DC6-1/4-**90**).



4 FLUTE • DOUBLE END HSS COUNTERSINK

HSS | 4 | MULTI° | BRIGHT | HRc <52 | P K M S H N

SERIES: DHS6

SIZE	SHK	OAL	TOOL	ANGLE/EDP# 60°	82°	90°	100°	110°	120°
1/8	1/8	1-1/2	**DHS6-1/8**	18288	18289	18290	18291	19162	18292
3/16	3/16	2	**DHS6-3/16**	18293	18294	18295	18296	18558	18297
1/4	1/4	2	**DHS6-1/4**	18298	18299	18300	18301	18560	18302
5/16	5/16	2-1/2	**DHS6-5/16**	18303	18304	18305	18306	18562	18307
3/8	3/8	2-1/2	**DHS6-3/8**	18308	18309	18310	18311	N/A	18312
1/2	1/2	3	**DHS6-1/2**	18313	18314	18315	18316	N/A	18317
5/8	5/8	3-1/2	**DHS6-5/8**	18318	18319	18320	18321	N/A	18322
3/4	3/4	4	**DHS6-3/4**	18323	18324	18325	18326	N/A	18327

To order countersinks: Use the EDP # listed or add the angle to the end of the tool name (i.e. DHS6-1/4-**90**).

COUNTERSINK SETS

HSS

PCS	ANGLE	FLT	MATERIAL	SIZES	EDP
4	82	0	HSS	1/4, 7/16, 9/16, 13/16"	19170
5	82	1	HSS	1/4 to 1"	19169
5	90	1	HSS	1/4 to 1"	19168
6	82	6	HSS	1/4 to 1"	19167
8	60	6	HSS	1/4 to 1"	90022
8	82	6	HSS	1/4 to 1"	90023
8	90	6	HSS	1/4 to 1"	90021
10	60	6	HSS	1/4 to 1-1/2"	90024
10	82	6	HSS	1/4 to 1-1/2"	90025
10	90	6	HSS	1/4 to 1-1/2"	90020

CARBIDE

PCS	ANGLE	FLT	MATERIAL	SIZES	EDP
5	60	1	CARBIDE	1/4 to 1"	90026
5	82	1	CARBIDE	1/4 to 1"	90027
5	90	1	CARBIDE	1/4 to 1"	90028
5	60	6	CARBIDE	1/4 to 1"	15545
5	82	6	CARBIDE	1/4 to 1"	15547
5	90	6	CARBIDE	1/4 to 1"	15549
8	60	6	CARBIDE	1/4 to 1"	90029
8	82	6	CARBIDE	1/4 to 1"	90030
8	90	6	CARBIDE	1/4 to 1"	90031

Multiple Shape • General Purpose Carbide Burs

Series: SA - Double Cut
Cylindrical No Endcut

DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
3/32	1/8	7/16	1-1/2	**SA-42DC**	13489
1/8	1/8	9/16	1-1/2	**SA-43DC**	13490
1/4	1/8	1/2	2	**SA-51DC**	13491
1/4	1/4	5/8	2	**SA-1DC**	13492
3/8	1/4	3/4	2-1/2	**SA-3DC**	13493
1/2	1/4	1	2-3/4	**SA-5DC**	13494
5/8	1/4	1	2-3/4	**SA-6DC**	13495
3/4	1/4	1	2-3/4	**SA-7DC**	13496
1	1/4	1	2-3/4	**SA-9DC**	13497

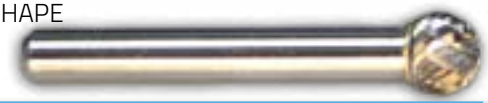
Series: SB - Double Cut
Cylindrical With Endcut

DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
1/8	1/8	9/16	1-1/2	**SB-43DC**	13498
1/4	1/8	3/16	2-15/16	**SB-51DC**	13499
1/4	1/4	5/8	2	**SB-1DC**	13500
3/8	1/4	3/4	2-1/2	**SB-3DC**	13501
1/2	1/4	1	2-3/4	**SB-5DC**	13502
5/8	1/4	1	2-3/4	**SB-6DC**	13503
3/4	1/4	1	2-3/4	**SB-7DC**	13504
1	1/4	1	2-3/4	**SB-9DC**	13505

Series: SC - Double Cut
Radius Cylindrical

DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
3/32	1/8	7/16	1-1/2	**SC-41DC**	13506
1/8	1/8	9/16	1-1/2	**SC-42DC**	13507
1/4	1/8	1/2	2	**SC-51DC**	13508
1/4	1/4	5/8	2	**SC-1DC**	13509
3/8	1/4	3/4	2-1/2	**SC-3DC**	13510
1/2	1/4	1	2-3/4	**SC-5DC**	13511
5/8	1/4	1	2-3/4	**SC-6DC**	13512
3/4	1/4	1	2-3/4	**SC-7DC**	13513

Series: SD - Double Cut
Ball Shape



DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
1/8	1/8	1/8	1-1/2	**SD-42DC**	13514
1/4	1/8	7/32	2	**SD-51DC**	13515
1/4	1/4	7/32	2	**SD-1DC**	13516
3/8	1/4	5/16	2-1/8	**SD-3DC**	13517
1/2	1/4	7/16	2-1/4	**SD-5DC**	13518
5/8	1/4	9/16	2-3/8	**SD-6DC**	13519
3/4	1/4	11/16	2-1/2	**SD-7DC**	13520
1	1/4	15/16	2-3/4	**SD-9DC**	13521

Series: SE - Double Cut
Oval Shape

DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
1/8	1/8	7/32	1-1/2	**SE-41DC**	13522
1/4	1/8	3/8	1-3/4	**SE-51DC**	13523
1/4	1/4	3/8	2	**SE-1DC**	13524
3/8	1/4	5/8	2-3/8	**SE-3DC**	13525
1/2	1/4	7/8	2-5/8	**SE-5DC**	13526
5/8	1/4	1	2-3/4	**SE-6DC**	13527
3/4	1/4	1	2-3/4	**SE-7DC**	13528

Series: SF - Double Cut
Tree Shape

DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
1/8	1/8	1/4	1-1/2	**SF-41DC**	13529
1/8	1/8	1/2	1-1/2	**SF-42DC**	13530
1/4	1/4	5/8	2	**SF-1DC**	13531
3/8	1/4	3/4	2-1/2	**SF-3DC**	13532
1/2	1/4	1	2-3/4	**SF-5DC**	13533
5/8	1/4	1	2-3/4	**SF-6DC**	13534
3/4	1/4	1	2-3/4	**SF-7DC**	13535

Series: SG - Double Cut
Pointed Tree Shape

DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
1/8	1/8	1/4	1-1/2	**SG-41DC**	13536
1/8	1/8	3/8	1-1/2	**SG-43DC**	13537
1/4	1/8	1/2	2	**SG-51DC**	13538
1/4	1/4	5/8	2	**SG-1DC**	13539
3/8	1/4	3/4	2-1/2	**SG-3DC**	13540
1/2	1/4	1	2-3/4	**SG-5DC**	13541
5/8	1/4	1	2-3/4	**SG-6DC**	13542
3/4	1/4	1	2-3/4	**SG-7DC**	13543

Series: SH- Double Cut
Flame Shape

DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
1/8	1/8	1/4	1-1/2	**SH-41DC**	13544
1/4	1/4	1/2	2	**SH-1DC**	13545
1/2	1/4	1-1/4	3	**SH-5DC**	13546
5/8	1/4	1-7/16	3-3/16	**SH-6DC**	13547
3/4	1/4	1-5/8	3-3/8	**SH-7DC**	13548

Multiple Shape • General Purpose Carbide Burs

Series: SJ – Single Cut
60° Included Cone

DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
1/8	1/8	3/32	1-1/2	**SJ-42SC**	13586
1/4	1/4	3/16	2	**SJ-1SC**	13549
3/8	1/4	5/16	2-1/16	**SJ-3SC**	13550
1/2	1/4	7/16	2-3/16	**SJ-5SC**	13551
5/8	1/4	9/16	2-5/16	**SJ-6SC**	13552
3/4	1/4	11/16	2-7/16	**SJ-7SC**	13553
1	1/4	15/16	2-9/16	**SJ-9SC**	13554

Series: SK – Single Cut
90° Included Cone

DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
1/8	1/8	1/16	1-1/2	**SK-42SC**	13555
1/4	1/4	1/8	2	**SK-1SC**	13556
3/8	1/4	3/16	1-15/16	**SK-3SC**	13557
1/2	1/4	1/4	2	**SK-5SC**	13558
5/8	1/4	5/16	2-1/16	**SK-6SC**	13559
3/4	1/4	3/8	2-1/8	**SK-7SC**	13560
1	1/4	1/2	2-1/4	**SK-9SC**	13561

Series: SL – Double Cut
8° or 14° Included Cone

DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
1/8	1/8	3/8	1-1/2	**SL-41DC**	13562
1/8	1/8	1/2	1-1/2	**SL-42DC**	13563
1/4	1/4	5/8	2	**SL-1DC**	13564
3/8	1/4	1-1/16	2-13/16	**SL-3DC**	13565
1/2	1/4	1-1/8	2-7/8	**SL-4DC**	13566
5/8	1/4	1-5/16	3-1/16	**SL-6DC**	13567
3/4	1/4	1-1/2	3-1/4	**SL-7DC**	13568

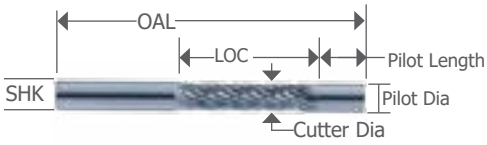
Series: SM – Double Cut
Pointed Cone Shape

DIA	SHK	LOC	OAL	TOOL	BRIGHT EDP
1/8	1/8	11/32	1-1/2	**SM-41DC**	13569
1/8	1/8	7/16	1-1/2	**SM-42DC**	13570
1/8	1/8	5/8	1-1/2	**SM-43DC**	13571
1/4	1/8	1/2	2-1/8	**SM-51DC**	13572
1/4	1/4	1/2	2	**SM-1DC**	13573
1/4	1/4	3/4	2	**SM-2DC**	13574
1/4	1/4	1	2	**SM-3DC**	13575
3/8	1/4	5/8	2-3/8	**SM-4DC**	13576
1/2	1/4	7/8	2-5/8	**SM-5DC**	13577
5/8	1/4	1	2-3/4	**SM-6DC**	13578

Series: SN – Double Cut
Inverted Cone Shape

DIA	SHK	LOC	OAL	ANGLE	TOOL	BRIGHT EDP
1/8	1/8	3/16	1-1/2	10°	**SN-42DC**	13579
1/4	1/8	1/4	1-3/4	10°	**SN-51DC**	13580
1/4	1/4	5/16	2	10°	**SN-1DC**	13581
1/2	1/4	1/2	2-1/4	16°	**SN-3DC**	13582
1/2	1/4	1/2	2-1/4	28°	**SN-4DC**	13583
5/8	1/4	3/4	2-1/2	18°	**SN-6DC**	13584
3/4	1/4	5/8	2-3/8	30°	**SN-7DC**	13585

Double Cut • Cylindrical Pilot Die Trimmers



PILOT DIA	CUTTER DIA	SHK	LOC	OAL	PILOT LENGTH	TOOL	BRIGHT EDP
1/8	1/8	1/8	1	2-1/2	1/2	**PDM-1/8**	H7315
1/8	1/8	1/8	1	3	1/2	**PDM-1/8-L**	H7429
3/16	3/16	3/16	1	2-1/2	1/2	**PDM-3/16**	H7430
1/4	1/4	1/4	1	2-1/2	1/2	**PDM-1/4**	H7316
1/4	1/4	1/4	1	3	1/2	**PDM-1/4-L**	H7431
3/8	3/8	3/8	1	2-1/2	1/2	**PDM-3/8**	H7432
1/2	1/2	1/2	1	2-1/2	1/2	**PDM-1/2**	H7433

General Purpose Carbide End Mills

SERIES: General Purpose Carbide End Mills

MATERIAL	CONDITIONS			CUTTING DIAMETER							
				1/8"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
		Under 32 HRc	Over 32 HRc	CHIP PER TOOTH							
STAINLESS STEELS	**ISO-M**										
Precipitation											
13-8, 15-5, 17-4PH	Slotting .5 x Dia.	110-200	80-115	0.0005	0.0010	0.0012	0.0014	0.0020	0.0025	0.0030	0.0040
	Profiling ≤ .5 x Dia.	110-200	80-115	0.0006	0.0012	0.0015	0.0018	0.0025	0.0031	0.0038	0.0050
Austenitic											
302, 303, 304L, 316L	Slotting .5 x Dia.	150-275	80-180	0.0005	0.0011	0.0014	0.0016	0.0023	0.0029	0.0035	0.0046
	Profiling ≤ .5 x Dia.	150-275	80-180	0.0007	0.0014	0.0018	0.0021	0.0030	0.0038	0.0045	0.0060
Martensitic											
403, 410, 416	Slotting .5 x Dia.	200-400	80-160	0.0005	0.0011	0.0014	0.0016	0.0023	0.0029	0.0035	0.0046
	Profiling ≤ .5 x Dia.	200-400	80-160	0.0007	0.0014	0.0018	0.0021	0.0030	0.0038	0.0045	0.0060
HIGH TEMP ALLOYS	**ISO-S**										
Cobalt Base											
Stellite, Haynes 25, 188, X-40,	Slotting .5 x Dia.	60-125	60-125	0.0004	0.0007	0.0009	0.0011	0.0015	0.0019	0.0023	0.0030
L-605	Profiling ≤ .5 x Dia.	60-125	60-125	0.0005	0.0010	0.0012	0.0014	0.0020	0.0025	0.0030	0.0040
Nickel Base											
Inconel 600, 625, 718, Nickel 200,	Slotting .5 x Dia.	60-125	60-125	0.0004	0.0007	0.0009	0.0011	0.0015	0.0019	0.0023	0.0030
270, Invar, Monel 400, 405, K-Monel, PermaNickel 300, Incoly 600	Profiling ≤ .5 x Dia.	60-125	60-125	0.0005	0.0010	0.0012	0.0014	0.0020	0.0025	0.0030	0.0040
Iron Base											
Incoloy 800-802, Multimet N-155,	Slotting .5 x Dia.	60-125	60-125	0.0004	0.0007	0.0009	0.0011	0.0015	0.0019	0.0023	0.0030
Timken 16-26-6	Profiling ≤ .5 x Dia.	60-125	60-125	0.0005	0.0010	0.0012	0.0014	0.0020	0.0025	0.0030	0.0040
STEELS	**ISO-P**										
High Strength Steels											
4140, 4340, 52100	Slotting .5 x Dia.	150-300	80-180	0.0005	0.0010	0.0012	0.0014	0.0020	0.0025	0.0030	0.004
	Profiling ≤ .5 x Dia.	150-300	80-180	0.0006	0.0010	0.0012	0.0018	0.0025	0.0031	0.0038	0.005
High Alloy Steels - Mold & Die											
A-2, P20, 01, 02, D2, H-13	Slotting .5 x Dia.	150-275	80-185	0.0005	0.0010	0.0012	0.0014	0.0020	0.0025	0.0030	0.004
	Profiling ≤ .5 x Dia.	150-275	80-185	0.0006	0.0010	0.0012	0.0018	0.0025	0.0031	0.0038	0.005
Medium Alloy Steels											
200, 250, 300	Slotting .5 x Dia.	175-350	100-225	0.0005	0.0010	0.0012	0.0014	0.0020	0.0025	0.0030	0.004
	Profiling ≤ .5 x Dia.	175-350	100-225	0.0006	0.0010	0.0012	0.0018	0.0025	0.0031	0.0038	0.005
Low Alloy Steels-Maraging											
10XX, 11XX, 13XX	Slotting .5 x Dia.	200-450	100-250	0.0006	0.0012	0.0015	0.0018	0.0025	0.0031	0.0038	0.005
	Profiling ≤ .5 x Dia.	200-450	100-250	0.0007	0.0014	0.0018	0.0021	0.0030	0.0038	0.0045	0.006
CAST IRONS	**ISO-K**										
Ductile Iron											
Ductile Cast Iron	Slotting .5 x Dia.	120-325	80-140	0.0005	0.0010	0.0012	0.0014	0.0020	0.0025	0.0030	0.0040
	Profiling ≤ .5 x Dia.	120-325	80-140	0.0006	0.0012	0.0015	0.0018	0.0025	0.0031	0.0038	0.0050
Cast Iron											
Grey Cast Iron	Slotting .5 x Dia.	250-425	125-285	0.0005	0.0010	0.0012	0.0014	0.0020	0.0025	0.0030	0.0040
	Profiling ≤ .5 x Dia.	250-425	125-285	0.0006	0.0012	0.0015	0.0018	0.0025	0.0031	0.0038	0.0050
TITANIUMS	**ISO-S**										
Titanium Alloys											
6AL-4V, ASTM 1, 2, 3, 6AL-2S	Slotting .5 x Dia.	140-200	90-145	0.0005	0.0010	0.0012	0.0014	0.0020	0.0025	0.0030	0.0040
For 5553, decrease SFM and IPM by 25%	Profiling ≤ .5 x Dia.	140-200	90-145	0.0006	0.0012	0.0015	0.0018	0.0025	0.0031	0.0038	0.0050
ALUMINUM	**ISO-N**										
Aluminum Alloys											
6061-T6, 7075	Slotting .5 x Dia.	600-1000	NA	0.0006	0.0012	0.0015	0.0018	0.003	0.005	0.006	0.0080
	Profiling ≤ .5 x Dia.	600-1000	NA	0.0007	0.0014	0.0018	0.0025	0.0035	0.006	0.0068	0.0100

All technical data provided are suggested starting points. They may be increased or decreased depending on machine condition, depth of cut, finish required, coolant, etc. Call our TECHNICAL SERVICE TEAM with questions.

Powdered Metal End Mills

SERIES: CCFPM, CCRPM, CCPM

MATERIAL	CONDITION	SFM		CUTTING DIAMETER					
				1/8-3/16"	1/4-3/8"	1/2-3/4"	7/8-1-1/8"	1-1/4-1-1/2"	1-5/8-2"
		Uncoated	Coated	CHIP PER TOOTH					
STAINLESS STEELS	**ISO-M**								
	Slotting	30-100	40-140	.0007- .0010	.0010- .0015	.0020- .0032	.0036-.0042	.0050-.0068	.0070- .0090
	Heavy Profiling	30-100	40-140	.0008- .0013	.0015- .0020	.0022-.0032	.0034-.0047	.0052-.0072	.0073-.0097
HIGH TEMP ALLOYS	**ISO-S**								
	Slotting	15-50	20-65	.0005- .0007	.0008- .0011	.0015- .0019	.0019-.0027	.0030-.0040	.0043-.0054
	Heavy Profiling	15-50	20-65	.0005- .0007	.0008- .0011	.0015-.0019	.0019-.0027	.0030-.0040	.0043-.0054
STEELS	**ISO-P**								
	Slotting	40-120	50-170	.0006-.0009	.0010- .0015	.0020- .0026	.0026-.0038	.0046-.0060	.0072-.0100
	Heavy Profiling	40-120	50-170	.0007-.0013	.0013- .0019	.0023- .0030	.0032- .0042	.0048-.0062	.0076-.0120
TITANIUM	**ISO-S**								
	Slotting	40-85	50-115	.0007-.0010	.0013- .0019	.0025- .0037	.0039- .0042	.0043- .0050	.0052- .0060
	Heavy Profiling	40-85	50-115	.0007-.0013	.0015- .0021	.0027- .0039	.0042- .0045	.0046- .0052	.0053- .0064
ALUMINUM	**ISO-N**								
	Slotting	450-650	550-775	.0010- .0020	.0024- .0038	.0042- .0070	.0072- .0110	.0115-.0190	.0195-.0220
	Heavy Profiling	450-650	550-775	.0014- .0022	.0027- .0040	.0046- .0080	.0080- .0130	.0135- .021	.0220- .0300

SERIES: VHPM

MATERIAL	CONDITION	SFM	CUTTING DIAMETER					
			3/8"	1/2"	5/8"	3/4"	1"	1-1/4"
			CHIP PER TOOTH					
STAINLESS STEELS	**ISO-M**							
	Slotting	40-150	0.0016	0.0022	0.0026	0.0033	0.0046	0.0057
	Heavy Profiling	40-150	0.0020	0.0026	0.0031	0.0037	0.0052	0.0063
HIGH TEMP ALLOYS	**ISO-S**							
	Slotting	20-80	0.0011	0.0017	0.0019	0.0021	0.0028	0.0037
	Heavy Profiling	20-80	0.0011	0.0017	0.002	0.0022	0.0032	0.0041
STEELS	**ISO-P**							
	Slotting	50-200	0.0015	0.0021	0.0024	0.0027	0.0037	0.0047
	Heavy Profiling	50-200	0.0015	0.0021	0.0026	0.0030	0.0040	0.0052
TITANIUM	**ISO-S**							
	Slotting	50-115	0.0016	0.0021	0.0025	0.0030	0.0042	0.0054
	Heavy Profiling	50-115	0.0018	0.0024	0.0029	0.0034	0.0047	0.0059

All technical data provided are suggested starting points. They may be increased or decreased depending on machine condition, depth of cut, finish required, coolant, etc. Call our TECHNICAL SERVICE TEAM with questions.

Roughing End Mills

SERIES: Cobalt/HSS Roughing End Mills

MATERIAL	CONDITIONS	START-ING SFM	START-ING SFM	CUTTING DIAMETER						
				1/4"	1/2"	3/4"	1.00"	1-1/4"	1-1/2"	2.00"
		UNCOATED	COATED	CHIP PER TOOTH						
STAINLESS STEELS ISO-M										
Precipitation										
13-8, 15-5, 17-4PH	Slotting Axial 1 x D	60-80	100-150	0.0015	0.0020	0.0026	0.0036	0.0046	0.0054	0.0070
	Heavy Profiling			0.0015	0.0020	0.0029	0.0040	0.0050	0.0060	0.0075
Austenitic										
302, 303, 304L, 316L	Slotting 1 x D	60-80	100-150	0.0015	0.0020	0.003	0.0045	0.0056	0.0067	0.0090
	Heavy Profiling			0.0019	0.0025	0.0034	0.0049	0.0061	0.0074	0.0098
Martensitic										
403, 410, 416	Slotting Axial 1 x D	60-100	100-170	0.0015	0.0020	0.0030	0.0045	0.0056	0.0067	0.0090
	Heavy Profiling			0.0019	0.0025	0.0034	0.0049	0.0061	0.0074	0.0098
HIGH TEMP ALLOYS ISO-S										
Cobalt Base										
Stellite, Haynes 25, 188, X-40, L-605	Slotting 1 x D	5-25	10-40	0.0011	0.0014	0.0018	0.0026	0.0033	0.0040	0.0053
	Heavy Profiling			0.0011	0.0014	0.0020	0.0029	0.0037	0.0045	0.0059
Nickel Base										
Inconel 600, 625, 718, Nickel 200, 270, Invar, Monel 400, 405, K-Monel,	Slotting Axial 1 x D	10-20	20-40	0.0011	0.0014	0.0018	0.0026	0.0033	0.0040	0.0053
PermaNickel 300, Incoly 600	Heavy Profiling			0.0011	0.0014	0.0020	0.0029	0.0037	0.0045	0.0059
Iron Base										
Incoloy 800-802, Multimet N-155,	Slotting 1 x D	15-35	30-60	0.0011	0.0014	0.0018	0.0026	0.0033	0.0040	0.0053
Timken 16-26-6	Heavy Profiling			0.0011	0.0014	0.0020	0.0029	0.0037	0.0045	0.0059
STEELS ISO-P										
High Strength Steels										
4140, 4340, 52100	Slotting Axial 1 x D	50-80	100-150	0.0015	0.0020	0.0025	0.0035	0.0045	0.0053	0.0071
	Heavy Profiling			0.0015	0.0020	0.0028	0.0039	0.0050	0.0059	0.0079
High Alloy Steels - Mold & Die										
A-2, P20, 01, 02, D2, H-13	Slotting 1 x D	40-65	80-115	0.0015	0.0020	0.0025	0.0035	0.0045	0.0053	0.0071
	Heavy Profiling			0.0015	0.0020	0.0028	0.0039	0.005	0.0059	0.0079
Medium Alloy Steels										
200, 250, 300	Slotting Axial 1 x D	60-120	100-180	0.0016	0.0023	0.0033	0.0050	0.0062	0.0075	0.0093
	Heavy Profiling			0.0020	0.0027	0.0040	0.0054	0.007	0.0082	0.0110
Low Alloy Steels-Maraging										
10XX, 11XX, 13XX	Slotting 1 x D	70-150	130-200	0.0018	0.0025	0.0037	0.0053	0.0068	0.0080	0.0100
	Heavy Profiling			0.0022	0.0029	0.0042	0.0059	0.0074	0.0090	0.0115
CAST IRONS ISO-K										
Ductile Iron										
Ductile Cast Iron	Slotting Axial 1 x D	40-80	70-130	0.0015	0.0019	0.0030	0.0042	0.0056	0.0065	0.0087
	Heavy Profiling			0.0018	0.0024	0.0034	0.0048	0.0061	0.0073	0.0093
Cast Iron										
Grey Cast Iron	Slotting 1 x D	60-150	120-200	0.0014	0.0018	0.0024	0.0034	0.0044	0.0053	0.0070
	Heavy Profiling			0.0014	0.0018	0.0027	0.0038	0.0050	0.0058	0.0078
TITANIUMS ISO-S										
Titanium Alloys										
6AL-4V, ASTM 1, 2, 3, 6AL-2S	Slotting Axial 1 x D	50-90	75-150	0.0015	0.0020	0.0028	0.0040	0.0052	0.0062	0.0080
For 5553, decrease SFM and IPM by 25%	Heavy Profiling			0.0017	0.0022	0.0032	0.0045	0.0057	0.0067	0.0090
ALUMINUM ISO-N										
Aluminum Alloys										
6061-T6, 7075	Slotting Axial 1 x D	400-650	650-950	0.0024	0.0058	0.0067	0.0103	0.0112	0.0180	0.0210
	Heavy Profiling			0.0027	0.0058	0.0076	0.0110	0.0120	0.0205	0.0260
		For Light Periphery Profiling increase above profiling chip load by 25 - 35 %								

All technical data provided are suggested starting points. They may be increased or decreased depending on machine condition, depth of cut, finish required, coolant, etc. Call our TECHNICAL SERVICE TEAM with questions.

Cobalt & HSS End Mills

MATERIAL	HEAT-RESISTANT COBALT BASE ALLOYS, HIGH TENSILE STEELS (50-55 C)		HEAT-RESISTANT AUSTENITIC ALLOYS, HIGH TENSILE STEELS (46-50 C)		HEAT-RESISTANT NICKEL BASE ALLOYS, HIGH STRENGTH STAINLESS STEELS, HIGH STRENGTH TITANIUM ALLOYS		HIGH STRENGTH STAINLESS STEELS, HIGH TENSILE STEELS (40-60 C) MEDIUM STRENGTH TITANIUM ALLOYS		HEAT RESISTANT FERRITIC BASE ALLOYS MEDIUM STRENGTH STAINLESS STEELS UNALLOYED TITANIUM TOOL STEELS (30-40 C)		MACHINE STEEL, HARD BRASS AND BRONZE, ELECTROLYTIC COPPER MILD STEEL FORGINGS (20-30 C)		CAST IRON, MILD STEEL, HALF-HARD BRASS AND BRONZE		BRASS, BRONZE, ALLOYED ALUMINUM, ABRASIVE PLASTICS		ALUMINUM, PLASTICS, WOOD	
DIA. OF END MILLS	SPEED 5-10 SFM	FEED	SPEED 10-15 SFM	FEED	SPEED 15-20 SFM	FEED	SPEED 20-40 SFM	FEED	SPEED 40-60 SFM	FEED	SPEED 60-80 SFM	FEED	SPEED 80-100 SFM	FEED	SPEED 100-200 SFM	FEED	SPEED 200-600 SFM	FEED
	RPM	CHIP LOAD PER TOOTH	RPM	CHIP LOAD PER TOOTH	RPM	CHIP LOAD PER TOOTH	RPM	CHIP LOAD PER TOOTH	RPM	CHIP LOAD PER TOOTH	RPM	CHIP LOAD PER TOOTH	RPM	CHIP LOAD PER TOOTH	RPM	CHIP LOAD PER TOOTH	RPM	CHIP LOAD PER TOOTH
1/16	-	-	-	-	-	-	1222-2444	.0002-.0005	2444-3667	.0002 -.0005	3667-4888	.0002 -.0005	4888-6111	.0002 -.0005	6111-12222	.0002 -.0005	12222 UP	.0002 -.0005
3/32	-	-	-	-	611-815	.0002 -.0005	815-1629	.0002-.0005	1629-2750	.0002 -.005	2750-3259	.0002 -.0005	3259-4073	.0002 -.0005	4073-8146	.0002 -.0005	8146 UP	.0002 -.0005
1/8	-	-	-	-	456-611	.0002 -.0005	611-1222	.0002-.0005	1222-1833	.0002 -.005	1833-2440	.0002 -.001	2440-3056	.0002 -.001	3056-6112	.0002 -.001	6112 UP	.0002 -.001
3/16	-	-	204-306	.0002 -.0005	306-407	.0002 -.0005	407-815	.0002-.0005	815-1222	.0002 -.005	1222-1625	.0002 -.001	1625-2037	.0002 -.001	2037-4074	.0002 -.001	4074-12222	.0002 -.001
1/4	76-153	.0002 -.001	153-230	.0002 -.001	229-306	.0002 -.001	306-611	.0002 -.001	611-917	.0002 -.001	917-1222	.0005 -.002	1222-1528	.0005 -.002	1528-3056	.0005 -.002	3056-9168	.0005 -.002
5/16	61-122	.0002 -.001	122-183	.0002 -.001	183-244	.0002 -.001	244-489	.0002 -.001	489-733	.0002 -.001	733-978	.0005 -.002	978-1222	.0005 -.002	1222-2444	.0005 -.002	2444-7332	.0005 -.002
3/8	51-102	.0002 -.001	102-153	.0002 -.001	153-203	.0002 -.001	203-407	.0005 -.002	406-611	.0005 -.002	611-815	.001 -.003	815-1019	.001 -.003	1019-2038	.0005 -.003	2038-6114	.0005 -.002
7/16	44-88	.0005 -.001	88-132	.0005 -.001	131-175	.0005 -.002	175-349	.0005 -.002	349-524	.0005 -.002	524-698	.001 -.003	698-873	.001 -.003	873-1746	.0005 -.003	1746-5238	.0005 -.002
1/2	38-76	.0005 -.001	76-115	.0005 -.001	115-153	.0005 -.002	153-306	.0005 -.003	306-458	.001 -.003	458-611	.001 -.003	611-764	.001 -.003	764-1528	.0005 -.003	1528-4584	.0005 -.002
9/16	34-68	.0005 -.002	68-104	.0005 -.002	104-136	.0005 -.002	136-272	.0005 -.003	272-412	.001 -.003	412-543	.001 -.004	543-678	.001 -.004	678-1356	.0005 -.004	1356-4071	.0005 -.003
5/8	31-61	.0005 -.002	61-92	.0005 -.002	92-122	.0005 -.002	122-244	.001 -.004	244-367	.001 -.004	367-489	.001 -.004	489-611	.001 -.004	611-1222	.0005 -.004	1222-3666	.0005 -.003
11/16	28-56	.0005 -.002	56-84	.0005 -.002	84-111	.0005 -.002	111-222	.001 -.004	222-337	.001 -.004	337-444	.001 -.004	444-555	.001 -.004	555-1110	.0005 -.004	1110-3330	.0005 -.003
3/4	26-51	.0005 -.002	51-76	.0005 -.002	76-102	.001 -.004	102-203	.001 -.004	203-306	.001 -.004	306-407	.001 -.004	407-509	.002 -.006	509-1018	.001 -.006	1018-3054	.001 -.004
13/16	24-47	.001 -.003	47-71	.001 -.003	71-94	.001 -.004	94-189	.001 -.004	189-284	.001 -.004	284-379	.002 -.006	379-469	.002 -.006	469-938	.001 -.006	938-2814	.001 -.004
7/8	22-44	.001 -.003	44-65	.001 -.003	65-87	.001 -.004	87-175	.001 -.004	175-262	.002 -.006	262-349	.002 -.006	349-436	.002 -.006	436-872	.001 -.006	872-2616	.001 -.004
15/16	20-40	.001 -.003	40-62	.001 -.003	62-81	.001 -.004	81-163	.001 -.004	163-246	.002 -.006	246-326	.002 -.006	326-407	.002 -.006	407-814	.001 -.006	514-2442	.001 -.004
1	19-38	.001 -.003	38-58	.001 -.003	58-76	.001 -.004	76-153	.002 -.006	153-229	.002 -.006	229-306	.002 -.006	306-382	.002 -.006	382-764	.002 UP	764-2292	.002 UP
1 1/8	34	.0015 -.004	34-51	.0015 -.004	51-68	.0015 -.005	68-136	.002 -.006	136-204	.002 -.006	204-272	.002 -.006	272-340	.003 UP	340-680	.002 UP	680-2040	.002 UP
1 1/4	31	.0015 -.004	31-46	.0015 -.004	46-61	.0015 -.005	61-122	.002 -.006	122-183	.002 -.006	183-244	.003 UP	244-306	.003 UP	306-612	.002 UP	612-1836	.002 UP
1 3/8	28	.0015 -.004	28-42	.0015 -.004	42-55	.0015 -.005	55-111	.002 -.006	111-167	.003 UP	167-222	.003 UP	222-278	.003 UP	278-556	.002 UP	556-1668	.002 UP
1 1/2	26	.0015 -.004	26-38	.0015 -.004	38-51	.002 UP	51-102	.003 UP	102-153	.003 UP	153-204	.003 UP	204-255	.003 UP	255-510	.003 UP	510-1530	.002 UP
1 5/8	24	.002 UP	35	.002 UP	35-47	.002 UP	47-94	.003 UP	94-141	.003 UP	141-188	.003 UP	188-235	.003 UP	235-470	.003 UP	470-1410	.002 UP
1 3/4	22	.002 UP	32	.002 UP	32-43	.002 UP	43-87	.003 UP	87-131	.003 UP	131-175	.003 UP	175-218	.003 UP	218-436	.003 UP	436-1308	.002 UP
1 7/8	20	.002 UP	30	.002 UP	30-40	.003 UP	40-81	.003 UP	81-122	.003 UP	122-163	.003 UP	163-204	.003 UP	204-408	.003 UP	408-1224	.003 UP
2	19	.002 UP	29	.003 UP	29-38	.003 UP	38-76	.003 UP	76-115	.003 UP	115-153	.003 UP	153-191	.003 UP	191-382	.003 UP	382-1146	.003 UP
2 1/8	18	.003 UP	28	.003 UP	36	.003 UP	36-72	.003 UP	72-108	.003 UP	108-144	.003 UP	144-179	.003 UP	179-358	.003 UP	358-1074	.003 UP
2 1/4	17	.003 UP	26	.003 UP	34	.003 UP	34-68	.003 UP	68-102	.003 UP	103-136	.003 UP	136-170	.003 UP	170-340	.003 UP	340-1020	.003 UP
2 3/8	16	.003 UP	25	.003 UP	32	.003 UP	32-64	.003 UP	64-97	.003 UP	97-128	.003 UP	128-161	.003 UP	161-322	.003 UP	322-966	.003 UP
2 1/2	15	.003 UP	23	.003 UP	30	.003 UP	30-61	.003 UP	61-92	.003 UP	92-122	.003 UP	122-153	.003 UP	153-306	.003 UP	306-918	.003 UP
2 5/8	15	.003 UP	22	.003 UP	29	.003 UP	29-58	.003 UP	58-88	.003 UP	88-116	.003 UP	116-145	.003 UP	145-290	.003 UP	290-870	.003 UP
2 3/4	14	.003 UP	21	.003 UP	28	.003 UP	28-56	.003 UP	56-83	.003 UP	83-111	.003 UP	111-139	.003 UP	139-278	.003 UP	278-834	.003 UP
2 7/8	14	.003 UP	20	.003 UP	27	.003 UP	27-53	.003 UP	53-80	.003 UP	80-106	.003 UP	106-132	.003 UP	132-264	.003 UP	264-792	.003 UP
3	13	.003 UP	19	.003 UP	26	.003 UP	26-51	.003 UP	51-76	.003 UP	76-102	.003 UP	102-127	.003 UP	127-154	.003 UP	254-762	.003 UP

All technical data provided are suggested starting points. They may be increased or decreased depending on machine condition, depth of cut, finish required, coolant, etc. Call our TECHNICAL SERVICE TEAM with questions.

Carbide Drills

SERIES: HDR, IDR, JDR, LDR, HDRNC

MATERIAL	ISO	CARBIDE SFM	HSSCO SFM	FEED RATE PER TOOTH (IPR) 1/16"	1/8"	1/4"	1/2"
Stainless Steels-Soft	M	80-300	20-40	0.0005	0.0005	0.0020	0.0040
Stainless Steels-Hard (PH)	M	40-100	15-25	0.0005	0.0005	0.0010	0.0015
Nickel Base Alloys	S	75-200	15-25	0.0005	0.0006	0.0010	0.0015
Inconel/Monel/Hastelloy	S	75-200	15-25	0.0005	0.0005	0.0010	0.0015
Titanium-Soft	S	80-350	20-25	0.0005	0.0020	0.0040	0.0050
Titanium-Hard	S	40-100	20-25	0.0005	0.0008	0.0020	0.0040
Low Carbon Steels	P	150-300	75-130	0.0005	0.0010	0.0020	0.0040
Die Steels	P	60-130	30-45	0.0005	0.0005	0.0020	0.0040
Hardened Steels > HRc 50	H	25-75	-	0.0005	0.0010	0.0020	0.0030
Cast Iron	K	100-300	60-110	0.0010	0.0020	0.0030	0.0050
Malleable Iron	K	65-200	40-80	0.0010	0.0020	0.0030	0.0050
Aluminium Alloys	N	100-400	150-250	0.0010	0.0020	0.0030	0.0050
Brass & Bronze	N	150-300	100-150	0.0005	0.0010	0.0020	0.0040
Copper	N	150-300	75-150	0.0010	0.0030	0.0050	0.0060
Magnesium	N	300-600	200-350	0.0015	0.0030	0.0050	0.0080
Plastics	N	150-450	70-150	0.0015	0.0030	0.0040	0.0060

Countersinks

MATERIAL	ISO	HSS SFM	COUNTERSINK TYPE M42 8% COBALT WITH **TIN** SFM	CARBIDE SFM
Stainless Steels - Free Machining	M	30-80	40-100	80-125
Stainless Steels - Others	M	15-50	20-65	50-75
Inconels/Monels	S	30-50	40-65	50-75
Titaniums (6Al4V)	S	50-60	60-75	60-90
Steels Annealed	P	40-50	50-65	50-80
Steels HRc 18-24	P	30-40	40-50	40-60
Steels HRc 25-37	P	25-35	30-45	35-55
Mild Steels	P	70-100	85-125	80-170
Cast Iron	K	75-125	95-150	125-225
Malleable Iron	K	80-90	100-115	90-150
Aluminums Alloys	N	150-250	180-300	300-500
Brass (Bronze)	N	75-125	95-150	150-250
Magnesium	N	125-250	150-300	250-400
Plastics	N	100-250	125-300	250-400

► Multiple flute countersinks are designed for increased feed rates. A controlled feed rate will result in better surface finish.

► All Melin countersinks are manufactured on CNC grinders to ensure consistent and accurate flute spacing. Carbide countersinks should be used in rigid tool holders to maximize tool life.

All technical data provided are suggested starting points. They may be increased or decreased depending on machine condition, depth of cut, finish required, coolant, etc. Call our TECHNICAL SERVICE TEAM with questions.

Countersinks

Nose Diameter for Pre-Setting CNC Precision Countersinks

	NC POINT DIAMETER					
SIZE	60°	82°	90°	100°	110°	120°
0.188	0.058	0.032	0.032	0.032	0.032	0.032
0.250	0.078	0.046	0.046	0.046	0.046	0.046
0.313	0.080	0.047	0.047	0.047	0.047	0.047
0.375	0.125	0.078	0.078	0.078	0.062	0.062
0.438	0.140	0.096	0.096	0.096	0.070	0.070
0.500	0.156	0.109	0.109	0.109	0.078	0.078
0.625	0.203	0.125	0.125	0.125	0.109	0.109
0.750	0.250	0.156	0.156	0.156	0.125	0.125
0.875	0.281	0.172	0.172	0.172	0.140	0.140
1.000	0.328	0.203	0.203	0.203	0.171	0.171

Carbide Burs

SERIES: Carbide Burs

Bur Diameter	RPM
1/8 Solid Carbide	45,000-50,000
3/16 Solid Carbide	35,000-40,000
3/16 Carbide Head Brazed to 1/8 Steel Shank	30,000-35,000
1/4 Solid Carbide	30,000-35,000
Carbide Head Brazed to 1/8 Steel Shank	25,000-30,000
5/16 Carbide Head Brazed to 1/4 Steel Shank	25,000-30,000
3/8 Carbide Head Brazed to 1/4 Steel Shank	25,000-30,000
7/16 Carbide Head Brazed to 1/4 Steel Shank	20,000-25,000
1/2 Carbide Head Brazed to 1/4 Steel Shank	20,000-25,000
5/8 Carbide Head Brazed to 1/4 Steel Shank	15,000-20,000
3/4 Carbide Head Brazed to 1/4 Steel Shank	15,000-20,000
1 Carbide Head Brazed to 1/4 Steel Shank	12,000-18,000

All technical data provided are suggested starting points. They may be increased or decreased depending on machine condition, depth of cut, finish required, coolant, etc. Call our TECHNICAL SERVICE TEAM with questions.

Calculations

End mill speed & feed formulas are the various individual equations that determine the proper overall machining setup or more specifically the speed of the cutting tool and the rate which it is fed into the work piece. Each individual formula is distinct in what it determines but coordinates with the others to ensure successful cutting tool application. You can visit the TECHNICAL section on www.melintool.com for more information.

INCH

RPM = Revolutions Per Minute
3.82 x SFM / Tool Dia

SFM = Surface Foot Per Minute
.262 x RPM x Tool Dia

CPT or IPT = Chip-Load Per Tooth
IPM / RPM / No. Of Flutes

IPM = Inches Per Minute
CPT x RPM x No. Of Flutes

MRRCI = Metal Removal Rate Cubic Inches
IPM x Axial Doc x Radial Woc

IPR = Inches Per Revolution
IPM / RPM

METRIC

RPM = Revolutions Per Minute
1000 x M/MIN / (3.14 x D)

M/MIN = Meters Per Minute
(3.14 x D x RPM) / 1000

Fz OR CPT = Chip-Load Per Tooth
Feedrate (mm) per MIN / (Z x RPM)

VF OR FPM = Feedrate (mm) Per Minute
Feerate (mm) per Tooth x Z x RPM

D = Cutter Dia.
Z= No. Of Teeth.

EQUIVALENTS & CONVERSIONS:

ABBREVIATIONS	
RPM	Revolutions Per Minute
SFM	Surface Feet Per Minute
CPT	Chip Load Per Tooth
IPM	Inches Per Minute
V_f	Millimeters Per Minute
ae	Radial Width of Cut
ap	Axial Depth of Cut
Vc	Surface Meters Per Minute
Fz	Metric Chip Load Per Tooth

N, n or Min-^{1} = RPM
Vc or M/MIN = SFM
Fz or mm/TOOTH = CPT
V_f or mm/MIN = IPM

SFM / 3.281 = M/MIN
M/MIN x 3.281 = SFM
mm/MIN / 25.4 = IPM
mm/TOOTH /25.4 = CPT

IMPERIAL ⟷ METRIC
Inch x 25.4 = Millimeter
Millimeter x .03937 = Inch

Decimal Equivalent Chart

SIZE	DECIMAL	SIZE	DECIMAL	SIZE	DECIMAL	SIZE	DECIMAL	SIZE	DECIMAL
97	.0059	54	.0550	25	.1495	6.7mm	.2638	**7/16"**	**.4375**
96	.0063	1.4mm	.0551	3.8mm	.1496	**17/64"**	**.2656**	11.5mm	.4528
95	.0067	1.45mm	.0571	24	.1520	6.75mm	.2657	**29/64"**	**.4531**
94	.0071	1.5mm	.0591	3.9mm	.1535	H	.2660	**15/32"**	**.4688**
93	.0075	53	.0595	23	.1540	6.8mm	.2677	12mm	.4724
92	.0079	1.55m	.0610	**5/32"**	**.1562**	6.9mm	.2717	**31/64"**	**.4844**
.2mm	.0079	**1/16"**	**.0625**	22	.1570	I	.2720	12.5mm	.4921
91	.0083	1.6mm	.0630	4mm	.1575	7mm	.2756	**1/2"**	**.5000**
90	.0087	52	.0635	21	.1590	J	.2770	13mm	.5118
.22mm	.0087	1.65mm	.0650	20	.1610	7.1mm	.2795	**33/64"**	**.5156**
89	.0091	1.7mm	.0669	4.1mm	.1614	K	.2810	**17/32"**	**.5312**
88	.0095	51	.0670	4.2mm	.1654	**9/32"**	**.2812**	13.5mm	.5315
.25mm	.0098	1.75mm	.0689	19	.1660	7.2mm	.2835	**35/64"**	**.5469**
87	.0100	50	.0700	4.25mm	.1673	7.25mm	.2854	14mm	.5512
86	.0105	1.8mm	.0709	4.3mm	.1693	7.3mm	.2874	**9/16"**	**.5625**
85	.0110	1.85mm	.0728	18	.1695	L	.2900	14.5mm	.5709
.28mm	.0110	49	.0730	**11/64"**	**.1719**	7.4mm	.2913	**37/64"**	**.5781**
84	.0115	1.9mm	.0748	17	.1730	M	.2950	15mm	.5906
.3mm	.0118	48	.0760	4.4mm	.1732	7.5mm	.2953	**19/32"**	**.5938**
83	.0120	1.95mm	.0768	16	.1770	**19/64"**	.2969	**39/64"**	**.6094**
82	.0125	**5/64"**	**.0781**	4.5mm	.1772	**7.6mm**	**.2992**	15.5mm	.6102
.32mm	.0126	47	.0785	15	.1800	N	.3020	**5/8"**	**.6250**
81	.0130	2mm	.0787	4.6mm	.1811	7.7mm	.3031	16mm	.6299
80	.0135	2.05mm	.0807	14	.1820	7.75mm	.3051	**41/64"**	**.6406**
.35mm	.0138	46	.0810	13	.1850	7.8mm	.3071	16.5mm	.6496
79	.0145	45	.0820	4.7mm	.1850	7.9mm	.3110	**21/32"**	**.6562**
1/64"	**.0156**	2.1mm	.0827	4.75mm	.1870	**5/16"**	**.3125**	17mm	.6693
.4mm	.0157	2.15mm	.0846	**3/16"**	**.1875**	8mm	.3150	**43/64"**	**.6719**
78	.0160	44	.0860	4.8mm	.1890	O	.3160	**11/16"**	**.6875**
.45mm	.0177	2.2mm	.0866	12	.1890	8.1mm	.3189	17.5mm	.6890
77	.0180	2.25mm	.0886	11	.1910	8.2mm	.3228	**45/64"**	**.7031**
.5mm	.0197	43	.0890	4.9mm	.1929	P	.3230	18mm	.7087
76	.0200	2.3mm	.0906	10	.1935	8.25mm	.3248	**23/32"**	**.7188**
75	.0210	2.35mm	.0925	9	.1960	8.3mm	.3268	18.5mm	.7283
.55mm	.0217	42	.0935	5mm	.1969	**21/64"**	**.3281**	**47/64"**	**.7344**
74	.0225	**3/32"**	**.0938**	8	.1990	8.4mm	.3307	19mm	.7480
.6mm	.0236	2.4mm	.0945	5.1mm	.2008	Q	.3320	**3/4"**	**.7500**
73	.0240	41	.0960	7	.2010	8.5mm	.3346	**49/64"**	**.7656**
72	.0250	2.45mm	.0965	**13/64"**	**.2031**	8.6mm	.3386	19.5mm	.7677
.65mm	.0256	40	.0980	6	.2040	R	.3390	**25/32"**	**.7812**
71	.0260	2.5mm	.0984	5.2mm	.2047	8.7mm	.3425	20mm	.7874
.7mm	.0276	39	.0995	5	.2055	**11/32"**	**.3438**	**51/64"**	**.7969**
70	.0280	38	.1015	5.25mm	.2067	8.75mm	.3445	20.5mm	.8071
69	.0292	2.6mm	.1024	5.3mm	.2087	8.8mm	.3465	**13/16"**	**.8125**
.75mm	.0295	37	.1040	4	.2090	S	.3480	21mm	.8268
68	.0310	2.7mm	.1063	5.4mm	.2126	8.9mm	.3504	**53/64"**	**.8281**
1/32"	**.0312**	36	.1065	3	.2130	9mm	.3543	**27/32"**	**.8438**
.8mm	.0315	2.75mm	.1083	5.5mm	.2165	T	.3580	21.5mm	.8465
67	.0320	**7/64"**	**.1094**	**7/32"**	**.2188**	9.1mm	.3583	**55/64"**	**.8594**
66	.0330	35	.1100	5.6mm	.2205	**23/64"**	**.3594**	22mm	.8661
.85mm	.0335	2.8mm	.1102	2	.2210	9.2mm	.3622	**7/8"**	**.8750**
65	.0350	34	.1110	5.7mm	.2244	9.25mm	.3642	22.5mm	.8858
.9mm	.0354	33	.1130	5.75mm	.2264	9.3mm	.3661	**57/64"**	**.8906**
64	.0360	2.9mm	.1142	1	.2280	U	.3680	23mm	.9055
63	.0370	32	.1160	5.8mm	.2283	9.4mm	.3701	**29/32"**	**.9062**
.95mm	.0374	3mm	.1181	5.9mm	.2323	9.5mm	.3740	**59/64"**	**.9219**
62	.0380	31	.1200	A	.2340	**3/8"**	**.3750**	23.5mm	.9252
61	.0390	3.1mm	.1220	**15/64"**	**.2344**	V	.3770	**15/16"**	**.9375**
1mm	.0394	**1/8"**	**.1250**	6mm	.2362	9.6mm	.3780	24mm	.9449
60	.0400	3.2mm	.1260	B	.2380	9.7mm	.3819	**61/64"**	**.9531**
59	.0410	3.25mm	.1280	6.1mm	.2402	9.75mm	.3839	24.5mm	.9646
1.05mm	.0413	30	.1285	C	.2420	9.8mm	.3858	**31/32"**	**.9688**
58	.0420	3.3mm	.1299	6.2mm	.2441	W	.3860	25mm	.9843
57	.0430	3.4mm	.1339	D	.2460	9.9mm	.3898	**63/64"**	**.9844**
1.1mm	.0433	29	.1360	6.25mm	.2461	**25/64"**	**.3906**	**1"**	**1.0000**
1.15mm	.0453	3.5mm	.1378	6.3mm	.2480	10mm	.3937		
56	.0465	28	.1405	E	.2500	X	.3970		
3/64"	.0469	**9/64"**	**.1406**	**1/4"**	**.2500**	Y	.4040		
1.2mm	.0472	3.6mm	.1417	6.4mm	.2520	**13/32"**	**.4062**		
1.25mm	.0492	27	.1440	6.5mm	.2559	Z	.4130		
1.3mm	.0512	3.7mm	.1457	F	.2570	10.5mm	.4134		
55	.0520	26	.1470	6.6mm	.2598	**27/64"**	**.4219**		
1.35mm	.0531	3.75mm	.1476	G	.2610	11mm	.4331		

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