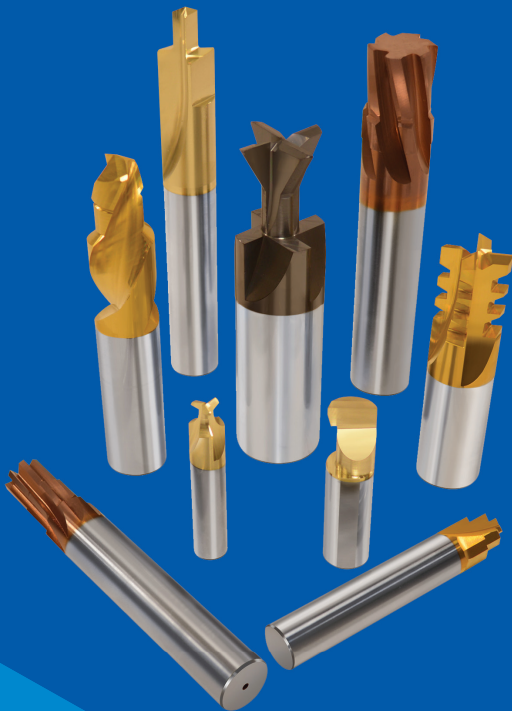




CERTIFIED TOOL
& GRINDING



PRODUCT CATALOGUE

Certified Tool & Grinding has been in business for over 35 years and continues to be dedicated to being an industry leader in tooling manufacturing and sharpening. From standard tooling to specials, CTG takes pride in knowing our customers will receive the highest quality tools.

CTG leads by example:

- **Specials** - Making design tools to print.
- **Quality Control** - Dedicated in-house inspection assuring tools meet tolerances.
- **Delivery** - Flexible, fast and secure packaging on every order. Expediting available on most orders.
- **Customer Service** - Fast, friendly and ready to help you.
- **Materials** - Multiple grades of premium quality, sub-micron tungsten carbide.
- **Coatings** - Increase wear resistance, affordable price and fast turnaround.
- **Engineering** - Able to work with you to increase productivity and lower cost.
- **Technicians** - Skilled operators working 3 shifts, 24 hours a day.
- **Inventory** - Thousands of tools in stock for standard items.
- **Facility** - Clean, safe and climate controlled.

Are Your Tools Certified?

THEY SHOULD BE.

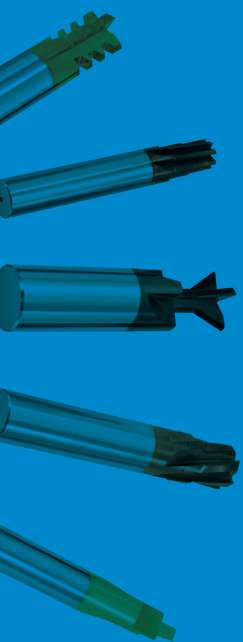


TABLE OF CONTENTS

HIGH PERFORMANCE

Certified Blue Line	3
Certified Green Line	3
Certified Red Line	3

GENERAL PURPOSE

Square End	Standard Length	4
Square End	Extra Length	5
Ballnose	Standard Length	6
Ballnose	Extra Length	7
Hogmill	Roughers	8
Square End	High Helix 5FL	8
Dragon Extreme	Variable Helix	9

SPECIALS

Design Engineering	10
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RESHARPENING / RECONDITIONING

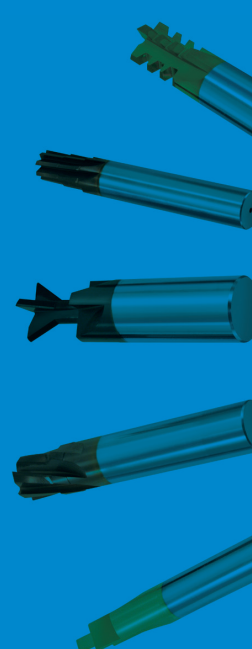
Sharpen To Original Specs	10
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COATING SELECTION CHART

PVD, Pre-Treat, Post-Treat	11
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Additional Manufacturing Services Available

MAKE CTG YOUR ONE STOP SHOP



High-Performance Carbide Endmills

CTG manufactures, sells, and supports a full line of specialized, high-performance endmills. Each tool is designed with the type of material, size, and number of flutes needed for optimum job-specific applications. In addition, CTG proprietary endmills are nano PVD-coated with specialized materials to add hardness, improve lubricity, and reduce friction.

Our endmills are more agile, faster, and more cost-effective. Each tool is designed with the type of material, size and number of flutes needed for optimum job-specific applications.

All CTG endmills, standard or custom-made, are designed to exceed the industry standards in both wear resistance and repeatability.

CERTIFIED BLUE LINE™

Graphite
Tool Steel,
and
Cast Iron



Longer Tool Life

- Reduces friction, improves lubricity
- Easier to use than conventional diamond-coated endmills
- Lower cutting force maximizes tool life

CERTIFIED GREEN LINE™

Aluminum
and
Non-Ferrous
Materials



Better Performance

- Optimizes MRR, allows higher feed rates
- Deep polished flutes optimizes chip ejections
- Super-high transverse rupture operational performance

CERTIFIED RED LINE™

Titanium
Stainless
Steel, and
Inconel



Unparalleled Results

- Offset angles break up harmonics/optimize product performance
- Reduces tool wear
- Exclusive flute design improves chip ejection
- Lower cutting force maximizes tool life
- Ideal for finishing

CERTIFIED BLUE LINE™ - 4FL

Flute Diameter	Flute Length	Shank Diameter	Overall Length	Part Number
1/4	5/8	1/4	2-1/2	74220
5/16	13/16	5/16	2-1/2	74260
3/8	7/8	3/8	2-1/2	74300
7/16	1	7/16	2-3/4	74340
1/2	1	1/2	3	74380
9/16	1-1/4	9/16	3-1/2	74390
5/8	1-1/2	5/8	3-1/2	74400
3/4	1-1/2	3/4	4	74420
7/8	1-1/2	7/8	4	74430
1	1-1/2	1	4	74440

CERTIFIED GREEN LINE™ - 3FL

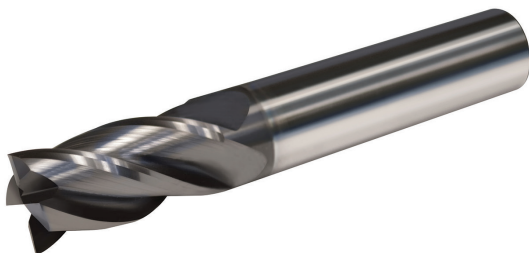
Flute Diameter	Flute Length	Shank Diameter	Overall Length	Part Number
1/4	5/8	1/4	2-1/2	64220
5/16	13/16	5/16	2-1/2	64260
3/8	7/8	3/8	2-1/2	64300
7/16	1	7/16	2-3/4	64340
1/2	1	1/2	3	64380
9/16	1-1/4	9/16	3-1/2	64390
5/8	1-1/2	5/8	3-1/2	64400
3/4	1-1/2	3/4	4	64420
7/8	1-1/2	7/8	4	64430
1	1-1/2	1	4	64440

CERTIFIED RED LINE™ - 5FL

Flute Diameter	Flute Length	Shank Diameter	Overall Length	Part Number
1/4	5/8	1/4	2-1/2	84220
5/16	13/16	5/16	2-1/2	84260
3/8	7/8	3/8	2-1/2	84300
7/16	1	7/16	2-3/4	84340
1/2	1	1/2	3	84380
9/16	1-1/4	9/16	3-1/2	84390
5/8	1-1/2	5/8	3-1/2	84400
3/4	1-1/2	3/4	4	84420
7/8	1-1/2	7/8	4	84430
1	1-1/2	1	4	84440

CTG will regrind to consistent, quality OEM specs, as needed

SQUARE END - STANDARD LENGTH - GENERAL PURPOSE



Premium submicron grain carbide
Center cutting
For steel & high temperature alloys
35° Helix - rhs/rhc
435,000 psi high transverse rupture strength
Available for immediate shipment

Tolerances

∅ d1+ .000\-.002

∅ d2+ .0001\-.005

Flute Diameter	Flute Length	Shank Diameter	Overall Length	Part Number
1/16	1/4	1/8	1-1/2	00100
5/64	1/4	1/8	1-1/2	00110
3/32	3/8	1/8	1-1/2	00120
7/64	3/8	1/8	1-1/2	00130
1/8	1/2	1/8	1-1/2	00140
9/64	9/16	3/16	2	00150
5/32	9/16	3/16	2	00160
11/64	9/16	3/16	2	00170
3/16	5/8	3/16	2	00180
13/64	5/8	1/4	2-1/2	00190
7/32	5/8	1/4	2-1/2	00200
1/4	3/4	1/4	2-1/2	00220
9/32	7/8	5/16	2-1/2	00240
5/16	7/8	5/16	2-1/2	00260
11/32	7/8	3/8	2-1/2	00280
3/8	7/8	3/8	2-1/2	00300
13/32	7/8	7/16	2-3/4	00320
7/16	1	7/16	2-3/4	00340
15/32	1	1/2	3	00360
1/2	1	1/2	3	00380
9/16	1-1/4	9/16	3	00390
5/8	1-1/4	5/8	3-1/2	00400
11/16	1-1/2	3/4	4	00410
3/4	1-1/2	3/4	4	00420
7/8	1-1/2	7/8	4	00430
1	1-1/2	1	4	00440

To order 2 or 4 Flute, Add -02 for 2 Flute, -04 for 4 Flute

Metric Sizes, Coating, Corner Radius and Chamfer Available

SQUARE END - EXTRA LENGTH - GENERAL PURPOSE

Premium submicron grain carbide
Center cutting
For steel & high temperature alloys
35° Helix - rhs/rhc
435,000 psi high transverse rupture strength
Available for immediate shipment

Tolerances

∅ d1+ .000\-.002
∅ d2+ .0001\-.005



Flute Diameter	Flute Length	Shank Diameter	Overall Length	Part Number
1/8	3/4	1/8	3	11110
3/16	1	3/16	3	11130
3/16	1	3/16	4	11150
1/4	1	1/4	4	11170
1/4	1-1/2	1/4	4	11180
1/4	1-1/2	1/4	6	11190
5/16	1-1/4	5/16	4	11210
5/16	1-1/2	5/16	6	11230
3/8	1	3/8	4	11250
3/8	2	3/8	4	11260
3/8	1-1/2	3/8	6	11270
3/8	3	3/8	6	11280
1/2	1	1/2	4	11330
1/2	2	1/2	4	11340
1/2	1-1/2	1/2	6	11350
1/2	3	1/2	6	11360
5/8	2	5/8	6	11390
5/8	3	5/8	6	11400
3/4	2	3/4	6	11410
3/4	3	3/4	6	11420
3/4	4	3/4	7	11425
1	2	1	6	11430
1	3	1	6	11440
1	4	1	7	11445

To order 2 or 4 Flute, Add -02 for 2 Flute, -04 for 4 Flute

Metric Sizes, Coating, Corner Radius and Chamfer Available

BALLNOSE - STANDARD LENGTH - GENERAL PURPOSE



Premium submicron grain carbide
Center cutting
For steel & high temperature alloys
35° Helix - rhs/rhc
435,000 psi high transverse rupture strength
Available for immediate shipment

Tolerances

ø d1+ .000\-.002
ø d2+ .0001\-.005

Flute Diameter	Flute Length	Shank Diameter	Overall Length	Part Number
1/16	1/4	1/8	1-1/2	01100
5/64	1/4	1/8	1-1/2	01110
3/32	3/8	1/8	1-1/2	01120
7/64	3/8	1/8	1-1/2	01130
1/8	1/2	1/8	1-1/2	01140
9/64	9/16	3/16	2	01150
5/32	9/16	3/16	2	01160
11/64	9/16	3/16	2	01170
3/16	5/8	3/16	2	01180
13/64	5/8	1/4	2-1/2	01190
7/32	5/8	1/4	2-1/2	01200
1/4	3/4	1/4	2-1/2	01220
9/32	7/8	5/16	2-1/2	01240
5/16	7/8	5/16	2-1/2	01260
11/32	7/8	3/8	2-1/2	01280
3/8	7/8	3/8	2-1/2	01300
13/32	7/8	7/16	2-3/4	01320
7/16	1	7/16	2-3/4	01340
15/32	1	1/2	3	01360
1/2	1	1/2	3	01380
9/16	1-1/4	9/16	3	01390
5/8	1-1/4	5/8	3-1/2	01400
11/16	1-1/2	3/4	4	01410
3/4	1-1/2	3/4	4	01420
7/8	1-1/2	7/8	4	01430
1	1-1/2	1	4	01440

To order 2 or 4 Flute, Add -02 for 2 Flute, -04 for 4 Flute

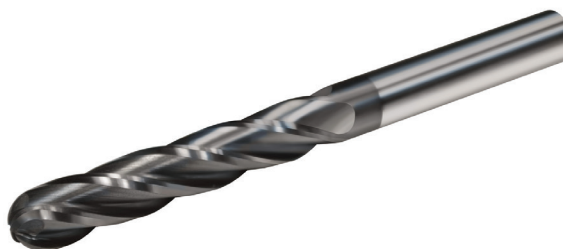
Metric Sizes, Coating, Corner Radius and Chamfer Available

BALLNOSE - EXTRA LENGTH - GENERAL PURPOSE

Premium submicron grain carbide
Center cutting
For steel & high temperature alloys
35° Helix - rhs/rhc
435,000 psi high transverse rupture strength
Available for immediate shipment

Tolerances

∅ d1+ .000\-.002
∅ d2+ .0001\-.005



Flute Diameter	Flute Length	Shank Diameter	Overall Length	Part Number
1/8	3/4	1/8	3	12110
3/16	1	3/16	3	12130
3/16	1	3/16	4	12150
1/4	1	1/4	4	12170
1/4	1-1/2	1/4	4	12180
1/4	1-1/2	1/4	6	12190
5/16	1	5/16	4	12210
5/16	1-5/8	5/16	4	12220
3/8	1	3/8	4	12250
3/8	2	3/8	4	12260
3/8	1-1/2	3/8	6	12270
3/8	3	3/8	6	12280
1/2	1	1/2	4	12330
1/2	2	1/2	4	12340
1/2	1-1/2	1/2	6	12350
1/2	3	1/2	6	12360
5/8	2	5/8	6	12390
5/8	3	5/8	6	12400
3/4	2	3/4	6	12410
3/4	3	3/4	6	12420
1	2	1	6	12430
1	3	1	6	12440

To order 2 or 4 Flute, Add -02 for 2 Flute, -04 for 4 Flute

Metric Sizes, Coating, Corner Radius and Chamfer Available

HOGMILL - ROUGHERS With TiALN COATING

TiALN Coating Allows Faster Speeds & Feeds Than Uncoated



Premium submicron grain carbide
Center cutting
For steel & high temperature alloys
For high stock removal
Fine pitch rougher
35° Helix - rhs/rhc
623,000 psi high transverse rupture strength
Excellent solution for dry machining

Tolerances

ø d1+ .000\-.002
ø d2+ .0001\-.005

Flute Diameter	Number of Flutes	Flute Length	Part Number
1/4	3	7/8	15120-03
5/16	3	7/8	15130-03
3/8	4	1	15140-04
7/16	4	1	15150-04
1/2	4	1-1/4	15160-04
5/8	4	1-1/2	15170-04
3/4	4	1-5/8	15180-04
1	5	1-5/8	15190-05
1	5	2-1/4	15195-05
1	5	2-5/8	15198-05

SQUARE END - 5 FLUTED ENDMILLS - HIGH HELIX With TiALN Coating

TiALN Coating Allows Faster Speeds & Feeds Than Uncoated



45° Helix with TiALN coating
Premium submicron grain carbide
For high performance milling of stainless steel & exotic materials
435,000 psi high transverse rupture strength
Excellent solution for dry machining
Available for immediate shipment

Tolerances

ø d1+ .000\-.002
ø d2+ .0001\-.005

Flute Diameter	LOC	OAL	Part Number
1/8	1/2	1-1/2	50125
3/16	9/16	2	50187
1/4	3/4	2-1/2	50250
5/16	13/16	2-1/2	50312
3/8	1	2-1/2	50375
1/2	1-1/4	3	50500
1/2	2	4	50525
5/8	1-5/8	3-1/2	50625
3/4	1-1/2	4	50750
1	2	4	50100

Metric Sizes, Coating, Corner Radius and Chamfer Available

DRAGON EXTREME

Fast, Efficient and Accurate



* Based on Optimum Conditions

Depending on rigidity of machine and fixture, coolant supply, machine power, free shank length, etc. you would adjust to the low side of the SFM

AVAILABLE FOR IMMEDIATE SHIPMENT

Tolerances

Ø d1+ .000\-.002

Ø d2+ .0001\-.005

- The Dragon Extreme's different offset angle:
 - Break up the harmonics and changes the frequency of the cutting action
 - Provides you with the chatter free milling during high speed machine applications
- 623,000 psi high transverse rupture strength
- TiALN coating is a unique proprietary coating
- Non-standard grade of submicron tungsten carbide
- Larger core diameter withstands the tangential forces applied during cutting, allowing large radial & axial depth of cut

This system of material, geometry and coating allows the DRAGON EXTREME to withstand the much greater pressure and heat associated with high metal removal rates.

Flute Diameter	Flute Length	Overall Length	Corner Radius	Part Number
1/4	5/8	2-1/2	.015	54220
5/16	13/16	2-1/2	.015	54260
3/8	7/8	2-1/2	.020	54300
7/16	1	2-3/4	.020	54340
1/2	1	3	.025	54380
9/16	1-1/4	3	.020	54390
5/8	1-1/4	3-1/2	.030	54400
3/4	1-1/2	4	.030	54420
7/8	1-1/2	4	.040	54430
1	1-1/2	4	.040	54440

CERTIFIED TOOL & GRINDING

SPECIALS

CTG is committed to offering the highest quality, made to print specials for your manufacturing needs. All quantities accepted.

Our engineers can work with you to optimize your tooling needs, which lead to improved productivity and cost savings.

We offer standard lead times and expediting options are available.

RESHARPENING/RECONDITIONING

CTG is committed to maintaining tools after the sale, on all brands of tools, not just our own.

We offer fast turnaround and expediting options are available.

CTG can also re-coat tooling, eliminating the need for additional Purchase Orders and lead times, saving you time and money.



COATING SELECTION CHART

Coating Name	Coating Color	Hardness (HV)	Coating Thickness (μ =Microns)	Coefficient of Friction (COF)	Coating Temp (F)	Description and Common Use Call us for assistance in coating selection
TiN (Titanium Nitride)	Gold	2300-2500	Industry Standard: 2.2 μ -3.2 μ Maximum Range: 1-8 μ Tolerance: 2.5 μ +/- 20%	0.4	700	Great general purpose coating, a proven for numerous applications (common use: machining ferrous materials, molding, medical industry) <i>NOTE: Can be stripped and reapplied to add life to expensive components.</i>
TiCN (Titanium Carbo Nitride)	Rose	2800-3200	Industry Standard: 2.5 μ -3.5 μ Maximum Range: 1-8 μ Tolerance: 2.8 μ +/- 20%	0.3	800	Improved hardness, toughness, wear resistance over TiN with very low COF (common use: stamping, punching, blanking, forming tools, tough machining) <i>NOTE: Can be stripped and reapplied to add life to expensive components.</i>
TiAlN (Titanium Aluminum Nitride)	Dark Gray	2900-3100	Industry Standard: 1.8 μ -3.2 μ Maximum Range: 1-8 μ Tolerance: 2.4 μ +/- 20%	0.35	850	Forgiving coating with high surface hardness at elevated temp (common use: machining difficult materials, dry or high temp. machining, fast feed rate machining, die cast core pins) <i>NOTE: Can be stripped and reapplied to add life to expensive components.</i>
AlTiN (Aluminum Titanium Nitride)	Dark Gray	3000-3400	Industry Standard: 1.8 μ -3.2 μ Maximum Range: 1-5 μ Tolerance: 2.5 μ +/- 20%	0.35	800	Versatile coating, low COF, higher breakdown temp. than TiAlN (common use: dry machining, high temp. machining, high temp. machining, fast feed rate machining, hot forging)
TiAlSiN (Titanium Aluminum Silicon Nitride)	Gray	3200-3500	Industry Standard: 1.8 μ -3.2 μ Maximum Range: 1-4 μ Tolerance: 2.5 μ +/- 20%	0.35	850	Extremely hard and tough, higher breakdown temp than TiAlN/AlTiN, excellent wear resistance when post treated (common use: machining cast iron. Any tough application in high temperatures, high temp drilling) <i>NOTE: Can be stripped and reapplied to add life to expensive components.</i>
ZrN (Zirconium Nitride)	Pale Gold	2300-5500	Industry Standard: 2.2 μ -3.8 μ Maximum Range: 1-5 μ Tolerance: 3.0 μ +/- 20%	0.35	600	Exceptional abrasion resistance and lubricity (common use: general purpose machining, medical, aircraft aluminum)
CrN (Chromium Nitride)	Silver	1800-2100	Industry Standard: 2.2 μ -3.8 μ Maximum Range: 1-5 μ Tolerance: 3.0 μ +/- 20%	0.45	700	Great sliding wear resistance, ductile and helps prevent cold welding similar chrome plating (common use: machining in a corrosive environment, machining aluminum, copper, metal forming, die cast molds)
AlCrN (Aluminum Chromium Nitride)	Blue-Gray	3000-3200	Industry Standard: 1.8 μ -3.2 μ Maximum Range: 1-5 μ Tolerance: 2.5 μ +/- 20%	0.35	900	Superb hot hardness with extraordinary wear resistance under extreme mechanical stress (common use: machining such as gear cutting tools, inserts, some punching and die cast)

PRE-TREATMENT AND POST-TREATMENT

The right pre-treatment surface conditioning and post-treatment surface enhancement improves performance and tool life.

QUESTIONS?

If you have a tooling problem or need a RFQ, please email us at: info@webctg.com



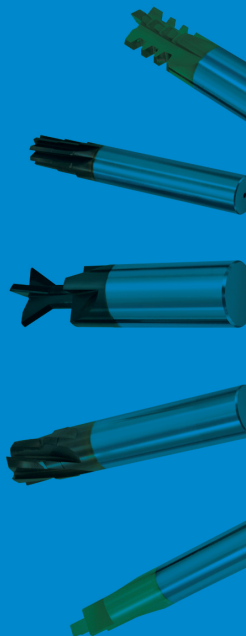
At Certified Tool & Grinding our technicians are skilled in manufacturing and refurbishing quality tools for multiple industries.

- MEDICAL
- AEROSPACE
- NUCLEAR
- COMPONENT MANUFACTURING
- AUTOMOTIVE
- GREEN ENERGY
- AND MORE

***WE MAKE DESIGN TOOLS FOR YOUR
MANUFACTURING NEEDS***



CERTIFIED TOOL & GRINDING





CERTIFIED TOOL
& GRINDING

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