Heavy Turning

Introduction ..... HT 03

Grade Descriptions ..... HT 04-05

Edge Preparations ..... HT 06

Chipform Application Range ..... HT 07

Pictorial Index ..... HT 08-09

Heavy Turning Inserts
- Carbide ..... HT 10-17
- Ceramic ..... HT 18-20
- Roll Turning ..... HT 21-25

Heavy Turning Special Tooling Design Options ..... HT 26-27

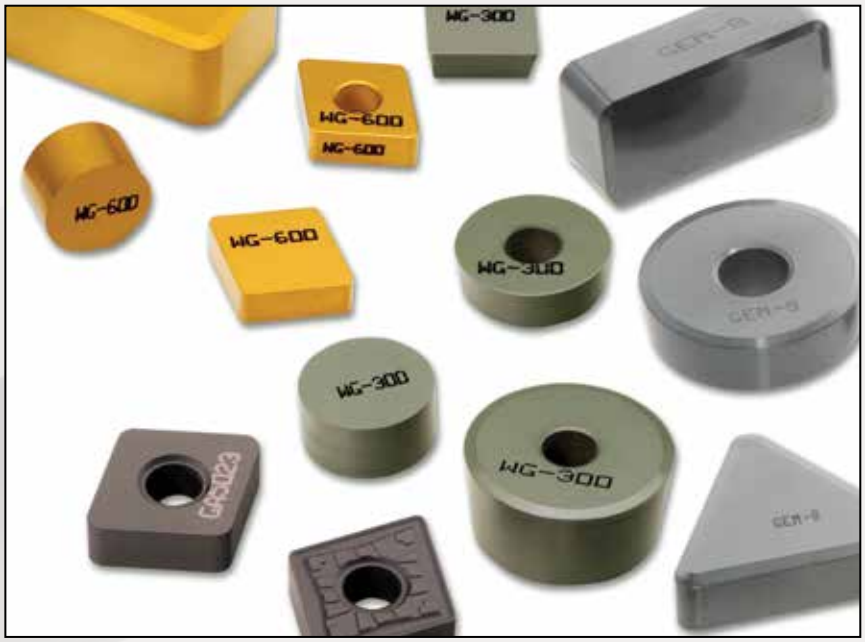
Phone: 814-763-2915 • 800-458-1850 • Fax: 814-763-4423 • sales@greenleafcorporation.com • www. greenleafcorporation.com

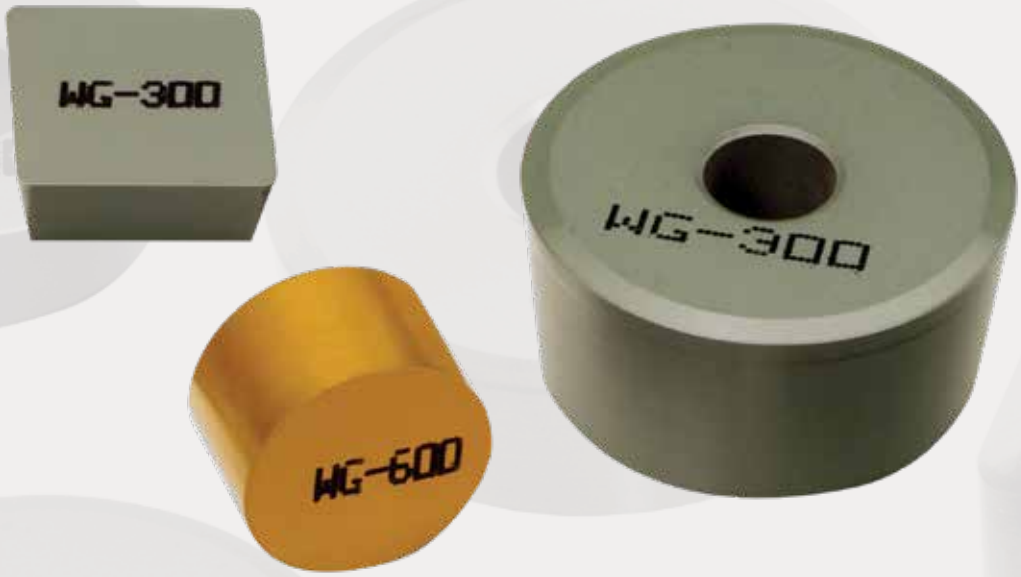
Heavy Turning

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-8™ 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 28.

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





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

Insert Grades

Carbide

Greenleaf offers a comprehensive line of carbide inserts ranging from sub-micron C-1 through C-8 classifications. Carbide inserts are available in ANSI standard geometries with multi-purpose chipbreakers for heavy roughing through finishing.

CVD Coated

GA5023
A high-performance grade designed for the turning and milling of various grades of cast iron, GA5023 features an advanced MT-CVD coating specifically developed to withstand the abrasiveness of cast iron in machining. Applications range from roughing to finishing in most grades of cast iron, including gray, nodular, and others. The high wear resistance and toughness of GA5023 enable high-speed machining in a wide range of feed rates.

GA5035
A high-performance MT-CVD coated grade for turning all types of steels, GA5035 can be used for heavy roughing to finish-turning applications requiring resistance to heat deformation, thermal shock from interrupted cuts, and abrasion. GA5035 should be applied at high speeds and a moderate range of feeds. GA5035 is the primary choice for steel turning.

GA5036
A high-speed MT-CVD coated milling grade, GA5036 should be used when milling forged and cast steels and select ductile irons. GA5036 constitutes a unique combination of toughness and heat resistance, making it suitable for heavy and light-duty milling at high cutting speeds. It is a great first choice for all steel milling.

GA5125
A high-performance MT-CVD coated carbide used primarily for the milling and turning of manganese steel. GA5125 can also be applied in Cr-Mo steels, tool steels, and other alloyed steels in continuous and interrupted turning. GA5125 provides excellent resistance to abrasion, crater wear, thermal shock, deformation, and built-up edge. It performs best when applied at high speeds and moderate feed rates.

PVD Coated

G-915
A multi-layer PVD-coated grade, G-915 is exceptional for milling and interrupted turning of heat-resistant alloys, stainless steels, and low-carbon steels. The coating adds heat and abrasion resistance to the tough substrate. G-915 should be used at moderate speeds and moderate to high feeds. It is a versatile grade that performs well in a variety of materials and operations outside its primary application range, making it a great choice for general machining.

G-935
A multi-layer PVD-coated grade for steel milling and turning applications requiring additional resistance to mechanical and thermal shock. The multi-layered PVD coating raises the speed envelope and wear resistance in tough milling, indexable drilling, and interrupted turning applications.

Uncoated

G-02
An excellent general-purpose cast-iron grade, G-02 can be used for milling and turning cast iron at moderately high speeds and medium feeds. G-02 is also a good choice for machining aluminum with positive rakes and light roughing of some heat-resistant alloys and stainless steels.

G-20M
A sub-micron C-2 carbide grade suited for use in light-to-medium turning of titanium and heat-resistant super alloys, G-20M has the strength and edge wear characteristics to resist notching when turning high-strength materials.

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

G-60
Used for the heavy rough turning of steel, steel castings, and steel forgings. Apply G-60 at moderate speeds and heavy feed rates and depths of cut. G-60 is more wear-resistant than G-50 but is lower in toughness.

G-74
A roughing and finishing grade for steel and steel castings, G-74 should be applied at high speeds and moderate to heavy feeds. It is well-suited for the turning of steel rolls.

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

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®

A SiC whisker-reinforced Al_2O_3 ceramic that is very effective at machining nickel- and cobalt-based super alloys, alloyed cast iron, and hardened steels at metal removal rates up to 10 times higher than carbide. Excellent chemical stability and wear resistance at very high cutting speeds make WG-300® the first choice worldwide for grooving and turning difficult materials.

WG-600®

A coated SiC whisker-reinforced Al_2O_3 ceramic that offers higher tool life and speed capabilities than uncoated whisker-reinforced ceramics due to the additional barrier to heat and mechanical abrasion. Application areas for WG-600® include rough and finish turning of alloys in the M, K, S, and H ISO material classes, as well as milling of hardened steels and select stainless steels. WG-600® is particularly well-suited for finish-turning and grooving of heat-resistant super alloys and is unmatched in both turning and milling of steels with a hardness above 60 HRc.

XSYTIN®-1

A phase-toughened ceramic grade capable of sustaining extreme cutting forces. The unprecedented strength, impact toughness, and resistance to thermal shock of XSYTIN®-1 make it ideal for use in interrupted cuts, forging scale removal, and milling. In continuous cuts, the strength of XSYTIN®-1 allows the use of significantly higher feed rates or depths of cut. In machining environments with severe interruptions and scale, the edge strength of XSYTIN®-1 allows the use of very light edge preparations, minimizing the force of impact and making for a much smoother cut.

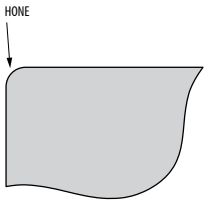
GSN100™

An engineered blend of hot-pressed silicon nitride and proprietary toughening agents that excels in the machining of cast iron. GSN100™ delivers superior wear and toughness for turning, grooving, and milling applications. It is available in all standard geometries and engineered specials.

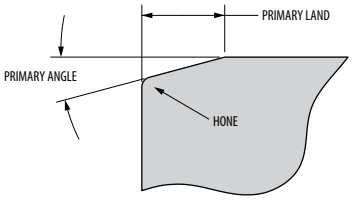
GEM-8™

An Al_2O_3 + TiC composite ceramic exhibiting excellent hardness and strength at elevated temperatures. GEM-8™ offers a high degree of predictability in roll turning and continuous cuts in ferrous alloys.

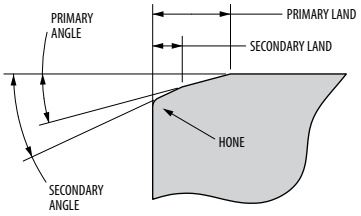
Edge Preparations



HONE



PRIMARY ANGLE

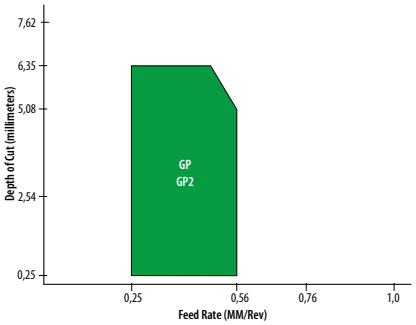
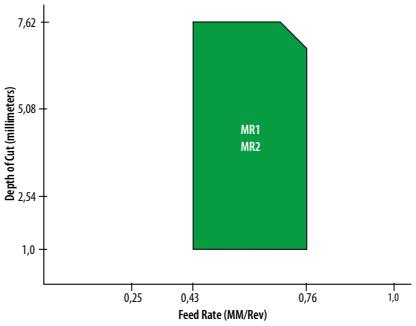
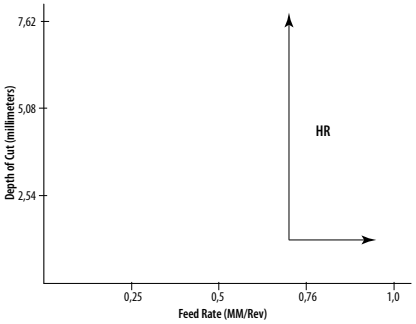


SECONDARY ANGLE

Edge Prep	Hone	Primary Land	Primary Angle	Secondary Land	Secondary Angle	Application
T2A	0,015R	0,17	20°			Scale applications, light interruptions, weld overlays, finish turning and milling of hardened materials.
T4A	0,015R	1,90	10°	0,17	25°	Heavy machining <19mm IC - Roll turning, 3V, 4V, CDH-22, CDH-33.
T4B	0,035R	1,90	10°	0,17	25°	Heavy machining <19mm IC - Roll turning, 3V, 4V, CDH-22, CDH-33.
T10B	0,035R	2,41	15°	0,17	30°	Heavy machining, iron and steel roll turning >19mm IC, CDH-43, CDH-53.

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

Chipform Application Range

GENERAL PURPOSE	GP and GP2	General purpose chipbreaker. Feed rates up to 0,56/rev and 6,35 depth of cut.	
MEDIUM ROUGHING	MR and MR2	Used for medium roughing of all material. Feeds up to 0,71 /rev and depths up to 7,62	
HEAVY ROUGHING	HR *single sided*	Heavy roughing for all materials. Feeds above 0,58/rev. One-sided chipbreaker for heaviest feeds (MM). *Example: CNMM 644 HR*	

Pictorial Index

Carbide Inserts – Negative

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

80° Diamond
Flat Top
page: HT 10

80° Diamond
Flat Top
page: HT 11

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

Round
Flat Top
page: HT 12

Round
Flat Top
page: HT 12

Square
Chip Control
GP2, MR,
HR – single sided
page: HT 13

Carbide Inserts – Negative *continued*

Square
Flat Top
page: HT 13

Square
Flat Top
page: HT 14

Triangle
Chip Control
MR
page: HT 15

Triangle
Flat Top
page: HT 15

Triangle
Flat Top
TNGN, TNUN
page: HT 16

Carbide Inserts – Positive

Triangle
Flat Top
page: HT 17

Square
Flat Top
page: HT 17

Ceramic Inserts – Negative

80° Diamond
page: HT 18

Round
page: HT 18

Square
page: HT 19

Triangle
page: HT 19

Ceramic Inserts – Positive

Square
page: HT 20

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

Roll Turning

Roll Turning
page: HT 21

Roll Turning
page: HT 21

Roll Turning
page: HT 22

Roll Turning
page: HT 23

Round
V-Bottom
page: HT 24

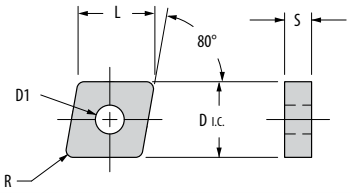
Round
V-Bottom
page: HT 24

Square
Negative
page: HT 25

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

80° Diamond Inserts

Chip Control — CNMG, CNMM



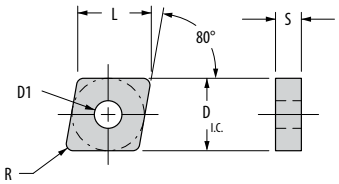
Shape: 80° Diamond		Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)				
			GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	D1	R
General Purpose		CNMG-190612-GP	▲	●	◆	◆	▲	◆	▲		CNMG-643-GP	19,05	19,33	6,35	7,92	1,19
Medium Roughing		CNMG-190608-MR	▲	●	◆	◆	▲	◆	▲		CNMG-642-MR	19,05	19,33	6,35	7,92	0,79
		CNMG-190612-MR	▲	●	◆	◆	▲	◆	▲		CNMG-643-MR	19,05	19,33	6,35	7,92	1,19
		CNMG-190616-MR									CNMG-644-MR	19,05	19,33	6,35	7,92	1,57
Heavy Roughing		CNMM-190612-HR	▲	●	◆	◆	▲	◆	▲		CNMG-643-HR	19,05	19,33	6,35	7,92	0,79

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5



Flat Top — CNMA

Shape: 80° Diamond		Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)				
			GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	D1	R
		CNMA-190608	◆	●			◆	◆	●	◆	CNMA-642	19,05	19,33	6,35	7,92	0,79
		CNMA-190612	◆	●			◆	◆	●	◆	CNMA-643	19,05	19,33	6,35	7,92	1,19
		CNMA-190616	◆	●			◆	◆	●	◆	CNMA-644	19,05	19,33	6,35	7,92	1,57
		CNMA-250924	◆	●			◆	◆	●	◆	CNMA-866	25,4	25,78	9,53	9,12	2,36

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

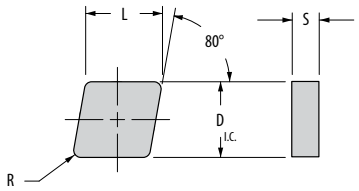
First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

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

80° Diamond Inserts

Flat Top — CNGN



Shape: 80° Diamond	Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)			
		GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	R
	CNGN-190408	◆	●			◆	◆	●	◆	CNGN-632	19,05	19,33	4,75	0,79
	CNGN-190412	◆	●			◆	◆	●	◆	CNGN-633	19,05	19,33	4,75	1,19
	CNGN-190416	◆	●			◆	◆	●	◆	CNGN-634	19,05	19,33	4,75	1,57
	CNGN-190612	◆	●			◆	◆	●	◆	CNGN-643	19,05	19,33	6,35	1,19
	CNGN-190616	◆	●			◆	◆	●	◆	CNGN-644	19,05	19,33	6,35	1,57

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

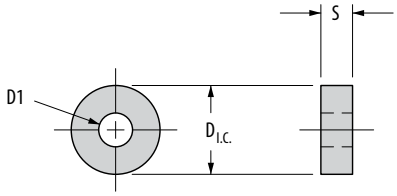
CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions *— pages HT 4–5*

Round Inserts

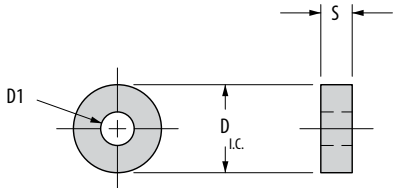
Chip Control — RNMG, RNMM



Shape: Round		Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)		
			GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	S	D1
Medium Roughing		RNMG-190600-MR	◆	●			◆	◆	●	◆	RNMG-64-MR	19,05	6,35	7,92
		RNMG-250900-MR	◆	●			◆	◆	●	◆	RNMG-86-MR	25,40	9,53	9,12
												25,40	6,35	9,12
Heavy Roughing		RNMM-250600-MR	◆	●			◆	◆	●	◆	RNMM-84-MR			

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated — First Choice ◆ — Second Choice ● — Alternative ▲ — Interrupted/Milling ❖ — *Grade descriptions — pages HT 4–5*

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

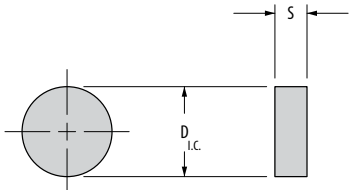


Flat Top — RNMA

Shape: Round		Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)		
			GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	S	D1
		RNMA-190600	◆	●			◆	◆	●	◆	RNMA-64-MR	19,05	6,35	7,92
		RNMA-250900	◆	●			◆	◆	●	◆	RNMA-86-MR	25,40	9,53	9,12

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated — First Choice ◆ — Second Choice ● — Alternative ▲ — Interrupted/Milling ❖ — *Grade descriptions — pages HT 4–5*

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC



Flat Top — RNGN

Shape: Round		Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)	
			GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	S
		RNGN-190400	◆	●			◆	◆	●	◆	RNGN-63	19,05	4,75
		RNGN-250600	◆	●			◆	◆	●	◆	RNGN-84	25,40	6,35

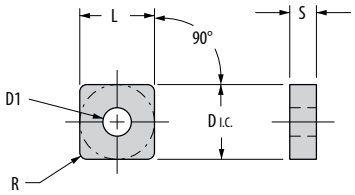
CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated — First Choice ◆ — Second Choice ● — Alternative ▲ — Interrupted/Milling ❖ — *Grade descriptions — pages HT 4–5*

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

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

Square Inserts

Chip Control — SNMG, SNMM



Shape: Square	Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)				
		GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	D1	R
General Purpose	SNMG-190612-GP2	▲	●			◆	◆	●	◆	SNMG-643-GP2	19,05	19,05	6,35	7,92	1,19
	SNMG-190616-GP2	▲	●			◆	◆	●	◆	SNMG-644-GP2	19,05	19,05	6,35	7,92	1,57
Medium Roughing	SNMG-190612-MR	▲	●			◆	◆	●	◆	SNMG-643-MR	19,05	19,05	6,35	7,92	1,19
	SNMG-190616-MR	▲	●			◆	◆	●	◆	SNMG-644-MR	19,05	19,05	6,35	7,92	1,57
	SNMG-250924-MR	▲	●			◆	◆	●	◆	SNMG-866-MR	25,40	25,40	9,53	9,12	2,36
Heavy Roughing	SNMM-190612-HR	▲	●			◆	◆	●	◆	SNMM-643-HR	25,40	19,05	6,35	7,92	1,19
	SNMM-190616-HR	▲	●			◆	◆	●	◆	SNMM-644-HR	19,05	19,05	6,35	7,92	1,57

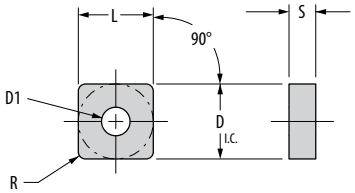
CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

Flat Top — SNMA



Shape: Square	Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)				
		GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	D1	R
	SNMA-190612	▲	●			◆	◆	●	◆	SNMA-643	19,05	19,05	6,35	7,92	1,19
	SNMA-190616	▲	●			◆	◆	●	◆	SNMA-644	19,05	19,05	6,35	7,92	1,57
	SNMA-250916	▲	●			◆	◆	●	◆	SNMA-864	25,40	25,40	9,53	9,12	1,57
	SNMA-250924	▲	●			◆	◆	●	◆	SNMA-866	25,40	25,40	9,53	9,12	2,36

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

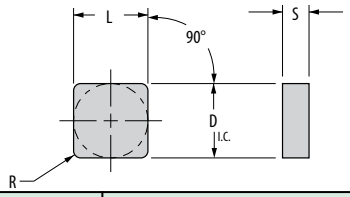
First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

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

Square Inserts

Flat Top — SNGN / SNUN



Shape: Square	Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)			
		GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	R
	SNGN-190412	▲	●			◆	◆	●	◆	SNGN-633	19,05	19,05	4,75	1,19
	SNGN-190416	▲	●			◆	◆	●	◆	SNGN-634	19,05	19,05	4,75	1,57
	SNGN-190432	▲	●			◆	◆	●	◆	SNGN-638	19,05	19,05	4,75	3,18
	SNGN-190612	▲	●			◆	◆	●	◆	SNGN-643	19,05	19,05	6,35	1,19
	SNGN-190616	▲	●			◆	◆	●	◆	SNGN-644	19,05	19,05	6,35	1,57
	SNGN-190624	▲	●			◆	◆	●	◆	SNGN-646	19,05	19,05	6,35	2,36
	SNGN-250616	▲	●			◆	◆	●	◆	SNGN-844	25,40	25,40	6,35	1,57
	SNGN-250716	▲	●			◆	◆	●	◆	SNGN-854	25,40	25,40	7,92	1,57
	SNGN-310648	▲	●			◆	◆	●	◆	SNGN-10412	31,75	31,75	6,35	4,75
	SNGN-310924	▲	●			◆	◆	●	◆	SNGN-1066	31,75	31,75	9,53	2,36
	SNGN-310932	▲	●			◆	◆	●	◆	SNGN-1068	31,75	31,75	9,53	3,18
	SNGN-381232	▲	●			◆	◆	●	◆	SNGN-1288	38,10	38,10	12,70	3,18
	SNUN-190412	▲	●			◆	◆	●	◆	SNUN-633	19,05	19,05	4,75	1,19
	SNUN-190416	▲	●			◆	◆	●	◆	SNUN-634	19,05	19,05	4,75	1,57
	SNUN-250616	▲	●			◆	◆	●	◆	SNUN-844	25,40	25,40	6,35	1,57
	SNUN-250632	▲	●			◆	◆	●	◆	SNUN-848	25,40	25,40	6,35	3,18
	SNUN-250716	▲	●			◆	◆	●	◆	SNUN-854	25,40	25,40	7,92	1,57
	SNUN-310924	▲	●			◆	◆	●	◆	SNUN-1066	31,75	31,75	9,53	2,36
	SNUN-310932	▲	●			◆	◆	●	◆	SNUN-1068	31,75	31,75	9,53	3,18
	SNUN-381232	▲	●			◆	◆	●	◆	SNUN-1288	38,10	38,10	12,70	3,18

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

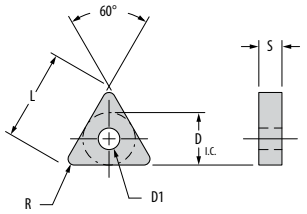
First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions *— pages HT 4–5*

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

Triangle Inserts

Chip Control — TNMG



Shape: Triangle		Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)				
			GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	D1	R
Medium Roughing		TNMG-330924-MR	▲	●			◆	◆	●	◆	TNMG-666-MR	19,05	32,99	9,53	7,92	2,39

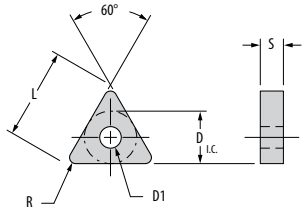
CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

Flat Top — TNMA



Shape: Triangle		Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)				
			GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	D1	R
		TNMA-330608	▲	●			◆	◆	●	◆	TNMA-642	19,05	32,99	6,35	7,92	0,79
		TNMA-330612	▲	●			◆	◆	●	◆	TNMA-643	19,05	32,99	6,35	7,92	1,19
		TNMA-330616	▲	●			◆	◆	●	◆	TNMA-644	19,05	32,99	6,35	7,92	1,57
		TNMA-330916	▲	●			◆	◆	●	◆	TNMA-664	19,05	32,99	9,53	7,92	1,57
		TNMA-330924	▲	●			◆	◆	●	◆	TNMA-666	19,05	32,99	9,53	7,92	2,36
		TNMA-330932	▲	●			◆	◆	●	◆	TNMA-668	19,05	32,99	9,53	7,92	3,18

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

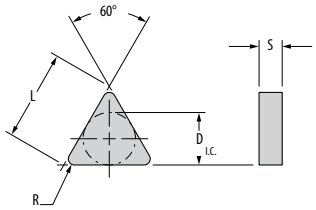
CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

Triangle Inserts

Flat Top — TNGN



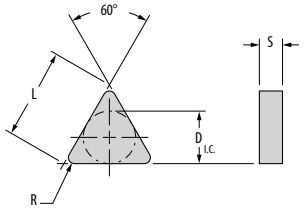
Shape: Triangle	Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)			
		GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	R
	TNGN-330716	◆	●			◆	◆	●	◆	TNGN-654	19,05	32,99	7,92	1,57
	TNGN-330724	◆	●			◆	◆	●	◆	TNGN-656	19,05	32,99	7,92	2,36
	TNGN-330916	◆	●			◆	◆	●	◆	TNGN-664	19,05	32,99	9,53	1,57
	TNGN-330924	◆	●			◆	◆	●	◆	TNGN-666	19,05	32,99	9,53	2,36
	TNGN-330932	◆	●			◆	◆	●	◆	TNGN-668	19,05	32,99	9,53	3,18
	TNGN-381124	◆	●			◆	◆	●	◆	TNGN-776	22,23	38,51	11,10	2,36
	TNGN-381132	◆	●			◆	◆	●	◆	TNGN-778	22,23	38,51	11,10	3,18
	TNGN-381140	◆	●			◆	◆	●	◆	TNGN-7710	22,23	38,51	11,10	3,96
	TNGN-441132	◆	●			◆	◆	●	◆	TNGN-878	25,40	43,99	11,10	3,18

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5



Flat Top — TNUN

Shape: Triangle	Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)			
		GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	R
	TNUN-330716	◆	●			◆	◆	●	◆	TNUN-654	19,05	32,99	7,92	1,57
	TNUN-330724	◆	●			◆	◆	●	◆	TNUN-656	19,05	32,99	7,92	2,36
	TNUN-330916	◆	●			◆	◆	●	◆	TNUN-664	19,05	32,99	9,53	1,57
	TNUN-330924	◆	●			◆	◆	●	◆	TNUN-666	19,05	32,99	9,53	2,36
	TNUN-330932	◆	●			◆	◆	●	◆	TNUN-668	19,05	32,99	9,53	3,18
	TNUN-381124	◆	●			◆	◆	●	◆	TNUN-776	22,23	38,51	11,10	2,36
	TNUN-381132	◆	●			◆	◆	●	◆	TNUN-778	22,23	38,51	11,10	3,18
	TNUN-381140	◆	●			◆	◆	●	◆	TNUN-7710	22,23	38,51	11,10	3,96
	TNUN-441132	◆	●			◆	◆	●	◆	TNUN-878	25,40	43,99	11,10	3,18

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

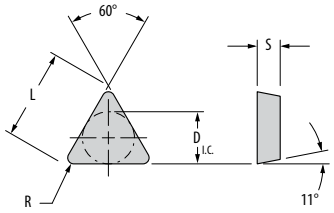
First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

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

Triangle Inserts

Flat Top — TPGN/TPUN



Shape: Triangle	Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)			
		GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	R
	TPGN-330924	◆	●			◆	◆	●	◆	TPGN-666	19,05	32,99	9,53	2,36
	TPUN-330916	◆	●			◆	◆	●	◆	TPUN-664	19,05	32,99	9,53	1,57
	TPUN-330924	◆	●			◆	◆	●	◆	TPUN-666	19,05	32,99	9,53	2,36

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

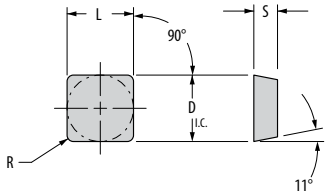
CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions *— pages HT 4–5*

Square Inserts

Flat Top — SPGN / SPUN



Shape: Square	Part Number ISO	Steel P			Stainless Steel M		Cast Iron K	Heat-Resistant Super Alloys S		Part Number ANSI	Dimensions (mm)			
		GA5035	GA-5125	GA5036	GA5023	G-915	GA5023	G-915	G-20M		D I.C.	L	S	R
	SPGN-190412	◆	●			◆	◆	●	◆	SPGN-633	19,05	19,05	4,75	1,19
	SPGN-190416	◆	●			◆	◆	●	◆	SPGN-634	19,05	19,05	4,75	1,57
	SPGN-190424	◆	●			◆	◆	●	◆	SPGN-636	19,05	19,05	4,75	2,36
	SPGN-190432	◆	●			◆	◆	●	◆	SPGN-638	19,05	19,05	4,75	3,18
	SPUN-190412	◆	●			◆	◆	●	◆	SPUN-633	19,05	19,05	4,75	1,19
	SPUN-190416	◆	●			◆	◆	●	◆	SPUN-634	19,05	19,05	4,75	1,57
	SPUN-190612	◆	●			◆	◆	●	◆	SPUN-643	19,05	19,05	6,35	1,19
	SPUN-190616	◆	●			◆	◆	●	◆	SPUN-644	19,05	19,05	6,35	1,57
	SPUN-250916	◆	●			◆	◆	●	◆	SPUN-864	25,40	25,40	9,53	1,57
	SPUN-250924	◆	●			◆	◆	●	◆	SPUN-866	25,40	25,40	9,53	2,36
	SPUN-250932	◆	●			◆	◆	●	◆	SPUN-868	25,40	25,40	9,53	3,18
	SPUN-310932	◆	●			◆	◆	●	◆	SPUN-1068	31,75	31,75	9,53	3,18
	SPUN-381232	◆	●			◆	◆	●	◆	SPUN-1288	38,10	38,10	12,70	3,18

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

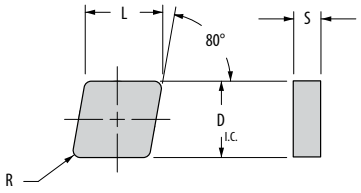
First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions *— pages HT 4–5*

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

80° Diamond Inserts

CNGN



Shape: Diamond	Part Number ISO	Steel P				S Steel M	Cast Iron K				Heat-Resistant Super Alloys S				Hardened Steel H				Part Number ANSI	Dimensions (mm)			
		WG-300	WG-600	XSYTIN-1	GEM-8	WG-600	WG-600	GSN100	XSYTIN-1	GEM-8	WG-300	WG-600	WG-700	XSYTIN-1	WG-300	WG-600	XSYTIN-1	GEM-8		D I.C.	L	S	R
	CNGN-190608	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	CNGN-642	19,05	19,33	6,35	0,79
	CNGN-190612	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	CNGN-643	19,05	19,33	6,35	1,19
	CNGN-190616	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	CNGN-644	19,05	19,33	6,35	1,57

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

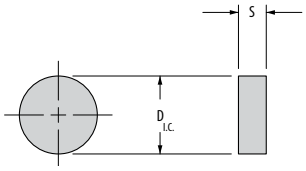
CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

Round Inserts

RNGN



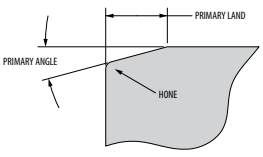
Shape: Round	Part Number ISO	Steel P				S Steel M	Cast Iron K				Heat-Resistant Super Alloys S				Hardened Steel H				Part Number ANSI	Dimensions (mm)	
		WG-300	WG-600	XSYTIN-1	GEM-8	WG-600	WG-600	GSN100	XSYTIN-1	GEM-8	WG-300	WG-600	WG-700	XSYTIN-1	WG-300	WG-600	XSYTIN-1	GEM-8		D I.C.	S
	RNGN-190600	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RNGN-64	19,05	6,35
	RNGN-190700	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RNGN-65	19,05	7,92
	RNGN-250600	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RNGN-84	25,40	6,35
	RNGN-250700	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RNGN-85	25,40	7,92
	RNGN-250900	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RNGN-86	25,40	9,53
	RNGN-310900	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RNGN-106	31,75	9,53

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

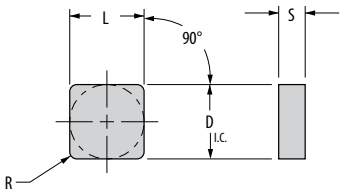


Edge preparations — page HT 06

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

Square Inserts

SNGN



Shape: Square	Part Number ISO	Steel P				S Steel M	Cast Iron K				Heat-Resistant Super Alloys S				Hardened Steel H				Part Number ANSI	Dimensions (mm)			
		WG-300	WG-600	XSYTIN-1	GEM-8	WG-600	WG-600	GSN100	XSYTIN-1	GEM-8	WG-300	WG-600	WG-700	XSYTIN-1	WG-300	WG-600	XSYTIN-1	GEM-8		D I.C.	L	S	R
	SNGN-190608	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	SNGN-642	19,05	19,05	6,35	0,79
	SNGN-190612	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	SNGN-643	19,05	19,05	6,35	1,19
	SNGN-190616	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	SNGN-644	19,05	19,05	6,35	1,57
	SNGN-190712	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	SNGN-653	19,05	19,05	7,92	1,19
	SNGN-190716	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	SNGN-654	19,05	19,05	7,92	1,57
	SNGN-190720	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	SNGN-655	19,05	19,05	7,92	1,98
	SNGN-250924	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	SNGN-866	25,40	25,40	9,53	2,39

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

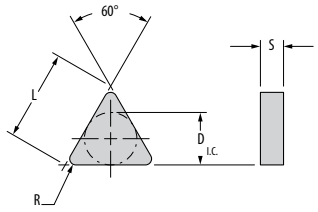
CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

Triangle Inserts

TNGN



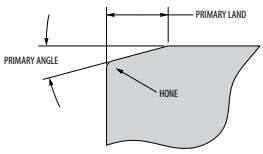
Shape: Triangle	Part Number ISO	Steel P				S Steel M	Cast Iron K				Heat-Resistant Super Alloys S				Hardened Steel H				Part Number ANSI	Dimensions (mm)			
		WG-300	WG-600	XSYTIN-1	GEM-8	WG-600	WG-600	GSN100	XSYTIN-1	GEM-8	WG-300	WG-600	WG-700	XSYTIN-1	WG-300	WG-600	XSYTIN-1	GEM-8		D I.C.	L	S	R
	TNGN-330924	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	TNGN-666	19,05	32,99	9,53	2,39
	TNGN-440932	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	TNGN-868	25,40	43,99	9,53	3,18

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

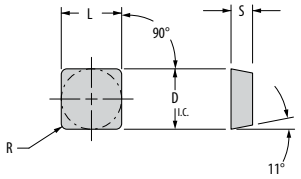


***Edge preparations** — page HT 06*

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

Square Inserts

SPGN



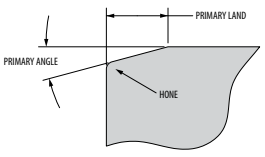
Shape: Square	Part Number ISO	Steel P				S Steel M	Cast Iron K				Heat-Resistant Super Alloys S				Hardened Steel H				Part Number ANSI	Dimensions (mm)			
		WG-300	WG-600	XSYTIN-1	GEM-8	WG-600	WG-600	GSN100	XSYTIN-1	GEM-8	WG-300	WG-600	WG-700	XSYTIN-1	WG-300	WG-600	XSYTIN-1	GEM-8		D I.C.	L	S	R
	SPGN-190412	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	SPGN-633	19,05	19,05	4,75	1,19
	SPGN-190416	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	SPGN-634	19,05	19,05	4,75	1,57
	SPGN-190608	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	SPGN-642	19,05	19,05	6,35	0,79

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

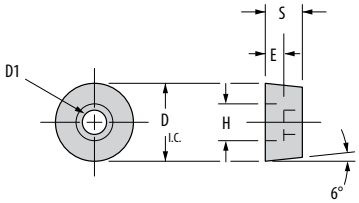


Edge preparations — page HT 06

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

Roll Turning Inserts

Carbide — CDH



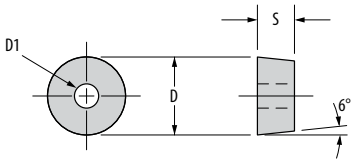
Shape: CDH	Part Number ISO	GA5035	GA5036	G-02	G-60	Part Number ANSI	Dimensions (mm) D I.C.	T	H	D1	E
	CDH-42	▲	▲	▲	▲	CDH-42	25,40	12,70	10,31	6,73	6,35
	CDH-43	▲	▲	▲	▲	CDH-43	25,40	19,05	10,31	6,73	12,70
	CDH-51.5	▲	▲	▲	▲	CDH-51.5	31,75	9,53	15,06	9,91	9,53
	CDH-53	▲	▲	▲	▲	CDH-53	31,75	19,05	15,06	9,91	9,53

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC



Ceramic — C-CDH

Shape: C-CDH	Part Number ISO	Steel P				S Steel M	Cast Iron K				Heat-Resistant Super Alloys S				Hardened Steel H				Part Number ANSI	Dimensions (mm) D I.C.	S	D1
		WG-300	WG-600	XSYTIN-1	GEM-8	WG-600	WG-600	GSN100	XSYTIN-1	GEM-8	WG-300	WG-600	WG-700	XSYTIN-1	WG-300	WG-600	XSYTIN-1	GEM-8				
	C-CDH-21	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	C-CDH-21	12,70	6,35	3,18
	C-CDH-22	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	C-CDH-22	12,70	6,35	3,18
	C-CDH-31	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	C-CDH-31	19,05	6,35	6,73
	C-CDH-31.5	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	C-CDH-31.5	19,05	9,53	6,73
	C-CDH-42	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	C-CDH-42	25,40	12,70	6,73
	C-CDH-43	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	C-CDH-43	25,40	19,05	6,73
	C-CDH-51.5	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	C-CDH-51.5	31,75	9,53	9,91
	C-CDH-53	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	C-CDH-5	31,75	19,05	9,91

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

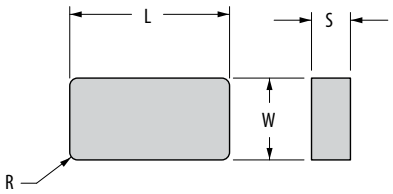
Grade descriptions — pages HT 4–5

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

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

Roll Turning Inserts

LNUN



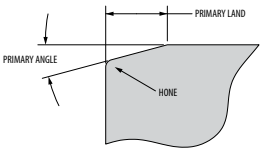
Shape: LNUN	Part Number ISO	GA5035	G-935	G-50	G-74	Part Number ANSI	Dimensions (mm) W	L	S	R
	LNUN-4442	▲	▲	▲	▲	LNUN-4442	12,70	25,40	6,35	0,79
	LNUN-4444	▲	▲	▲	▲	LNUN-4444	12,70	25,40	6,35	1,57
	LNUN-4452	▲	▲	▲	▲	LNUN-4452	12,70	25,40	7,92	0,79
	LNUN-4454	▲	▲	▲	▲	LNUN-4454	12,70	25,40	7,92	1,57
	LNUN-5444	▲	▲	▲	▲	LNUN-5444	15,88	25,40	6,35	1,57
	LNUN-5464	▲	▲	▲	▲	LNUN-5464	15,88	25,40	9,53	1,57
	LNUN-5564	▲	▲	▲	▲	LNUN-5564	15,88	31,75	9,53	1,57
	LNUN-6568	▲	▲	▲	▲	LNUN-6568	19,05	31,75	9,53	3,18
	LNUN-6684	▲	▲	▲	▲	LNUN-6684	19,05	38,10	12,70	1,57
	LNUN-6688	▲	▲	▲	▲	LNUN-6688	19,05	38,10	12,70	3,18
	LNUN-66812	▲	▲	▲	▲	LNUN-66812	19,05	38,10	12,70	4,75
	LNUN-68812	▲	▲	▲	▲	LNUN-68812	19,05	50,80	12,70	4,75

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions *— pages HT 4–5*

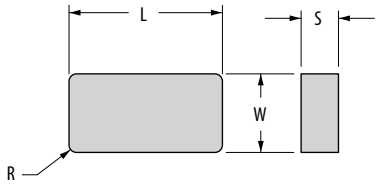


Edge preparations *— page HT 06*

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

Roll Turning Inserts

LNMN



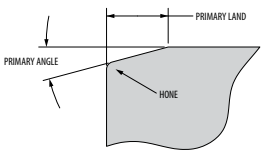
Shape: LNMN	Part Number ISO	Steel P				S Steel M	Cast Iron K				Heat-Resistant Super Alloys S				Hardened Steel H				Part Number ANSI	Dimensions (mm)			
		WG-300	WG-600	XSYTIN-1	GEM-8	WG-600	WG-600	GSN100	XSYTIN-1	GEM-8	WG-300	WG-600	WG-700	XSYTIN-1	WG-300	WG-600	XSYTIN-1	GEM-8		W	L	S	R
	LNMN-4442	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	LNMN-4442	12,70	25,40	6,35	0,79
	LNMN-4444	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	LNMN-4444	12,70	25,40	6,35	1,57
	LNMN-4452	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	LNMN-4452	12,70	25,40	7,92	0,79
	LNMN-4454	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	LNMN-4454	12,70	25,40	7,92	1,57
	LNMN-5444	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	LNMN-5444	15,88	25,40	6,35	1,57
	LNMN-5464	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	LNMN-5464	15,88	25,40	9,53	1,57
	LNMN-5564	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	LNMN-5564	15,88	31,75	9,53	1,57
	LNMN-6568	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	LNMN-6568	19,05	31,75	9,53	3,18
	LNMN-6684	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	LNMN-6684	19,05	38,10	12,70	1,57
	LNMN-6688	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	LNMN-6688	19,05	38,10	12,70	3,18
	LNMN-66812	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	LNMN-66812	19,05	38,10	12,70	4,75

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions *— pages HT 4–5*

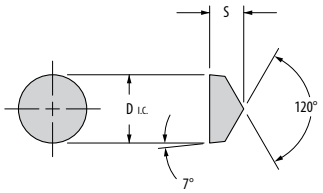


Edge preparations *— page HT 06*

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

Round V-Bottom Inserts

RCGN-V



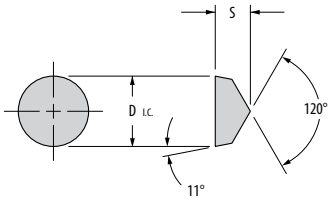
Shape: Round V-Bottom	Part Number ISO	Steel P				S Steel M	Cast Iron K				Heat-Resistant Super Alloys S				Hardened Steel H				Part Number ANSI	Dimensions (mm)	
		WG-300	WG-600	XSYTIN-1	GEM-8	WG-600	WG-600	GSN100	XSYTIN-1	GEM-8	WG-300	WG-600	WG-700	XSYTIN-1	WG-300	WG-600	XSYTIN-1	GEM-8		D I.C.	S
	RCGX-060400	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RCGN-2V	6,35	4,75
	RCGX-090700	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RCGN-3V	9,53	7,92
	RCGX-120700	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RCGN-4V	12,70	7,92
	RCGX-151000	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RCGN-5V	15,88	10,01
	RCGX-191000	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RCGX-106	19,05	10,01
	RCGX-191000	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RCGN-6V	19,05	12,70

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5



RPGN-V

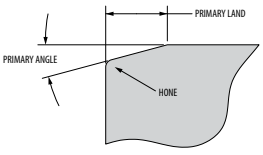
Shape: Round V-Bottom	Part Number ISO	Steel P				S Steel M	Cast Iron K				Heat-Resistant Super Alloys S				Hardened Steel H				Part Number ANSI	Dimensions (mm)	
		WG-300	WG-600	XSYTIN-1	GEM-8	WG-600	WG-600	GSN100	XSYTIN-1	GEM-8	WG-300	WG-600	WG-700	XSYTIN-1	WG-300	WG-600	XSYTIN-1	GEM-8		D I.C.	S
	RPGX-060400	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RPGN-2V	6,35	4,75
	RPGX-090700	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RPGN-3V	9,53	7,92
	RPGX-120700	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	RPGN-4V	12,70	7,92

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

Grade descriptions — pages HT 4–5

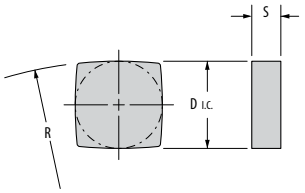


Edge preparations — page HT 06

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

Square Inserts

SNGN



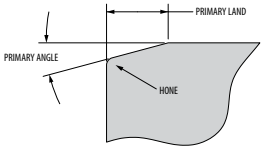
Shape: Square	Part Number ISO	Steel P				S Steel M	Cast Iron K				Heat-Resistant Super Alloys S				Hardened Steel H				Part Number ANSI	Dimensions (mm)		
		WG-300	WG-600	XSYTIN-1	GEM-8	WG-600	WG-600	GSN100	XSYTIN-1	GEM-8	WG-300	WG-600	WG-700	XSYTIN-1	WG-300	WG-600	XSYTIN-1	GEM-8		D I.C.	S	R
	SNGN-128-R4.5	▲	●	●	◆	◆	▲	●	❖	◆	●	◆	▲	❖	▲	●	❖	◆	SNGN-128-R4.5	38,10	12,70	114,30

CARBIDE COATINGS: MT-CVD Coated | PVD Coated | Uncoated

CERAMIC CLASSIFICATION: Whisker Ceramic | Phase-Toughened | Silicon Nitride | Alumina TiC

First Choice ◆ Second Choice ● Alternative ▲ Interrupted/Milling ❖

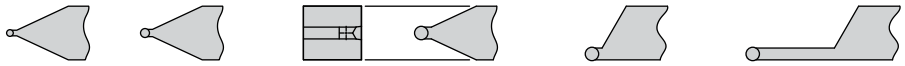
Grade descriptions *— pages HT 4–5*



Edge preparations *— page HT 06*

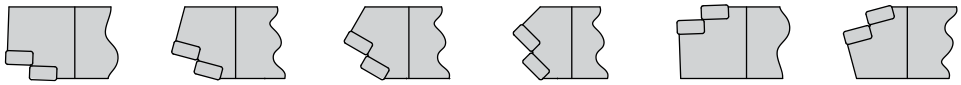
Inserts

Round V-Bottom
RPGN , RCGN STYLES



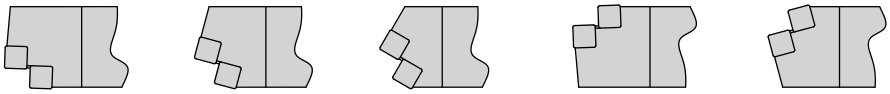
Single Rectangle
LNU STYLE

Double Rectangle
LNU STYLE

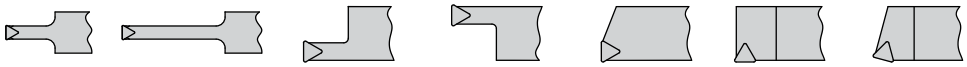


Single Square
NEGATIVE OR POSITIVE
SNUN , SPUN STYLES

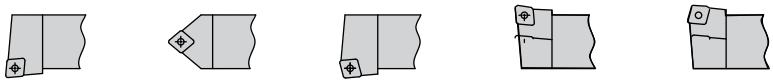
Double Square
NEGATIVE OR POSITIVE
SNUN , SPUN STYLES



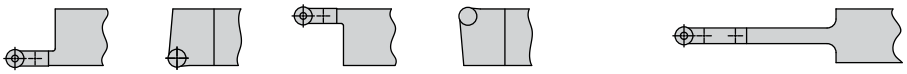
Triangular Insert
NEGATIVE OR POSITIVE
TPGN, TNUN STYLES



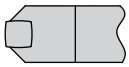
Diamond Insert
NEGATIVE OR POSITIVE
CNGN , CPGN STYLES

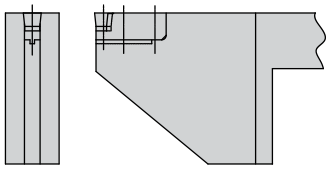


Round Insert
NEGATIVE OR POSITIVE
RNGN , RCGN STYLES
CDH STYLES



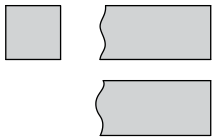
1½ I.C.
Finishing Insert
SNGN-128R4.5



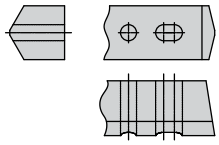


Phone: 814-763-2915 • 800-458-1850 • Fax: 814-763-4423 • sales@greenleafcorporation.com • www. greenleafcorporation.com

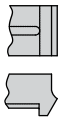
Shank Options



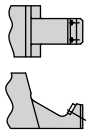
Straight Shank



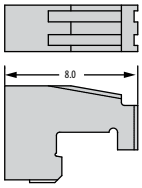
Customized V-Bottom Shank



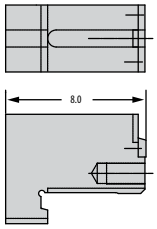
Farrel Quick Change



Greenleaf Cam Lock



Customized Shank for Hercules Lathes



Customized Shank for Waldrich Siegen Lathes

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