

INTRODUCTION

MILLING

TURNING AND BORING

HEAVY TURNING

GROOVING, PROFILING AND CUT-OFF

API RING-GROOVE MACHINING

INDEXABLE DRILLING

TUBE SCARFING

SPECIAL ENGINEERING

APPLICATION and TECHNICAL INFORMATION

2016

HEAVY TURNING



<i>Heavy Turning Inserts</i>	HT 02-03
<i>Grade Descriptions</i>	HT 04-05
<i>Edge Preparations</i>	HT 06
<i>Chipform Application Range</i>	HT 07
<i>Pictorial Index</i>	HT 08-09
<i>Heavy Turning Inserts</i>	
Carbide	HT 10-20
Radius Forming.....	HT 21
Ceramic	HT 22-26
Roll Turning.....	HT 27-32
Heavy Turning Toolholder.....	HT 33
<i>Heavy Turning Tooling Options</i>	HT 34-35



H E A V Y T U R N I N G I N S E R T S



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Heavy Turning Inserts

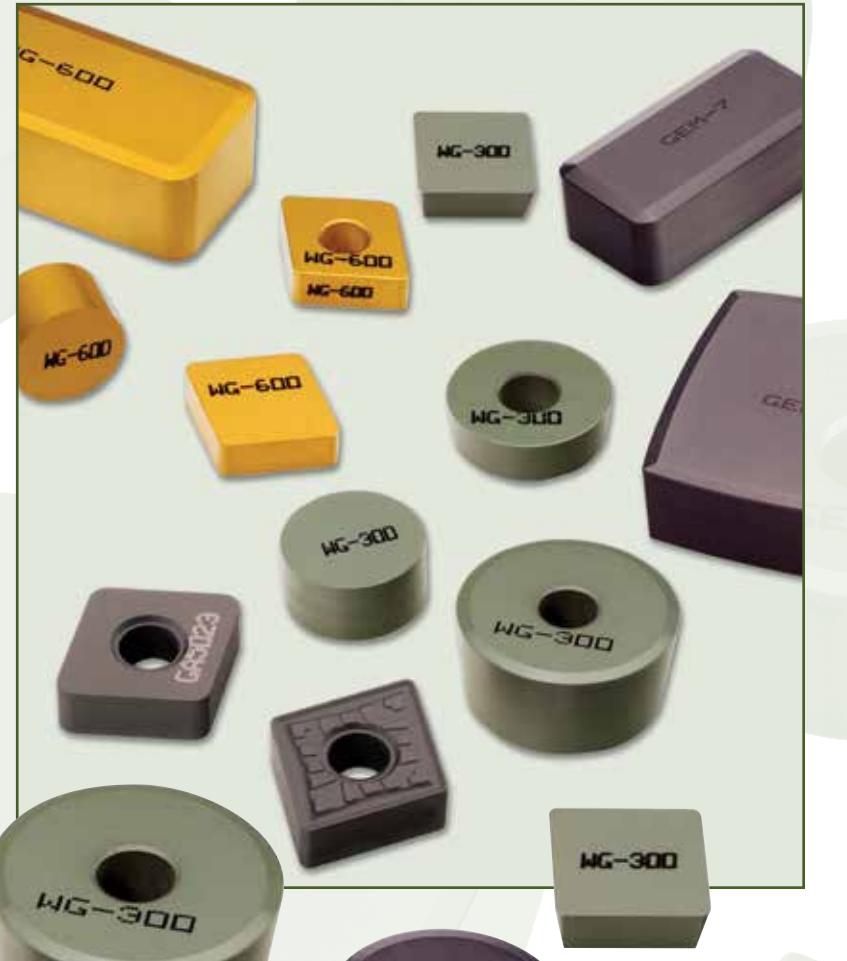
The manufacture of rolls for use in steel making is an area where machinability has been decreased significantly by the introduction of alloyed materials, especially chromium content. In addition, the use of forged rolls is increasing, and centrifugally cast products with high hardness levels and surface contamination are another challenge.

Ceramic cutting tools such as Greenleaf GEM-7™ composite material and WG-300® whiskered material are finding an important place in heavy turning when combined with rigid, well-designed holding systems.

Greenleaf has extensive experience in the design and manufacture of heavy-turning tooling systems. For more than thirty years, we have supplied O.E.M. packages to many of the largest lathe manufacturers – both domestic and overseas.

We will be pleased to quote tooling systems for any type of machine to effectively use ceramic or carbide inserts. Most of the options regularly manufactured are outlined on page HT 34.

Call a Greenleaf heavy-turning specialist at 800-458-1850 to discuss your particular needs.



*Greenleaf Corporation is continually upgrading its products.
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CARBIDE

Greenleaf offers a comprehensive line of carbide inserts in grades ranging from sub-micron C-1 through C-8 classifications. An industry pioneer in coated carbide, Greenleaf offers a variety of uncoated, MT-CVD coated and PVD-coated grades. Carbide inserts are available in ANSI standard geometries with multi-purpose chip-breakers for heavy roughing through finishing.

COATED – MT-CVD

GA5023 A high-speed performance grade for turning and milling cast iron. GA5023 features an advanced MT-CVD coating specifically developed for abrasive wear resistance. Application ranges from roughing to finishing on most cast iron materials including gray iron, ductile, nodular and other alloyed irons. The high wear and shock resistance of GA5023 allows machining at high speeds and a variety of feeds.

GA5035 A high-performance MT-CVD coated grade for turning all types of steels, and selected stainless steels. GA5035 can be used in rough, semi-finish, and finish turning situations requiring resistance to heat deformation, thermal shock, and abrasion. GA5035 should be applied at high speeds and a range of feeds.

GA5036 A high-performance MT-CVD coated grade for milling steels at high speed. GA5036 should be used when milling forged and cast steels and selected ductile irons. GA5036 has a unique combination of toughness and heat resistance making it suitable for heavy- and light-duty milling at high cutting speeds.

GA5125 New high-performance MT-CVD coated carbide milling grade especially suited for manganese steel. GA5125 is also applicable on chrome-moly steel, tool steel and similar high alloy steels. GA5125 provides excellent resistance to abrasion, crater wear, thermal shock, deformation and edge build-up. GA5125 should be applied at high speeds with moderate feed rates.

COATED – PVD

G-915 Multi-layer PVD-coated grade, excellent for cut off, milling and turning high-temp alloys, stainless steel, and low carbon steels. The multi-layer PVD coating adds heat and abrasion resistance to the tough, shock-resistant substrate. G-915 should be run at moderate speeds and moderate to high feeds in milling and interrupted turning applications.

G-935 Multi-layer PVD-coated grade for steel milling and turning applications requiring additional resistance to mechanical and thermal shock. The multi-layered PVD coating increases the speed capability and wear resistance in tough milling and interrupted turning applications.

CARBIDE

UNCOATED

G-20M A sub-micron C-2 carbide grade suited for use in turning and milling titanium and nickel-based super-alloys. G-20M has the strength and edge wear characteristics to resist notching when turning high-strength materials.

G-50 Heavy roughing grade for steel and steel castings under difficult conditions, and ferritic stainless steels in most applications. G-50 is tough enough to enable the use of positive rakes for turning.

G-74 Roughing or finishing grade for steel and steel castings. G-74 has higher shock resistance than G-70, and should be applied at high speeds and moderate to heavy feeds. Well suited for turning of steel rolls.

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CERAMIC

Greenleaf is the industry leader in the development and manufacture of ceramic and coated ceramic inserts in ANSI standard and special geometries. Some of the most prominent include:

WG-300® Whisker-reinforced ceramic with excellent wear and shock resistance at high surface speeds. WG-300 is very effective at machining nickel and cobalt based super-alloys, and other hard materials at metal removal rates up to 10 times higher than carbide.

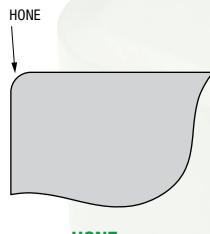
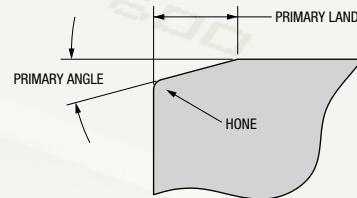
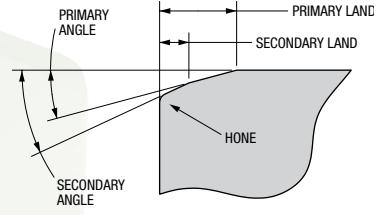
WG-600® Coated whisker-reinforced ceramic offering longer tool life and better performance over uncoated ceramics due to outstanding thermal properties and shock-resistance at high cutting speeds. Application areas include rough and finish turning, as well as high-performance milling of high-strength alloys, hardened steels and select stainless steels. *U.S. Patent No. 6,447,896 B1*.

WG-700™ New whisker-reinforced Al₂O₃ ceramic substrate featuring improved toughness and a unique high-speed coating. WG-700 is ideal for machining nickel- and cobalt-based super alloys and other difficult-to-machine materials. WG-700 exhibits high metal-removal rates with exceptional tool life.
U.S. Patent No. 6,447,896 B1

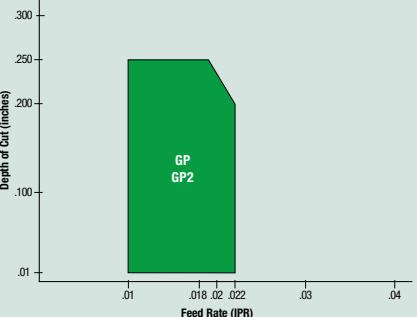
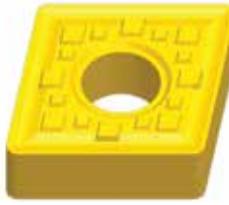
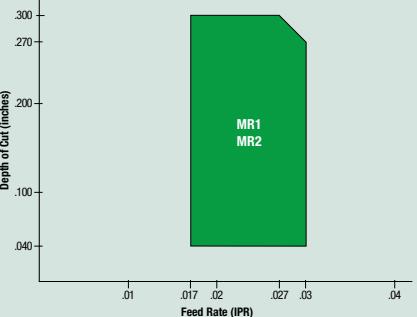
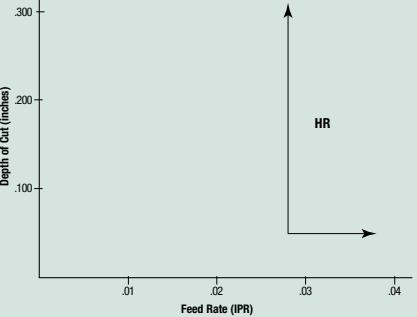
XSYTIN™-1 New phase-toughened ceramic capable of extreme feed rates. XSYTIN™-1 excels at machining a wide variety of materials including steels, cast and ductile irons, high-temperature alloys and other challenging metals. XSYTIN™-1 is ideal for use in interrupted cuts, scale, abrasive casting materials and milling.

GSN100™ New engineered blend of silicon nitride and proprietary toughening agents that redefines productivity in the machining of cast iron. GSN100 delivers outstanding tool life at high cutting speeds in turning, grooving and milling applications.

GEM-7™ Al₂O₃ + TiC composite ceramic with a high degree of predictability in roll turning and hard alloy (up to 65 R/c) machining.


HONE

PRIMARY ANGLE

SECONDARY ANGLE

Edge Prep	Hone	Primary Land	Primary Angle	Secondary Land	Secondary Angle	Application
T2A	.0005 - .001" R.	.006 - .008"	20°			Scale applications, light interruptions, weld overlays, finish turning and milling of hardened materials.
T4A	.0005 - .001" R.	.075"	10°	.006 - .008"	25°	Heavy machining <3/4"IC - Roll turning, 3V, 4V, CDH-22, CDH-33.
T4B	.001 - .002" R.	.075"	10°	.006 - .008"	25°	Heavy machining <3/4"IC - Roll turning, 3V, 4V, CDH-22, CDH-33.
T10B	.001 - .002" R.	.090 - .100"	15°	.006 - .008"	30°	Heavy machining, iron and steel roll turning >3/4"IC, CDH-43, CDH-53.

GENERAL PURPOSE GP and GP2 	General purpose chipbreaker. Feed rates up to 0.02"/rev and 0.25" depth of cut.	
MEDIUM ROUGHING MR and MR2 	Used for medium roughing of all material. Feeds up to 0.028"/rev and depths up to 0.30".	
HEAVY ROUGHING HR single sided 	Heavy roughing for all materials. Feeds above 0.023"/rev. One- sided chipbreaker for heaviest feeds (MM). Example: CNMM 644 HR	

Carbide Inserts – Negative

80° Diamond
Chip Control
GP2, MR, HR – single
sided
page: HT 10



80° Diamond
Flat Top
page: HT 11



80° Diamond
Flat Top
page: HT 11



Round
Chip Control
MR, MR – single sided
page: HT 12



Round
Flat Top
page: HT 13



Round
Flat Top
page: HT 13



Square
Chip Control
GP2, MR,
HR – single sided
page: HT 14

Carbide Inserts – Negative *continued*

Square
Flat Top
page: HT 15



Square
Flat Top
page: HT 16



Triangle
Chip Control
MR
page: HT 17



Triangle
Flat Top
page: HT 17



Triangle
Flat Top
TNGN, TNUN
page: HT 18

Carbide Inserts – Positive

Triangle
Flat Top
page: HT 19



Square
Flat Top
page: HT 20

Radius Forming

SNMA-IR
Insert and Toolholder
page: HT 21



80° Diamond
page: HT 22



Round
page: HT 23



Square
page: HT 24



Triangle
page: HT 25



Square
page: HT 26

Roll Turning

 Roll Turning
 page: HT 27

 Roll Turning
 page: HT 28

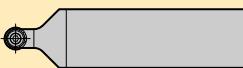
 Roll Turning
 page: HT 29

 Roll Turning
 page: HT 30

 Round
 V-Bottom
 page: HT 31

 Round
 V-Bottom
 page: HT 31

 Square
 Negative
 page: HT 32

Heavy Turning Toolholder

H-SROON

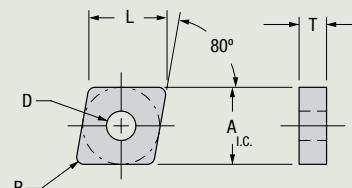
 Style K
 Neutral
 Carbide & Ceramic Inserts
 page: HT 33

80°



80° Diamond Inserts

Chip Control



		Part Number ANSI	Steel					S. Steel	Cast Iron	H-T A.	Part Number ISO	Dimensions (inches)					
Shape: 80° Diamond			P25	P25	P25	P35	M20	P35	M35	K15		G-915	G-20M	A.I.C.	L	T	D
GENERAL PURPOSE	GP	CNMG-643-GP	●	○	○	○	○	○	○	○	●	CNMG-190612-GP	0.750	0.761	0.250	0.312	0.047
MEDIUM ROUGHING	MR	CNMG-642-MR	○	○	○	○	○	○	○	○	○	CNMG-190608-MR	0.750	0.761	0.250	0.312	0.031
		CNMG-643-MR	●	○	●	●	●	●	●	●	○	CNMG-190612-MR	0.750	0.761	0.250	0.312	0.047
		CNMG-644-MR	○	○	●	○	●	○	●	●	●	CNMG-190616-MR	0.750	0.761	0.250	0.312	0.062
HEAVY ROUGHING	HR - single sided	CNMM-643-HR	○	○	○	○	○	○	○	○	○	CNMM-190612-HR	0.750	0.761	0.250	0.312	0.047
		Carbide Coatings															
		MT-CVD Coated PVD Coated Uncoated															
		P25 P25 P35 M20 M35 K15 G-915 G-20M															
		Steel S. Steel Cast Iron H-T A.															

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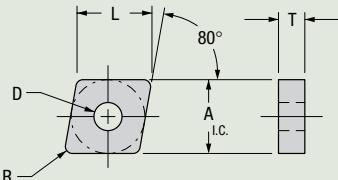
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Stocked Standard

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80° Diamond Inserts

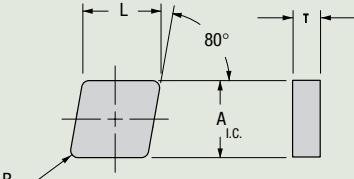
Flat Top (CNMA)



Shape: 80° Diamond	Part Number	ANSI	Steel	S. Steel	Cast Iron	H-T A.	Part Number	Dimensions (inches)							
			G45035 P25	G45125 P25	G45036 P35	M20	M35	K15	S	A I.C.	L	T	D	R	
	CNMA-642		○	○	○	○	○	○	○	CNMA-190608	0.750	0.761	0.250	0.312	0.031
	CNMA-643		○	○	○	○	○	○	○	CNMA-190612	0.750	0.761	0.250	0.312	0.047
	CNMA-644		○	○	○	○	○	○	○	CNMA-190616	0.750	0.761	0.250	0.312	0.062
	CNMA-866		○	○	○	○	○	○	○	CNMA-250924	1.000	1.015	0.375	0.359	0.093
Carbide Coatings			G45035 P25	G45125 P25	G45036 P35	G45023 M20	G45023 M35	G-915 K15	G-915 S						
MT-CVD Coated			P25	P25	P35	M20	M35	K15	S						
PVD Coated			Steel	S. Steel	Cast Iron	H-T A.									
Uncoated															

80° Diamond Inserts

Flat Top (CNGN)



Shape: 80° Diamond	Part Number	Material Options								Part Number	Dimensions (inches)						
		Steel	S. Steel	Cast Iron	H-T A.	P25	P25	P35	M20	M35	K15	S	A I.C.	L	T	R	
	ANSI	G-5035	G-5125	G-5036	G-5023	G-915	G-5023	G-915	G-20M	G-915	G-20M	G-915	G-20M				
	CNGN-632	O	O	O	O	O	O	O	O	O	O	O	CNGN-190408	0.750	0.761	0.187	0.031
	CNGN-633	O	O	O	O	O	O	O	O	O	O	O	CNGN-190412	0.750	0.761	0.187	0.047
	CNGN-634	O	O	O	O	O	O	O	O	O	O	O	CNGN-190416	0.750	0.761	0.187	0.062
	CNGN-643	O	O	O	O	O	O	O	O	O	O	O	CNGN-190612	0.750	0.761	0.250	0.047
	CNGN-644	O	O	O	O	O	O	O	O	O	O	O	CNGN-190616	0.750	0.761	0.250	0.062

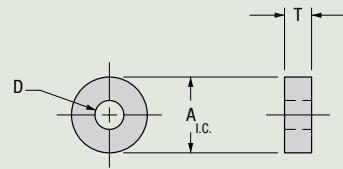
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Round Inserts

Chip Control



		Part Number ANSI	Part Number ISO								Dimensions (inches)										
Shape: Round	MR		P25	P25	S. Steel	Cast Iron	H-T A.	GA5035	GA5125	GA5036	M20	K15	G-915	M35	GA5023	G-915	S	G-20M	A	T	D
MEDIUM ROUGHING		RNMG-64-MR	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	RNMG-190600-MR	0.750	0.250	0.312												
		RNMG-86-MR	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	RNMG-250900-MR	1.000	0.375	0.359		
HEAVY ROUGHING	MR - single sided	RNMM-84-MR	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	RNMM-250600-MR	1.000	0.250	0.359		
Carbide Coatings		MT-CVD Coated PVD Coated Uncoated								P25	GA5035	P25	GA5125	P35	GA5036	M20	GA5023	K15	G-915	S	G-20M
										Steel	S. Steel	Cast Iron	H-T A.								

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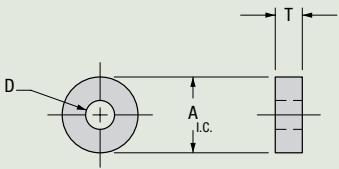
Stocked Standard
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Round Inserts

Flat Top (RNMA)



Shape: Round	Part Number ANSI	Steel S. Steel Cast Iron H-T A.					Part Number ISO	Dimensions (inches)		
		P25	P25	P25	P35	M20 M35	K15	G-915 S	A I.C.	T
	RNMA-64	○	○	○	○	○	○	○	0.750	0.250
	RNMA-86	○	○	○	○	○	○	○	1.000	0.375
										0.312
										0.359

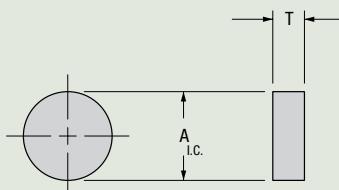
Carbide Coatings

MT-CVD Coated	PVD Coated	Uncoated

Steel S. Steel Cast Iron H-T A.

Round Inserts

Flat Top (RNGN)



Shape: Round	Part Number ANSI	Steel S. Steel Cast Iron H-T A.					Part Number ISO	Dimensions (inches)		
		P25	P25	P25	P35	M20 M35	K15	G-915 S	A I.C.	T
	RNGN-63	○	○	○	○	○	○	○	0.750	0.187
	RNGN-84	○	○	○	○	○	○	○	1.000	0.250

Carbide Coatings

MT-CVD Coated	PVD Coated	Uncoated

Steel S. Steel Cast Iron H-T A.

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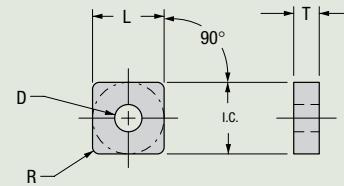
HT

90°



Square Inserts

Chip Control



		Part Number ANSI	Steel				S. Steel	Cast Iron	H-T A.	Part Number ISO	Dimensions (inches)							
Shape: Square			P25	P25	GA5035	GA5125	P35	M20	M35	K15	G-915	G-20M	A I.C.	L	T	D	R	
GENERAL PURPOSE	GP2	SNMG-643-GP2	●	○	●	○	●	○	●	○	●	○	SNMG-190612-GP2	0.750	0.750	0.250	0.312	0.047
		SNMG-644-GP2	○	○	○	○	○	○	○	○	○	○	SNMG-190616-GP2	0.750	0.750	0.250	0.312	0.062
MEDIUM ROUGHING	MR	SNMG-643-MR	●	○	●	○	●	○	●	○	●	○	SNMG-190612-MR	0.750	0.750	0.250	0.312	0.047
		SNMG-644-MR	○	○	●	○	○	○	○	○	○	●	SNMG-190616-MR	0.750	0.750	0.250	0.312	0.062
		SNMG-866-MR	○	○	○	○	○	○	○	○	○	○	SNMG-250924-MR	1.000	1.000	0.375	0.359	0.093
HEAVY ROUGHING	HR - single sided	SNMM-643-HR	○	○	○	○	○	○	○	○	○	○	SNMM-190612-HR	0.750	0.750	0.250	0.312	0.047
		SNMM-644-HR	○	○	○	○	○	○	○	○	○	○	SNMM-190616-HR	0.750	0.750	0.250	0.312	0.062
		Carbide Coatings																
		MT-CVD Coated PVD Coated Uncoated																
		P25 P25 P35 M20				GA5035 GA5125 GA5036 GA5023				G-915 G-35 K15 G-915				S G-20M				
		Steel S. Steel Cast Iron H-T A.																

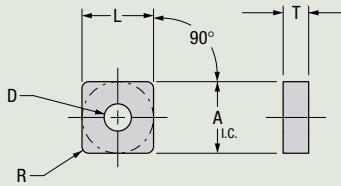
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Square Inserts

Flat Top (SNMA)



Shape: Square	Part Number ANSI	Dimensions (inches)								
		Steel	S. Steel	Cast Iron	H-T A.	A I.C.	L	T	D	R
	SNMA-643	P25 GA5035	P25 GA5125	P35 GA5036	M20 GA5023	M35 G-915	K15 GA5023	S G-915	G-20M G-20M	0.750 0.750
	SNMA-644	O O O	O O O	O O O	O O O	O O O	O O O	O O O	O O O	0.750 0.750
	SNMA-864	O O O	O O O	O O O	O O O	O O O	O O O	O O O	O O O	1.000 1.000
	SNMA-866	O O O	O O O	O O O	O O O	O O O	O O O	O O O	O O O	1.000 1.000
Carbide Coatings		P25 Steel	P25 S. Steel	P35 Cast Iron	M20 H-T A.	M35 G-915	K15 GA5023	S G-915	G-20M G-20M	
MT-CVD Coated										

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Stocked Standard

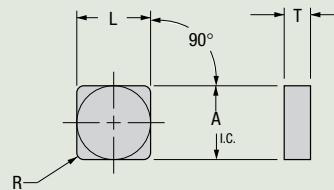
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90°



Square Inserts

Flat Top (SNGN/SNUN)



Shape: Square	Part Number ANSI	Steel				S. Steel	Cast Iron	H-T A.	Part Number ISO	Dimensions (inches)					
		P25	P25	P25	P35	M20	M35	K15		G-915	G-20M	A I.L.C.	L	T	R
	SNGN-633	○	○	○	○	○	○	○	SNGN-190412	0.750	0.750	0.187	0.047		
	SNGN-634	○	○	○	○	○	○	○	SNGN-190416	0.750	0.750	0.187	0.062		
	SNGN-638	○	○	○	○	○	○	○	SNGN-190432	0.750	0.750	0.187	0.125		
	SNGN-643	○	●	○	○	○	○	○	SNGN-190612	0.750	0.750	0.250	0.047		
	SNGN-644	○	●	○	○	○	○	○	SNGN-190616	0.750	0.750	0.250	0.062		
	SNGN-646	○	○	○	○	○	○	○	SNGN-190624	0.750	0.750	0.250	0.093		
	SNGN-844	○	○	○	○	○	○	○	SNGN-250616	1.000	1.000	0.250	0.062		
	SNGN-854	○	○	○	○	○	○	○	SNGN-250716	1.000	1.000	0.312	0.062		
	SNGN-10412	○	○	○	○	○	○	○	SNGN-310648	1.250	1.250	0.250	0.187		
	SNGN-1066	○	○	○	○	○	○	○	SNGN-310924	1.250	1.250	0.375	0.093		
	SNGN-1068	○	○	○	○	○	○	○	SNGN-310932	1.250	1.250	0.375	0.125		
	SNGN-1288	○	○	○	○	○	○	○	SNGN-381232	1.500	1.500	0.500	0.125		
	SNUN-633	○	○	○	○	○	○	○	SNUN-190412	0.750	0.750	0.187	0.047		
	SNUN-634	○	○	○	○	○	○	○	SNUN-190416	0.750	0.750	0.187	0.062		
	SNUN-844	○	○	○	○	○	○	○	SNUN-250616	1.000	1.000	0.250	0.062		
	SNUN-848	○	○	○	○	○	○	○	SNUN-250632	1.000	1.000	0.250	0.125		
	SNUN-854	○	○	○	○	○	○	○	SNUN-250716	1.000	1.000	0.312	0.062		
	SNUN-1066	○	○	○	○	○	○	○	SNUN-310924	1.250	1.250	0.375	0.093		
	SNUN-1068	○	○	○	○	○	○	○	SNUN-310932	1.250	1.250	0.375	0.125		
	SNUN-1288	○	○	○	○	○	○	○	SNUN-381232	1.500	1.500	0.500	0.125		
Carbide Coatings		P25	GA5035	GA5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M					
		MT-CVD Coated	PVD Coated	Uncoated							Steel	S. Steel	Cast Iron	H-T A.	

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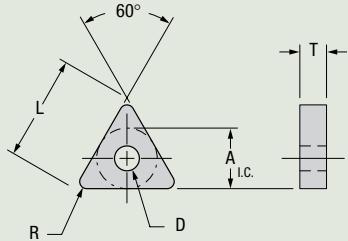
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A green triangle containing the text "60°" in white.

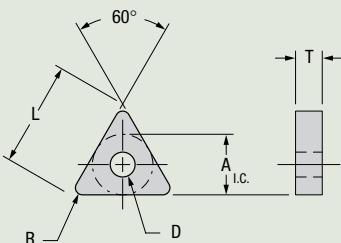
Triangle Inserts

Chip Control



Triangle Inserts

Flat Top (TNMA)



Shape: Triangle	Part Number	Material					Part Number	Dimensions (inches)				
		Steel	S. Steel	Cast Iron	H-T A.			A I.C.	L	T	D	R
	TNMA-642	G45035	P25	M20	K15	S	TNMA-330608	0.750	1.299	0.250	0.312	0.031
	TNMA-643	G45125	P25	M35	K15	S	TNMA-330612	0.750	1.299	0.250	0.312	0.047
	TNMA-644	G45036	P35	M20	G-915	G-20M	TNMA-330616	0.750	1.299	0.250	0.312	0.062
	TNMA-664	G45023	G-915	G-915	G-915	G-20M	TNMA-330916	0.750	1.299	0.375	0.312	0.062
	TNMA-666	G45023	G-915	G-915	G-915	G-20M	TNMA-330924	0.750	1.299	0.375	0.312	0.093
	TNMA-668	G45023	G-915	G-915	G-915	G-20M	TNMA-330932	0.750	1.299	0.375	0.312	0.125
Carbide Coatings		G45035	P25	M20	K15	S						
MT-CVD Coated		G45125	P25	M35	K15	S						
PVD Coated		G45036	P35	G-915	G-915	G-20M						
Uncoated		G45023	G-915	G-915	G-915	G-20M						
			Steel	S. Steel	Cast Iron	H-T A.						

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Stocked Standard

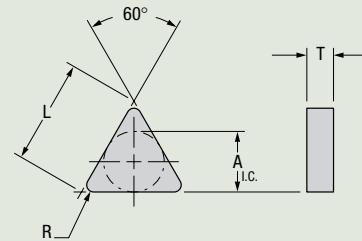
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HT



Triangle Inserts

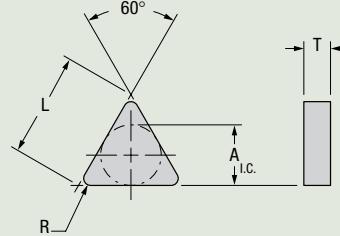
Flat Top (TNGN)



Shape: Triangle	Part Number	ANSI	P25	P25	S. Steel	Cast Iron	H-T A.	Part Number	Dimensions (inches)				
			GA5035	GA5125	GA5036	M20	M35	K15	S	A I.C.	L	T	R
	TNGN-654		○	○	○	○	G-915		TNGN-330716	0.750	1.299	0.312	0.062
	TNGN-656		○	○	○	○	○	○	TNGN-330724	0.750	1.299	0.312	0.093
	TNGN-664		○	○	○	○	○	○	TNGN-330916	0.750	1.299	0.375	0.062
	TNGN-666		○	○	○	○	○	○	TNGN-330924	0.750	1.299	0.375	0.093
	TNGN-668		○	○	○	○	○	○	TNGN-330932	0.750	1.299	0.375	0.125
	TNGN-776		○	○	○	○	○	○	TNGN-381124	0.875	1.516	0.437	0.093
	TNGN-778		○	○	○	○	○	○	TNGN-381132	0.875	1.516	0.437	0.125
	TNGN-7710		○	○	○	○	○	○	TNGN-381140	0.875	1.516	0.437	0.156
	TNGN-878		○	○	○	○	○	○	TNGN-441132	1.000	1.732	0.437	0.125
Carbide Coatings			P25	GA5035	GA5125	GA5036	M20	G-915	K15	S			
MT-CVD Coated	PVD Coated	Uncoated	P25	P25	P35	P35	M35						
			Steel	S. Steel	Cast Iron	H-T A.							

Triangle Inserts

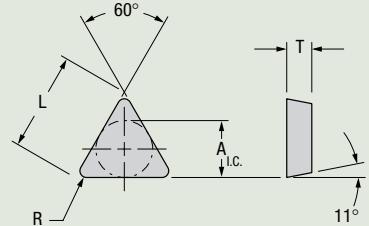
Flat Top (TNUN)



Shape: Triangle	Part Number	ANSI	Steel	S. Steel	Cast Iron	H-T A.	R												
								G-A5035	P25	P25	P35	M20	M35	K15	S	A.I.C.	L	T	R
	TNUN-654		○	○	○	○	○	○	○	○	○	○	○	○	TNUN-330716	0.750	1.299	0.312	0.062
	TNUN-656		○	○	○	○	○	○	○	○	○	○	○	○	TNUN-330724	0.750	1.299	0.312	0.093
	TNUN-664		○	○	○	○	○	○	○	○	○	○	○	○	TNUN-330916	0.750	1.299	0.375	0.062
	TNUN-666		○	○	○	○	○	○	○	○	○	○	○	○	TNUN-330924	0.750	1.299	0.375	0.093
	TNUN-668		○	○	○	○	○	○	○	○	○	○	○	○	TNUN-330932	0.750	1.299	0.375	0.125
	TNUN-776		○	○	○	○	○	○	○	○	○	○	○	○	TNUN-381124	0.875	1.516	0.437	0.093
	TNUN-778		○	○	○	○	○	○	○	○	○	○	○	○	TNUN-381132	0.875	1.516	0.437	0.125
	TNUN-7710		○	○	○	○	○	○	○	○	○	○	○	○	TNUN-381140	0.875	1.516	0.437	0.156
	TNUN-878		○	○	○	○	○	○	○	○	○	○	○	○	TNUN-441132	1.000	1.732	0.437	0.125
Carbide Coatings																			
MT-CVD Coated	PVD Coated	Uncoated	P25	G-A5035	P25	G-A5125	P35	G-A5036	M20	G-A5023	M35	G-915	K15	G-A5023	P25	Steel	S. Steel	Cast Iron	H-T A.

Triangle Inserts

Flat Top (TPGN/TPUN)



Shape: Triangle	Part Number ANSI	Steel P25 S. Steel P25 Cast Iron P35 H-T A.								Part Number ISO	Dimensions (inches)			
		P25	P25	P25	P35	M20	M35	K15	S		A I.C.	L	T	R
	TPGN-666	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	TPGN-330924	0.750	1.299	0.375	0.093
	TPUN-664	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	TPUN-330916	0.750	1.299	0.375	0.062
	TPUN-666	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	TPUN-330924	0.750	1.299	0.375	0.093
Carbide Coatings					P25 GA5035 P25 GA5125 P35 GA5036 M20 GA5023 M35 G-915 K15 GA5023 G-915 S G-20M									
		MT-CVD Coated	PVD Coated	Uncoated	Steel	S. Steel	Cast Iron	H-T A.						

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Stocked Standard

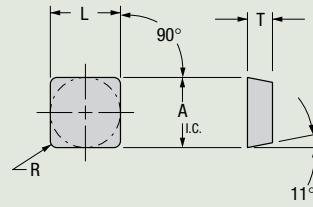
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90°



Square Inserts

Flat Top



Shape: Square	Part Number	Steel								S. Steel		Cast Iron		H-T A.		Part Number	Dimensions (inches)			
		P25	P25	P25	P35	M20	M35	K15	S	G-915	G-915	G-20M	A I.C.	L	T	R				
	SPGN-633	○	○	●	○	○	○	○	○					SPGN-190412	0.750	0.750	0.187	0.047		
	SPGN-634	○	●	●	○	○	○	○	○					SPGN-190416	0.750	0.750	0.187	0.062		
	SPGN-636	○	○	○	○	○	○	○	○					SPGN-190424	0.750	0.750	0.187	0.093		
	SPGN-638	○	○	○	○	○	○	○	○					SPGN-190432	0.750	0.750	0.187	0.125		
	SPUN-633	○	○	○	○	○	○	○	○					SPUN-190412	0.750	0.750	0.187	0.047		
	SPUN-634	○	○	○	○	○	○	○	○					SPUN-190416	0.750	0.750	0.187	0.062		
	SPUN-643	○	○	○	○	○	○	○	○					SPUN-190612	0.750	0.750	0.250	0.047		
	SPUN-644	○	○	○	○	○	○	○	○					SPUN-190616	0.750	0.750	0.250	0.062		
	SPUN-864	○	○	○	○	○	○	○	○					SPUN-250916	1.000	1.000	0.375	0.062		
	SPUN-866	○	○	○	○	○	○	○	○					SPUN-250924	1.000	1.000	0.375	0.093		
	SPUN-868	○	○	○	○	○	○	○	○					SPUN-250932	1.000	1.000	0.375	0.125		
	SPUN-1068	○	○	○	○	○	○	○	○					SPUN-310932	1.250	1.250	0.375	0.125		
	SPUN-1288	○	○	○	○	○	○	○	○					SPUN-381232	1.500	1.500	0.500	0.125		
Carbide Coatings		P25	G45035	G45125	G45036	G45023	G-915	G-20M												
MT-CVD Coated	PVD Coated	Uncoated																		
			P25	P25	P35	M20	M35	K15	S	G-915	G-915	G-20M								
			Steel	S. Steel	Cast Iron	H-T A.														

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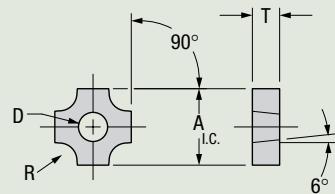
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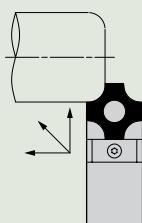


Radius Forming Inserts

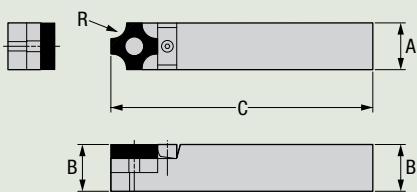
Shape: Square	Part Number					Part Number	Dimensions (inches)				
		ANSI	G-02	G-60	GA5035	GA5036	ISO	A I.C.	T	D	R
	SNMA-64IR4	○	●	○	○		SNMA-64IR4	0.750	0.250	0.312	0.062
	SNMA-64IR6	●	●	○	○		SNMA-64IR6	0.750	0.250	0.312	0.093
	SNMA-64IR8	○	●	●	●		SNMA-64IR8	0.750	0.250	0.312	0.125
	SNMA-64IR10	○	●	○	○		SNMA-64IR10	0.750	0.250	0.312	0.156
	SNMA-84IR12	○	●	●	○		SNMA-84IR12	1.000	0.250	0.359	0.187
	SNMA-84IR14	○	●	○	○		SNMA-84IR14	1.000	0.250	0.359	0.218
	SNMA-84IR16	●	●	○	○		SNMA-84IR16	1.000	0.250	0.359	0.250
	SNMA-106IR20	○	○	○	○		SNMA-106IR20	1.250	0.375	0.500	0.312
	SNMA-106IR24	●	○	○	○		SNMA-106IR24	1.250	0.375	0.500	0.375
	SNMA-126IR28	○	●	○	○		SNMA-126IR28	1.500	0.375	0.500	0.437
	SNMA-126IR32	●	○	○	○		SNMA-126IR32	1.500	0.375	0.500	0.500
Carbide Coatings		G-02	G-60	GA5035	GA5036						
MT-CVD Coated			PVD Coated		Uncoated						



Style GSRN



Neutral Toolholder Shown



Part Number	Stock	Dimensions (inches)			Standard Components				Tune-Up Kit Includes All Standard Components	Insert Options	
		N	A	B	C	Shim	Center Pin	Clamp		Insert	R
GSRN-646	●	0.750	1.000	6.000	SR6	30309	30308-2	30301-1	TK-01117		0.062
GSRN-656	○	0.750	1.250	6.000	SR6	30309	30308-2	30301-1	TK-01117		0.093
GSRN-666	●	0.750	1.500	7.000	SR6	30309	30308-2	30301-1	TK-01117		0.125
GSRN-168	●	1.000	1.000	6.000	SR8	30327-1	30308-2	30301-1	TK-00572		0.156
GSRN-858	○	1.000	1.250	7.000	SR8	30327-1	30308-2	30301-1	TK-00572		0.187
GSRN-868	●	1.000	1.500	8.000	SR8	30327-1	30308-2	30301-1	TK-00572		0.218
GSRN-2010	●	1.250	1.250	7.000	SR10	30454	30319-2	30320	TK-00573		0.250
GSRN-2410	●	1.500	1.500	8.000	SR10	30454	30319-2	30320	TK-00573		0.312
GSRN-2412	●	1.500	1.500	8.000	SR12	30454	30319-2	30320	TK-00574		0.375
											0.437
											0.500

These toolholders are Greenleaf standard and do not conform to the ANSI identification system.

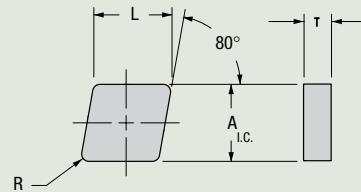
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80°



80° Diamond Inserts

Negative



Shape: 80° Diamond	Part Number ANSI	Edge Prep	Whisker	WG-300 WG-600 WG-700	XSYTIN-1 Phase Toughened Si ₃ N ₄ Al ₂ O ₃ -TiC	Part Number ISO	Edge Prep	Dimensions (inches)												
								A.I.C.	L	T	R									
	CNGN-642	T2A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CNGN-190608	T2A	0.750	0.761	0.250	0.031						
	CNGN-643	T4A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CNGN-190612	T4A	0.750	0.761	0.250	0.047						
		T2A	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		T2A	0.750	0.761	0.250	0.047						
	CNGN-644	T2A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CNGN-190616	T2A	0.750	0.761	0.250	0.062						
Ceramic Classification																				
Whisker Ceramic			Phase Toughened			Silicon Nitride			Alumina TiC											
Page HT 04 – grade descriptions																				
If edge prep is not shown, call Greenleaf Technical Service for assistance.																				
Edge Prep Descriptions – HT 06																				

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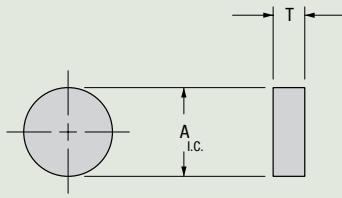
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Round Inserts

Negative

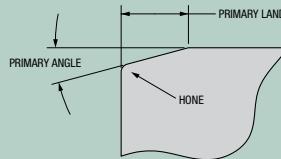


Shape: Round	Part Number ANSI	Edge Prep	Whisker	Phase Toughened		Part Number ISO	Edge Prep	Dimensions (inches)			
				WG-300	WG-600	XSYTIN-1	Si ₃ N ₄	GEM-7	Al ₂ O ₃ -TiC	A I.C.	T
	RNGN-64	T2A	○ ○ ○ ○ ○ ○					RNGN-190600	T2A	0.750	0.250
	RNGN-65	T2A	● ○ ● ○ ○ ○					RNGN-190700	T2A	0.750	0.312
		T10B	○ ○ ○ ○ ○ ○		●				T10B	0.750	0.312
	RNGN-84	T2A	○ ○ ○ ○ ○ ○					RNGN-250600	T2A	1.000	0.250
	RNGN-85	T2A	○ ○ ○ ○ ○ ○					RNGN-250700	T2A	1.000	0.312
	RNGN-86	T2A	○ ○ ○ ○ ○ ○					RNGN-250900	T2A	1.000	0.375
	RNGN-106	T4B	○ ○ ○ ○ ○ ○				●	RNGN-310900	T4B	1.250	0.375
		T10B	○ ○ ○ ○ ○ ○		●				T10B	1.250	0.375
Ceramic Classification											
Whisker Ceramic	Phase Toughened	Silicon Nitride	Alumina TiC								
											

Page HT 04 – grade descriptions

WG-300	WG-600	WG-700	XSYTIN-1	GSN100	GEM-7
Whisker	Phase Toughened	Si ₃ N ₄	Al ₂ O ₃ -TiC		

Edge Prep Descriptions – HT 06



If edge prep is not shown, call Greenleaf Technical Service for assistance.

Stocked
or Available
Upon Request

Stocked Standard

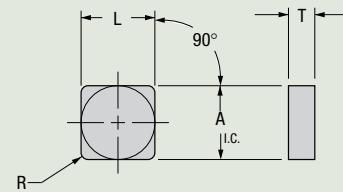
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90°



Square Inserts

Negative



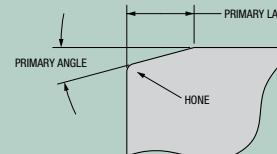
Shape: Square	Part Number ANSI	Edge Prep	Whisker				Part Number ISO	Edge Prep	Dimensions (inches)			
			WG-300	WG-600	WG-700	XSYTIN-1			A.I.C.	L	T	R
	SNGN-642	T2A	○	○	○	○	SNGN-190608	T2A	0.750	0.750	0.250	0.031
	SNGN-643	T2A	●	○	○	○	SNGN-190612	T2A	0.750	0.750	0.250	0.047
	SNGN-644	T2A	●	○	○	○	SNGN-190616	T2A	0.750	0.750	0.250	0.062
	SNGN-653	T2A	○	○	○	○	SNGN-190712	T2A	0.750	0.750	0.312	0.047
	SNGN-654	T10B	○	○	○	○	SNGN-190716	T10B	0.750	0.750	0.312	0.062
	SNGN-655	T2A	○	○	○	○	SNGN-190720	T2A	0.750	0.750	0.312	0.078
	SNGN-866	T10B	○	○	○	○	SNGN-250924	T10B	1.000	1.000	0.375	0.094

Ceramic Classification			
Whisker Ceramic	Phase Toughened	Silicon Nitride	Alumina TiC

WG-300 WG-600 WG-700 XSYTIN-1 GSN100 Si₃N₄ Al₂O₃-TiC GEM-7

Page HT 04 – grade descriptions

Edge Prep Descriptions – HT 06



If edge prep is not shown, call Greenleaf Technical Service for assistance.

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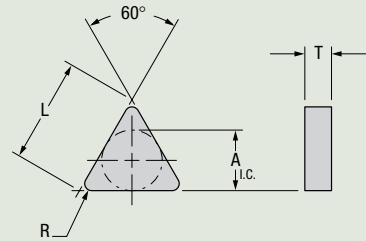
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(●) Stocked Standard
 (○) Stocked or Available Upon Request

(○) Stocked or Available Upon Request

Triangle Inserts

Negative



Shape: Triangle	Part Number ANSI	Edge Prep	Whisker				Part Number ISO	Edge Prep	Dimensions (inches)					
			WG-300	WG-600	WG-700	XSYTIN-1			GSN100	Si ₃ N ₄	GEM-7	Al ₂ O ₃ -TiC	A I.C.	L
	TNGN-666	T4B	<input type="radio"/>	TNGN-330924	T4B	0.750	1.299	0.375	0.094					
	TNGN-868	T10B	<input type="radio"/>	TNGN-440932	T10B	1.000	1.732	0.375	0.125					

Ceramic Classification

Whisker Ceramic	Phase Toughened	Silicon Nitride	Alumina TiC

Page HT 04 – grade descriptions

Edge Prep Descriptions – page HT 06

If edge prep is not shown, call Greenleaf Technical Service for assistance.

Stocked or Available Upon Request Stocked Standard

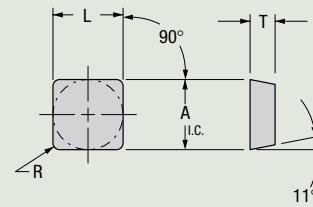
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90°



Square Inserts

Positive



Shape: Square	Part Number ANSI	Edge Prep	Whisker				Part Number ISO	Edge Prep	Dimensions (inches)				
			WG-300	WG-600	WG-700	XSYTIN-1			A.I.C.	L	T	R	
	SPGN-633	T2A	○	○	○	○	○	SPGN-190412	T2A	0.750	0.750	0.187	0.047
	SPGN-634	T2A	○	○	○	○	○	SPGN-190416	T2A	0.750	0.750	0.187	0.062
	SPGN-642	T2A	○	○	○	○	○	SPGN-190608	T2A	0.750	0.750	0.250	0.031

Ceramic Classification

Whisker Ceramic	Phase Toughened	Silicon Nitride	Alumina TiC
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Page HT 04 – grade descriptions

Edge Prep Descriptions – HT 06

If edge prep is not shown, call Greenleaf Technical Service for assistance.

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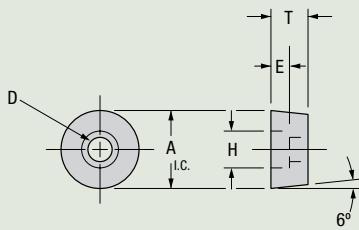
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Stocked Standard

Stocked or Available Upon Request



Roll Turning Inserts



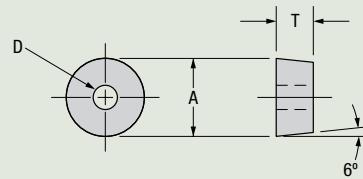
Shape: CDH	Part Number					Part Number	Dimensions (inches)					
		ANSI	GA5035	G-935	G-50	G-74	ISO	A I.C.	T	H	D	E
	CDH-42	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			CDH-42	1.000	0.500	0.406	0.265	0.250
	CDH-43	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			CDH-43	1.000	0.750	0.406	0.265	0.500
	CDH-51.5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			CDH-51.5	1.250	0.375	—	0.390	—
	CDH-53	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			CDH-53	1.250	0.750	0.593	0.390	0.375
Carbide Coatings  MT-CVD Coated  PVD Coated  Uncoated												

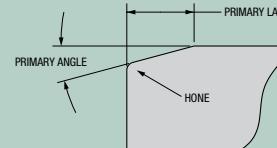
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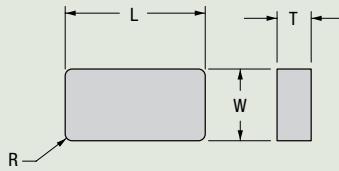
Roll Turning Inserts



Shape: C-CDH	Part Number ANSI	Edge Prep	Whisker						Part Number ISO	Edge Prep	Dimensions (inches)		
			WG-300	WG-600	WG-700	XSYTN-1	Phase Toughened	GSN100			A I.C.	T	D
	C-CDH-21	T4B	○	○	○	○	○	○	C-CDH-21	T4B	0.500	0.250	0.125
		T10B	○	○	○	○	○	○		T10B	0.500	0.250	0.125
	C-CDH-22	T4B	○	○	○	○	○	○	C-CDH-22	T4B	0.500	0.500	0.125
		T10B	○	○	○	○	○	○		T10B	0.500	0.500	0.125
	C-CDH-31	T4B	○	○	○	○	○	○	C-CDH-31	T4B	0.750	0.250	0.265
		T10B	○	○	○	○	○	○		T10B	0.750	0.250	0.265
	C-CDH-31.5	T4B	○	○	○	○	○	○	C-CDH-31.5	T4B	0.750	0.375	0.265
		T10B	○	○	○	○	○	○		T10B	0.750	0.375	0.265
	C-CDH-42	T4B	○	○	○	○	○	○	C-CDH-42	T4B	1.000	0.500	0.265
		T10B	●	○	○	○	○	●		T10B	1.000	0.500	0.265
	C-CDH-43	T4B	○	○	○	○	○	○	C-CDH-43	T4B	1.000	0.750	0.265
		T10B	○	○	○	○	○	○		T10B	1.000	0.750	0.265
	C-CDH-51.5	T4B	○	○	○	○	○	○	C-CDH-51.5	T4B	1.250	0.375	0.390
		T10B	○	○	○	○	○	○		T10B	1.250	0.375	0.390
	C-CDH-53	T4B	○	○	○	○	○	○	C-CDH-53	T4B	1.250	0.750	0.390
		T10B	○	○	○	○	○	●		T10B	1.250	0.750	0.390
	Ceramic Classification												
	 Whisker Ceramic	 Phase Toughened	 Silicon Nitride	 Alumina TiC	 Whisker	 WG-300	 WG-600	 WG-700	 XSYTN-1	 Phase Toughened	 GSN100	 Si ₃ N ₄	 Al ₂ O ₃ -TiC
	Page HT 04 – grade descriptions												
Edge Prep Descriptions – HT 06													
													

If edge prep is not shown, call Greenleaf Technical Service for assistance.

Roll Turning Inserts



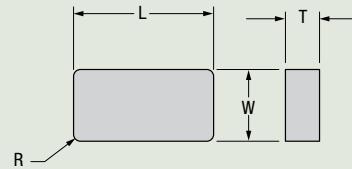
Shape: LNUN	Part Number					Part Number	Dimensions (inches)				
		ANSI	GA5035	G-935	G-50	G-74	ISO	W	L	T	R
	LNUN-4442	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		LNUN-4442	0.500	1.000	0.250	0.031
	LNUN-4444	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		LNUN-4444	0.500	1.000	0.250	0.062
	LNUN-4452	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		LNUN-4452	0.500	1.000	0.312	0.031
	LNUN-4454	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		LNUN-4454	0.500	1.000	0.312	0.062
	LNUN-5444	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		LNUN-5444	0.625	1.000	0.250	0.062
	LNUN-5464	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		LNUN-5464	0.625	1.000	0.375	0.062
	LNUN-5564	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		LNUN-5564	0.625	1.250	0.375	0.062
	LNUN-6568	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		LNUN-6568	0.750	1.250	0.375	0.125
	LNUN-6684	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		LNUN-6684	0.750	1.500	0.500	0.062
	LNUN-6688	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>		LNUN-6688	0.750	1.500	0.500	0.125
	LNUN-66812	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		LNUN-66812	0.750	1.500	0.500	0.187
	LNUN-68812	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		LNUN-68812	0.750	2.000	0.500	0.187
Carbide Coatings  MT-CVD Coated  PVD Coated  Uncoated		GA5035	G-935	G-50	G-74						

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Stocked Standard

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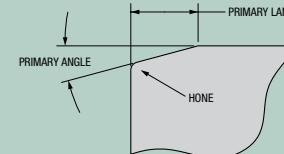
Roll Turning Inserts



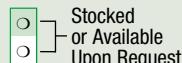
Shape: LNMN	Part Number ANSI	Edge Prep	Whisker					Part Number ISO	Edge Prep	Dimensions (inches)				
			WG-300	WG-600	WG-700	XSYTIN-1	Phase Toughened			W	L	T	R	
	LNMN-4442	T4B	○	○	○	○	○	○	LNMN-4442	T4B	0.500	1.000	0.250	0.031
		T10B	○	○	○	○	○	○		T10B	0.500	1.000	0.250	0.031
	LNMN-4444	T4B	○	○	○	○	○	○	LNMN-4444	T4B	0.500	1.000	0.250	0.062
		T10B	○	○	○	○	○	○		T10B	0.500	1.000	0.250	0.062
	LNMN-4452	T4B	○	○	○	○	○	○	LNMN-4452	T4B	0.500	1.000	0.312	0.031
		T10B	○	○	○	○	○	○		T10B	0.500	1.000	0.312	0.031
	LNMN-4454	T4B	○	○	○	○	○	○	LNMN-4454	T4B	0.500	1.000	0.312	0.062
		T10B	○	○	○	○	○	○		T10B	0.500	1.000	0.312	0.062
	LNMN-5444	T4B	○	○	○	○	○	○	LNMN-5444	T4B	0.625	1.000	0.250	0.062
		T10B	○	○	○	○	○	○		T10B	0.625	1.000	0.250	0.062
	LNMN-5464	T4B	○	○	○	○	○	○	LNMN-5464	T4B	0.625	1.000	0.375	0.062
		T10B	○	○	○	○	○	●		T10B	0.625	1.000	0.375	0.062
	LNMN-5564	T4B	○	○	○	○	○	○	LNMN-5564	T4B	0.625	1.250	0.375	0.062
		T10B	○	○	○	○	○	○		T10B	0.625	1.250	0.375	0.062
	LNMN-6568	T4B	○	○	○	○	○	○	LNMN-6568	T4B	0.750	1.250	0.375	0.125
		T10B	○	○	○	○	○	○		T10B	0.750	1.250	0.375	0.125
	LNMN-6684	T4B	○	○	○	○	○	○	LNMN-6684	T4B	0.750	1.500	0.500	0.062
		T10B	○	○	○	○	○	○		T10B	0.750	1.500	0.500	0.062
	LNMN-6688	T4B	○	○	●	○	○	○	LNMN-6688	T4B	0.750	1.500	0.500	0.125
		T10B	●	●	●	○	○	●		T10B	0.750	1.500	0.500	0.125
	LNMN-66812	T4B	○	○	○	○	○	○	LNMN-66812	T4B	0.750	1.500	0.500	0.187
		T10B	○	○	○	○	○	○		T10B	0.750	1.500	0.500	0.187
Ceramic Classification					WG-300	WG-600	WG-700	XSYTIN-1	Whisker	Phase Toughened	Si ₃ N ₄	GSM100	Al ₂ O ₃ -TiC	GEM-7
 Whisker Ceramic  Phase Toughened  Silicon Nitride  Alumina TiC														

Page HT 04 – grade descriptions

If edge prep is not shown, call Greenleaf Technical Service for assistance.

Edge Prep Descriptions – HT 06**Greenleaf Sales**Phone: 814-763-2915 • 800-458-1850 • Fax: 814-763-4423
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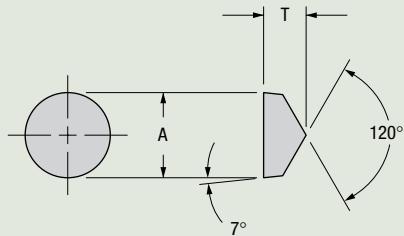
Stocked Standard



Stocked or Available Upon Request



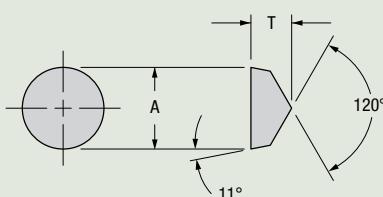
Round V-Bottom Inserts



Shape: Round V-Bottom	Part Number ANSI	Edge Prep	Whisker			Part Number ISO	Edge Prep	Dimensions (inches)	
			WG-300	WG-600	WG-700			A I.C.	T
	RCGN-2V	T2A	○	○	○	○	●	RCGX-060400	T2A 0.250 0.187
	RCGN-3V	T2A	●	○	○	○	●	RCGX-090700	T2A 0.375 0.312
		T4B	●	○	○	○	○		T5B 0.375 0.312
	RCGN-4V	T2A	●	●	●	○	●	RCGX-120700	T2A 0.500 0.312
		T4A	○	○	○	○	●		T4A 0.500 0.312
		T5A	●	○	○	○	●		T5A 0.500 0.312
		T5B	●	○	○	○	●		T5B 0.500 0.312
	RCGN-5V	T2A	○	○	○	○	○	RCGX-151000	T2A 0.625 0.394
Ceramic Classification	Whisker Ceramic	WG-300	WG-600	WG-700	XSYTIN-1 Phase Toughened	GSN100 Si ₃ N ₄	GEM-7 Al ₂ O ₃ -TiC	Edge Prep Descriptions – HT 06	
	Phase Toughened	Whisker	Phase Toughened	Whisker	Phase Toughened	Whisker	Phase Toughened	Edge Prep Descriptions – HT 06	
Page HT 04 – grade descriptions									

If edge prep is not shown, call Greenleaf Technical Service for assistance.

Round V-Bottom Inserts



Shape: Round V-Bottom	Part Number ANSI	Edge Prep	Whisker			Part Number ISO	Edge Prep	Dimensions (inches)	
			WG-300	WG-600	WG-700			A I.C.	T
	RPGN-2V	T2A	●	○	●	○	○	RPGX-060400	T2A 0.250 0.187
	RPGN-3V	T2A	●	●	●	○	○	RPGX-090700	T2A 0.375 0.312
		T4B	○	○	○	○	○		T4B 0.375 0.312
	RPGN-4V	T2A	●	●	○	○	○	RPGX-120700	T2A 0.500 0.312
		T4B	○	○	○	○	○		T4B 0.500 0.312
Ceramic Classification									
Page HT 04 – grade descriptions									

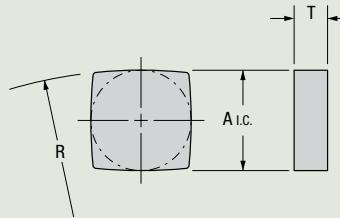
If edge prep is not shown, call Greenleaf Technical Service for assistance.

Stocked
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Upon Request

Stocked Standard

Square Inserts

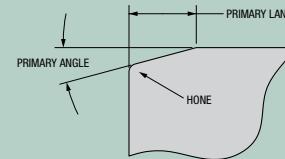
Negative



Shape: Square	Part Number ANSI	Edge Prep	Whisker						Part Number ISO	Edge Prep	Dimensions (inches)		
			WG-300	WG-600	WG-700	XSYTIN-1	Si ₃ N ₄	Al ₂ O ₃ -TiC			A.I.C.	T	R
	SNGN-128-R4.5	T4B	<input type="radio"/>	<input type="radio"/>	SNGN-128-R4.5	T4B	1.500	0.500	4.500				
Ceramic Classification													
Whisker Ceramic	Phase Toughened	Silicon Nitride	Alumina TiC	WG-300 Whisker	WG-600	WG-700	XSYTIN-1	Si ₃ N ₄	GSN100	GEM-7	Edge Prep Descriptions – HT 06		

Page HT 04 – grade descriptions

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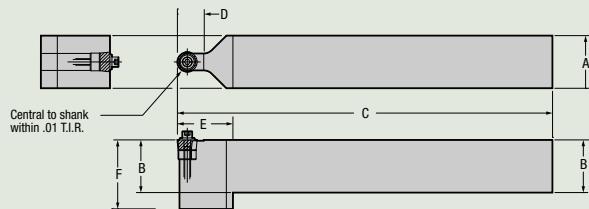
 Stocked Standard
 Stocked or Available Upon Request

 Stocked or Available Upon Request



H-SROON

Neutral Carbide and Ceramic Inserts



Part Number	Gage Insert	Dimensions (inches)						Standard Components		
		A	B	C	D	E	F	Shim	Shim Thickness	Insert Screw
H-SROON-24-3-1	C-CDH-31	1.500	1.500	12.0	1.5	2.25	2.00			
H-SROON-32-3-1	CDH-31	2.000	2.000	12.0	1.5	N/A	N/A	313665	0.125	SHCS 1/4-20 x 1.25 long
H-SROON-24-4-2	C-CDH-42	1.500	1.500	12.0	1.5	2.25	2.25			
H-SROON-32-4-2	CDH-42	2.000	2.000	12.0	1.5	2.25	2.25	3291	0.250	SHCS 1/4-20 x 1.50 long
H-SROON-32-5-1.5	C-CDH-51.5	2.000	2.000	12.0	2.0	2.50	2.50			
	CDH-51.5							313690	0.375	SHCS 3/8-16 x 2.00 long

C-CDH and CDH inserts can be found on pages HT27 and HT28.

Part Number	Gage Insert	Optional Inserts and Components				
		Shim	Shim Thickness	Insert Screw	Chip breaker	
H-SROON-24-3-1	C-CDH-31.5	N/A	N/A	SHCS 1/4-20 x 1.25 long	306727	
H-SROON-32-3-1	CDH-31.5					
H-SROON-24-4-2	C-CDH-43	N/A	N/A	SHCS 1/4-20 x 1.50 long	304736	
H-SROON-32-4-2	CDH-435					
H-SROON-32-5-1.5	C-CDH-53	N/A	N/A	SHCS 3/8-16 x 2.00 long	313602	
	CDH-53					

Stocked
or Available
Upon Request

Stocked Standard

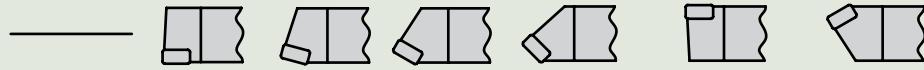
Greenleaf Sales
Phone: 814-763-2915 • 800-458-1850 • Fax: 814-763-4423
sales@greenleafcorporation.com • www.greenleafglobalsupport.com

Inserts

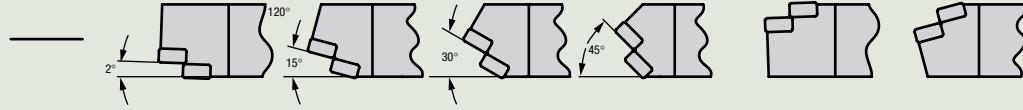
ROUND
V-BOTTOM
RPGN , RCGN STYLES



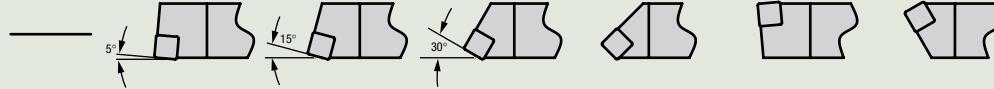
SINGLE
RECTANGULAR
LNU STYLE



DOUBLE
RECTANGULAR
LNU STYLE



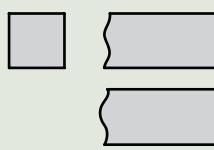
SINGLE SQUARE
NEGATIVE OR POSITIVE
SNUN , SPUN STYLES



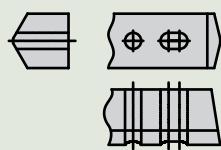
DOUBLE SQUARE
NEGATIVE OR POSITIVE
SNUN , SPUN STYLE



Shank Options



STRAIGHT SHANK



CUSTOMIZED V-BOTTOM SHANK



FARREL QUICK CHANGE

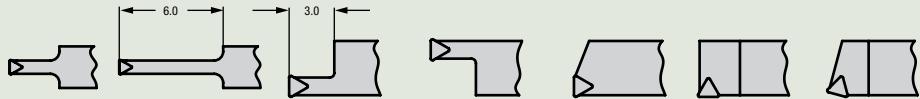
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sales@greenleafcorporation.com • www.greenleafglobalsupport.com

Inserts *continued*

TRIANGULAR INSERT

NEGATIVE OR POSITIVE
TPGN , TNUN STYLES



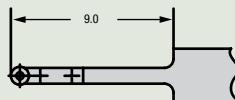
DIAMOND INSERT

NEGATIVE OR POSITIVE
CNGN , CPGN STYLES



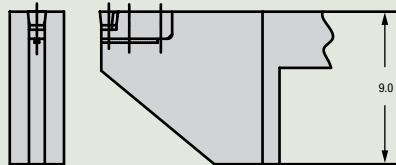
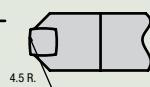
ROUND INSERT

NEGATIVE OR POSITIVE
RNGN , RCGN STYLES
CDH STYLES

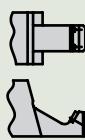


1-1/2 I.C. FINISHING INSERT

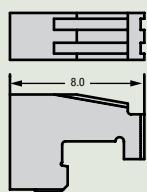
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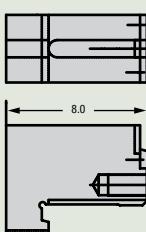
Shank Options *continued*



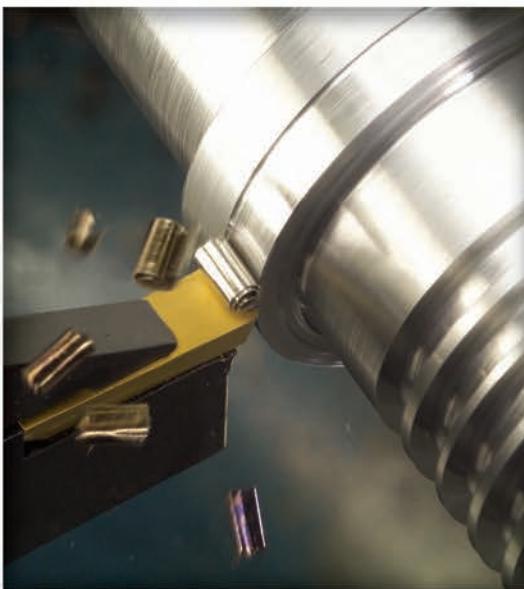
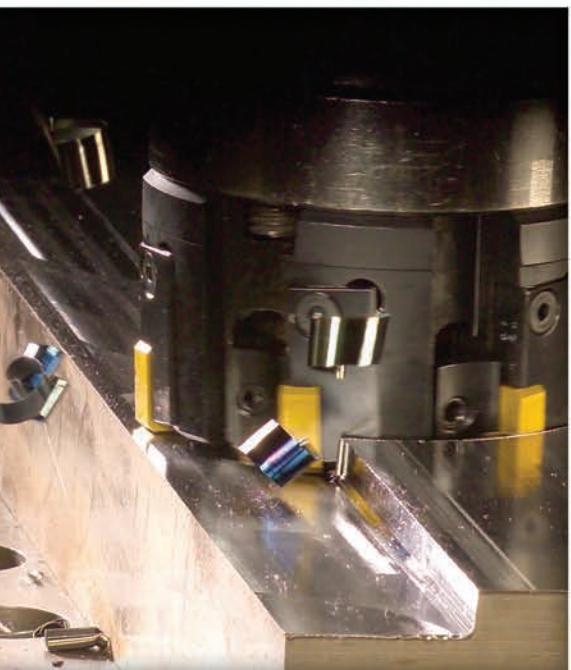
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CAM LOCK



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SHANK FOR
HERCULES
LATHE



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SHANK FOR
WALDRICH
SIEGEN
LATHE



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