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We're proud to announce the launch of our new WEBSITE!

visit us at

nexgentooling.com

CHECK INVENTORY

> Most up to date stocked tools

ONLINE ORDERING

> Saved order history with distributors net pricing

CUSTOM TOOLING

ENGINEERED FOR HIGH-PERFORMANCE

CUSTOM TOOLING

At NEXGEN we have an engineering team that is ready to handle all of your round tool application needs. Looking for a solution partner? We can do that! After sending us your part print and feature your needing resolved, we will collaborate with you on a single or combo-tool solution and get you prints of our tooling solution quickly.

COMMON SPECIAL TOOLS THAT WE MANUFACTURE

- Chamfer Mills
- Drill Mills
- Countersink Combo Tools
- Dovetail Cutters
- Drills & Drill-Reamers
- Form/Profile Tooling
- Key Slot Cutters
- Reamers & Step Reamers
- Step Drills
- Tapered Ball Nose End Mills
- T-Slot Cutters
- Coolant Through Capabilities

OUR PROMISE AND COMMITMENT TO YOU

- **24-hour quotes**
- **Drawings and DXF files** upon request
- **Application support** at the spindle
- **Tools tailored specifically to your application** to ensure the highest performance possible
- **Permanent part number assignment** for easy re-ordering, tool specification management, and assurance of same tool manufacturing, every time
- **Expedite service** available
- **Knowledgeable sales and support staff** that will, and can, assist you

OUR TOOL COATINGS

HIGH-PERFORMANCE COATINGS

NEXGEN Tooling takes tool performance to the next level with our advanced, in-house coating. Using state of the art coating equipment combined with our skillfully engineered pre and post process treatments, our material specific coatings will exceed all expectations.

- > Increased Tool Life
- > Increased Wear Resistance
- > Improved Performance
- > Improved Surface Finishes
- > Added Lubricity
- > Lower Tool Costs

OUR IN-HOUSE COATINGS

A-ProMAX

Color	Friction Coefficient	Max. Service Temp (F)
Blue Grey	0.5	2012

Our In-House, high-performance coating based on AlCrN with a titanium addition and has been engineered to give an optimum balance between the toughness of the core layer and the abrasion resistance of the top nano-layer. The addition of titanium reduces the adhesive wear compared to conventional AlCrN coatings, increases the micro-hardness up to 3500Hv, and stops the crack propagation through the coating.

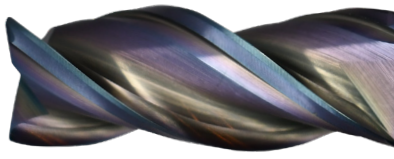
T-ProMAX

Color	Friction Coefficient	Max. Service Temp (F)
Bronze	0.4	1652

Our In-House, high-performance nanocomposite coating suitable for milling and drilling in Stainless Steels, Titanium, and High Temp Alloys. This coating is extremely heat and wear resistant making it exceptional in difficult to machine materials where work hardening and abrasive characteristics are present (i.e., chromium, nickel etc.)

X-ProMAX

Color	Friction Coefficient	Max. Service Temp (F)
Multi-Colored	0.4	1200



Our In-House high-performance coating for milling non-ferrous materials such as aluminum, brass, and bronze. It prevents edge build up that is typically found while machining soft and sticky materials.

OPTIONAL COATINGS — Call for price & availability

DLC Diamond

END MILL SELECTION GUIDELINE

We often receive questions pertaining to properly selecting an end mill while programming a part. The following are great guidelines that could be helpful with those important questions/answers. Of course, we are always available to help assist you in selecting the correct product.

STEP 1 – MATERIAL

> **Identify**: Know the exact material you are cutting, material condition (billet, forging etc.), and material hardness (HRC).

> **Outcome**: This will guide you to our Non-Ferrous or Ferrous section of our catalog.

STEP 2 – OPERATION

> **Identify**: Determine if you will be roughing, finishing, or both with this tool.

> **Outcome**: This will help you determine the number of flutes needed and the need (or not) for chipbreakers.

STEP 3 – PROGRAMMING

> **Identify**: Will you be utilizing traditional programming, high efficiency programming (HEM), or a combination of both?

> **Outcome**: This will help you decide on number of flutes in Step 8.

STEP 4 – ADOC (Axial Depth of Cut)

> **Identify**: Determine the maximum axial depth of cut tool will experience in the part.

> **Outcome**: This dimension (+1/2 x Dia. of tool) will help you determine the length of cut (LOC) to deploy.

STEP 5 – REACH

> **Identify**: Do you have any obstacles to clear (fixturing, part features, etc.) or deep depths to reach (6x tool diameter or deeper)?

> **Outcome**: May be time to employ a reduced necked tool to keep your length of cut reasonable but allow for you to drop the tool into a deeper position by stepping down (LOC max at a time) to a desired part depth.

STEP 6 – TOOL DIAMETER

> **Identify**: Diameter selection takes a formulative consideration of programming type, machine taper, cut depth, reach, and part geometry (wall-to-wall corner requirements).

> **Outcome**: Here are some helpful tips while deciding on and selecting the proper diameter.

- If you're using a 40-taper machine, try and keep tool diameter <3/4" as this will extend your spindle life expectancy.
- Determine what programming style (Step 3) you're using as HEM can employ smaller diameters than you may be used to.
- Decide on your cut depth (Step 4). For traditional programming keep it <2xDia., for HEM keep it below 4xDia.
- Decide on your total reach depth (Step 5). If needing to machine 4xDia. look at a necked tool to maintain strength and minimize deflection.
- Employ a tool radius (diameter/2) that is less than the part wall-to-wall radius requirement. For instance, for a .250-part corner radius constraint utilize a .375 or .437 Tool and generate the radius. Do not run a ½" end mill into a .250 corner it will chatter, squawk, and possibly break.

STEP 7 – CORNER RADIUS

> **Identify**: Does your part require a corner radius specification to meet between wall and the floor?

> **Outcome**: Running a corner radius on an end mill will increase its corner life. If your part requires one then great, if not, consider one for pre-finishing (aka roughing) as it will help to extend tool life!

STEP 8 – FLUTE COUNT

> **Identify**: The cutting material (Step 1) and the type of programming in use (Step 3)

> **Outcome**:

- For Non-Ferrous machining (excl. Titanium)
  Traditional Programming = 2-3 flutes, HEM = 3-5 Flutes
- For Ferrous machining (incl. Titanium)
  Traditional Programming = 4-5 flutes, HEM = 5-7 Flutes

Tip: the harder or tougher the material is, the greater number of flutes will help to increase tool life.

STEP 9 – TOOL HOLDER

> **Identify**: Always try and use the most rigid and accurate tool holder proving the least amount of runout as possible. If you are planning to use a side lock holder, see the outcome below.

> **Outcome**: It is best to keep TIR <.0005 at the tip of the tool (in the holder – in the machine) for optimum tool life and application success. Our tools come with cylindrical shanks. A Weldon Flat can be put on the tool by us quickly. Just order the tool by placing a "W" at the end of the EDP#. For example, EDP 60000 with a Weldon flat needed would be ordered as 60000W.

STEP 10 – Select & Pick the NEXGEN tool you need!

> For **Roughing** tools go to pages **7-19.**

> For **Non-ferrous** Tooling go to pages **21-35.**

> For **Ferrous** tooling go to pages **37-49.**

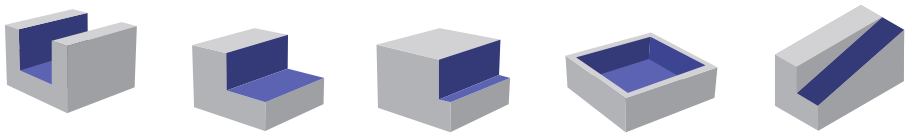
ROUGHING

NXG-3-CB CHIPBREAKER

ALUMINUM | COPPER | BRASS

- Our engineered overlapping chipbreaker design produces shorter chip lengths, lowers tool pressure, allows for proper chip evacuation, and lessens your chances of re-cutting chips
- Also, can allow for an increased radial depth of cut (RDOC) due to better chip size and control
- Offset Chipbreaker design for improved chip evacuation and reduced tool pressure
- 37 Degree helix
  - h6 Shank Tolerances
  - Center Cutting
  - Premium Carbide Substrate
  - Engineered Edge-Prep Design

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | LIGHT ROUGHING | POCKETING | RAMPING

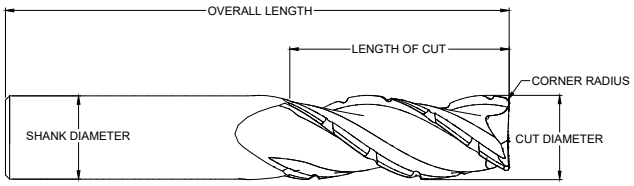
TOOL TOLERANCES

Cut Diameter: h6
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

Solid Carbide Chipbreaker End Mill



NXG-3-CB

Tool Dimensions					End Construction										
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	0.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250
1/8	1/8	1/4	1-1/2	3	35000	35001	35002	35003	35004						
		1/2	2	3	35005	35006	35007	35008	35009						
		3/4	2-1/2	3	35010	35011	35012	35013	35014						
3/16	3/16	5/16	2	3	35015	35016	35017	35018	35019						
		9/16	2-1/2	3	35020	35021	35022	35023	35024						
		3/4	2-1/2	3	35025	35026	35027	35028	35029						
1/4	1/4	3/8	2	3	35030	35031	35032	35033	35034	35035					
		1/2	2-1/2	3	35036	35037	35038	35039	35040	35041					
		3/4	2-1/2	3	35042	35043	35044	35045	35046	35047					
		1	3	3	35048	35049	35050	35051	35052	35053					
		1-1/4	3	3	35054	35055	35056	35057	35058	35059					
5/16	5/16	7/16	2	3	35060	35061	35062	35063	35064	35065					
		13/16	2-1/2	3	35066	35067	35068	35069	35070	35071					
		1-1/4	3	3	35072	35073	35074	35075	35076	35077					
3/8	3/8	1/2	2	3	35078	35079	35080	35081	35082	35083	35084	35085	35086		
		3/4	2-1/2	3	35087	35088	35089	35090	35091	35092	35093	35094	35095		
		1	3	3	35096	35097	35098	35099	35100	35101	35102	35103	35104		
		1-1/4	3	3	35105	35106	35107	35108	35109	35110	35111	35112	35113		
		1-1/2	3-1/2	3	35114	35115	35116	35117	35118	35119	35120	35121	35122		
1/2	1/2	5/8	2-1/2	3	35123	35124	35125	35126	35127	35128	35129	35130	35131		
		1	3	3	35132	35133	35134	35135	35136	35137	35138	35139	35140		
		1-1/4	3	3	35141	35142	35143	35144	35145	35146	35147	35148	35149		
		1-5/8	4	3	35150	35151	35152	35153	35154	35155	35156	35157	35158		
		2	4	3	35159	35160	35161	35162	35163	35164	35165	35166	35167		
		2-1/2	5	3	35168	35169	35170	35171	35172	35173	35174	35175	35176		
5/8	5/8	3/4	3	3	35177	35178	35179	35180	35181	35182	35183	35184	35185		
		1-1/4	3-1/2	3	35186	35187	35188	35189	35190	35191	35192	35193	35194		
		1-5/8	3-1/2	3	35195	35196	35197	35198	35199	35200	35201	35202	35203		
		2-1/8	4	3	35204	35205	35206	35207	35208	35209	35210	35211	35212		
		2-1/2	5	3	35213	35214	35215	35216	35217	35218	35219	35220	35221		
3/4	3/4	1	3	3	35222	35223	35224	35225	35226	35227	35228	35229	35230	35231	35232
		1-5/8	4	3	35233	35234	35235	35236	35237	35238	35239	35240	35241	35242	35243
		2-1/4	5	3	35244	35245	35246	35247	35248	35249	35250	35251	35252	35253	35254
		2-3/4	5	3	35255	35256	35257	35258	35259	35260	35261	35262	35263	35264	35265
		3-1/4	6	3	35266	35267	35268	35269	35270	35271	35272	35273	35274	35275	35276
1	1	1-1/4	4-1/2	3	35277	35278	35279	35280	35281	35282	35283	35284	35285	35286	35287
		2	4-1/2	3	35288	35289	35290	35291	35292	35293	35294	35295	35296	35297	35298
		2-5/8	5	3	35299	35300	35301	35302	35303	35304	35305	35306	35307	35308	35309
		3-1/4	6	3	35310	35311	35312	35313	35314	35315	35316	35317	35318	35319	35320
		4-1/4	7	3	35321	35322	35323	35324	35325	35326	35327	35328	35329	35330	35331

Green Highlighted: EDP's are in stock ready to ship.

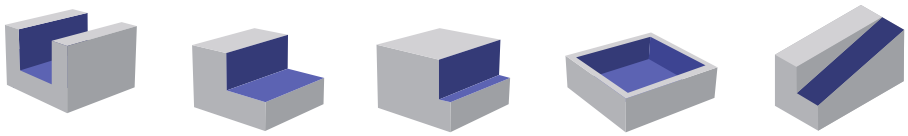
All NXG-3-CB standard tools are uncoated.

NXG-3-CB-X-PRO CHIPBREAKER

ALUMINUM | COPPER | BRASS

- Our engineered overlapping chipbreaker design produces shorter chip lengths, lowers tool pressure, allows for proper chip evacuation, and lessens your chances of re-cutting chips
- Also, can allow for an increased radial depth of cut (RDOC) due to better chip size and control
- Offset Chipbreaker design for improved chip evacuation and reduced tool pressure
- 37 Degree helix
  - h6 Shank Tolerances
  - Center Cutting
  - Premium Carbide Substrate
  - Engineered Edge-Prep Design

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | LIGHT ROUGHING | POCKETING | RAMPING

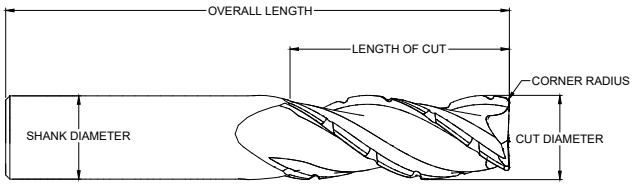
TOOL TOLERANCES

Cut Diameter: h6
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

Solid Carbide Chipbreaker End Mill



NXG-3-CB-X-PRO

Tool Dimensions					End Construction										
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	0.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250
1/8	1/8	1/4	1-1/2	3	36001	36002	36003	36004	36005						
		1/2	2	3	36006	36007	36008	36009	36010						
		3/4	2-1/2	3	36011	36012	36013	36014	36015						
3/16	3/16	5/16	2	3	36016	36017	36018	36019	36020						
		9/16	2-1/2	3	36021	36022	36023	36024	36025						
		3/4	2-1/2	3	36026	36027	36028	36029	36030						
1/4	1/4	3/8	2	3	36031	36032	36033	36034	36035	36036					
		1/2	2-1/2	3	36037	36038	36039	36040	36041	36042					
		3/4	2-1/2	3	36043	36044	36045	36046	36047	36048					
		1	3	3	36049	36050	36051	36052	36053	36054					
		1-1/4	3	3	36055	36056	36057	36058	36059	36060					
5/16	5/16	7/16	2	3	36061	36062	36063	36064	36065	36066					
		13/16	2-1/2	3	36067	36068	36069	36070	36071	36072					
		1-1/4	3	3	36073	36074	36075	36076	36077	36078					
3/8	3/8	1/2	2	3	36079	36080	36081	36082	36083	36084	36085	36086	36087		
		3/4	2-1/2	3	36088	36089	36090	36091	36092	36093	36094	36095	36096		
		1	3	3	36097	36098	36099	36100	36101	36102	36103	36104	36105		
		1-1/4	3	3	36106	36107	36108	36109	36110	36111	36112	36113	36114		
		1-1/2	3-1/2	3	36115	36116	36117	36118	36119	36120	36121	36122	36123		
1/2	1/2	5/8	2-1/2	3	36124	36125	36126	36127	36128	36129	36130	36131	36132		
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		1-5/8	4	3	36151	36152	36153	36154	36155	36156	36157	36158	36159		
		2	4	3	36160	36161	36162	36163	36164	36165	36166	36167	36168		
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		3-1/4	6	3	36267	36268	36269	36270	36271	36272	36273	36274	36275	36276	36277
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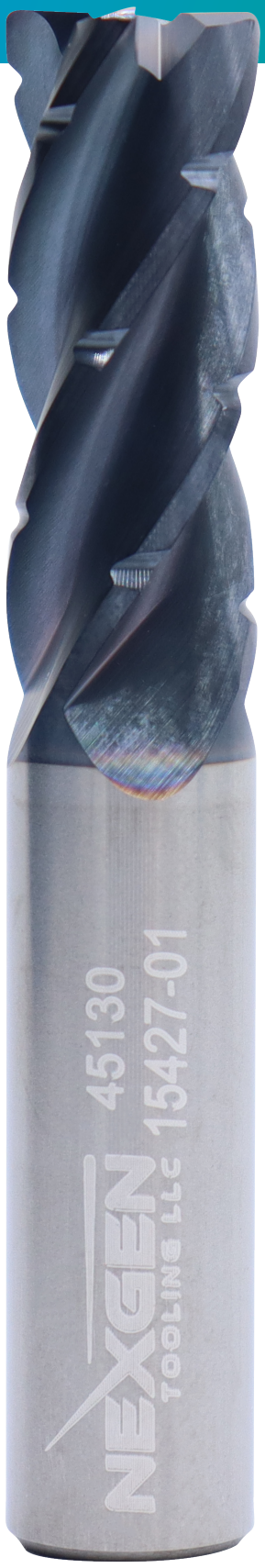
		2	4-1/2	3	36289	36290	36291	36292	36293	36294	36295	36296	36297	36298	36299
		2-5/8	5	3	36300	36301	36302	36303	36304	36305	36306	36307	36308	36309	36310
		3-1/4	6	3	36311	36312	36313	36314	36315	36316	36317	36318	36319	36320	36321
		4-1/4	7	3	36322	36323	36324	36325	36326	36327	36328	36329	36330	36331	36332

* X-Pro-MAX coated tools are made to order, please call for lead time.

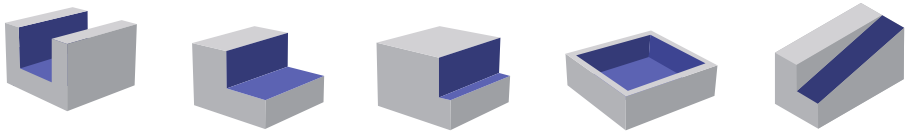
NXG-4-CB CHIPBREAKER

STEEL | CAST IRON | STAINLESS STEEL | HI-TEMP ALLOYS



- Our engineered overlapping chipbreaker design produces shorter chip lengths, lowers tool pressure, allows for proper chip evacuation, and lessens your chances of re-cutting chips
- Also, can allow for an increased radial depth of cut (RDOC) due to better chip size and control
- Offset Chipbreaker design for improved chip evacuation and reduced tool pressure
- 35 Degree helix
  - h6 Shank Tolerances
  - Center Cutting
  - Premium Carbide Substrate
  - Engineered Edge-Prep Design
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | LIGHT ROUGHING | POCKETING | RAMPING

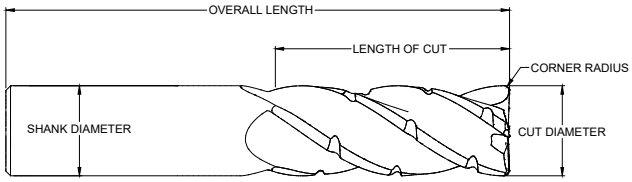
TOOL TOLERANCES

Cut Diameter: +.000/-.002
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

Solid Carbide Chipbreaker End Mill



NXG-4-CB

Tool Dimensions					End Construction										
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	0.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250
1/8	1/8	1/4	1 1/2	4	45000	45001	45002	45003	45004						
		1/2	2	4	45005	45006	45007	45008	45009						
		3/4	2 1/2	4	45010	45011	45012	45013	45014						
3/16	3/16	5/16	2	4	45015	45016	45017	45018	45019						
		9/16	2 1/2	4	45020	45021	45022	45023	45024						
		3/4	2 1/2	4	45025	45026	45027	45028	45029						
1/4	1/4	3/8	2	4	45030	45031	45032	45033	45034	45035					
		1/2	2 1/2	4	45036	45037	45038	45039	45040	45041					
		3/4	2 1/2	4	45042	45043	45044	45045	45046	45047					
		1	3	4	45048	45049	45050	45051	45052	45053					
		1 1/4	3	4	45054	45055	45056	45057	45058	45059					
5/16	5/16	7/16	2	4	45060	45061	45062	45063	45064	45065					
		13/16	2 1/2	4	45066	45067	45068	45069	45070	45071					
3/8	3/8	1/2	2	4	45072	45073	45074	45075	45076	45077	45078	45079	45080		
		3/4	2 1/2	4	45317	45318	45319	45320	45321	45322	45323	45324	45325		
		1	3	4	45081	45082	45083	45084	45085	45086	45087	45088	45089		
		1 1/4	3	4	45090	45091	45092	45093	45094	45095	45096	45097	45098		
		1 1/2	3 1/2	4	45099	45100	45101	45102	45103	45104	45105	45106	45107		
1/2	1/2	5/8	2 1/2	4	45108	45109	45110	45111	45112	45113	45114	45115	45116		
		1	3	4	45117	45118	45119	45120	45121	45122	45123	45124	45125		
		1 1/4	3	4	45126	45127	45128	45129	45130	45131	45132	45133	45134		
		1 5/8	4	4	45135	45136	45137	45138	45139	45140	45141	45142	45143		
		2	4	4	45144	45145	45146	45147	45148	45149	45150	45151	45152		
5/8	5/8	3/4	3	4	45153	45154	45155	45156	45157	45158	45159	45160	45161		
		1	3	4	45162	45163	45164	45165	45166	45167	45168	45169	45170		
		1 1/4	3 1/2	4	45171	45172	45173	45174	45175	45176	45177	45178	45179		
		1 5/8	3 1/2	4	45180	45181	45182	45183	45184	45185	45186	45187	45188		
		2 1/8	4	4	45189	45190	45191	45192	45193	45194	45195	45196	45197		
		2 1/2	5	4	45198	45199	45200	45201	45202	45203	45204	45205	45206		
3/4	3/4	1	3	4	45207	45208	45209	45210	45211	45212	45213	45214	45215	45216	45217
		1 5/8	4	4	45218	45219	45220	45221	45222	45223	45224	45225	45226	45227	45228
		2 1/4	5	4	45229	45230	45231	45232	45233	45234	45235	45236	45237	45238	45239
		2 3/4	5	4	45240	45241	45242	45243	45244	45245	45246	45247	45248	45249	45250
		3 1/4	6	4	45251	45252	45253	45254	45255	45256	45257	45258	45259	45260	45261
1	1	1 1/4	4 1/2	4	45262	45263	45264	45265	45266	45267	45268	45269	45270	45271	45272
		2	4 1/2	4	45273	45274	45275	45276	45277	45278	45279	45280	45281	45282	45283
		2 5/8	5	4	45284	45285	45286	45287	45288	45289	45290	45291	45292	45293	45294
		3 1/4	6	4	45295	45296	45297	45298	45299	45300	45301	45302	45303	45304	45305
		4 1/4	7	4	45306	45307	45308	45309	45310	45311	45312	45313	45314	45315	45316

Blue Highlighted: EDP's are in stock ready to ship.

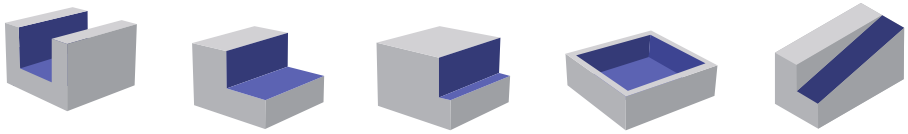
All NXG-4-CB standard tools are A-ProMAX coated.

NXG-5-CB CHIPBREAKER

STEEL | CAST IRON | STAINLESS STEEL | HI-TEMP ALLOYS

- Our engineered overlapping chipbreaker design produces shorter chip lengths, lowers tool pressure, allows for proper chip evacuation, and lessens your chances of re-cutting chips
- Also, can allow for an increased radial depth of cut (RDOC) due to better chip size and control
- Offset Chipbreaker design for improved chip evacuation and reduced tool pressure
- 40 Degree helix
  - h6 Shank Tolerances
  - Center Cutting
  - Premium Carbide Substrate
  - Engineered Edge-Prep Design
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | LIGHT ROUGHING | POCKETING | RAMPING

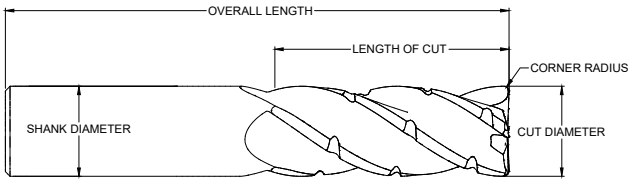
TOOL TOLERANCES

Cut Diameter: +.000/-.002
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

Solid Carbide Chipbreaker End Mill



NXG-5-CB

Tool Dimensions					End Construction										
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	0.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250
1/8	1/8	1/4	1 1/2	5	55000	55001	55002	55003	55004						
		1/2	2	5	55005	55006	55007	55008	55009						
		3/4	2-1/2	5	55010	55011	55012	55013	55014						
3/16	3/16	5/16	2	5	55015	55016	55017	55018	55019						
		9/16	2-1/2	5	55020	55021	55022	55023	55024						
		3/4	2-1/2	5	55025	55026	55027	55028	55029						
1/4	1/4	3/8	2	5	55030	55031	55032	55033	55034	55035					
		1/2	2-1/2	5	55036	55037	55038	55039	55040	55041					
		3/4	2-1/2	5	55042	55043	55044	55045	55046	55047					
		1	3	5	55048	55049	55050	55051	55052	55053					
		1-1/4	3	5	55054	55055	55056	55057	55058	55059					
5/16	5/16	7/16	2	5	55060	55061	55062	55063	55064	55065					
		13/16	2-1/2	5	55066	55067	55068	55069	55070	55071					
3/8	3/8	1/2	2	5	55072	55073	55074	55075	55076	55077	55078	55079	55080		
		3/4	2-1/2	5	55081	55082	55083	55084	55085	55086	55087	55088	55089		
		1	3	5	55090	55091	55092	55093	55094	55095	55096	55097	55098		
		1-1/4	3	5	55099	55100	55101	55102	55103	55104	55105	55106	55107		
		1-1/2	3-1/2	5	55108	55109	55110	55111	55112	55113	55114	55115	55116		
1/2	1/2	5/8	2-1/2	5	55117	55118	55119	55120	55121	55122	55123	55124	55125		
		1	3	5	55126	55127	55128	55129	55130	55131	55132	55133	55134		
		1-1/4	3	5	55135	55136	55137	55138	55139	55140	55141	55142	55143		
		1-5/8	4	5	55144	55145	55146	55147	55148	55149	55150	55151	55152		
		2	4	5	55153	55154	55155	55156	55157	55158	55159	55160	55161		
5/8	5/8	3/4	3	5	55162	55163	55164	55165	55166	55167	55168	55169	55170		
		1-1/4	3-1/2	5	55171	55172	55173	55174	55175	55176	55177	55178	55179		
		1-5/8	3-1/2	5	55180	55181	55182	55183	55184	55185	55186	55187	55188		
		2-1/8	4	5	55189	55190	55191	55192	55193	55194	55195	55196	55197		
		2-1/2	5	5	55198	55199	55200	55201	55202	55203	55204	55205	55206		
		1	3	5	55207	55208	55209	55210	55211	55212	55213	55214	55215	55216	55217
3/4	3/4	1-5/8	4	5	55218	55219	55220	55221	55222	55223	55224	55225	55226	55227	55228
		2-1/4	5	5	55229	55230	55231	55232	55233	55234	55235	55236	55237	55238	55239
		2-3/4	5	5	55240	55241	55242	55243	55244	55245	55246	55247	55248	55249	55250
		3-1/4	6	5	55251	55252	55253	55254	55255	55256	55257	55258	55259	55260	55261
1	1	1-1/4	4-1/2	5	55262	55263	55264	55265	55266	55267	55268	55269	55270	55271	55272
		2	4-1/2	5	55273	55274	55275	55276	55277	55278	55279	55280	55281	55282	55283
		2-5/8	5	5	55284	55285	55286	55287	55288	55289	55290	55291	55292	55293	55294
		3-1/4	6	5	55295	55296	55297	55298	55299	55300	55301	55302	55303	55304	55305
		4-1/4	7	5	55306	55307	55308	55309	55310	55311	55312	55313	55314	55315	55316

Blue Highlighted: EDP's are in stock ready to ship.

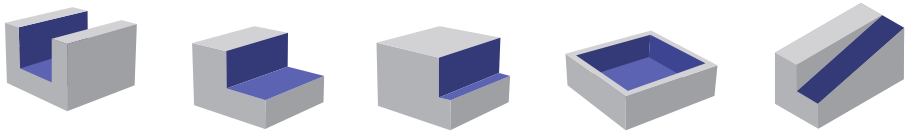
All NXG-5-CB standard tools are A-ProMAX coated.

NXG-6-CB CHIPBREAKER

STEEL | CAST IRON | STAINLESS STEEL | HI-TEMP ALLOYS

- Our engineered overlapping chipbreaker design produces shorter chip lengths, lowers tool pressure, allows for proper chip evacuation, and lessens your chances of re-cutting chips
- Also, can allow for an increased radial depth of cut (RDOC) due to better chip size and control
- Offset Chipbreaker design for improved chip evacuation and reduced tool pressure
- 37 Degree helix
  - h6 Shank Tolerances
  - Center Cutting
  - Premium Carbide Substrate
  - Engineered Edge-Prep Design
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | LIGHT ROUGHING | POCKETING | RAMPING

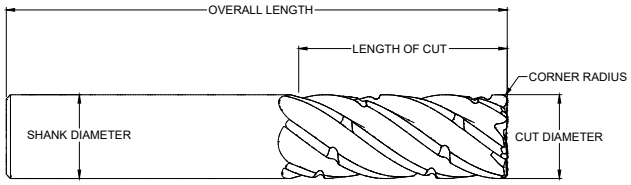
TOOL TOLERANCES

Cut Diameter: +.000/-.002
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

Solid Carbide Chipbreaker End Mill



NXG-6-CB

Tool Dimensions					End Construction										
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	0.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250
1/4	1/4	3/8	2	6	65000	65001	65002	65003	65004	65005					
		1/2	2-1/2	6	65006	65007	65008	65009	65010	65011					
		3/4	2-1/2	6	65012	65013	65014	65015	65016	65017					
		1	3	6	65018	65019	65020	65021	65022	65023					
		1-1/4	3	6	65024	65025	65026	65027	65028	65029					
3/8	3/8	1/2	2	6	65030	65031	65032	65033	65034	65035	65036	65037	65038		
		3/4	3	6	65039	65040	65041	65042	65043	65044	65045	65046	65047		
		1	3	6	65048	65049	65050	65051	65052	65053	65054	65055	65056		
		1-1/4	3	6	65057	65058	65059	65060	65061	65062	65063	65064	65065		
		1-1/2	3-1/2	6	65066	65067	65068	65069	65070	65071	65072	65073	65074		
1/2	1/2	5/8	2-1/2	6	65075	65076	65077	65078	65079	65080	65081	65082	65083		
		1	3	6	65084	65085	65086	65087	65088	65089	65090	65091	65092		
		1-1/4	3	6	65093	65094	65095	65096	65097	65098	65099	65100	65101		
		1-5/8	4	6	65102	65103	65104	65105	65106	65107	65108	65109	65110		
		2	4	6	65111	65112	65113	65114	65115	65116	65117	65118	65119		
5/8	5/8	3/4	3	6	65120	65121	65122	65123	65124	65125	65126	65127	65128		
		1-1/4	3-1/2	6	65129	65130	65131	65132	65133	65134	65135	65136	65137		
		1-5/8	3-1/2	6	65138	65139	65140	65141	65142	65143	65144	65145	65146		
		2-1/8	4	6	65147	65148	65149	65150	65151	65152	65153	65154	65155		
		2-1/2	5	6	65156	65157	65158	65159	65160	65161	65162	65163	65164		
3/4	3/4	1	3	6	65165	65166	65167	65168	65169	65170	65171	65172	65173	65174	65175
		1-5/8	4	6	65176	65177	65178	65179	65180	65181	65182	65183	65184	65185	65186
		2-1/4	5	6	65187	65188	65189	65190	65191	65192	65193	65194	65195	65196	65197
		2-3/4	5	6	65198	65199	65200	65201	65202	65203	65204	65205	65206	65207	65208
		3-1/4	6	6	65209	65210	65211	65212	65213	65214	65215	65216	65217	65218	65219
1	1	1-1/4	4-1/2	6	65220	65221	65222	65223	65224	65225	65226	65227	65228	65229	65230
		2	4-1/2	6	65231	65232	65233	65234	65235	65236	65237	65238	65239	65240	65241
		2-5/8	5	6	65242	65243	65244	65245	65246	65247	65248	65249	65250	65251	65252
		3-1/4	6	6	65253	65254	65255	65256	65257	65258	65259	65260	65261	65262	65263
		4-1/4	7	6	65264	65265	65266	65267	65268	65269	65270	65271	65272	65273	65274

Blue Highlighted: EDP's are in stock ready to ship.

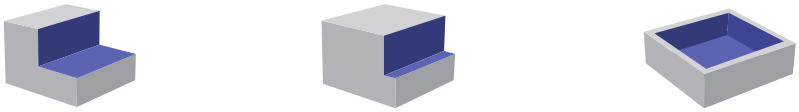
All NXG-6-CB standard tools are A-ProMAX coated.

NXG-7-CB CHIPBREAKER

STEEL | CAST IRON | STAINLESS STEEL | HI-TEMP ALLOYS

- Our engineered overlapping chipbreaker design produces shorter chip lengths, lowers tool pressure, allows for proper chip evacuation, and lessens your chances of re-cutting chips
- Also, can allow for an increased radial depth of cut (RDOC) due to better chip size and control
- Offset Chipbreaker design for improved chip evacuation and reduced tool pressure
- 37 Degree helix
  - h6 Shank Tolerances
  - Center Cutting
  - Premium Carbide Substrate
  - Engineered Edge-Prep Design
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



HEM ROUGHING | LIGHT ROUGHING | POCKETING

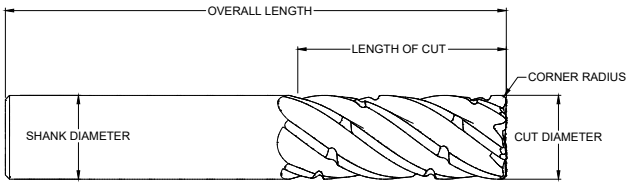
TOOL TOLERANCES

Cut Diameter: +.000/-.002
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

Solid Carbide Chipbreaker End Mill



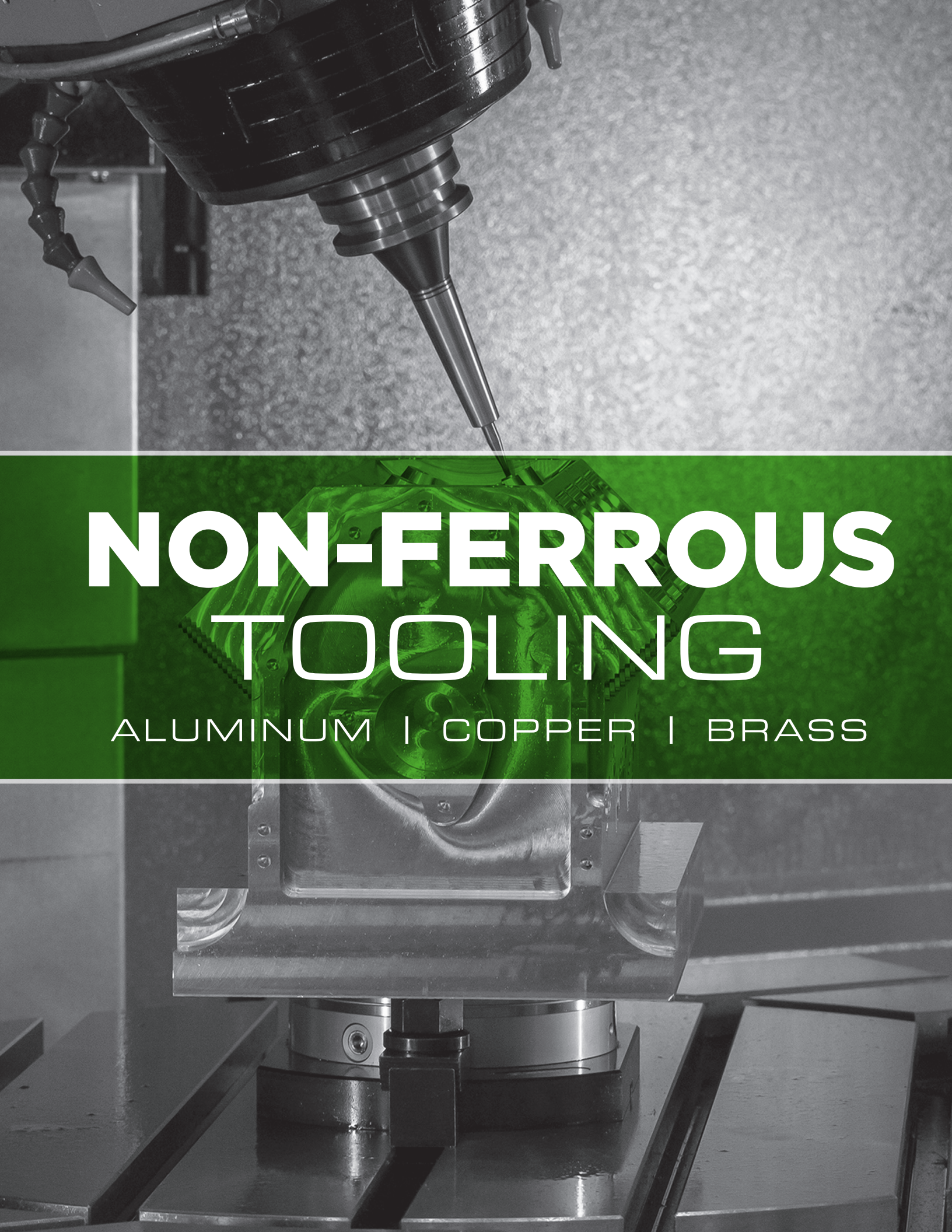
NXG-7-CB

Tool Dimensions					End Construction										
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	0.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250
1/4	1/4	3/8	2	7	75000	75001	75002	75003	75004	75005					
		1/2	2-1/2	7	75006	75007	75008	75009	75010	75011					
		3/4	2-1/2	7	75012	75013	75014	75015	75016	75017					
		1	3	7	75018	75019	75020	75021	75022	75023					
		1-1/4	3	7	75024	75025	75026	75027	75028	75029					
3/8	3/8	1/2	2	7	75030	75031	75032	75033	75034	75035					
		3/4	2-1/2	7	75244	75245	75246	75247	75248	75249					
		1	3	7	75036	75037	75038	75039	75040	75041					
		1-1/4	3	7	75042	75043	75044	75045	75046	75047					
		1-1/2	3-1/2	7	75048	75049	75050	75051	75052	75053					
1/2	1/2	5/8	2-1/2	7	75054	75055	75056	75057	75058	75059	75060	75061	75062		
		1	3	7	75063	75064	75065	75066	75067	75068	75069	75070	75071		
		1-1/4	3	7	75072	75073	75074	75075	75076	75077	75078	75079	75080		
		1-5/8	4	7	75081	75082	75083	75084	75085	75086	75087	75088	75089		
		2	4	7	75090	75091	75092	75093	75094	75095	75096	75097	75098		
5/8	5/8	3/4	3	7	75099	75100	75101	75102	75103	75104	75105	75106	75107		
		1-1/4	3-1/2	7	75108	75109	75110	75111	75112	75113	75114	75115	75116		
		1-5/8	3-1/2	7	75117	75118	75119	75120	75121	75122	75123	75124	75125		
		2-1/8	4	7	75126	75127	75128	75129	75130	75131	75132	75133	75134		
		2-1/2	5	7	75135	75136	75137	75138	75139	75140	75141	75142	75143		
3/4	3/4	1	3	7	75144	75145	75146	75147	75148	75149	75150	75151	75152		
		1-5/8	4	7	75153	75154	75155	75156	75157	75158	75159	75160	75161		
		2-1/4	5	7	75162	75163	75164	75165	75166	75167	75168	75169	75170		
		2-3/4	5	7	75171	75172	75173	75174	75175	75176	75177	75178	75179		
		3-1/4	6	7	75180	75181	75182	75183	75184	75185	75186	75187	75188		
1	1	1-1/4	4-1/2	7	75189	75190	75191	75192	75193	75194	75195	75196	75197	75198	75199
		2	4-1/2	7	75200	75201	75202	75203	75204	75205	75206	75207	75208	75209	75210
		2-5/8	5	7	75211	75212	75213	75214	75215	75216	75217	75218	75219	75220	75221
		3-1/4	6	7	75222	75223	75224	75225	75226	75227	75228	75229	75230	75231	75232
		4-1/4	7	7	75233	75234	75235	75236	75237	75238	75239	75240	75241	75242	75243

Blue Highlighted: EDP's are in stock ready to ship.

All NXG-7-CB standard tools are A-ProMAX coated.


NEXGEN
TOOLING
YOUR TRUSTED SOURCE FOR AEROSPACE TOOLING.



NON-FERROUS TOOLING

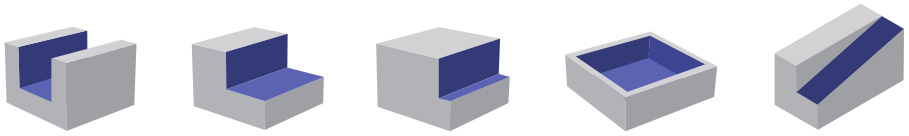
ALUMINUM | COPPER | BRASS

NXG-2

ALUMINUM | COPPER | BRASS

- 45 Degree Helix
- 2-Flute Design for Rouging & Finishing
- Center Cutting
- h6 Shank Tolerance
- All NXG-2 Standard Tools are Uncoated
- Premium Carbide Substrate
- Engineered Edge Prep
- X-ProMAX Coating (available as a special make – minimums apply)

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | FINISHING | POCKETING | RAMPING

TOOL TOLERANCES

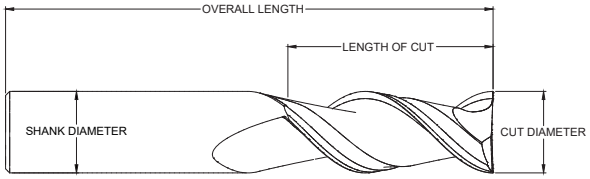
Cut Diameter: h6
Shank Diameter: h6
Length of Cut: +.032/-.000

Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

2-Flute Solid Carbide HP End Mill



NXG-2

Tool Dimensions					End Construction
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE END
1/8	1/8	1/4	1-1/2	2	20001
		1/2	2	2	20003
3/16	3/16	5/16	2-1/2	2	20005
		9/16	2-1/2	2	20007
1/4	1/4	1/2	2	2	20009
		3/4	2-1/2	2	20011
3/8	3/8	1/2	2	2	20013
		1	2-1/2	2	20015
1/2	1/2	5/8	2-1/2	2	20017
		1-1/4	3	2	20019
		1-5/8	4	2	20021
3/4	3/4	1	4	2	20023
		1-5/8	4	2	20025
1	1	1-1/4	4-1/2	2	20027
		2	5	2	20029

Green Highlighted: EDP's are in stock and ready to ship.
All standard NXG-2 tools are uncoated.

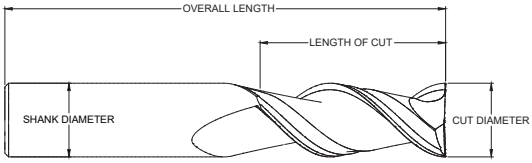
FOR MORE INFORMATION

nexgentooling.com 855-263-2328 sales@nexgentooling.com

NEXGEN TOOLING

YOUR PROVEN TOOLING SOURCE FOR MILITARY DEFENSE PRODUCTION

2-Flute Solid Carbide HP End Mill



NXG-2 X-PRO

NEW **X-PROMAX COATING!**

Tool Dimensions					End Construction
CUT Ø	**SHANK Ø**	**LOC**	**OAL**	**FLUTES**	**SQUARE END**
1/8	1/8	1/4	1-1/2	2	23001
		1/2	2	2	23002
		3/4	2-1/2	2	23003
3/16	3/16	5/16	2	2	23004
		9/16	2-1/2	2	23005
		3/4	2-1/2	2	23006
1/4	1/4	3/8	2	2	23007
		1/2	2-1/2	2	23008
		3/4	2-1/2	2	23009
		1	3	2	23010
		1-1/4	3	2	23011
3/8	3/8	1/2	2	2	23012
		1	3	2	23013
		1-1/4	3	2	23014
		1-1/2	3-1/2	2	23015
1/2	1/2	5/8	2-1/2	2	23016
		1	3	2	23017
		1-1/4	3	2	23018
		1-5/8	4	2	23019
		2	4	2	23020
5/8	5/8	3/4	3	2	23021
		1-1/4	3-1/2	2	23022
		1-5/8	3-1/2	2	23023
		2-1/4	4	2	23024
		2-1/2	5	2	23025
3/4	3/4	1	3	2	23026
		1-5/8	4	2	23027
		2-1/4	5	2	23028
		2-3/4	5	2	23029
		3-1/4	6	2	23030
1	1	1-1/4	4-1/2	2	23031
		2	4-1/2	2	23032
		2-5/8	5	2	23033
		3-1/4	6	2	23034
		4-1/4	7	2	23035

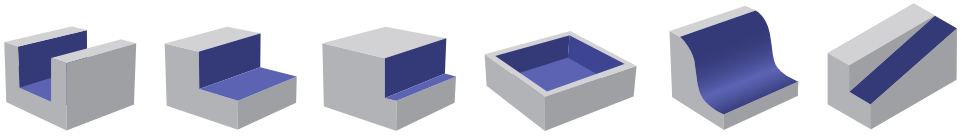
* X-Pro-MAX coated tools are made to order, please call for lead time.

NXG-3

ALUMINUM | COPPER | BRASS

- 37 Degree Helix
- 3-Flute Design for Rouging & Finishing
- 3-Teeth to Center Design for Increased Performance
- Center Cutting
- All NXG-3 Standard Tools are Uncoated
- h6 Shank Tolerance
- Premium Carbide Substrate
- Engineered Edge Prep
- X-ProMAX Coating (available as a special make – minimums apply)

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | HEM | POCKETING | CONTOURING FINISHING | RAMPING

TOOL TOLERANCES

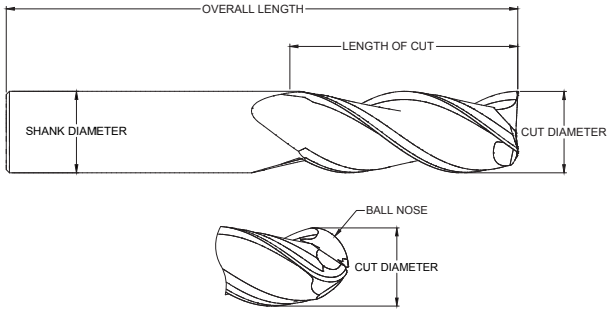
Cut Diameter: h6
Shank Diameter: h6
Length of Cut: +.032/-.000

Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

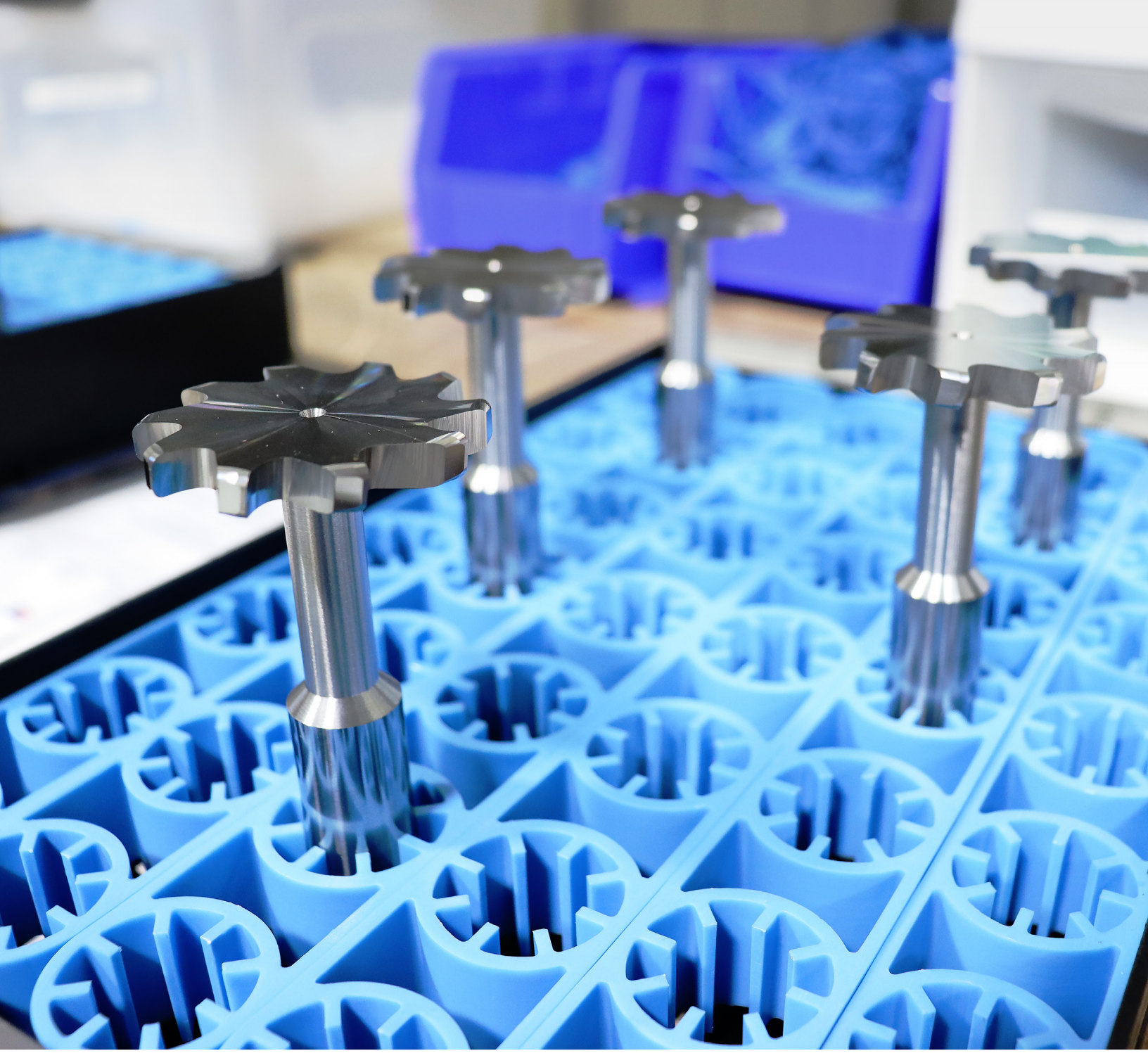
3-Flute Solid Carbide HP End Mill

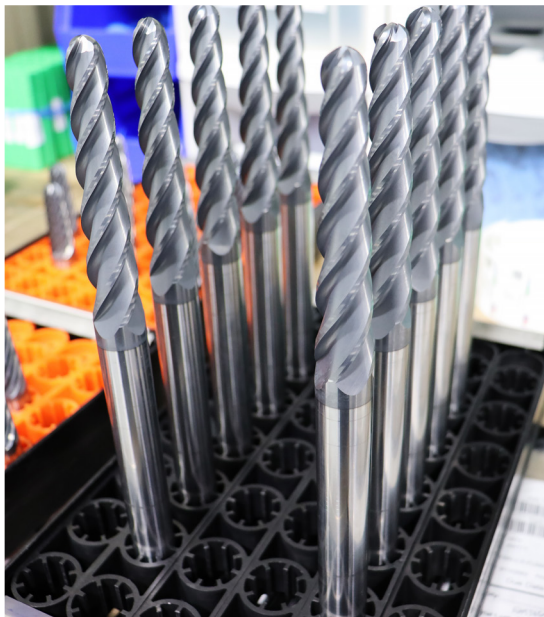


NXG-3

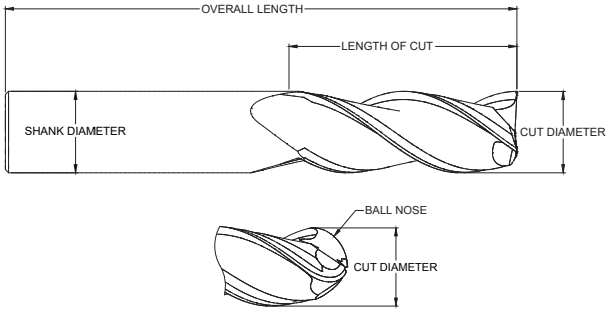
Tool Dimensions					End Construction											
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	R.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250	Ball
1/8	1/8	1/4	1-1/2	3	30001	31000	31001	31002	31003							32000
		1/2	2	3	30003	31004	31005	31006	31007							32001
		3/4	2-1/2	3	30031	31008	31009	31010	31011							32002
3/16	3/16	5/16	2	3	31292	31012	31013	31014	31015							32003
		5/16	2-1/2	3	30005											
		9/16	2-1/2	3	30007	31016	31017	31018	31019							32005
		3/4	2-1/2	3	30033	31020	31021	31022	31023							32006
1/4	1/4	3/8	2	3	30035	31024	31025	31026	31027	31028						32007
		1/2	2-1/2	3	30009	31029	31030	31031	31032	31033						32008
		3/4	2-1/2	3	30011	31034	31035	31036	31037	31038						32009
		1	3	3	30037	31039	31040	31041	31042	31043						32010
		1-1/4	3	3	30039	31044	31045	31046	31047	31048						32011
5/16	5/16	7/16	2	3	30041	31049	31050	31051	31052	31053						32012
		13/16	2-1/2	3	30043	31054	31055	31056	31057	31058						32013
		1-1/4	3	3	30068	31059	31060	31061	31062	31063						32014
3/8	3/8	1/2	2	3	30013	31064	31065	31066	31067	31068	31069	31070	31071			32015
		3/4	2-1/2	3	30069	31072	31073	31074	31075	31076	31077	31078	31079			32016
		1	2-1/2	3	30015											
		1	3	3	30074	31080	31081	31082	31083	31084	31085	31086	31087			32017
		1-1/4	3	3	30045	31088	31089	31090	31091	31092	31093	31094	31095			32018
		1-1/2	3-1/2	3	30047	31096	31097	31098	31099	31100	31101	31102	31103			32019
1/2	1/2	5/8	2-1/2	3	30017	31104	31105	31106	31107	31108	31109	31110	31111			32020
		1	3	3	30049	31112	31113	31114	31115	31116	31117	31118	31119			32021
		1-1/4	3	3	30019	31120	31121	31122	31123	31124	31125	31126	31127			32022
		1-5/8	4	3	30021	31128	31129	31130	31131	31132	31133	31134	31135			32023
		2	4	3	30051	31136	31137	31138	31139	31140	31141	31142	31143			32024
		2-1/2	5	3	30070	31144	31145	31146	31147	31148	31149	31150	31151			32025
5/8	5/8	3/4	3	3	30053	31152	31153	31154	31155	31156	31157	31158	31159			32026
		1-1/4	3-1/2	3	30055	31160	31161	31162	31163	31164	31165	31166	31167			32027
		1-5/8	3-1/2	3	30057	31168	31169	31170	31171	31172	31173	31174	31175			32028
		2-1/8	4	3	30059	31176	31177	31178	31179	31180	31181	31182	31183			32029
		2-1/2	5	3	30061	31184	31185	31186	31187	31188	31189	31190	31191			32030
3/4	3/4	1	3	3	31293	31192	31193	31194	31195	31196	31197	31198	31199	31200	31201	32031
		1	4	3	30023											
		1-5/8	4	3	30025	31202	31203	31204	31205	31206	31207	31208	31209	31210	31211	32032
		2-1/4	5	3	30063	31212	31213	31214	31215	31216	31217	31218	31219	31220	31221	32033
		2-3/4	5	3	30065	31222	31223	31224	31225	31226	31227	31228	31229	31230	31231	32034
		3-1/4	6	3	30067	31232	31233	31234	31235	31236	31237	31238	31239	31240	31241	32035
1	1	1-1/4	4-1/2	3	30027	31242	31243	31244	31245	31246	31247	31248	31249	31250	31251	32036
		2	4-1/2	3	30029	31252	31253	31254	31255	31256	31257	31258	31259	31260	31261	32037
		2-5/8	5	3	30071	31262	31263	31264	31265	31266	31267	31268	31269	31270	31271	32038
		3-1/4	6	3	30072	31272	31273	31274	31275	31276	31277	31278	31279	31280	31281	32039
		4-1/4	7	3	30073	31282	31283	31284	31285	31286	31287	31288	31289	31290	31291	32040

Green Highlighted: EDP's are in stock and ready to ship.
All Others: EDP's are a quick build – 1-2 week build.
All NXG-3 standard tools are uncoated.





3-Flute Solid Carbide HP End Mill



NXG-3-X-PRO

***NEW* X-PROMAX COATING!**

Tool Dimensions					End Construction											
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	R.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250	BALL
1/8	1/8	1/4	1-1/2	3	33001	33002	33003	33004	33005							34001
		1/2	2	3	33006	33007	33008	33009	33010							34002
		3/4	2-1/2	3	33011	33012	33013	33014	33015							34003
3/16	3/16	5/16	2	3	33016	33017	33018	33019	33020							34004
		5/16	2-1/2	3	33333											
		9/16	2-1/2	3	33021	33022	33023	33024	33025							34005
		3/4	2-1/2	3	33026	33027	33028	33029	33030							34006
1/4	1/4	3/8	2	3	33031	33032	33033	33034	33035	33036						34007
		1/2	2-1/2	3	33037	33038	33039	33040	33041	33042						34008
		3/4	2-1/2	3	33043	33044	33045	33046	33047	33048						34009
		1	3	3	33049	33050	33051	33052	33053	33054						34010
		1-1/4	3	3	33055	33056	33057	33058	33059	33060						34011
5/16	5/16	7/16	2	3	33061	33062	33063	33064	33065	33066						34012
		13/16	2-1/2	3	33067	33068	33069	33070	33071	33072						34013
		1-1/4	3	3	33073	33074	33075	33076	33077	33078						34014
3/8	3/8	1/2	2	3	33079	33080	33081	33082	33083	33084	33085	33086	33087			34015
		3/4	2-1/2	3	33088	33089	33090	33091	33092	33093	33094	33095	33096			34016
		1	2-1/2	3	33334											
		1	3	3	33097	33098	33099	33100	33101	33102	33103	33104	33105			34017
		1-1/4	3	3	33106	33107	33108	33109	33110	33111	33112	33113	33114			34018
		1-1/2	3-1/2	3	33115	33116	33117	33118	33119	33120	33121	33122	33123			34019
1/2	1/2	5/8	2-1/2	3	33124	33125	33126	33127	33128	33129	33130	33131	33132			34020
		1	3	3	33133	33134	33135	33136	33137	33138	33139	33140	33141			34021
		1-1/4	3	3	33142	33143	33144	33145	33146	33147	33148	33149	33150			34022
		1-5/8	4	3	33151	33152	33153	33154	33155	33156	33157	33158	33159			34023
		2	4	3	33160	33161	33162	33163	33164	33165	33166	33167	33168			34024
		2-1/2	5	3	33169	33170	33171	33172	33173	33174	33175	33176	33177			34025
5/8	5/8	3/4	3	3	33178	33179	33180	33181	33182	33183	33184	33185	33186			34026
		1-1/4	3-1/2	3	33187	33188	33189	33190	33191	33192	33193	33194	33195			34027
		1-5/8	3-1/2	3	33196	33197	33198	33199	33200	33201	33202	33203	33204			34028
		2-1/8	4	3	33205	33206	33207	33208	33209	33210	33211	33212	33213			34029
		2-1/2	5	3	33214	33215	33216	33217	33218	33219	33220	33221	33222			34030
3/4	3/4	1	3	3	33223	33224	33225	33226	33227	33228	33229	33230	33231	33232	33233	34031
		1	4	3	33335											
		1-5/8	4	3	33234	33235	33236	33237	33238	33239	33240	33241	33242	33243	33244	34032
		2-1/4	5	3	33245	33246	33247	33248	33249	33250	33251	33252	33253	33254	33255	34033
		2-3/4	5	3	33256	33257	33258	33259	33260	33261	33262	33263	33264	33265	33266	34034
		3-1/4	6	3	33267	33268	33269	33270	33271	33272	33273	33274	33275	33276	33277	34035
1	1	1-1/4	4-1/2	3	33278	33279	33280	33281	33282	33283	33284	33285	33286	33287	33288	34036
		2	4-1/2	3	33289	33290	33291	33292	33293	33294	33295	33296	33297	33298	33299	34037
		2-5/8	5	3	33300	33301	33302	33303	33304	33305	33306	33307	33308	33309	33310	34038
		3-1/4	6	3	33311	33312	33313	33314	33315	33316	33317	33318	33319	33320	33321	34039
		4-1/4	7	3	33322	33323	33324	33325	33326	33327	33328	33329	33330	33331	33332	34040

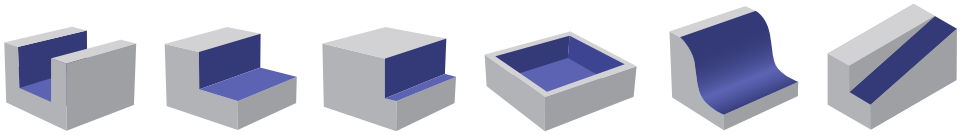
* X-Pro-MAX coated tools are made to order, please call for lead time.

NXG-3-VARI

ALUMINUM | COPPER | BRASS

- 40 Degree Helix
- 3-Flute Design for maximum efficiency and metal removal in Aluminums
- 3-Teeth to Center Design for Strength and Performance
- Center Cutting
- h6 Shank and Cut Diameter Tolerance
- Premium Carbide Substrate
- Engineered Edge Prep
- X-ProMAX Coating (available as a special make – minimums apply)
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | HEM | POCKETING | CONTOURING FINISHING | RAMPING

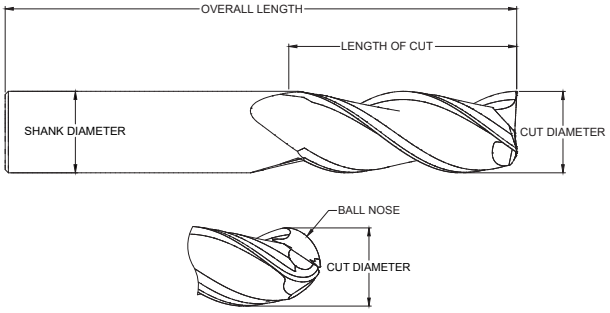
TOOL TOLERANCES

Cut Diameter: h6
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

3-Flute Solid Carbide HP End Mill



NXG-3-VARI

372 New Tools Added!

Tool Dimensions					End Construction											
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	R.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250	BALL
1/8	1/8	1/4	1.5	3	39000	39001	39002	39003	39004							39332
		1/2	2	3	39005	39006	39007	39008	39009							39333
		3/4	2.5	3	39010	39011	39012	39013	39014							39334
3/16	3/16	5/16	2	3	39015	39016	39017	39018	39019							39335
		9/16	2.5	3	39020	39021	39022	39023	39024							39336
		3/4	2.5	3	39025	39026	39027	39028	39029							39337
1/4	1/4	3/8	2	3	39030	39031	39032	39033	39034	39035						39338
		1/2	2.5	3	39036	39037	39038	39039	39040	39041						39339
		3/4	2.5	3	39042	39043	39044	39045	39046	39047						39340
		1	3	3	39048	39049	39050	39051	39052	39053						39341
		1-1/4	3	3	39054	39055	39056	39057	39058	39059						39342
5/16	5/16	7/16	2	3	39060	39061	39062	39063	39064	39065						39343
		13/16	2.5	3	39066	39067	39068	39069	39070	39071						39344
		1-1/4	3	3	39072	39073	39074	39075	39076	39077						39345
3/8	3/8	1/2	2	3	39078	39079	39080	39081	39082	39083	39084	39085	39086			39346
		3/4	2.5	3	39087	39088	39089	39090	39091	39092	39093	39094	39095			39347
		1	3	3	39096	39097	39098	39099	39100	39101	39102	39103	39104			39348
		1-1/4	3	3	39105	39106	39107	39108	39109	39110	39111	39112	39113			39349
		1-1/2	3.5	3	39114	39115	39116	39117	39118	39119	39120	39121	39122			39350
1/2	1/2	5/8	2.5	3	39123	39124	39125	39126	39127	39128	39129	39130	39131			39351
		1	3	3	39132	39133	39134	39135	39136	39137	39138	39139	39140			39352
		1-1/4	3	3	39141	39142	39143	39144	39145	39146	39147	39148	39149			39353
		1-5/8	4	3	39150	39151	39152	39153	39154	39155	39156	39157	39158			39354
		2	4	3	39159	39160	39161	39162	39163	39164	39165	39166	39167			39355
		2-1/2	5	3	39168	39169	39170	39171	39172	39173	39174	39175	39176			39356
5/8	5/8	3/4	3	3	39177	39178	39179	39180	39181	39182	39183	39184	39185			39357
		1-1/4	3.5	3	39186	39187	39188	39189	39190	39191	39192	39193	39194			39358
		1-5/8	3.5	3	39195	39196	39197	39198	39199	39200	39201	39202	39203			39359
		2-1/8	4	3	39204	39205	39206	39207	39208	39209	39210	39211	39212			39360
		2-1/2	5	3	39213	39214	39215	39216	39217	39218	39219	39220	39221			39361
3/4	3/4	1	3	3	39222	39223	39224	39225	39226	39227	39228	39229	39230	39231	39232	39362
		1-5/8	4	3	39233	39234	39235	39236	39237	39238	39239	39240	39241	39242	39243	39363
		2-1/4	5	3	39244	39245	39246	39247	39248	39249	39250	39251	39252	39253	39254	39364
		2-3/4	5	3	39255	39256	39257	39258	39259	39260	39261	39262	39263	39264	39265	39365
		3-1/4	6	3	39266	39267	39268	39269	39270	39271	39272	39273	39274	39275	39276	39366
1	1	1-1/4	4.5	3	39277	39278	39279	39280	39281	39282	39283	39284	39285	39286	39287	39367
		2	4.5	3	39288	39289	39290	39291	39292	39293	39294	39295	39296	39297	39298	39368
		2-5/8	5	3	39299	39300	39301	39302	39303	39304	39305	39306	39307	39308	39309	39369
		3-1/4	6	3	39310	39311	39312	39313	39314	39315	39316	39317	39318	39319	39320	39370
		4-1/4	7	3	39321	39322	39323	39324	39325	39326	39327	39328	39329	39330	39331	39371

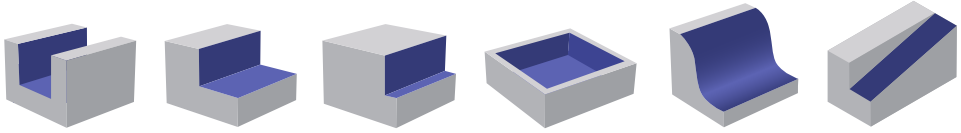
EDP's are a quick build – 1-2 weeks.
All NXG-3 standard tools are uncoated.

NXG-3-VARI-RN

ALUMINUM | COPPER | BRASS

- 40 Degree Helix
- 3-Flute Design for Rouging & Finishing
- 3-Teeth to Center Design for Increased Performance
- Center Cutting
- h6 Shank Tolerance
- Premium Carbide Substrate
- Engineered Edge Prep
- X-ProMAX Coating (available as a special make – minimums apply)
- All NXG-3 Standard Tools are Uncoated
- Reduced Neck design allows for increased stability in long reach applications.
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | HEM | POCKETING | CONTOURING FINISHING | RAMPING

TOOL TOLERANCES

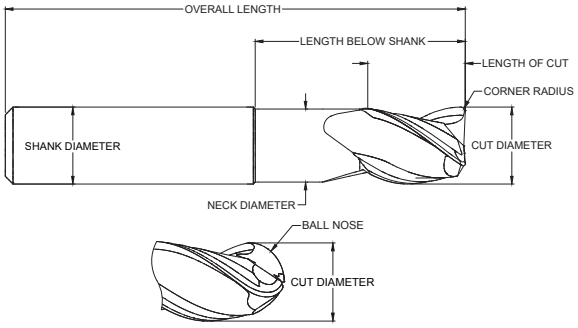
Cut Diameter: h6
Shank Diameter: h6
Length of Cut: +.032/-.000

Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

3-Flute Reduced Neck Solid Carbide HP End Mill



NXG-3-VARI-RN

253 New Tools Added!

Tool Dimensions							End Construction										
CUT Ø	SHANK Ø	LOC	LBS	NECK Ø	OAL	FLUTES	SQUARE	R.010	R.015	R.030	R.060	R.090	R.120	R.125	R.190	R.250	BALL
1/8	1/8	5/32	1/2	0.118	2.5	3	37000	37001	37002	37003							37500
			3/4	0.118	3	3	37004	37005	37006	37007							37501
			1	0.118	3	3	37008	37009	37010	37011							37502
3/16	3/16	7/32	1/2	0.178	2.5	3	37012	37013	37014	37015							37503
			3/4	0.178	3	3	37016	37017	37018	37019							37504
			1	0.178	3	3	37020	37021	37022	37023							37505
1/4	1/4	3/8	3/4	0.237	2.5	3	37024	37025	37026	37027	37028						37506
			1-1/8	0.237	3	3	37029	37030	37031	37032	37033						37507
			1-3/8	0.237	3	3	37034	37035	37036	37037	37038						37508
			1-5/8	0.237	3	3	37039	37040	37041	37042	37043						37509
			1-7/8	0.237	4	3	37044	37045	37046	37047	37048						37510
			2-1/8	0.237	4	3	37049	37050	37051	37052	37053						37511
			2-1/2	0.237	4	3	37054	37055	37056	37057	37058						37512
5/16	5/16	7/16	1-1/8	0.297	4	3	37059	37060	37061	37062	37063						37513
			1-3/4	0.297	4	3	37064	37065	37066	37067	37068						37514
			2-1/8	0.297	4	3	37069	37070	37071	37072	37073						37515
3/8	3/8	1/2	1-1/8	0.356	3	3	37074	37075	37076	37077	37078	37079					37516
			1-5/8	0.356	3	3	37080	37081	37082	37083	37084	37085					37517
			2-1/8	0.356	4	3	37086	37087	37088	37089	37090	37091					37518
			2-1/2	0.356	5	3	37092	37093	37094	37095	37096	37097					37519
			3-1/8	0.356	6	3	37098	37099	37100	37101	37102	37103					37520
1/2	1/2	5/8	1-3/8	0.475	3	3	37104	37105	37106	37107	37108	37109	37218	37110			37521
			2-1/4	0.475	4	3	37111	37112	37113	37114	37115	37116	37219	37117			37522
			3-3/8	0.475	5	3	37118	37119	37120	37121	37122	37123	37220	37124			37523
			3-3/4	0.475	6	3	37125	37126	37127	37128	37129	37130	37221	37131			37524
5/8	5/8	3/4	2-3/8	0.593	4	3	37132	37133	37134	37135	37136	37137	37222	37138			37525
			3-3/8	0.593	6	3	37139	37140	37141	37142	37143	37144	37223	37145			37526
3/4	3/4	1	2	0.712	4	3	37146	37147	37148	37149	37150	37151	37224	37152	37153	37154	37527
			2-1/2	0.712	5	3	37155	37156	37157	37158	37159	37160	37225	37161	37162	37163	37528
			3-3/8	0.712	6	3	37164	37165	37166	37167	37168	37169	37226	37170	37171	37172	37529
			4-1/8	0.712	7	3	37173	37174	37175	37176	37177	37178	37227	37179	37180	37181	37530
1	1	1-1/4	2-5/8	0.950	5	3	37182	37183	37184	37185	37186	37187	37228	37188	37189	37190	37531
			3-3/8	0.950	6	3	37191	37192	37193	37194	37195	37196	37229	37197	37198	37199	37532
			4-3/8	0.950	7	3	37200	37201	37202	37203	37204	37205	37230	37206	37207	37208	37533
			6	0.950	9	3	37209	37210	37211	37212	37213	37214	37231	37215	37216	37217	37534

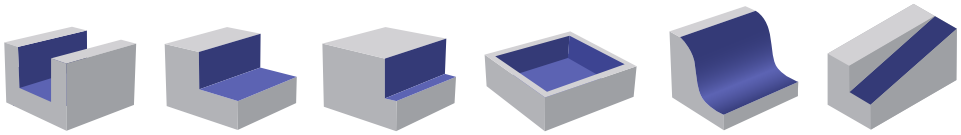
Green Highlighted: EDP's are in stock and ready to ship.
All Others: EDP's are a quick build – 1-2 week build.
All NXG-3 standard tools are uncoated.

NXG-3-VARI-RN-X-PRO

ALUMINUM | COPPER | BRASS

- 40 Degree Helix
- 3-Flute Design for Rouging & Finishing
- 3-Teeth to Center Design for Increased Performance
- Center Cutting
- Variable-Pitch Flute Design
- h6 Shank Tolerance
- Premium Carbide Substrate
- Engineered Edge Prep
- X-ProMAX Coating (available as a special make – minimums apply)
- Engineered Edge Prep
- Reduced Neck design allows for increased stability in long reach applications.

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | HEM | POCKETING | CONTOURING FINISHING | RAMPING

TOOL TOLERANCES

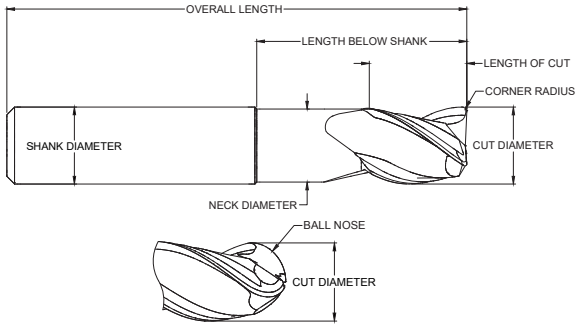
Cut Diameter: h6
Shank Diameter: h6
Length of Cut: +.032/-.000

Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

3-Flute Reduced Neck Solid Carbide HP End Mill



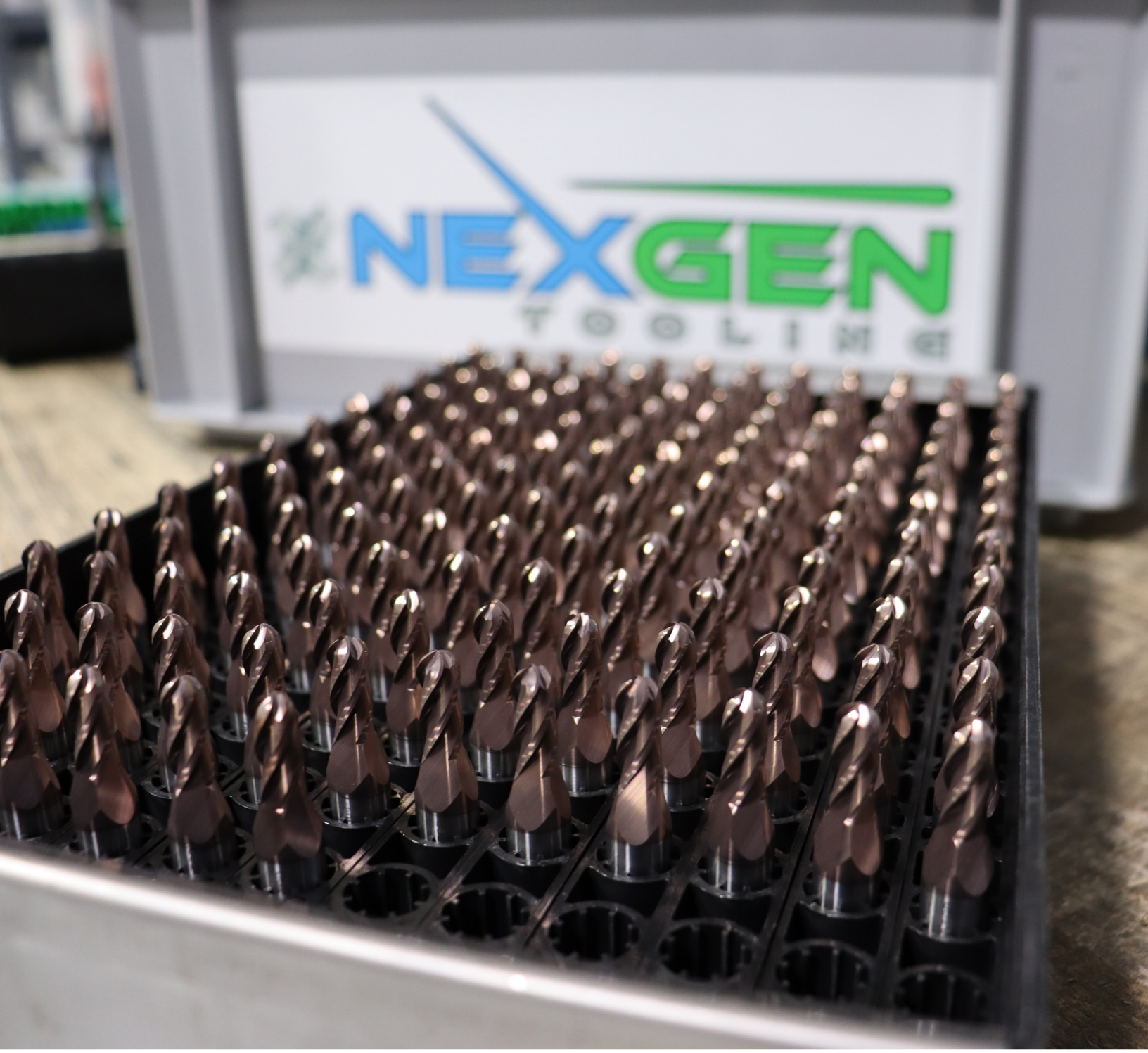
NXG-3-VARI-RN-X-PRO

NEW **X-PROMAX COATING!**

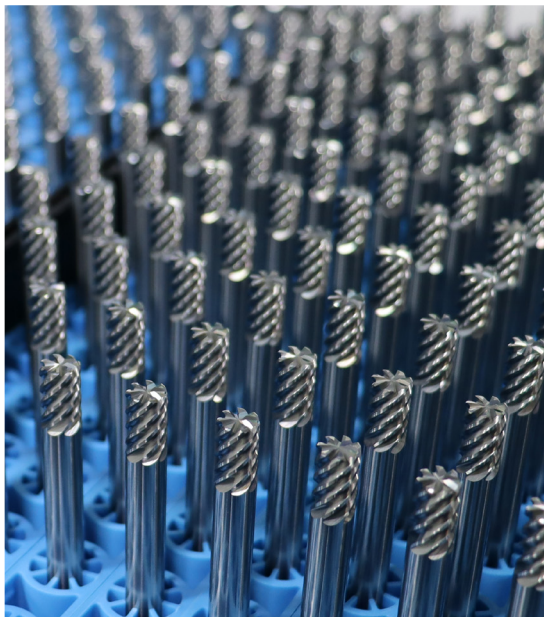
253 New Tools Added!

Tool Dimensions							End Construction										
CUT Ø	SHANK Ø	LOC	LBS	NECK Ø	OAL	FLUTES	SQUARE	R.010	R.015	R.030	R.060	R.090	R.120	R.125	R.190	R.250	BALL
1/8	1/8	5/32	1/2	0.118	2.5	3	38000	38001	38002	38003							38500
			3/4	0.118	3	3	38004	38005	38006	38007							38501
			1	0.118	3	3	38008	38009	38010	38011							38502
3/16	3/16	7/32	1/2	0.178	2.5	3	38012	38013	38014	38015							38503
			3/4	0.178	3	3	38016	38017	38018	38019							38504
			1	0.178	3	3	38020	38021	38022	38023							38505
1/4	1/4	3/8	3/4	0.237	2.5	3	38024	38025	38026	38027	38028						38506
			1 1/8	0.237	3	3	38029	38030	38031	38032	38033						38507
			1 3/8	0.237	3	3	38034	38035	38036	38037	38038						38508
			1 5/8	0.237	3	3	38039	38040	38041	38042	38043						38509
			1 7/8	0.237	4	3	38044	38045	38046	38047	38048						38510
			2 1/8	0.237	4	3	38049	38050	38051	38052	38053						38511
			2 1/2	0.237	4	3	38054	38055	38056	38057	38058						38512
5/16	5/16	7/16	1 1/8	0.297	4	3	38059	38060	38061	38062	38063						38513
			1 3/4	0.297	4	3	38064	38065	38066	38067	38068						38514
			2 1/8	0.297	4	3	38069	38070	38071	38072	38073						38515
3/8	3/8	1/2	1 1/8	0.356	3	3	38074	38075	38076	38077	38078	38079					38516
			1 5/8	0.356	3	3	38080	38081	38082	38083	38084	38085					38517
			2 1/8	0.356	4	3	38086	38087	38088	38089	38090	38091					38518
			2 1/2	0.356	5	3	38092	38093	38094	38095	38096	38097					38519
			3 1/8	0.356	6	3	38098	38099	38100	38101	38102	38103					38520
1/2	1/2	5/8	1 3/8	0.475	3	3	38104	38105	38106	38107	38108	38109	38218	38110			38521
			2 1/4	0.475	4	3	38111	38112	38113	38114	38115	38116	38219	38117			38522
			3 3/8	0.475	5	3	38118	38119	38120	38121	38122	38123	38220	38124			38523
			3 3/4	0.475	6	3	38125	38126	38127	38128	38129	38130	38221	38131			38524
5/8	5/8	3/4	2 3/8	0.593	4	3	38132	38133	38134	38135	38136	38137	38222	38138			38525
			3 3/8	0.593	6	3	38139	38140	38141	38142	38143	38144	38223	38145			38526
3/4	3/4	1	2	0.712	4	3	38146	38147	38148	38149	38150	38151	38224	38152	38153	38154	38527
			2 1/2	0.712	5	3	38155	38156	38157	38158	38159	38160	38225	38161	38162	38163	38528
			3 3/8	0.712	6	3	38164	38165	38166	38167	38168	38169	38226	38170	38171	38172	38529
			4 1/8	0.712	7	3	38173	38174	38175	38176	38177	38178	38227	38179	38180	38181	38530
1	1	1 1/4	2 5/8	0.950	5	3	38182	38183	38184	38185	38186	38187	38228	38188	38189	38190	38531
			3 3/8	0.950	6	3	38191	38192	38193	38194	38195	38196	38229	38197	38198	38199	38532
			4 3/8	0.950	7	3	38200	38201	38202	38203	38204	38205	38230	38206	38207	38208	38533
			6	0.950	9	3	38209	38210	38211	38212	38213	38214	38231	38215	38216	38217	38534

* X-Pro-MAX coated tools are made to order, please call for lead time.


NEXGEN
TOOLING


NEXGEN
NXG-01340
NXG-01340
NXG-01340



FERROUS TOOLING

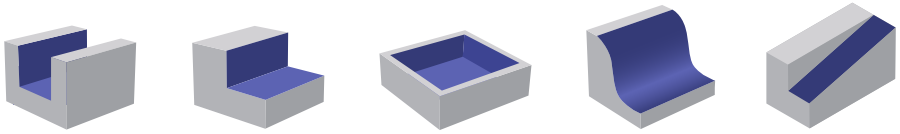
STEEL | CAST IRON | STAINLESS STEEL
HI-TEMP ALLOYS | TITANIUM

NXG-4

STEEL | CAST IRON | STAINLESS STEEL | HI-TEMP ALLOYS

- 35 Degree Helix
- 4-Flute Design for Rouging & Finishing
- Center Cutting
- Variable-Pitch Flute Design
- All NXG-4 Standard Tools are A-ProMAX Coated
- h6 Shank Tolerance
- Premium Carbide Substrate
- Engineered Edge Prep
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | POCKETING | CONTOURING FINISHING | RAMPING

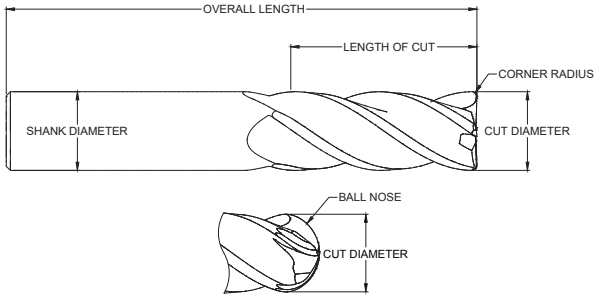
TOOL TOLERANCES

Cut Diameter: +.000/-.002
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

4-Flute Solid Carbide HP End Mill



NXG-4

Tool Dimensions					End Construction											
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	R.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250	Ball
1/8	1/8	1/4	1-1/2	4	40001	41000	41019	41235	41020							42000
		1/2	2	4	40002	41001	41021	41236	41022							42001
		3/4	2-1/2	4	40020	41023	41024	41237	41025							42014
3/16	3/16	5/16	2	4	40040	41026	41027	41238	41241							42002
		5/16	2-1/2	4	40003	41002										
		9/16	2-1/2	4	40004	41003	41028	41239	41029							42003
		3/4	2-1/2	4	40021	41030	41031	41240	41032							42015
1/4	1/4	3/8	2	4	40041	41033	41034	41242	41035	41036						42004
		3/8	2-1/2	4	40005			41004								
		1/2	2-1/2	4	40023	41037	41038	41039	41040	41041						42016
		3/4	2-1/2	4	40006	41042	41043	41005	41044	41045						42005
		1	3	4	40007	41046	41047	41006	41289	41048						42017
		1-1/4	3	4	40024	41049	41050	41051	41052	41053						42018
5/16	5/16	7/16	2	4	40025	41054	41055	41056	41057	41058						42019
		13/16	2-1/2	4	40026	41059	41060	41061	41062	41063						42020
3/8	3/8	1/2	2	4	40008	41064	41065	41007	41066	41067	41068	41069	41070			42006
		3/4	2-1/2	4	40043	41281	41282	41283	41284	41285	41286	41287	41288			42039
		1	3	4	40009	41071	41072	41008	41073	41074	41075	41076	41077			42007
		1-1/4	3	4	40027	41078	41079	41080	41081	41082	41083	41084	41085			42021
		1-1/2	3-1/2	4	40028	41086	41087	41088	41089	41090	41091	41092	41093			42022
1/2	1/2	5/8	2-1/2	4	40010	41094	41095	41096	41009	41097	41098	41099	41100			42008
		1	3	4	40011	41101	41102	41103	41010	41104	41105	41106	41107			42009
		1-1/4	3	4	40012	41108	41109	41110	41011	41111	41112	41113	41114			42010
		1-5/8	4	4	40013	41115	41116	41117	41012	41118	41119	41120	41121			42023
		2	4	4	40029	41122	41123	41124	41125	41126	41127	41128	41129			42024
5/8	5/8	3/4	3	4	40030	41243	41244	41245	41130	41131	41132	41133	41134			42025
		1	3	4	40014	41246	41247	41248	41013	41249	41250	41251	41252			42011
		1-1/4	3-1/2	4	40031	41253	41254	41255	41135	41136	41137	41138	41139			42026
		1-5/8	3-1/2	4	40015	41256	41257	41258	41014	41140	41141	41142	41143			42027
		2-1/8	4	4	40032	41259	41260	41261	41144	41145	41146	41147	41148			42028
		2-1/2	5	4	40033	41262	41263	41264	41149	41150	41151	41152	41153			42029
3/4	3/4	1	3	4	40042	41154	41155	41156	41280	41157	41158	41159	41160	41161	41162	42038
		1	4	4	40016				41015							42012
		1-5/8	4	4	40017	41163	41164	41165	41016	41166	41167	41168	41169	41170	41171	42030
		2-1/4	5	4	40034	41172	41173	41174	41175	41176	41177	41178	41179	41180	41181	42031
		2-3/4	5	4	40035	41182	41183	41184	41185	41186	41187	41188	41189	41190	41191	42032
		3-1/4	6	4	40036	41192	41193	41194	41195	41196	41197	41198	41199	41200	41201	42033
1	1	1-1/4	4-1/2	4	40018	41265	41266	41267	41017	41202	41203	41204	41205	41206	41207	42013
		2	4-1/2	4	40019	41268	41269	41270	41018	41208	41209	41210	41211	41212	41213	42034
		2-5/8	5	4	40037	41271	41272	41273	41214	41215	41216	41217	41218	41219	41220	42035
		3-1/4	6	4	40038	41274	41275	41276	41221	41222	41223	41224	41225	41226	41227	42036
		4-1/4	7	4	40039	41277	41278	41279	41228	41229	41230	41231	41232	41233	41234	42037

Blue Highlighted: EDP's are in stock and ready to ship.

All Others: EDP's are a quick build – 2 weeks coated.

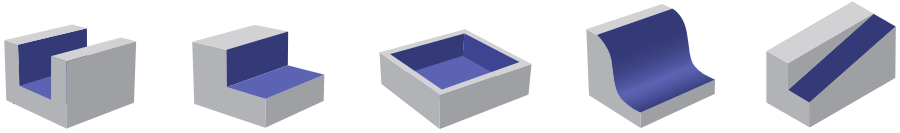
All NXG-4 standard tools are A-ProMAX coated.

NXG-4-RN

STEEL | CAST IRON | STAINLESS STEEL | HI-TEMP ALLOYS

- 35 Degree Helix
- 4-Flute Design for Rouging & Finishing
- Center Cutting
- Variable-Pitch Flute Design
- All NXG-4 Standard Tools are A-ProMAX Coated
- h6 Shank Tolerance
- Premium Carbide Substrate
- Engineered Edge Prep
- Reduced Neck design allows for increased stability in long reach applications.
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | POCKETING | CONTOURING FINISHING | RAMPING

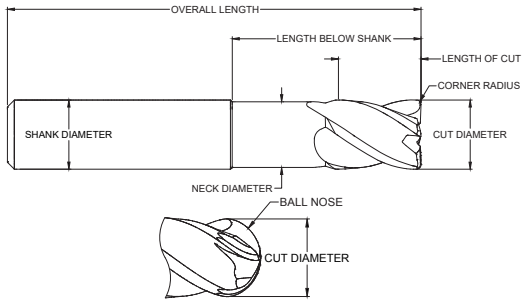
TOOL TOLERANCES

Cut Diameter: +.000/-.002
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

4-Flute Reduced Neck Solid Carbide HP End Mill



NXG-4-RN

241 New Tools Added!

Tool Dimensions							End Construction									
CUT Ø	SHANK Ø	LOC	LBS	NECK Ø	OAL	FLUTES	SQUARE	R.010	R.015	R.030	R.060	R.090	R.125	R.190	R.250	Ball
1/8	1/8	5/32	1/2	0.118	2.5	4	47000	47001	47002	47003						47500
			3/4	0.118	3	4	47004	47005	47006	47007						47501
			1	0.118	3	4	47008	47009	47010	47011						47502
3/16	3/16	7/32	1/2	0.178	2.5	4	47012	47013	47014	47015						47503
			3/4	0.178	3	4	47016	47017	47018	47019						47504
			1	0.178	3	4	47020	47021	47022	47023						47505
1/4	1/4	3/8	3/4	0.237	3	4	47024	47025	47026	47027	47028					47506
			1-1/8	0.237	3	4	47029	47030	47031	47032	47033					47507
			1-5/8	0.237	3	4	47034	47035	47036	47037	47038					47508
			2-1/8	0.237	4	4	47039	47040	47041	47042	47043					47509
			2-1/2	0.237	4	4	47044	47045	47046	47047	47048					47510
5/16	5/16	7/16	1-1/8	0.297	4	4	47049	47050	47051	47052	47053					47511
			1-3/4	0.297	4	4	47054	47055	47056	47057	47058					47512
			2-1/8	0.297	4	4	47059	47060	47061	47062	47063					47513
3/8	3/8	1/2	1-1/8	0.356	3	4	47064	47065	47066	47067	47068	47069				47514
			1-5/8	0.356	3	4	47070	47071	47072	47073	47074	47075				47515
			2-1/8	0.356	4	4	47076	47077	47078	47079	47080	47081				47516
			2-1/2	0.356	5	4	47082	47083	47084	47085	47086	47087				47517
			3-1/8	0.356	6	4	47088	47089	47090	47091	47092	47093				47518
1/2	1/2	5/8	1-3/8	0.475	3	4	47094	47095	47096	47097	47098	47099	47100			47519
			2-1/4	0.475	4	4	47101	47102	47103	47104	47105	47106	47107			47520
			3-3/8	0.475	5	4	47108	47109	47110	47111	47112	47113	47114			47521
			3-3/4	0.475	6	4	47115	47116	47117	47118	47119	47120	47121			47522
5/8	5/8	3/4	2-3/8	0.593	4	4	47122	47123	47124	47125	47126	47127	47128			47523
			3-3/8	0.593	6	4	47129	47130	47131	47132	47133	47134	47135			47524
3/4	3/4	1	2	0.712	4	4	47136	47137	47138	47139	47140	47141	47142	47143	47144	47525
			2-1/2	0.712	5	4	47145	47146	47147	47148	47149	47150	47151	47152	47153	47526
			3-3/8	0.712	6	4	47154	47155	47156	47157	47158	47159	47160	47161	47162	47527
			4-1/8	0.712	7	4	47163	47164	47165	47166	47167	47168	47169	47170	47171	47528
1	1	1-1/4	2-5/8	0.950	5	4	47172	47173	47174	47175	47176	47177	47178	47179	47180	47529
			3-3/8	0.950	6	4	47181	47182	47183	47184	47185	47186	47187	47188	47189	47530
			4-3/8	0.950	7	4	47190	47191	47192	47193	47194	47195	47196	47197	47198	47531
			6	0.950	9	4	47199	47200	47201	47202	47203	47204	47205	47206	47207	47532

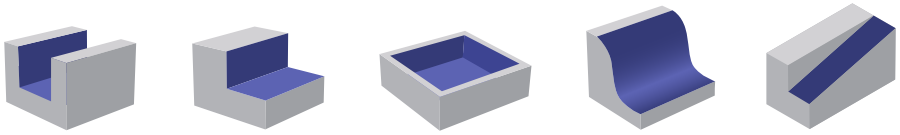
Blue Highlighted: EDP's are in stock and ready to ship.
All Others: EDP's are a quick build – 2 weeks coated.
All NXG-4 standard tools are A-ProMAX coated.

NXG-5

STEEL | CAST IRON | STAINLESS STEEL | HI-TEMP ALLOYS

- 40 Degree Helix
- 5-Flute Design for Rouging & Finishing
- Center Cutting
- Variable-Pitch Flute Design
- All NXG-5 Standard Tools are A-ProMAX Coated
- h6 Shank Tolerance
- Premium Carbide Substrate
- Engineered Edge Prep
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | POCKETING | CONTOURING FINISHING | RAMPING

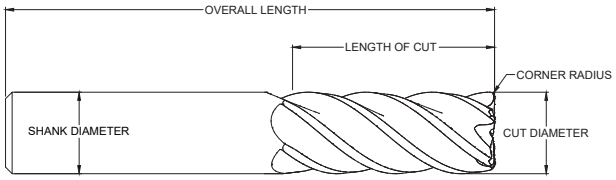
TOOL TOLERANCES

Cut Diameter: +.000/-.002
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

5-Flute Solid Carbide HP End Mill



NXG-5

Tool Dimensions					End Construction										
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	0.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250
1/8	1/8	1/4	1-1/2	5	50025	50001	50026	50280	50027						
		1/2	2	5	50028	50002	50029	50281	50030						
		3/4	2-1/2	5	50031	50032	50033	50282	50034						
3/16	3/16	5/16	2	5	50035	50279	50036	50283	50037						
		5/16	2-1/2	5		50003									
		9/16	2-1/2	5	50038	50004	50039	50284	50040						
		3/4	2-1/2	5	50041	50042	50043	50285	50044						
1/4	1/4	3/8	2	5	50045	50046	50047	50278	50048	50049					
		3/8	2-1/2	5				50005							
		1/2	2-1/2	5	50050	50051	50052	50053	50054	50055					
		3/4	2-1/2	5	50056	50057	50058	50006	50059	50060					
		1	3	5	50061	50062	50063	50007	50064	50065					
		1-1/4	3	5	50066	50067	50068	50069	50070	50071					
5/16	5/16	7/16	2	5	50072	50073	50074	50008	50075	50076					
		13/16	2-1/2	5	50077	50078	50079	50009	50080	50081					
3/8	3/8	1/2	2	5	50082	50083	50084	50010	50085	50086	50087	50088	50089		
		3/4	2-1/2	5	50316	50317	50318	50319	50320	50321	50322	50323	50324		
		1	3	5	50090	50091	50092	50011	50093	50094	50095	50096	50097		
		1-1/4	3	5	50098	50099	50100	50101	50102	50103	50104	50105	50106		
		1-1/2	3-1/2	5	50107	50108	50109	50110	50111	50112	50113	50114	50115		
1/2	1/2	5/8	2-1/2	5	50116	50117	50118	50119	50012	50024	50120	50121	50122		
		1	3	5	50123	50124	50125	50126	50013	50127	50128	50129	50130		
		1-1/4	3	5	50131	50132	50133	50134	50014	50135	50136	50137	50138		
		1-5/8	4	5	50139	50140	50141	50142	50015	50143	50144	50145	50146		
		2	4	5	50147	50148	50149	50150	50151	50152	50153	50154	50155		
5/8	5/8	3/4	3	5	50156	50286	50287	50288	50016	50157	50158	50159	50160		
		1-1/4	3-1/2	5	50161	50289	50290	50291	50017	50162	50163	50164	50165		
		1-5/8	3-1/2	5	50166	50292	50293	50294	50018	50167	50168	50169	50170		
		2-1/8	4	5	50171	50295	50296	50297	50172	50173	50174	50175	50176		
		2-1/2	5	5	50177	50298	50299	50300	50178	50179	50180	50181	50182		
3/4	3/4	1	3	5	50183	50184	50185	50186	50019	50187	50188	50189	50190	50191	50192
		1-1/2	4	5	50274				50020						
		1-5/8	4	5	50193	50194	50195	50196	50021	50197	50198	50199	50200	50201	50202
		2-1/4	5	5	50203	50204	50205	50206	50207	50208	50209	50210	50211	50212	50213
		2-3/4	5	5	50214	50215	50216	50217	50218	50219	50220	50221	50222	50223	50224
		3-1/4	6	5	50225	50226	50227	50228	50229	50230	50231	50232	50233	50234	50235
1	1	1-1/4	4-1/2	5	50236	50301	50302	50303	50022	50237	50238	50239	50240	50241	50242
		2	4-1/2	5	50243	50304	50305	50306	50023	50244	50245	50246	50247	50248	50249
		2-5/8	5	5	50250	50307	50308	50309	50251	50252	50253	50254	50255	50256	50257
		3-1/4	6	5	50258	50310	50311	50312	50259	50260	50261	50262	50263	50264	50265
		4-1/4	7	5	50266	50313	50314	50315	50267	50268	50269	50270	50271	50272	50273

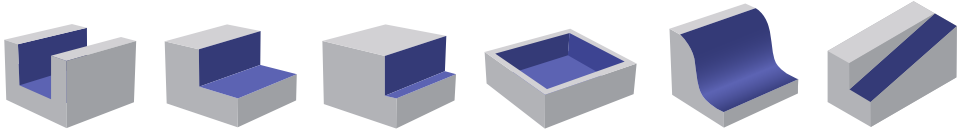
Blue Highlighted: EDP's are in stock and ready to ship.
All Others: EDP's are a quick build – 2 weeks coated.
All NXG-5 standard tools are A-ProMAX coated.

NXG-5-RN

STEEL | CAST IRON | STAINLESS STEEL | HI-TEMP ALLOYS

- 40 Degree Helix
- 5-Flute Design for Roughing & Finishing
- Center Cutting
- Variable-Pitch Flute Design
- All NXG-5 Standard Tools are A-ProMAX Coated
- h6 Shank Tolerance
- Premium Carbide Substrate
- Engineered Edge Prep
- Reduced Neck design allows for increased stability in long reach applications.
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



FULL SLOTTING | HEAVY ROUGHING | HEM | POCKETING | CONTOURING FINISHING | RAMPING

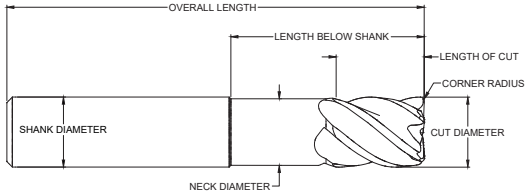
TOOL TOLERANCES

Cut Diameter: +.000/-.002
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

5-Flute Reduced Neck Solid Carbide HP End Mill



NXG-5-RN

208 New Tools Added!

Tool Dimensions							End Construction								
CUT Ø	SHANK Ø	LOC	LBS	NECK Ø	OAL	FLUTES	SQUARE	R.010	R.015	R.030	R.060	R.090	R.120	R.190	R.250
1/8	1/8	5/32	1/2	0.118	2.5	5	57000	57001	57002	57003					
			3/4	0.118	3	5	57004	57005	57006	57007					
			1	0.118	3	5	57008	57009	57010	57011					
3/16	3/16	7/32	1/2	0.178	2.5	5	57012	57013	57014	57015					
			3/4	0.178	3	5	57016	57017	57018	57019					
			1	0.178	3	5	57020	57021	57022	57023					
1/4	1/4	3/8	3/4	0.237	3	5	57024	57025	57026	57027	57028				
			1-1/8	0.237	3	5	57029	57030	57031	57032	57033				
			1-5/8	0.237	3	5	57034	57035	57036	57037	57038				
			2-1/8	0.237	4	5	57039	57040	57041	57042	57043				
			2-1/2	0.237	4	5	57044	57045	57046	57047	57048				
5/16	5/16	7/16	1-1/8	0.297	4	5	57049	57050	57051	57052	57053				
			1-3/4	0.297	4	5	57054	57055	57056	57057	57058				
			2-1/8	0.297	4	5	57059	57060	57061	57062	57063				
3/8	3/8	1/2	1-1/8	0.356	3	5	57064	57065	57066	57067	57068	57069			
			1-5/8	0.356	3	5	57070	57071	57072	57073	57074	57075			
			2-1/8	0.356	4	5	57076	57077	57078	57079	57080	57081			
			2-1/2	0.356	5	5	57082	57083	57084	57085	57086	57087			
			3-1/8	0.356	6	5	57088	57089	57090	57091	57092	57093			
1/2	1/2	5/8	1-3/8	0.475	3	5	57094	57095	57096	57097	57098	57099	57100		
			2-1/4	0.475	4	5	57101	57102	57103	57104	57105	57106	57107		
			3-3/8	0.475	5	5	57108	57109	57110	57111	57112	57113	57114		
			3-3/4	0.475	6	5	57115	57116	57117	57118	57119	57120	57121		
5/8	5/8	3/4	2-3/8	0.593	4	5	57122	57123	57124	57125	57126	57127	57128		
			3-3/8	0.593	6	5	57129	57130	57131	57132	57133	57134	57135		
3/4	3/4	1	2	0.712	4	5	57136	57137	57138	57139	57140	57141	57142	57143	57144
			2-1/2	0.712	5	5	57145	57146	57147	57148	57149	57150	57151	57152	57153
			3-3/8	0.712	6	5	57154	57155	57156	57157	57158	57159	57160	57161	57162
			4-1/8	0.712	7	5	57163	57164	57165	57166	57167	57168	57169	57170	57171
1	1	1-1/4	2-5/8	0.950	5	5	57172	57173	57174	57175	57176	57177	57178	57179	57180
			3-3/8	0.950	6	5	57181	57182	57183	57184	57185	57186	57187	57188	57189
			4-3/8	0.950	7	5	57190	57191	57192	57193	57194	57195	57196	57197	57198
			6	0.950	9	5	57199	57200	57201	57202	57203	57204	57205	57206	57207

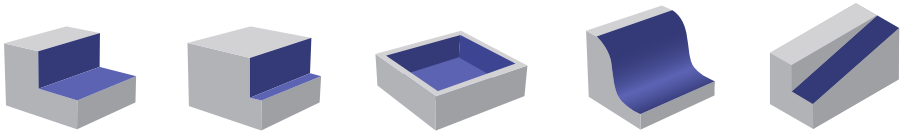
Blue Highlighted: EDP's are in stock and ready to ship.
All Others: EDP's are a quick build – 2 weeks coated.
All NXG-5 standard tools are A-ProMAX coated.

NXG-6

STEEL | CAST IRON | STAINLESS STEEL | HI-TEMP ALLOYS

- 37 Degree Helix
- 6-Flute Design for Rouging & Finishing
- Center Cutting
- Variable-Pitch Flute Design
- All NXG-6 Standard Tools are A-ProMAX Coated
- h6 Shank Tolerance
- Premium Carbide Substrate
- Engineered Edge Prep
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



HEAVY ROUGHING | HEM | POCKETING | CONTOURING FINISHING | RAMPING

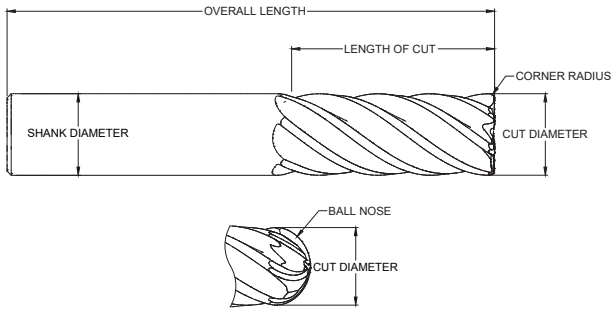
TOOL TOLERANCES

Cut Diameter: +.000/-.002
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

6-Flute Solid Carbide HP End Mill



NXG-6

Tool Dimensions					End Construction											
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	0.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250	Ball
1/4	1/4	3/8	2	6	60003	60004	60005	60006	60007	60008						62000
		1/2	2-1/2	6	60009	60010	60011	60012	60013	60014						62001
		3/4	2-1/2	6	60015	60016	60017	60018	60019	60020						62002
		1	3	6	60021	60022	60023	60024	60025	60026						62003
		1-1/4	3	6	60027	60028	60029	60030	60031	60032						62004
3/8	3/8	1/2	2	6	60033	60034	60035	60036	60037	60038	60039	60040	60041			62005
		3/4	2-1/2	6	60042	60043	60044	60045	60046	60047	60048	60002	60049			62006
		1	3	6	60050	60051	60052	60053	60054	60055	60056	60057	60058			62007
		1-1/4	3	6	60059	60060	60061	60062	60063	60064	60065	60066	60067			62008
		1-1/2	3-1/2	6	60068	60069	60070	60071	60072	60073	60074	60075	60076			62009
1/2	1/2	5/8	2-1/2	6	60077	60078	60079	60080	60081	60082	60083	60084	60085			62010
		1	3	6	60086	60087	60088	60089	60090	60091	60092	60093	60094			62011
		1-1/4	3	6	60095	60096	60097	60098	60000	60099	60100	60101	60102			62012
		1-5/8	4	6	60103	60104	60105	60106	60107	60108	60109	60110	60111			62013
		2	4	6	60112	60113	60114	60115	60116	60117	60118	60119	60120			62014
5/8	5/8	3/4	3	6	60121	60122	60123	60124	60125	60126	60127	60128	60129			62015
		1-1/4	3-1/2	6	60130	60131	60132	60133	60134	60135	60136	60137	60138			62016
		1-5/8	3-1/2	6	60139	60140	60141	60142	60143	60144	60145	60146	60147			62017
		2-1/8	4	6	60148	60149	60150	60151	60152	60153	60154	60155	60156			62018
		2-1/2	5	6	60157	60158	60159	60160	60161	60162	60163	60164	60165			62019
3/4	3/4	1	3	6	60166	60167	60168	60169	60170	60171	60172	60173	60174	60175	60176	62020
		1-5/8	4	6	60177	60178	60179	60180	60001	60181	60182	60183	60184	60185	60186	62021
		2-1/4	5	6	60187	60188	60189	60190	60191	60192	60193	60194	60195	60196	60197	62022
		2-3/4	5	6	60198	60199	60200	60201	60202	60203	60204	60205	60206	60207	60208	62023
		3-1/4	6	6	60209	60210	60211	60212	60213	60214	60215	60216	60217	60218	60219	62024
1.0	1.0	1-1/4	4-1/2	6	60220	60221	60222	60223	60224	60225	60226	60227	60228	60229	60230	62025
		2	4-1/2	6	60231	60232	60233	60234	60235	60236	60237	60238	60239	60240	60241	62026
		2-5/8	5	6	60242	60243	60244	60245	60246	60247	60248	60249	60250	60251	60252	62027
		3-1/4	6	6	60253	60254	60255	60256	60257	60258	60259	60260	60261	60262	60263	62028
		4-1/4	7	6	60264	60265	60266	60267	60268	60269	60270	60271	60272	60273	60274	62029

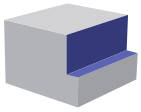
Blue Highlighted: EDP's are in stock and ready to ship.
All Others: EDP's are a quick build – 2 weeks coated.
All NXG-6 standard tools are A-ProMAX coated.

NXG-7

STEEL | CAST IRON | STAINLESS STEEL | HI-TEMP ALLOYS

- 37 Degree Helix
- 7-Flute Design for Roughing & Finishing
- Center Cutting
- Variable-Pitch Flute Design
- All NXG-7 Standard Tools are A-ProMAX Coated
- h6 Shank Tolerance
- Premium Carbide Substrate
- Engineered Edge Prep
- Variable pitch and engineered edge prep for maximum strength and vibration free cutting in heavy cuts and roughing applications

RECOMMENDED APPLICATIONS



HEM/FINISHING

RAMPING

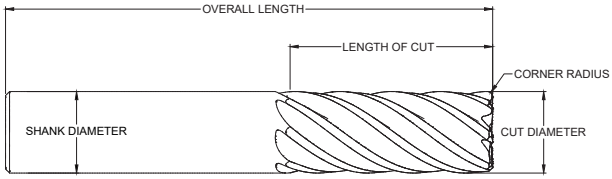
TOOL TOLERANCES

Cut Diameter: +.000/-.002
Shank Diameter: h6
Length of Cut: +.032/-.000
Overall Length: +/- .050
Corner Radius: +/- .002

NOTES

Speeds & Feeds Found on Page 56

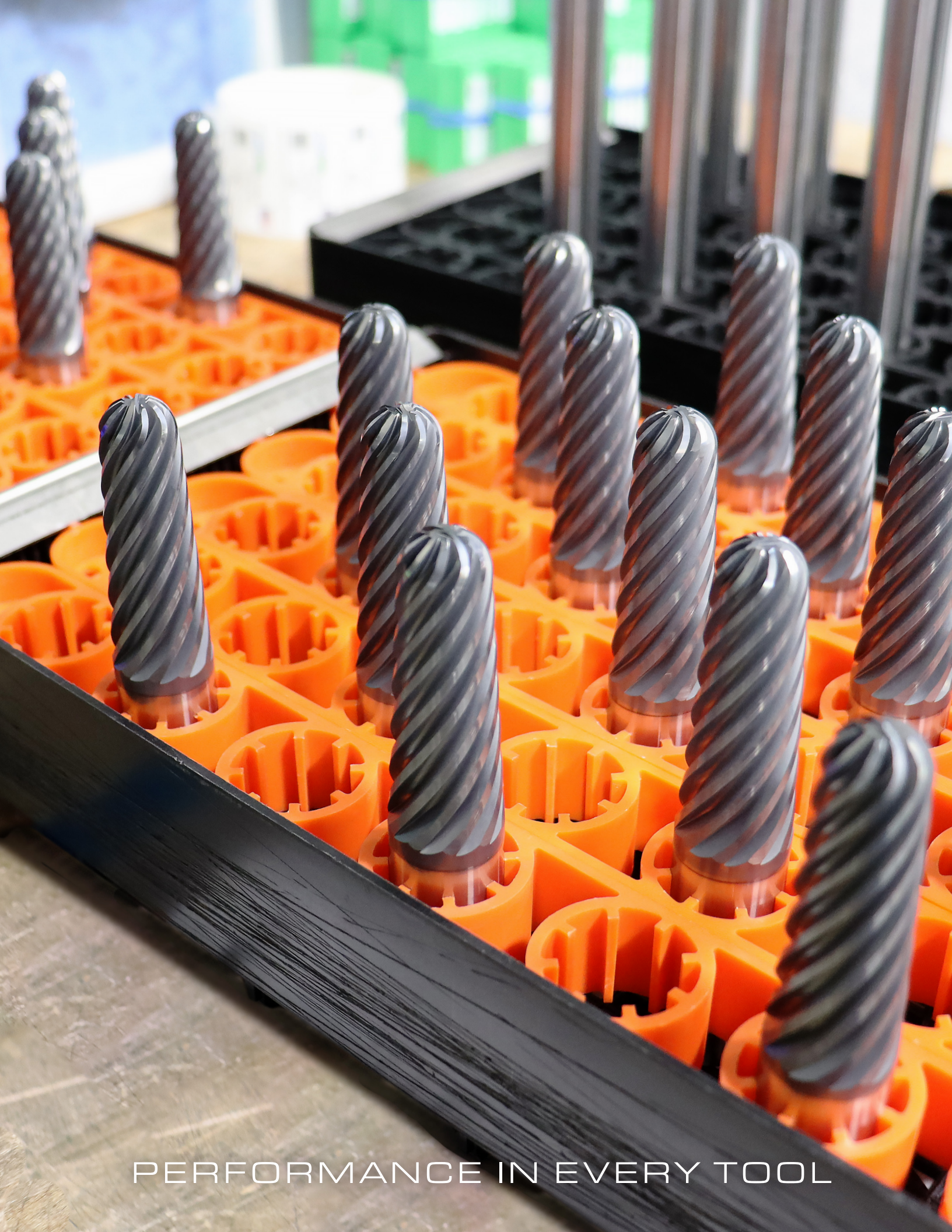
7-Flute Solid Carbide HP End Mill

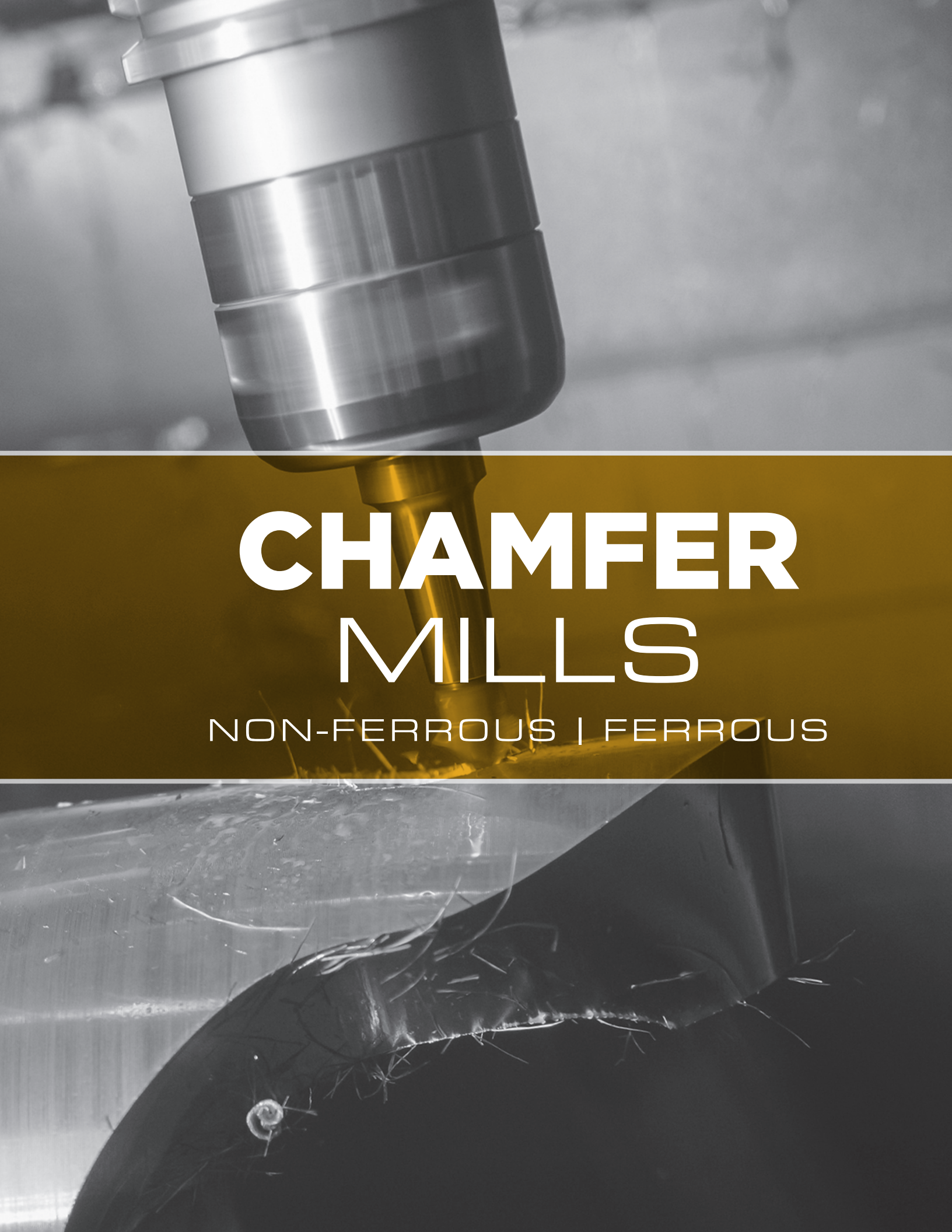


NXG-7

Tool Dimensions					End Construction										
CUT Ø	SHANK Ø	LOC	OAL	FLUTES	SQUARE	R.010	0.015	R.020	R.030	R.060	R.090	R.120	R.125	R.190	R.250
1/4	1/4	3/8	2	7	70010	70011	70012	70013	70014	70015					
		1/2	2-1/2	7	70016	70017	70018	70019	70020	70021					
		3/4	2-1/2	7	70022	70023	70024	70025	70026	70027					
		1	3	7	70028	70029	70030	70031	70032	70033					
		1-1/4	3	7	70034	70035	70036	70037	70038	70039					
3/8	3/8	1/2	2	7	70040	70041	70042	70043	70044	70045					
		3/4	2-1/2	7	70255	70256	70257	70258	70259	70260					
		1	3	7	70046	70047	70048	70049	70050	70051					
		1-1/4	3	7	70052	70053	70054	70055	70056	70057					
		1-1/2	3-1/2	7	70058	70059	70060	70061	70062	70063					
1/2	1/2	5/8	2-1/2	7	70064	70065	70066	70067	70001	70068	70069	70206	70207		
		1	3	7	70070	70071	70072	70073	70074	70075	70076	70208	70209		
		1-1/4	3	7	70077	70078	70079	70080	70002	70009	70081	70204	70205		
		1-5/8	4	7	70082	70083	70084	70085	70086	70087	70088	70210	70211		
		2	4	7	70089	70090	70091	70092	70003	70093	70094	70212	70213		
5/8	5/8	3/4	3	7	70095	70214	70215	70216	70096	70097	70098	70217	70218		
		1-1/4	3-1/2	7	70099	70219	70220	70221	70100	70101	70102	70222	70223		
		1-5/8	3-1/2	7	70103	70224	70225	70226	70104	70105	70106	70227	70228		
		2-1/8	4	7	70107	70229	70230	70231	70108	70109	70110	70232	70233		
		2-1/2	5	7	70111	70234	70235	70236	70112	70113	70114	70237	70238		
3/4	3/4	1	3	7	70115	70116	70117	70118	70254	70119	70120	70121	70122		
		1	4	7					70004						
		1-5/8	4	7	70123	70133	70134	70135	70005	70136	70137	70138	70139		
		2-1/4	5	7	70140	70141	70142	70143	70144	70145	70146	70147	70148		
		2-3/4	5	7	70149	70150	70151	70152	70153	70154	70155	70156	70157		
		3-1/4	6	7	70158	70159	70160	70161	70162	70163	70164	70165	70166		
1.0	1.0	1-1/4	4-1/2	7	70167	70239	70240	70241	70006	70168	70169	70170	70171	70172	70173
		2	4-1/2	7	70174	70242	70243	70244	70007	70175	70176	70177	70178	70179	70180
		2-5/8	5	7	70181	70245	70246	70247	70182	70183	70184	70185	70186	70187	70188
		3-1/4	6	7	70189	70248	70249	70250	70190	70191	70192	70193	70194	70195	70196
		4-1/4	7	7	70197	70251	70252	70253	70008	70198	70199	70200	70201	70202	70203

Blue Highlighted: EDP's are in stock and ready to ship.
All Others: EDP's are a quick build – 2 weeks coated.
All NXG-7 standard tools are A-ProMAX coated.


PERFORMANCE IN EVERY TOOL



CHAMFER MILLS

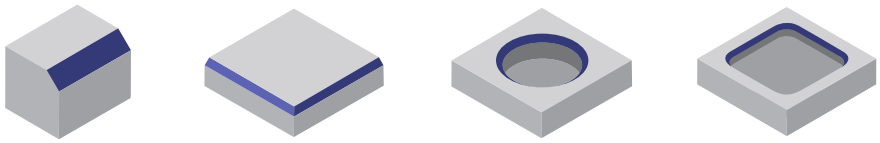
NON-FERROUS | FERROUS

CHAMFER MILLS

NON-FERROUS | FERROUS

- Traditional Design on 2 & 4 Flutes (Center Cutting)
- High-Performance Design on 3 & 5 Flutes (Non-Center Cutting)
- All Chamfer Mill Standard Tools are A-ProMAX Coated
- h6 Shank Tolerance
- Premium Carbide Substrate
- For Roughing & Finishing Chamfer Features

RECOMMENDED APPLICATIONS



BEVEL EDGE | CHAMFER EDGE | CHAMFERED HOLE | CHAMFERED POCKET

TOOL TOLERANCES

Cut Diameter: +.000/-.002
Shank Diameter: h6
Overall Length: +/- .050
Point Angle Tolerance: +/- 1/2°

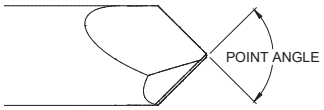
NOTES

Speeds & Feeds Found on Page 56

TRADITIONAL STRAIGHT FLUTE

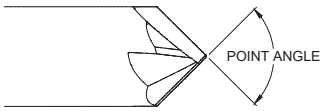
CHM-2

					Point Angle (Incl.) – Center Cutting			
CUT Ø	SHANK Ø	TIP DIA.	OAL	FLUTES	60°	90°	100°	120°
1/8	1/8	N/A	2	2	01000	01001	01002	01003
3/16	3/16	N/A	2	2	01004	01005	01006	01007
1/4	1/4	N/A	2-1/2	2	01008	01009	01010	01011
3/8	3/8	N/A	2-1/2	2	01012	01013	01014	01015
1/2	1/2	N/A	3	2	01016	01017	01018	01019



CHM-4

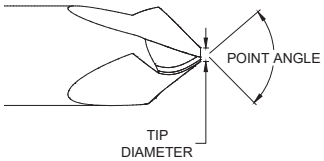
					Point Angle (Incl.) – Center Cutting			
CUT Ø	SHANK Ø	TIP DIA.	OAL	FLUTES	60°	90°	100°	120°
3/16	3/16	N/A	2	4	01020	01021	01022	01023
1/4	1/4	N/A	2-1/2	4	01024	01025	01026	01027
3/8	3/8	N/A	2-1/2	4	01028	01029	01030	01031
1/2	1/2	N/A	3	4	01032	01033	01034	01035
3/4	3/4	N/A	3	4	01036	01037	01038	01039



HIGH-PERFORMANCE SPIRAL FLUTE

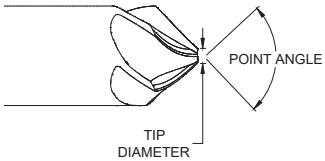
CHM-3

					Point Angle (Incl.) – Non-Center Cutting			
CUT Ø	SHANK Ø	TIP DIA.	OAL	FLUTES	60°	90°	100°	120°
1/8	1/8	0.040	2	3	01300	01301	01302	01303
3/16	3/16	0.050	2	3	01304	01305	01306	01307
1/4	1/4	0.060	2-1/2	3	01308	01309	01310	01311
3/8	3/8	0.070	2-1/2	3	01312	01313	01314	01315
1/2	1/2	0.080	3	3	01316	01317	01318	01319
3/4	3/4	0.100	3	3	01320	01321	01322	01323



CHM-5

					Point Angle (Incl.) – Non-Center Cutting			
CUT Ø	SHANK Ø	TIP DIA.	OAL	FLUTES	60°	90°	100°	120°
1/4	1/4	0.060	2-1/2	5	01500	01501	01502	01503
3/8	3/8	0.070	2-1/2	5	01504	01505	01506	01507
1/2	1/2	0.080	3	5	01508	01509	01510	01511
3/4	3/4	0.100	3	5	01512	01513	01514	01515



All Chamfer Mill standard tools are A-ProMAX coated.

TOOL RECONDITIONING SERVICE

Buying larger diameter solid carbide tooling could be looked at as an investment and a great way to maximize your ROI. Maximize this investment by utilizing our tool reconditioning service.

PROGRAM GUIDELINES

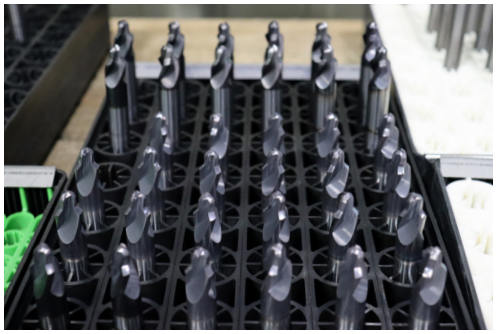
- Our program accommodates 3/8" dia. and above on any tool we manufacturer for you.
- We can recondition our standards or our custom-made tools
- Customer designated work to be done (i.e. Ends Only, OD Only, or Ends & OD)
- All "originally coated" tools will be re-coated upon completion of reconditioning
- Program is only applicable to NEXGEN made tooling
- Minimum Quantities

Standards

- 3/8" to 1/2" Diameters: 15pcs min. (same edp #)
- > 1/2" to 3/4" Diameters: 10 pcs min. (same edp#)
- > 3/4" Diameters: 5 pcs min. (same edp#)

Custom Tools

- Call us for quote



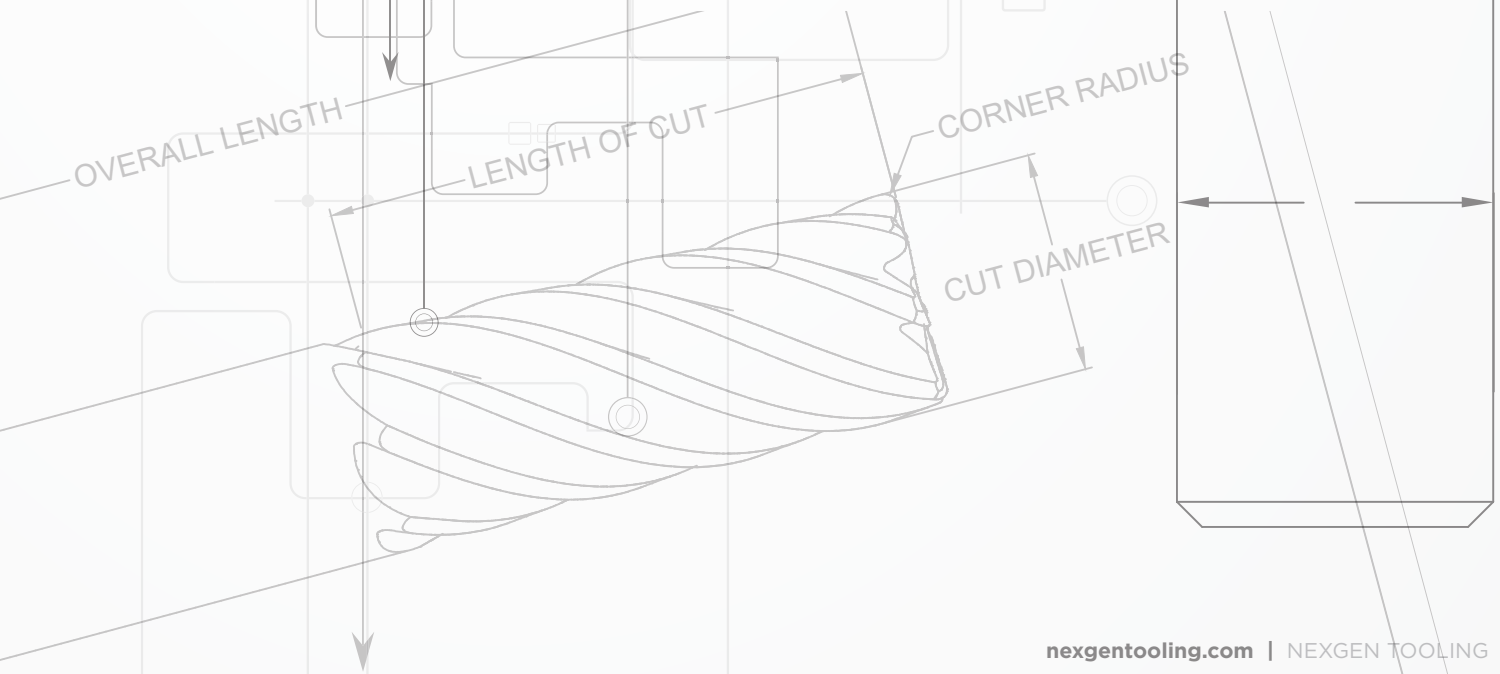
PROGRAM SERVICES

- We can accommodate custom marking on package and/or shank of tool. As well as unique regrind identifiers on the tool or package.
- Give us the minimum length of cut, or OAL, and we will never exceed that on your reconditioned tools.
- If not originally coated, for an additional fee, we can coat the tools before returning to you.
- Tools that are not salvageable can be returned to you (customer responsible for return postage) or, if requested, we can scrap for you.

Get started by contacting your local NEXGEN distributor, or call us at 855-263-2328.

We'll direct you on the steps to take in getting your tools reconditioned.

TECHNICAL SECTION



SPEED & FEED

For high efficiency machining (HEM) suggestions and starting parameters, give us a call at **855-263-2328**.

Cutting Parameters

(For traditional cutting Speed-n-Feed starting parameters)

	MATERIAL		HARDNESS	SFM	INCHES PER TOOTH (IPT)																							
					1/8			3/16			1/4			3/8			1/2			5/8			3/4			1		
					S	LR	HR	S	LR	HR	S	LR	HR	S	LR	HR	S	LR	HR	S	LR	HR	S	LR	HR	S	LR	HR
N	WROUGHT ALUMINUM ALLOY	2014, 5052, 6061	< 120 HBS	1800	.0009	.0017	.0011	.0014	.0025	.0017	.0018	.0034	.0023	.0027	.0051	.0034	.0036	.0068	.0045	.0045	.0084	.0056	.0054	.0101	.0068	.0072	.0135	.0090
		7050, 7075, 7475	> 120 HBS	1600	.0006	.0011	.0008	.0009	.0017	.0011	.0012	.0023	.0015	.0018	.0034	.0023	.0024	.0045	.0030	.0030	.0056	.0038	.0036	.0068	.0045	.0048	.0090	.0060
	CAST ALUMINUM ALLOY	319, 328, 355, 360, 380, 383, 390, 520, 535	< 120 HBS	900	.0014	.0026	.0018	.0021	.0039	.0026	.0028	.0053	.0035	.0042	.0079	.0053	.0056	.0105	.0070	.0070	.0131	.0088	.0084	.0158	.0105	.0112	.0210	.0140
			> 120 HBS	750	.0010	.0019	.0013	.0015	.0028	.0019	.0020	.0038	.0025	.0030	.0056	.0038	.0040	.0075	.0050	.0050	.0094	.0063	.0060	.0113	.0075	.0080	.0150	.0100
	COPPER/ BRASS	C10100-C15999, C20000-C49999	< 75 HRB	550	.0008	.0015	.0010	.0012	.0023	.0015	.0016	.0030	.0020	.0024	.0045	.0030	.0032	.0060	.0040	.0040	.0075	.0050	.0048	.0090	.0060	.0064	.0120	.0080
			75-98 HRB	435	.0007	.0013	.0009	.0011	.0020	.0013	.0014	.0026	.0018	.0021	.0039	.0026	.0028	.0053	.0035	.0035	.0066	.0044	.0042	.0079	.0053	.0056	.0105	.0070
P	CARBON STEEL	10XX, 11XX, 122XX	<75 HRB	450	.0008	.0015	.0010	.0012	.0023	.0015	.0016	.0030	.0020	.0024	.0045	.0030	.0032	.0060	.0040	.0040	.0075	.0050	.0048	.0090	.0060	.0064	.0120	.0080
		12LXX, ASTM A27	75-98 HRB	450	.0008	.0014	.0010	.0011	.0021	.0014	.0015	.0029	.0019	.0023	.0043	.0029	.0030	.0057	.0038	.0038	.0071	.0048	.0046	.0086	.0057	.0061	.0114	.0076
		ASTM A36	21-26 HRC	350	.0007	.0014	.0009	.0011	.0020	.0014	.0014	.0027	.0018	.0022	.0041	.0027	.0029	.0054	.0036	.0036	.0068	.0045	.0043	.0081	.0054	.0058	.0108	.0072
			71-98 HRB	450	.0007	.0013	.0009	.0011	.0020	.0013	.0014	.0026	.0018	.0021	.0039	.0026	.0028	.0053	.0035	.0035	.0066	.0044	.0042	.0079	.0053	.0056	.0105	.0070
	ALLOY STEEL	12XX, 41XX, 43XX, 300M	21-36 HRC	380	.0007	.0013	.0009	.0011	.0020	.0013	.0014	.0026	.0018	.0021	.0039	.0026	.0028	.0053	.0035	.0035	.0066	.0044	.0042	.0079	.0053	.0056	.0105	.0070
		51XX, 86XX, 93XX	36-50 HRC	225	.0006	.0011	.0008	.0009	.0017	.0011	.0012	.0023	.0015	.0018	.0034	.0023	.0024	.0045	.0030	.0030	.0056	.0038	.0036	.0068	.0045	.0048	.0090	.0060
			>50 HRC	100	.0006	.0011	.0007	.0008	.0016	.0011	.0011	.0021	.0014	.0017	.0032	.0021	.0022	.0042	.0028	.0028	.0053	.0035	.0034	.0063	.0042	.0045	.0084	.0056
	TOOL STEEL	A2, H13, L6, P20, 27	71-98 HRB	225	.0008	.0015	.0010	.0012	.0023	.0015	.0016	.0030	.0020	.0024	.0045	.0030	.0032	.0060	.0040	.0040	.0075	.0050	.0048	.0090	.0060	.0064	.0120	.0080
			21-36 HRC	180	.0006	.0011	.0008	.0009	.0017	.0011	.0012	.0023	.0015	.0018	.0034	.0023	.0024	.0045	.0030	.0030	.0056	.0038	.0036	.0068	.0045	.0048	.0090	.0060
			36-50 HRC	130	.0004	.0008	.0006	.0007	.0012	.0008	.0009	.0017	.0011	.0013	.0025	.0017	.0018	.0033	.0022	.0022	.0041	.0028	.0026	.0050	.0033	.0035	.0066	.0044
			>50 HRC	90	.0004	.0007	.0005	.0005	.0010	.0007	.0007	.0014	.0009	.0011	.0020	.0014	.0014	.0027	.0018	.0018	.0034	.0023	.0022	.0041	.0027	.0029	.0054	.0036
	SPECIALTY ALLOYS	MARAGING 200	75-98 HRB	325	.0008	.0015	.0010	.0012	.0023	.0015	.0016	.0030	.0020	.0024	.0045	.0030	.0032	.0060	.0040	.0040	.0075	.0050	.0048	.0090	.0060	.0064	.0120	.0080
		MARAGING 250	21-36 HRC	225	.0006	.0011	.0008	.0009	.0017	.0011	.0012	.0023	.0015	.0018	.0034	.0023	.0024	.0045	.0030	.0030	.0056	.0038	.0036	.0068	.0045	.0048	.0090	.0060
		MARAGING 300	36-50 HRC	150	.0006	.0011	.0007	.0008	.0016	.0011	.0011	.0021	.0014	.0017	.0032	.0021	.0022	.0042	.0028	.0028	.0053	.0035	.0034	.0063	.0042	.0045	.0084	.0056
		MARAGING 350	>50 HRC	50	.0004	.0007	.0005	.0005	.0010	.0007	.0007	.0014	.0009	.0011	.0020	.0014	.0014	.0027	.0018	.0018	.0034	.0023	.0022	.0041	.0027	.0029	.0054	.0036
M	AUSTENITIC - STAINLESS STEEL	NITRONIC 50, NITRONIC 60, 301, 303	75-98 HRB	250	.0007	.0013	.0009	.0011	.0020	.0013	.0014	.0026	.0018	.0021	.0039	.0026	.0028	.0053	.0035	.0035	.0066	.0044	.0042	.0079	.0053	.0056	.0105	.0070
		304, 304L	21-36 HRC	225	.0006	.0011	.0008	.0009	.0017	.0011	.0012	.0023	.0015	.0018	.0034	.0023	.0024	.0045	.0030	.0030	.0056	.0038	.0036	.0068	.0045	.0048	.0090	.0060
		INCOLOY 27-TMO, 316, 316L, 321, 347	36-50 HRC	180	.0005	.0009	.0006	.0008	.0014	.0009	.0010	.0019	.0013	.0015	.0028	.0019	.0020	.0038	.0025	.0025	.0047	.0031	.0030	.0056	.0038	.0040	.0075	.0050
	MARTENSITIC & FERRITIC - STAINLESS STEEL	403, 410, 416, 420	75-98 HRB	325	.0007	.0013	.0009	.0011	.0020	.0013	.0014	.0026	.0018	.0021	.0039	.0026	.0028	.0053	.0035	.0035	.0066	.0044	.0042	.0079	.0053	.0056	.0105	.0070
		440, 430, 446	21-36 HRC	325	.0006	.0011	.0008	.0009	.0017	.0011	.0012	.0023	.0015	.0018	.0034	.0023	.0024	.0045	.0030	.0030	.0056	.0038	.0036	.0068	.0045	.0048	.0090	.0060
	PH STAINLESS STEEL	15-5, 17-4	21-36 HRC	225	.0006	.0011	.0007	.0008	.0016	.0011	.0011	.0021	.0014	.0017	.0032	.0021	.0022	.0042	.0028	.0028	.0053	.0035	.0034	.0063	.0042	.0045	.0084	.0056
		CARPENTER 450, CARPENTER 465	36-50 HRC	130	.0005	.0009	.0006	.0008	.0014	.0009	.0010	.0019	.0013	.0015	.0028	.0019	.0020	.0038	.0025	.0025	.0047	.0031	.0030	.0056	.0038	.0040	.0075	.0050
K	GRAY CAST IRON	SAE J431, ASTM A48	75-98 HRB	300	.0010	.0019	.0013	.0015	.0028	.0019	.0020	.0038	.0025	.0030	.0056	.0038	.0040	.0075	.0050	.0050	.0094	.0063	.0060	.0113	.0075	.0080	.0150	.0100
			21-36 HRC	150	.0009	.0017	.0011	.0014	.0025	.0017	.0018	.0034	.0023	.0027	.0051	.0034	.0036	.0068	.0045	.0045	.0084	.0056	.0054	.0101	.0068	.0072	.0135	.0090
	MALLEABLE CAST IRON	ASTM A47, ASTM A220	75-98 HRB	350	.0009	.0017	.0011	.0014	.0025	.0017	.0018	.0034	.0023	.0027	.0051	.0034	.0036	.0068	.0045	.0045	.0084	.0056	.0054	.0101	.0068	.0072	.0135	.0090
		ASTM A602	21-36HRC	325	.0006	.0011	.0008	.0009	.0017	.0011	.0012	.0023	.0015	.0018	.0034	.0023	.0024	.0045	.0030	.0030	.0056	.0038	.0036	.0068	.0045	.0048	.0090	.0060
	NODULAR (DUCTILE) CAST IRON	ASTM A536, ASTM 897	75-98 HRB	350	.0009	.0017	.0011	.0014	.0025	.0017	.0018	.0034	.0023	.0027	.0051	.0034	.0036	.0068	.0045	.0045	.0084	.0056	.0054	.0101	.0068	.0072	.0135	.0090
			21-36 HRC	275	.0006	.0011	.0008	.0009	.0017	.0011	.0012	.0023	.0015	.0018	.0034	.0023	.0024	.0045	.0030	.0030	.0056	.0038	.0036	.0068	.0045	.0048	.0090	.0060
			36-50 HRC	175	.0005	.0009	.0006	.0008	.0014	.0009	.0010	.0019	.0013	.0015	.0028	.0019	.0020	.0038	.0025	.0025	.0047	.0031	.0030	.0056	.0038	.0040	.0075	.0050
S	LOW EXPANSION ALLOY	INVAR 36, KOVAR	60-85 HRB	180	.0010	.0019	.0013	.0015	.0028	.0019	.0020	.0038	.0025	.0030	.0056	.0038	.0040	.0075	.0050	.0050	.0094	.0063	.0060	.0113	.0075	.0080	.0150	.0100
	NICKEL ALLOY	HASTELLOY C022, INCONEL 625, WASPALOY, RENE 41, INCONEL 718,INCOLOY 20	75-98 HRB	125	.0006	.0011	.0007	.0008	.0016	.0011	.0011	.0021	.0014	.0017	.0032	.0021	.0022	.0042	.0028	.0028	.0053	.0035	.0034	.0063	.0042	.0045	.0084	.0056
			21-36 HRC	100	.0004	.0008	.0006	.0007	.0012	.0008	.0009	.0017	.0011	.0013	.0025	.0017	.0018	.0033	.0022	.0022	.0041	.0028	.0026	.0050	.0033	.0035	.0066	.0044
			36-50 HRC	75	.0004	.0007	.0005	.0005	.0010	.0007	.0007	.0014	.0009	.0011	.0020	.0014	.0014	.0027	.0018	.0018	.0034	.0023	.0022	.0041	.0027	.0029	.0054	.0036
	PURE TITANIUM	TI GRADE 1, GRADE 2, GRADE 3, GRADE 4, GRADE 7, GRADE 12	75-98 HRB	400	.0013	.0024	.0016	.0020	.0037	.0024	.0026	.0049	.0033	.0039	.0073	.0049	.0052	.0098	.0065	.0065	.0122	.0081	.0078	.0146	.0098	.0104	.0195	.0130
			21-36 HRC	400	.0010	.0019	.0013	.0015	.0028	.0019	.0020	.0038	.0025	.0030	.0056	.0038	.0040	.0075	.0050	.0050	.0094	.0063	.0060	.0113	.0075	.0080	.0150	.0100
			36-50 HRC	350	.0008	.0015	.0010	.0012	.0023	.0015	.0016	.0030	.0020	.0024	.0045	.0030	.0032	.0060	.0040	.0040	.0075	.0050	.0048	.0090	.0060	.0064	.0120	.0080
	TITANIUM ALLOY	Ti6AL-4V	21-36 HRC	180	.0007	.0013	.0009	.0011	.0020	.0013	.0014	.0026	.0018	.0021	.0039	.0026	.0028	.0053	.0035	.0035	.0066	.0044	.0042	.0079	.0053	.0056	.0105	.0070
			36-50 HRC	150	.0006	.0011	.0007	.0008	.0016	.0011	.0011	.0021	.0014	.0017	.0032	.0021	.0022	.0042	.0028	.0028	.0053	.0035	.0034	.0063	.0042	.0045	.0084	.0056
	COBALT ALLOY	ASTM F562, ASTM F90, ASTM F75, ASTM F799	75-98 HRB	250	.0004	.0008	.0006	.0007	.0012	.0008	.0009	.0017	.0011	.0013	.0025	.0017	.0018	.0033	.0022	.0022	.0041	.0028	.0026	.0050	.0033	.0035	.0066	.0044
			21-36 HRC	150	.0004	.0008	.0005	.0006	.0011	.0008	.0008	.0015	.0010	.0012	.0023	.0015	.0016	.0030	.0020	.0020	.0038	.0025	.0024	.0045	.0030	.0032	.0060	.0040
			36-50 HRC	90	.0004	.0007	.0005	.0005	.0010	.0007	.0007	.0014	.0009	.0011	.0020	.0014	.0014	.0027	.0018	.0018	.0034	.0023	.0022	.0041	.0027	.0029	.0054	.0036

Speeds & Feeds Key

S: Slot **LR**: Light Rough (Less than 15% Radial DOC) **HR**: Heavy Rough (Greater than 15% Radial DOC)

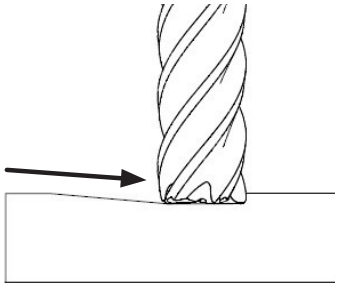
DEPTH OF CUT GUIDELINES

Finishing

1. Shoot for around 3%-to-5% of dia. RDOC, no matter how many flutes are on the tool
2. Quick Troubleshooting
   a. Are you experiencing poor surface finish?
      > Check your RDOC, it may be too light of a cut (see #1 above)
      > Lower your IPM, Increase your RPM
      > Check your tool runout (at end/corner of tool — with tool mounted in the holder, in the machine) shoot for .0005 TIR max.
   b. Tool Life Issues
      > Spring passes allow for tool rubbing (lowers tool life) and material work hardening — avoid (or at least minimize # of) if possible.

Ramping Angles

NXG-2: 5-10°
NXG-3: 5-10°
NXG-4: 1-10°
NXG-5: 1-8°
NXG-6: 1-5°
NXG-7: 1-3° (caution here)

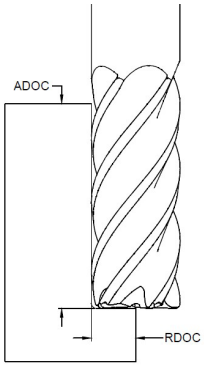


Note: Lower angles will experience chip thinning and thus allow for higher feed adjustments.

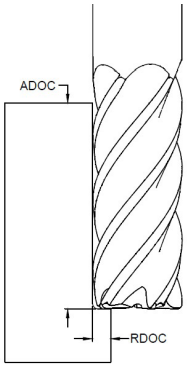
Radial (RDOC) & Axial (ADOC) Depth of Cut

	Traditional		HEM	
	RDOC	ADOC	RDOC	ADOC
NXG-2:	5% to 50%xD	up to 1.00xD	NR	NR
NXG-3:	5% to 50%xD	up to 1.00xD	8% to 40%xD	up to 3.00xD
NXG-4:	5% to 50%xD	up to 1.00xD	NR	NR
NXG-5:	5% to 40%xD	up to 1.50xD	8% to 30%xD	up to 3.50xD
NXG-6:	5% to 30%xD	up to 1.75xD	8% to 20%xD	up to 3.75xD
NXG-7:	5% to 10%xD	up to 2.00xD	7% to 10%xD	up to 4.00XD

D = Tool Cut Diameter



Heavy Profiling



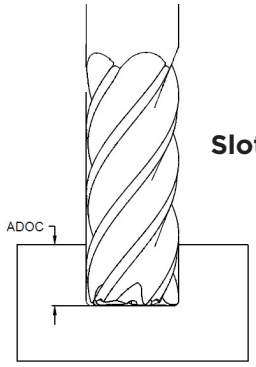
Light Profiling
(Finishing/HEM)

Slot Depth Ranges

NXG-2: up to 2.00xD
NXG-3: up to 2.00xD
NXG-4: up to 1.50xD
NXG-5: up to 0.50xD
NXG-6: up to 0.25xD
NXG-7: Not Recommended

Tips for slotting:

1. Follow the chart above.
2. Use chip-breaker tools to manage chip evacuation.
3. Ensure good coolant flush, in direction of the tool's chip throw.
4. Are you less then these listed ranges? If so, then there could be room for feed increase adjustments.



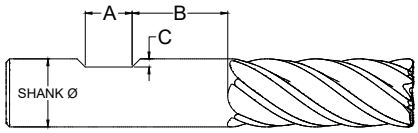
Slotting

WELDON FLAT SPECIFICATIONS

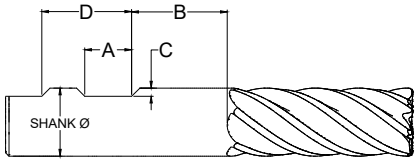
Proper tool position within the Weldon side-lock holder is very important to us. It's imperative not to have the tool flutes chucked up inside the holder, nor sticking out too far from the nose of the holder. Therefore, instead of using old High Speed Steel Weldon specs that are based on old overall lengths, we have calculated our own Weldon Flat positional specifications based on flute wash positioning or reduced neck/shank transition.

SHANK Ø	A +/- .004	B +/-.015	C +.015/-.000	D +/-.008
0.1250	0.155	0.500	0.020	—
0.1875	0.155	0.500	0.025	—
0.2500	0.155	0.500	0.030	—
0.3125	0.295	0.750	0.040	—
0.3750	0.295	0.750	0.050	—
0.4375	0.345	0.850	0.060	—
0.5000	0.345	0.850	0.060	—
0.6250	0.415	0.900	0.065	—
0.7500	0.470	0.900	0.075	—
1.0000	0.530	1.000	0.075	0.900
1.2500	0.530	1.000	0.095	0.900

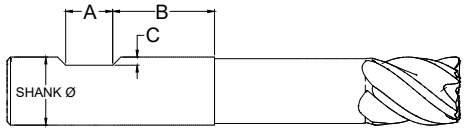
Single Weldon



Double Weldon



Weldon Flat (on reduced neck tool)



Call for pricing*

Tool Holding, an important variable

With the higher speeds and feeds demanded today, a higher performance toolholder becomes more critical. To maximize machining performance, four main things are needed from a toolholder:

> Rigidity > Accuracy > Clamping Power > Balance

Advantages of using an advanced toolholder that holds rigidity, accuracy, power, and balance is extended cutting tool life, extended spindle life, better surface finish, and accuracy of parts.

Tool Runout (TIR)

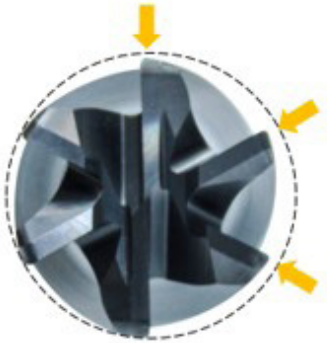
Tool runout, (with tool in holder and holder in spindle) is a very critical variance affecting tool life and success of your milling operation.

> Radial Runout is vital to minimize

> Strive for the lowest possible TIR you can get, hopefully keeping TIR to .0005 max.

> Utilize higher accuracy and full-shank-contact tool holders

> Avoid hand-ground flats on shanks, they will induce runout



Radial Runout

TOOL PATH IMPORTANCE

At NEXGEN, we build some of the finest HP solid carbide tooling in the market that can handle the toughest of your applications. However, its essential to remember that the tool is the **last** component in a series of events (and mechanisms) that could determine the fate of the cutting tool.

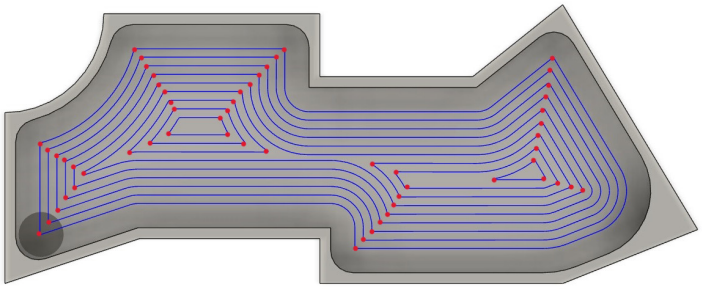
Think about it this way:

The CNC Program Instructs the Machine Tool → Machine Tool does what the program told it to do → Tool is just along for the ride and has no control where it is being sent!

So, proper programming strategy with our end mills is of utmost importance and can hold the key in maximizing our tool's performance, increasing your cutting tool ROI, increasing machine utilization, and lower part scrap.

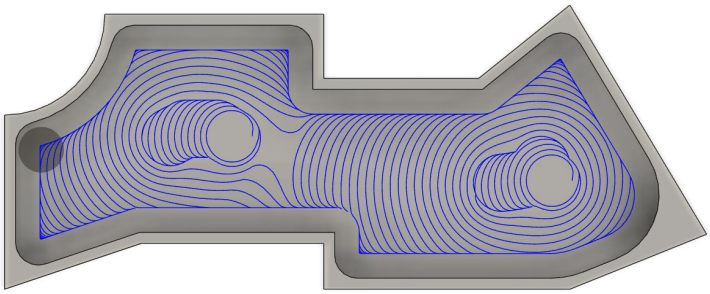
Keeping it simple, we break it down by dividing your roughing processes up into two key programming methods: Contour Parallel Offset (Traditional) or High Efficiency Milling (HEM).

Contour Parallel Offset Milling



Example of a contour parallel offset tool path widely used in the business. It'll work, but tool life expectancy is random and a bit unpredictable. The red dots represent areas where a tool will be overloaded, squawk or could even break. Getting through each red dot is basically a gamble and will make you run conservative speeds- n-feeds to get through the part and stripping you of efficiency.

High Efficiency Milling (HEM)



AUTODESK® FUSION 360™

*Illustrations created using Autodesk® Fusion 360™

Example of high efficiency tool path (Adaptive Clearing by Autodesk® Fusion 360™) for roughing out a part as efficiently as possible. There are no sharp movements, no tool overloading, corners are generated and not slammed into. Your chances for success are maximized by:

- Increased tool life
- Increased Metal Removal Rate (MRR)
- Increased part throughput
- Decreasing part scrap rates
- Decreased spindle loads

NOTES