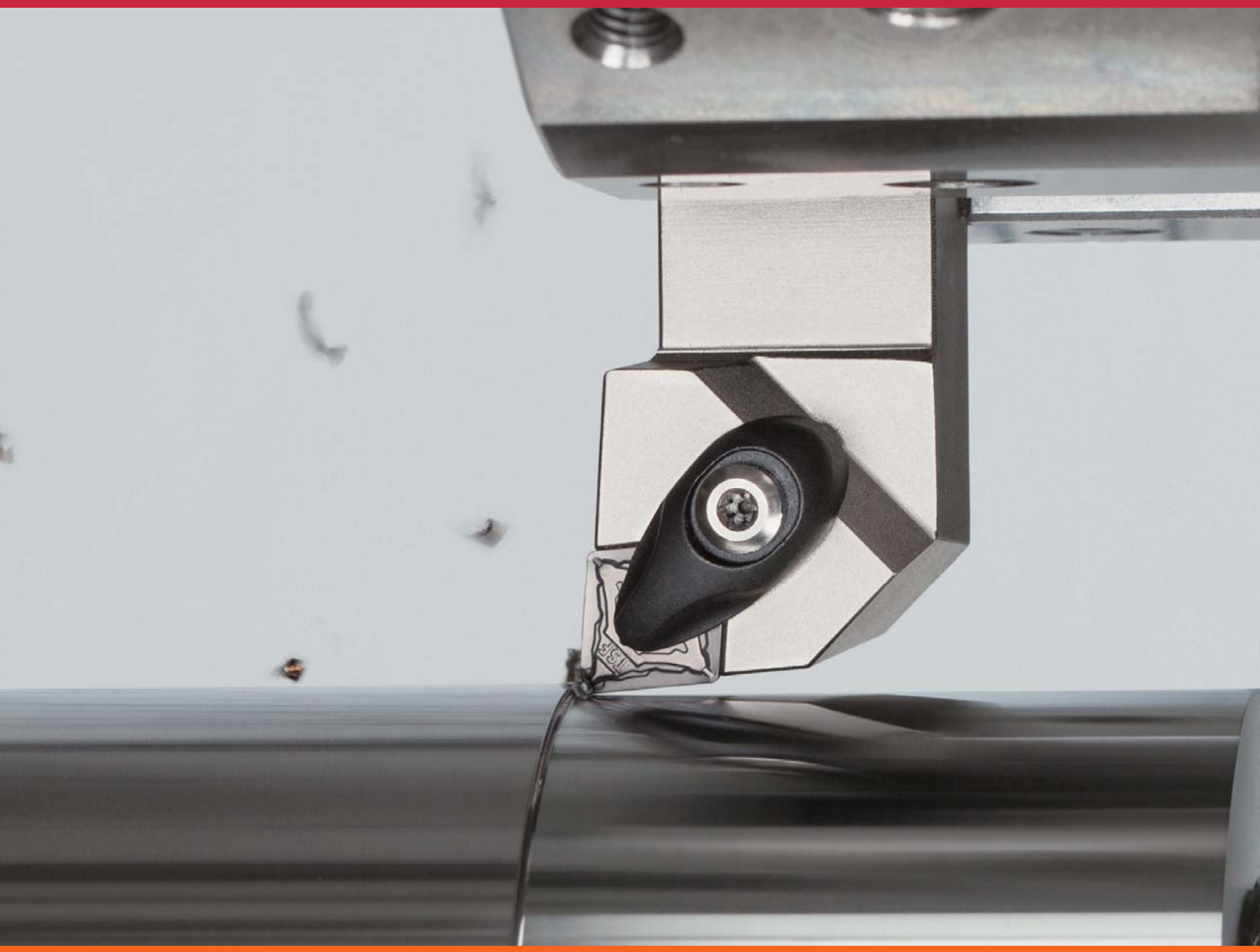
TurnLine

NS/GT/AT9530

www.tungaloyamerica.com

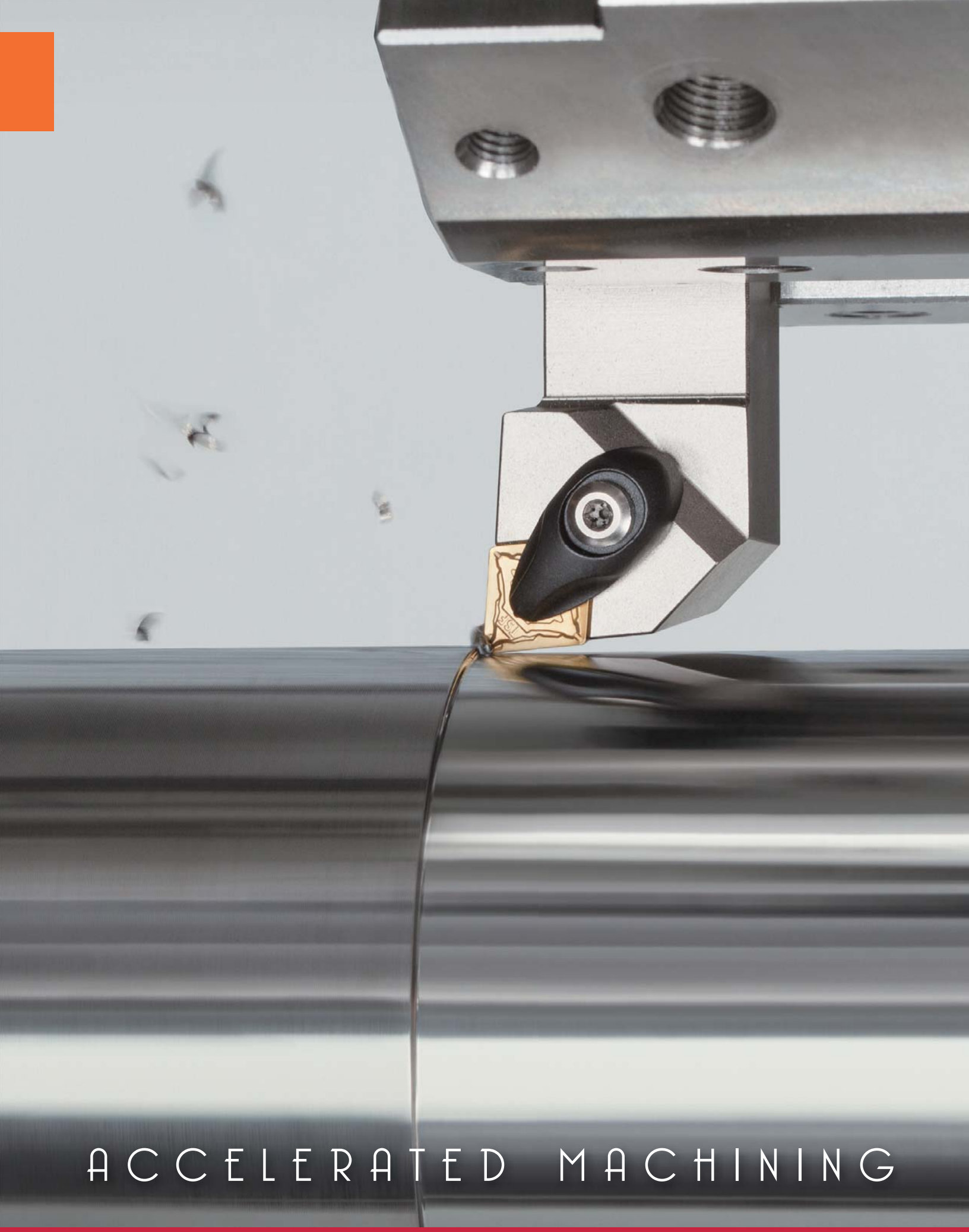
Tungaloy Report No. 425-US

Stable tool life due to incredible fracture resistance!



INDUSTRY 4.0

FEED the SPEED!

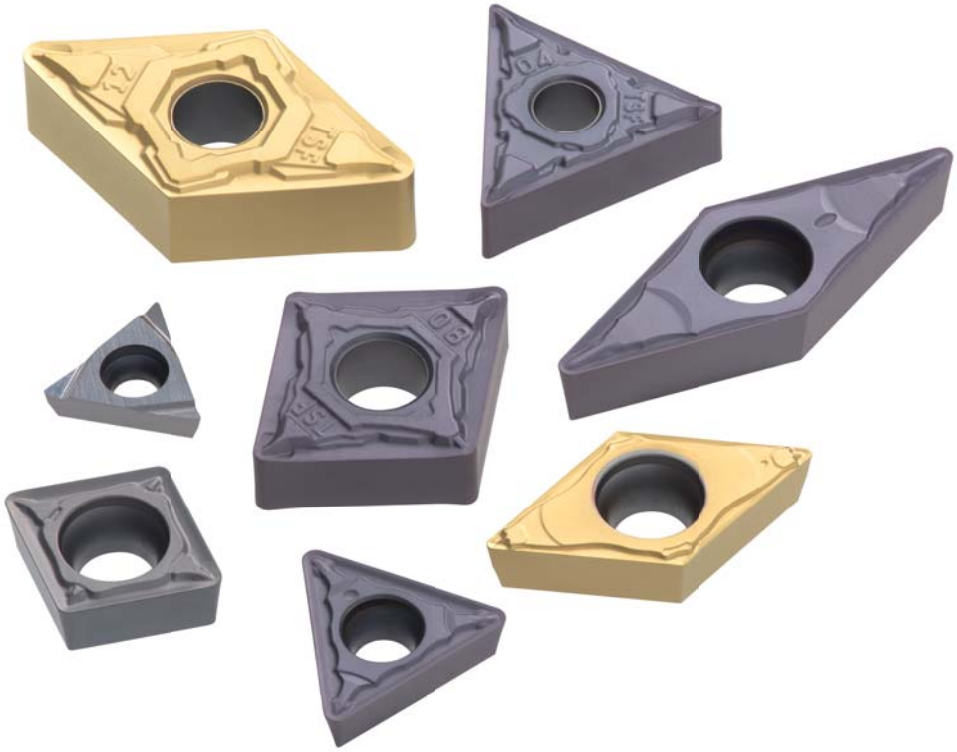


ACCELERATED MACHINING

TurnLine

NS/GT/AT9530

TUNGALOY



Incredible cermet grades with remarkable toughness!

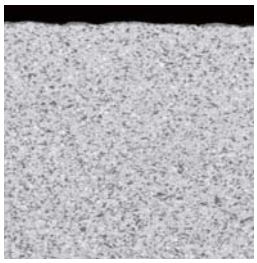
NS/GT/AT9530

TUNGALOY

Innovative cermet grade with incredible toughness provides extremely stable tool life!

Special Surface Technology

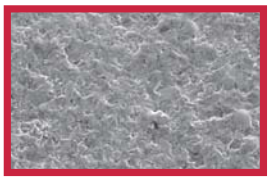
- Tough and smooth top layer
Creates the ideal balance of hardness and toughness due to the controlled crystal composition



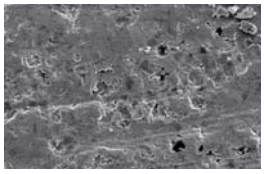
Improved toughness by 25% at the top layer

Consists of incredible fracture and wear resistance
Allows exceptionally stable machining!

- Drastically improved microscopic roughness
Effectively reduces chip welding on edges, improving surface finish. Enhances wear resistance

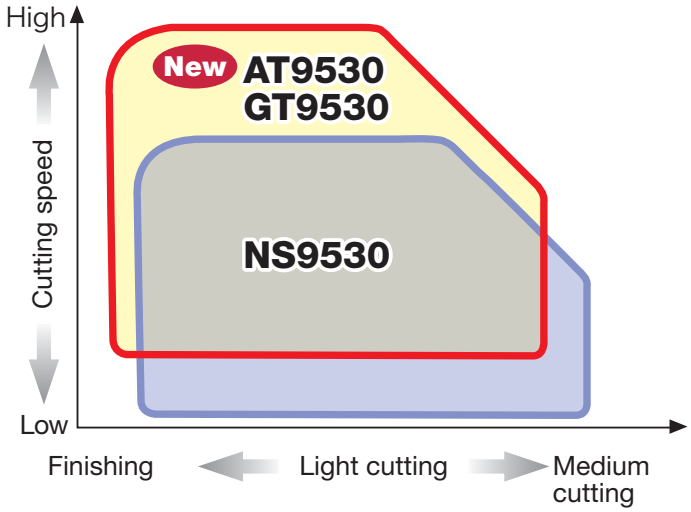


NS9530



Conventional

Application range



New AT9530

- Coated cermet grade with excellent wear resistance in high-speed finishing
- The 1st recommendation for machining alloy steel due to its outstanding wear resistance.

NS9530

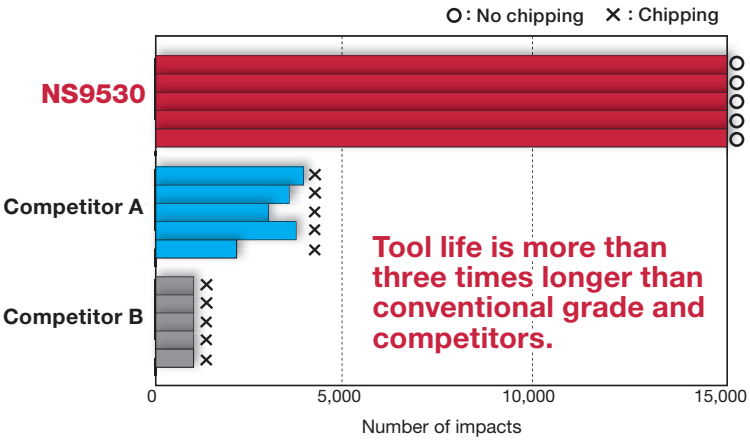
- Versatile cermet grade with incredible fracture and wear resistance.
- Provides long tool life and excellent surface appearance in finishing to medium cutting of steels.

GT9530

- Coated cermet grade with premium coating demonstrates exceptional wear resistance.
- Provides remarkable performance in finishing of steels during high speed machining.

CUTTING PERFORMANCE

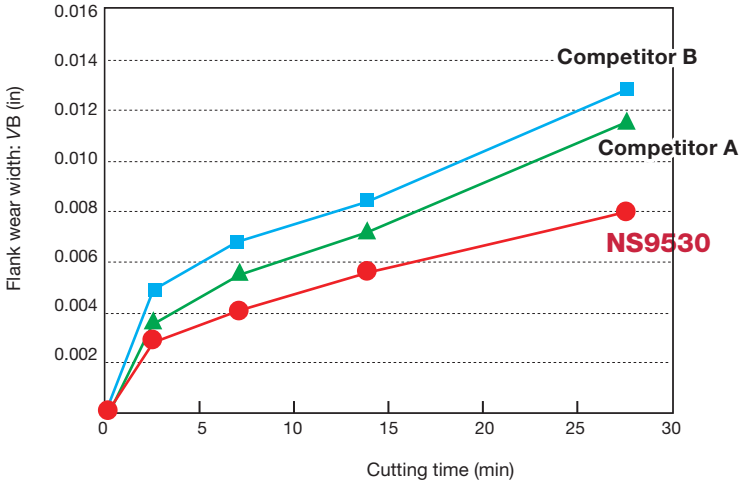
Comparison of chipping or fracture resistance



Insert : CNMG 432 TSF
Workpiece : S55C (C55)
Cutting speed : *Vc* =492 sfm
Feed : *f* = 0.010 ipm
Depth of cut : *ap* = 0.039"
Work process : Interrupted cutting
Coolant : Wet

New cermet grade with tough and smooth top layer demonstrates amazing fracture resistance. NS9530 provides stable tool life due to incredible toughness.

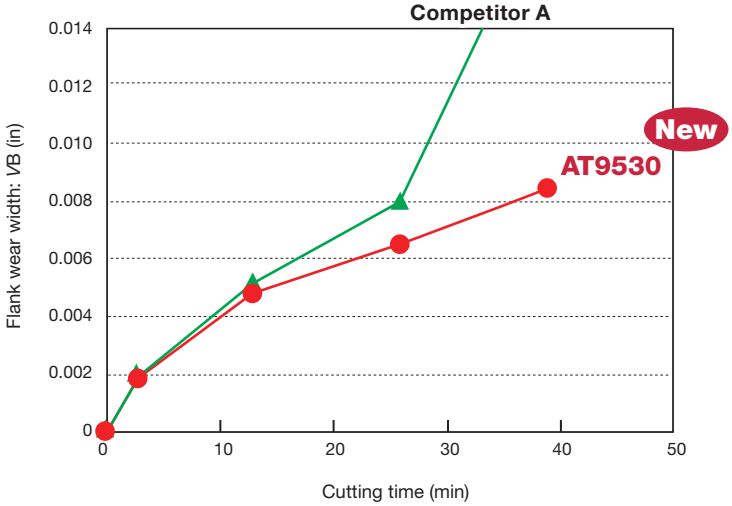
Comparison of wear resistance ①



Insert : CNMG 432 TSF
Workpiece : S55C (C55)
Cutting speed : *Vc* =820 sfm
Feed : *f* = 0.008 ipm
Depth of cut : *ap* = 0.039"
Work process : Continuous cutting
Coolant : Wet

NS9530 with PremiumTec avoids chipping and chip welding, reducing machining cost.

Comparison of wear resistance ②



Insert : CNMG 432 TS
Workpiece : SCM440
Cutting speed : *Vc* =820 sfm
Feed : *f* = 0.008 ipm
Depth of cut : *ap* = 0.039"
Work process : Continuous cutting
Coolant : Wet

In machining alloy steel, AT9530 provides higher wear resistance and longer tool life than the conventional coated cermet grades.

P Steel

Negative type

Finishing - light cutting

ap = 0.008" - 0.059"

Recommended

TSF NS9530

- Wear → **TSF AT9530** New **GT9530**
- Impact → **TS NS9530**
- Chip control → **ZF NS9530**

Finishing - medium cutting

ap = 0.039" - 0.098"

Recommended

TS NS9530

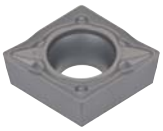
- Wear → **TS AT9530** New **GT9530**
- Impact → **TQ NS9530**
- Chip control → **ZM NS9530**

Positive type

Finishing - light cutting

ap = 0.020" - 0.059"

Recommended



PSS NS9530

- Wear → **PSS GT9530**
- Impact → **PS NS9530**
- Chip control → **PSF NS9530**

Finishing - medium cutting

ap = 0.039" - 0.098"

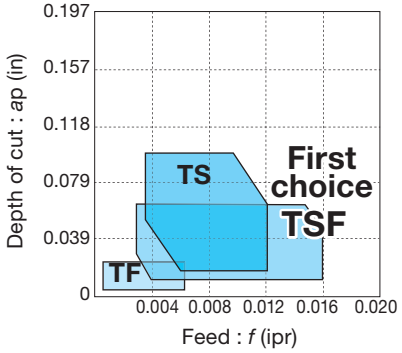
Recommended

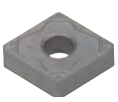
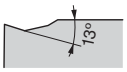
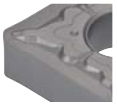
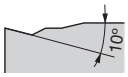
PS NS9530

- Wear → **PS AT9530** New **GT9530**
- Impact → **PM NS9530**
- Chip control → **PSS NS9530**

CHIPBREAKER (FOR NEGATIVE TYPE INSERTS)

Basic chipbreakers

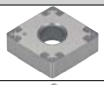
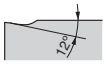
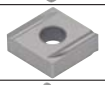
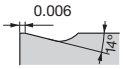
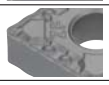
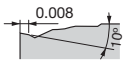
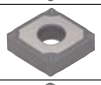
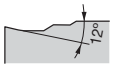
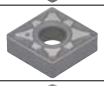
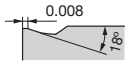
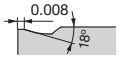
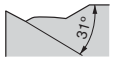


Application	Chip-breaker	Shape			Features
Precision finishing	**TF**				The sharp cutting edge and raised projection near the corner contribute to excellent chip control at very small depths of cut and low feeds. Economical M-class tolerance performance with low costs.
Finishing	**TSF**				First choice chipbreaker for finishing steels. The dimple structure decreases the contact area between the insert surface and chips, resulting in significant reduction of heat occurrence.
Finishing to medium cutting	**TS**				Ideal chipbreaker for finishing at a wide range of cutting conditions. The sharp cutting edge allows excellent chip control when machining shaft type components.

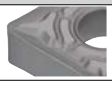
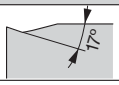
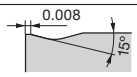
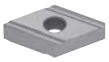
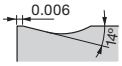
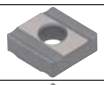
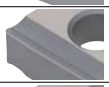
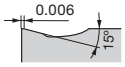
Standard cutting conditions

Application	Chipbreaker	Grades	Cutting speed *Vc* (sfm) Low carbon steels Alloy steels 180HB	Medium carbon steels Alloy steels 240HB	High carbon steels Alloy steels 300HB	Depth of cut *ap* (in)	Feed *f* (ipr)
Precision finishing	**TF**	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.020	0.001 - 0.006
Finishing	**TSF**	**NS9530**	500 - 820	260 - 730	260 - 600	0.008 - 0.060	0.003 - 0.016
		New **AT9530**	500 - 1000	260 - 820	260 - 660		
		GT9530	500 - 1000	260 - 820	260 - 660		
Finishing to medium cutting	**TS**	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.100	0.004 - 0.012
		New **AT9530**	500 - 1000	260 - 820	260 - 660		
		GT9530	500 - 1000	260 - 820	260 - 660		

Complementary chipbreakers

Application	Chipbreaker	Shape			Features
Precision finishing	**01**				Ground insert for precision finishing that provides high accuracy levels at low cutting conditions.
	A - D				Handed chipbreakers suitable for finishing to medium cutting.
	W				Lead type chipbreaker for finishing.
Finishing	**ZF**				Suitable for temporary increases in depth of cut such as on flange sections. Excels in chip control and is best for machining lead free steels.
	11				Finishing chipbreaker with exceptional sharpness.
	NS				The finishing chipbreaker has remarkable chip control under low feed and small depth of cut conditions. Suitable for machining near net shape components.
	AFW				Features positive land and excellent chip control. Applicable for small depth of cut and high-feed cutting. Provided with wiping function.
High feed, small depth of cut	**AS**				Advanced chipbreaker that is suitable for turning at high feeds and small depths of cut. Applicable for the machining of forged components with high productivity.
	ASW				Negative land design contributes to high reliability and edge strength. Applicable for small depth of cut and high-feed cutting. Provided with wiping function.
Boring (Double sided chipbreaker)	**CB**				Exclusive Chipbreaker for boring operation, reducing machining cost.

Complementary chipbreakers

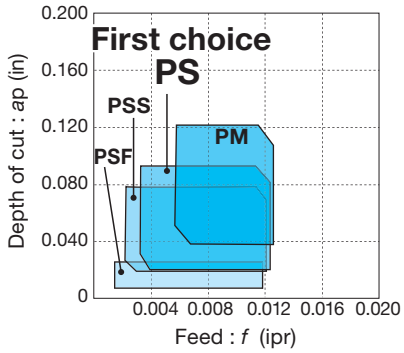
Application	Chipbreaker	Shape			Features
Finishing to medium cutting	**TQ**				Specially designed chipbreaker with high heat-impact resistance suitable for continuous to light interrupted cutting.
	ZM				Superior chip control in profiling and machining rounded forms. Ideally suited for machining lead free steels.
	NM				NM chipbreaker has a well designed protrusion and a strong edge for increased feed rates. It is suitable for highly productive turning of forged steel.
Medium cutting	**All-round**				Highly reliable chipbreaker for medium cutting under a wide range of conditions from continuous to interrupted cutting.
	Parallel				Handed chipbreaker with excellent chip control allows precise machining at medium cutting condition.
	S				Sharp cutting edge and simply designed chipbreaker offer exceptional chip control and high productivity in medium cutting applications.
	P				Extremely sharp chipbreaker for non-ferrous material machining.

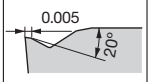
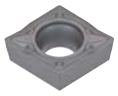
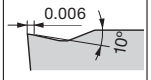
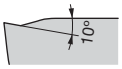
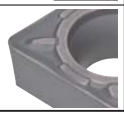
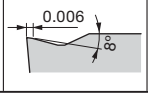
Standard cutting conditions

Application	Chipbreaker	Grades	Cutting speed: *Vc* (sfm) Low carbon steels Alloy steels 180HB	Medium carbon steels Alloy steels 240HB	High carbon steels Alloy steels 300HB	Depth of cut *ap* (in)	Feed *f* (ipr)
Precision finishing	**01**	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.016	0.0012 - 0.006
	A - D	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.160	0.004 - 0.016
		GT9530	500 - 1000	260 - 820	260 - 660		
	W	**NS9530**	500 - 820	260 - 730	260 - 600	0.008 - 0.060	0.0012 - 0.008
Finishing	**ZF**	**NS9530**	500 - 820	260 - 730	260 - 600	0.008 - 0.060	0.003 - 0.008
		New **AT9530**	500 - 1000	260 - 820	260 - 660		
		GT9530	500 - 1000	260 - 820	260 - 660		
	11	**NS9530**	500 - 820	260 - 730	260 - 600	0.008 - 0.060	0.003 - 0.008
		GT9530	500 - 1000	260 - 820	260 - 660		
	NS	**NS9530**	500 - 820	260 - 730	260 - 600	0.008 - 0.060	0.003 - 0.010
	AFW	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.060	0.008 - 0.016
		GT9530	500 - 1000	260 - 820	260 - 660		
High feed, small depth of cut	**AS**	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.080	0.008 - 0.024
	ASW	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.080	0.012 - 0.024
Boring (Double sided chipbreaker)	**CB**	**NS9530**	500 - 820	260 - 730	260 - 600	0.008 - 0.100	0.004 - 0.010
		GT9530	500 - 1000	260 - 820	260 - 660		
Finishing to medium cutting	**TQ**	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.080	0.006 - 0.012
		New **AT9530**	500 - 1000	260 - 820	260 - 660		
		GT9530	500 - 1000	260 - 820	260 - 660		
	ZM	**NS9530**	500 - 820	260 - 730	260 - 600	0.028 - 0.080	0.006 - 0.016
		GT9530	500 - 1000	260 - 820	260 - 660		
	NM	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.080	0.006 - 0.016
		GT9530	500 - 1000	260 - 820	260 - 660		
Medium cutting	**All-round**	**NS9530**	500 - 820	260 - 730	260 - 600	0.040 - 0.120	0.008 - 0.016
		GT9530	500 - 1000	260 - 820	260 - 660		
	Parallel	**NS9530**	500 -820	260 - 730	260 - 600	0.040 - 0.160	0.008 - 0.016
		GT9530	500 - 1000	260 - 820	260 - 660		
	S	**NS9530**	500 - 820	260 - 730	260 - 600	0.040 - 0.160	0.008 - 0.016
	P	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.160	0.008 - 0.020

CHIPBREAKER (FOR POSITIVE TYPE INSERTS)

Basic chipbreakers

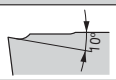
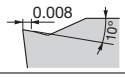
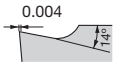
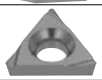
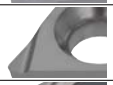
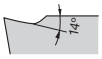
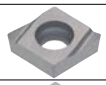
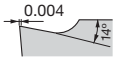
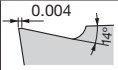


Application	Chip-breaker	Shape			Features
Finishing	**PSF**				Chipbreaker developed for finishing at low cutting depths. Optimal chip control due to pre-positioned chipbreaker element.
Finishing to light cutting	**PSS**				3-dimensional chipbreaker designed to have excellent chip control capability and low cutting force in finishing to medium cutting. Low cost, M-class positive insert used for high efficiency boring in a wide range of applications.
Finishing to medium cutting	**PS**				3-dimensional chipbreaker designed to have excellent chip control capability and low cutting force in finishing to medium cutting. Low cost, M-class positive insert used for high efficiency boring in a wide range of applications.
Medium cutting	**PM**				Chipbreaker developed for medium cutting. Excellent chip control due to wide, positive chip flow zone.

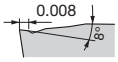
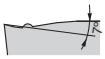
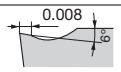
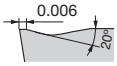
Standard cutting conditions

Application	Chipbreaker	Grades	Cutting speed: *Vc* (sfm) Low carbon steels Alloy steels 180HB	Medium carbon steels Alloy steels 240HB	High carbon steels Alloy steels 300HB	Depth of cut *ap* (in)	Feed *f* (ipr)
Finishing	**PSF**	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.020	0.002 - 0.012
		GT9530	500 - 1000	260 - 820	260 - 660		
Finishing to light cutting	**PSS**	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.080	0.004 - 0.012
		GT9530	500 - 1000	260 - 820	260 - 660		
Finishing to medium cutting	**PS**	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.100	0.004 - 0.012
		New **AT9530**	500 - 1000	260 - 820	260 - 660		
		GT9530	500 - 1000	260 - 820	260 - 660		
Medium cutting	**PM**	**NS9530**	500 - 820	260 - 730	260 - 600	0.04 - 0.120	0.006 - 0.012
		GT9530	500 - 1000	260 - 820	260 - 660		

Complementary chipbreakers

Application	Chipbreaker	Shape			Features
Precision finishing	**01**				Ground insert for precision finishing provides accuracy at low cutting conditions.
Finishing	**PF**				Ideal chipbreaker for finishing at low cutting conditions. This is credit to its sharp edge and optimum protrusion.
	W08				Well-designed chipbreakers with remarkable chip control for wide range of application, from precision finishing to medium cutting.
	W10				
	W11				
	W13				
	W15				
	W20				
	with hand				Handed chipbreaker with sharp edge, suitable for finishing with exceptional chip control.

Complementary chipbreakers

Application	Chipbreaker	Shape			Features
Finishing to medium cutting	**ZF**				Suitable for temporary increases in depth of cut such as on flange sections. Excels in chip control and is best for machining of lead free steels.
	ZM				Superior chip control in profiling and machining rounded forms. Ideally suited for machining lead free steels.
	23				Highly reliable chipbreaker with tough cutting edge for finishing to medium cutting.
	SS				Well-designed chipbreaker with low cutting force due to the sharp edge and curved rake face.
	All-round				Optimum chipbreaker with high reliability for interrupted machining.
For external turning on small lathes	**J10**				Exclusive chipbreaker for Swiss lathe machining allows excellent surface finish and long tool life.
Medium cutting	**24**				Versatile chipbreaker suitable for medium machining under a wide range of cutting conditions.
Heavy cutting	**61**				Exclusive chipbreaker for profile turning at high feed rates.
Finishing to medium cutting	**-**				Tough cutting edge provides high reliability for a wide range of applications from finishing to roughing.

Standard cutting conditions

Application	Chipbreaker	Grades	Cutting speed: *Vc* (sfm)			Depth of cut *ap* (in)	Feed *f* (ipr)
			Low carbon steels Alloy steels 180HB	Medium carbon steels Alloy steels 240HB	High carbon steels Alloy steels 300HB		
Precision finishing	**01**	**NS9530**	500 - 820	260 - 730	260 - 600	0.002 - 0.020	0.0012 - 0.006
		GT9530	500 - 1000	260 - 820	260 - 660		
Finishing	**PF**	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.020	0.002 - 0.010
		GT9530	500 - 1000	260 - 820	260 - 660		
	W08	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.040	0.0012 - 0.006
		GT9530	500 - 1000	260 - 820	260 - 660		
	W10	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.080	0.0012 - 0.080
		GT9530	500 - 1000	260 - 820	260 - 660		
	W11	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.080	0.0012 - 0.080
	W13	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.080	0.0012 - 0.080
		GT9530	500 - 1000	260 - 820	260 - 660		
	W15	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.080	0.0012 - 0.080
		GT9530	500 - 1000	260 - 820	260 - 660		
	W20	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.080	0.0012 - 0.080
		GT9530	500 - 1000	260 - 820	260 - 660		
	with hand	**NS9530**	500 - 820	260 - 730	260 - 600	0.040 - 0.080	0.0012 - 0.080
Finishing to medium cutting	**ZF**	**GT9530**	500 - 1000	260 - 820	260 - 660	0.012 - 0.060	0.002 - 0.010
	ZM	**GT9530**	500 - 1000	260 - 820	260 - 660	0.020 - 0.080	0.002 - 0.012
	23	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.080	0.004 - 0.012
	SS	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.080	0.004 - 0.012
	All-round	**NS9530**	500 - 820	260 - 730	260 - 600	0.040 - 0.080	0.002 - 0.080
For external turning on small lathes	**J10**	**NS9530**	500 - 820	260 - 730	260 - 600	0.004 - 0.200	0.0004 - 0.004
Medium cutting	**24**	**NS9530**	500 - 820	260 - 730	260 - 600	0.020 - 0.012	0.003 - 0.012
Heavy cutting	**61**	**NS9530**	500 - 820	260 - 730	260 - 590	0.080 -0.080	0.012 - 0.040
Finishing to medium cutting	**-**	**NS9530**	500 - 820	260 - 730	260 - 590	0.004 - 0.080	0.002 - 0.012

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Rhombic, 80° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐●◐		●◐
M	Stainless			
K	Cast iron	●◐●◐		●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Precision finishing	TF	CNMG 431 TF	CNMG120404-TF	0.016"			●
		CNMG 432 TF	CNMG120408-TF	0.031"			●
	01	CNGG 320.5-01	CNGG090302-01	0.008"			●
		CNGG 321-01	CNGG090304-01	0.016"			●
		CNGG 322-01	CNGG090308-01	0.031"			●
		CNGG 430.5-01	CNGG120402-01	0.008"			●
		CNGG 431-01	CNGG120404-01	0.016"			●
		CNGG 432-01	CNGG120408-01	0.031"			●
	C	CNGG 431 R-C	CNGG120404R-C	0.016"			●
		CNGG 431 L-C	CNGG120404L-C	0.016"			●
		CNGG 432 R-C	CNGG120408R-C	0.031"			●
		CNGG 432 L-C	CNGG120408L-C	0.031"			●
Finishing	TSF	CNMG 331E TSF	CNMG090404E-TSF	0.016"	●	●	●
		CNMG 332E TSF	CNMG090408E-TSF	0.031"	●	●	●
		CNMG 431 TSF	CNMG120404-TSF	0.016"	●	●	●
		CNMG 432 TSF	CNMG120408-TSF	0.031"	●	●	●
Finishing (Wiper)	FW	CNMG 331E FW	CNMG090404E-FW	0.016"	●		●
		CNMG 332E FW	CNMG090408E-FW	0.031"	●		●
		CNMG 431 FW	CNMG120404-FW	0.016"	●		●
		CNMG 432 FW	CNMG120408-FW	0.031"	●		●
		*Wiper insert					
	AFW	CNMG 431 AFW	CNMG120404-AFW	0.016"	●		●
		CNMG 432 AFW	CNMG120408-AFW	0.031"	●		

* Please contact our sales representative for your inquiries about the program adjustment when using SW/FW for machining of radius shape or taper machining.

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Rhombic, 80° with hole

		GT9530	AT9530	NS9530
P	Steel	●ⓒ	●ⓒ	●ⓒ
M	Stainless			
K	Cast iron	●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing	ZF	CNMG 431 ZF	CNMG120404-ZF	0.016"	●	●	●
		CNMG 432 ZF	CNMG120408-ZF	0.031"	●	●	●
	11	CNMG 431-11	CNMG120404-11	0.016"	●		●
		CNMG 432-11	CNMG120408-11	0.031"	●		●
Finishing of mild steels	17	CNMG 431-17	CNMG120404-17	0.016"			●
		CNMG 432-17	CNMG120408-17	0.031"			●
Finishing	TS	CNMG 431 TS	CNMG120404-TS	0.016"	●	●	●
		CNMG 432 TS	CNMG120408-TS	0.031"	●	●	●
Finishing to medium cutting (Wiper)	ASW	CNMG 432 ASW	CNMG120408-ASW	0.031"			●
High feed, small depth of cut	AS	CNMG 431 AS	CNMG120404-AS	0.016"			●
		CNMG 432 AS	CNMG120408-AS	0.031"			●
Boring (Double sided)	CB	CNMG 321 CB	CNMG090304-CB	0.016"			●
		CNMG 322 CB	CNMG090308-CB	0.031"			●

● : Line-up
● : New product

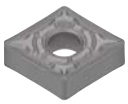
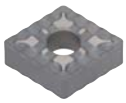
TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Rhombic, 80° with hole

P	Steel	●◐●◐	●◐
M	Stainless		
K	Cast iron	●◐●◐	●◐
N	Non-ferrous		
S	Superalloys		
H	Hard materials		

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing	NS	CNMG 431 NS	CNMG120404-NS	0.016"			●
		CNMG 432 NS	CNMG120408-NS	0.031"			●
Finishing of mild steels	NM	CNMG 432 NM	CNMG120408-NM	0.031"	●		●
	TQ	CNMG 431 TQ	CNMG120404-TQ	0.016"	●	●	●
		CNMG 432 TQ	CNMG120408-TQ	0.031"	●	●	●
							
	ZM	CNMG 432 ZM	CNMG120408-ZM	0.031"	●		●
		CNMG 433 ZM	CNMG120412-ZM	0.047"	●		
Medium cutting	All-round	CNMG 321	CNMG090304	0.016"			●
		CNMG 322	CNMG090308	0.031"			●
		CNMG 431	CNMG120404	0.016"	●		●
		CNMG 432	CNMG120408	0.031"	●		●
Finishing to medium cutting	27	CNMG 431-27	CNMG120404-27	0.016"			●
		CNMG 432-27	CNMG120408-27	0.031"			●
Medium cutting	37	CNMG 431-37	CNMG120404-37	0.016"			●
		CNMG 432-37	CNMG120408-37	0.031"			●
							

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Rhombic, 80° with hole

		GT9530	AT9530	NS9530
P	Steel	●ⓒ	●ⓒ	●ⓒ
M	Stainless			
K	Cast iron	●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Medium cutting	P	CNGG 431 R-P	CNGG120404R-P	0.016"			●
		CNGG 431 L-P	CNGG120404L-P	0.016"			●
	S	CNMG 431 R-S	CNMG120404R-S	0.016"			●
		CNMG 431 L-S	CNMG120404L-S	0.016"			●
		CNMG 432 R-S	CNMG120408R-S	0.031"			●
		CNMG 432 L-S	CNMG120408L-S	0.031"			●

● : Line-up

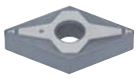
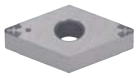
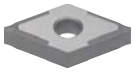
TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Rhombic, 55° with hole

P	Steel	●◐●◐	●◐
M	Stainless		
K	Cast iron	●◐●◐	●◐
N	Non-ferrous		
S	Superalloys		
H	Hard materials		

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Precision finishing	TF	DNMG 431 TF	DNMG150404-TF	0.016"			●
		DNMG 432 TF	DNMG150408-TF	0.031"			●
							
	01	DNGG 330.5-01	DNGG110402-01	0.008"			●
		DNGG 331-01	DNGG110404-01	0.016"			●
		DNGG 332-01	DNGG110408-01	0.031"			●
		DNGG 430.5-01	DNGG150402-01	0.008"			●
		DNGG 431-01	DNGG150404-01	0.016"			●
		DNGG 432-01	DNGG150408-01	0.031"			●
Finishing	TSF	DNMG 331E TSF	DNMG110404E-TSF	0.016"	●	●	●
		DNGG 332E TSF	DNMG110408E-TSF	0.031"	●	●	●
		DNGG 333E TSF	DNMG110412E-TSF	0.047"	●	●	●
		DNMG 431 TSF	DNMG150404-TSF	0.016"	●	●	●
		DNMG 432 TSF	DNMG150408-TSF	0.031"	●	●	●
		DNMG 441 TSF	DNMG150604-TSF	0.016"	●	●	●
		DNMG 442 TSF	DNMG150608-TSF	0.031"	●	●	●
Finishing	ZF	DNMG 431 ZF	DNMG150404-ZF	0.016"	●	●	●
		DNMG 432 ZF	DNMG150408-ZF	0.031"	●	●	●
	11	DNMG 331-11	DNMG110404-11	0.016"			●
		DNMG 332-11	DNMG110408-11	0.031"			●
		DNMG 431-11	DNMG150404-11	0.016"			●
		DNMG 432-11	DNMG150408-11	0.031"			●
Finishing of mild steels	17	DNMG 431-17	DNMG150404-17	0.016"			●
		DNMG 432-17	DNMG150408-17	0.031"			●

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Rhombic, 55° with hole

		GT9530	AT9530	NS9530
P	Steel	●ⓒ	●ⓒ	●ⓒ
M	Stainless			
K	Cast iron	●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing	TS	DNMG 431 TS	DNMG150404-TS	0.016"	●	●	●
		DNMG 432 TS	DNMG150408-TS	0.031"	●	●	●
		DNMG 441 TS	DNMG150604-TS	0.016"	●	●	●
		DNMG 442 TS	DNMG150608-TS	0.031"	●	●	●
High feed, small depth of cut	AS	DNMG 431 AS	DNMG150404-AS	0.016"			●
		DNMG 432 AS	DNMG150408-AS	0.031"			●
Boring (Double sided)	CB	DNMG 331 CB	DNMG110404-CB	0.016"	●		●
		DNMG 332 CB	DNMG110408-CB	0.031"	●		●
Finishing	NS	DNMG 431 NS	DNMG150404-NS	0.016"			●
		DNMG 432 NS	DNMG150408-NS	0.031"			●
Finishing to medium cutting	NM	DNMG 432 NM	DNMG150408-NM	0.031"	●		●
		DNMG 442 NM	DNMG150608-NM	0.031"	●		●
	TQ	DNMG 431 TQ	DNMG150404-TQ	0.016"	●	●	●
		DNMG 432 TQ	DNMG150408-TQ	0.031"	●	●	●
	ZM	DNMG 432 ZM	DNMG150408-ZM	0.031"	●		●

● : Line-up
● : New product

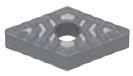
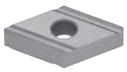
TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Rhombic, 55° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Medium cutting	All-round	DNMG 331	DNMG110404	0.016"	●		●
		DNMG 332	DNMG110408	0.031"	●		●
		DNMG 431	DNMG150404	0.016"	●		●
		DNMG 432	DNMG150408	0.031"	●		●
		DNMG 433	DNMG150412	0.047"			●
Finishing to medium cutting	27	DNMG 431-27	DNMG150404-27	0.016"			●
		DNMG 432-27	DNMG150408-27	0.031"			●
Medium cutting	37	DNMG 431-37	DNMG150404-37	0.016"			●
		DNMG 432-37	DNMG150408-37	0.031"			●
	Parallel	DNGG 431 R	DNGG150404R	0.016"	●		●
		DNGG 431 L	DNGG150404L	0.016"	●		●
		DNGG 432 R	DNGG150408R	0.031"			●
		DNGG 432 L	DNGG150408L	0.031"			●
	S	DNMG 431 R-S	DNMG150404R-S	0.016"			●
		DNMG 431 L-S	DNMG150404L-S	0.016"			●
		DNMG 432 R-S	DNMG150408R-S	0.031"			●
		DNMG 432 L-S	DNMG150408L-S	0.031"			●

● : Line-up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Square, 90° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Precision finishing	TF	SNMG 431 TF	SNMG120404-TF	0.016"			●
		SNMG 432 TF	SNMG120408-TF	0.031"			●
	01	SNGG 320.5-01	SNGG090302-01	0.008"			●
		SNGG 321-01	SNGG090304-01	0.016"			●
		SNGG 322-01	SNGG090308-01	0.031"			●
		SNGG 430.5-01	SNGG120402-01	0.008"			●
		SNGG 431-01	SNGG120404-01	0.016"			●
		SNGG 432-01	SNGG120408-01	0.031"			●
	B ~ D	SNGG 321 R-B	SNGG090304R-B	0.016"	●		●
		SNGG 321 L-B	SNGG090304L-B	0.016"	●		●
		SNGG 322 R-B	SNGG090308R-B	0.031"			●
		SNGG 322 L-B	SNGG090308L-B	0.031"			●
		SNGG 431 R-C	SNGG120404R-C	0.016"	●		●
		SNGG 431 L-C	SNGG120404L-C	0.016"	●		●
		SNGG 432 R-C	SNGG120408R-C	0.031"			●
		SNGG 432 L-C	SNGG120408L-C	0.031"			●
		SNGG 432 R-D	SNGG120408R-D	0.031"			●
		SNGG 432 L-D	SNGG120408L-D	0.031"			●
Finishing	TSF	SNMG 431 TSF	SNMG120404-TSF	0.016"	●	●	●
		SNMG 432 TSF	SNMG120408-TSF	0.031"	●	●	●
	11	SNMG 431-11	SNMG120404-11	0.016"			●
		SNMG 432-11	SNMG120408-11	0.031"			●

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Square, 90° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐●◐		●◐
M	Stainless			
K	Cast iron	●◐●◐		●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Finishing of mild steels	17	SNMG 432-17	SNMG120408-17	0.031"			●
Finishing	TS	SNMG 431 TS	SNMG120404-TS	0.016"	●	●	●
		SNMG 432 TS	SNMG120408-TS	0.031"	●	●	●
High feed, small depth of cut	AS	SNMG 431 AS	SNMG120404-AS	0.016"			●
		SNMG 432 AS	SNMG120408-AS	0.031"			●
Medium cutting	All-round	SNMG 321	SNMG090304	0.016"			●
		SNMG 322	SNMG090308	0.031"			●
		SNMG 431	SNMG120404	0.016"			●
		SNMG 432	SNMG120408	0.031"			●
Finishing to medium cutting	27	SNMG 432-27	SNMG120408-27	0.031"			●
Medium cutting	37	SNMG 432-37	SNMG120408-37	0.031"			●
	S	SNMG 431 R-S	SNMG120404R-S	0.016"			●
		SNMG 431 L-S	SNMG120404L-S	0.016"			●
		SNMG 432 R-S	SNMG120408R-S	0.031"			●
		SNMG 432 L-S	SNMG120408L-S	0.031"			●

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Triangular, 60° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Precision finishing	TF	TNMG 331 TF	TNMG160404-TF	0.016"			●
		TNMG 332 TF	TNMG160408-TF	0.031"			●
	01	TNGG 220.5-01	TNGG110302-01	0.008"			●
		TNGG 221-01	TNGG110304-01	0.016"			●
		TNGG 222-01	TNGG110308-01	0.031"			●
		TNGG 330.5-01	TNGG160402-01	0.008"			●
		TNGG 331-01	TNGG160404-01	0.016"			●
		TNGG 332-01	TNGG160408-01	0.031"			●
		TNGG 333-01	TNGG160412-01	0.047"			●
	A~C	TNGG 221 R-A	TNGG110304R-A	0.016"	●		●
		TNGG 221 L-A	TNGG110304L-A	0.016"	●		●
		TNGG 222 R-A	TNGG110308R-A	0.031"	●		●
		TNGG 222 L-A	TNGG110308L-A	0.031"	●		●
		TNGG 321 R-C	TNGG160304R-C	0.016"			●
		TNGG 321 L-C	TNGG160304L-C	0.016"			●
		TNGG 322 R-C	TNGG160308R-C	0.031"			●
		TNGG 322 L-C	TNGG160308L-C	0.031"			●
		TNGG 33V R-C	TNGG160400R-C	0.001"			●
		TNGG 33V L-C	TNGG160400L-C	0.001"			●
		TNGG 330.5 R-C	TNGG160402R-C	0.008"	●		●
		TNGG 330.5 L-C	TNGG160402L-C	0.008"	●		●
		TNGG 331 R-C	TNGG160404R-C	0.016"	●		●
		TNGG 331 L-C	TNGG160404L-C	0.016"	●		●
		TNGG 332 R-C	TNGG160408R-C	0.031"	●		●
		TNGG 332 L-C	TNGG160408L-C	0.031"	●		●
	D	TNGG 431 R-D	TNGG220404R-D	0.016"			●
		TNGG 431 L-D	TNGG220404L-D	0.016"			●
		TNGG 432 R-D	TNGG220408R-D	0.031"			●
		TNGG 432 L-D	TNGG220408L-D	0.031"			●

● : Line-up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Triangular, 60° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Precision finishing	W	TNGG 331 R-W	TNGG160404R-W	0.016"			●
		TNGG 331 L-W	TNGG160404L-W	0.016"			●
		TNGG 332 R-W	TNGG160408R-W	0.031"			●
		TNGG 332 L-W	TNGG160408L-W	0.031"			●
Finishing	TSF	TNMG 231E TSF	TNMG110404E-TSF	0.016"	●	●	●
		TNMG 232E TSF	TNMG110408E-TSF	0.031"	●	●	●
		TNMG 330.5 TSF	TNMG160402-TSF	0.008"	●	●	●
		TNMG 331 TSF	TNMG160404-TSF	0.016"	●	●	●
		TNMG 332 TSF	TNMG160408-TSF	0.031"	●	●	●
		TNMG 333 TSF	TNMG160412-TSF	0.047"	●		
	ZF	TNMG 331 ZF	TNMG160404-ZF	0.016"	●	●	●
		TNMG 332 ZF	TNMG160408-ZF	0.031"	●	●	●
Finishing	11	TNMG 221-11	TNMG110304-11	0.016"			●
		TNMG 222-11	TNMG110308-11	0.031"			●
		TNMG 330.5-11	TNMG160402-11	0.008"			●
		TNMG 331-11	TNMG160404-11	0.016"			●
		TNMG 332-11	TNMG160408-11	0.031"			●
		TNMG 431-11	TNMG220404-11	0.016"			●
		TNMG 432-11	TNMG220408-11	0.031"			●
Finishing of mild steels	17	TNMG 331-11	TNMG160404-17	0.016"			●
		TNMG 332-11	TNMG160408-17	0.031"			●
Finishing	TS	TNMG 331 TS	TNMG160404-TS	0.016"	●	●	●
		TNMG 332 TS	TNMG160408-TS	0.031"	●	●	●

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
ᴄ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Triangular, 60° with hole

		GT9530	AT9530	NS9530
P	Steel	●ᴄ	●ᴄ	●ᴄ
M	Stainless			
K	Cast iron	●ᴄ	●ᴄ	●ᴄ
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
High feed, small depth of cut	**AS**	**TNMG 331 AS**	**TNMG160404-AS**	0.016"			●
		TNMG 332 AS	**TNMG160408-AS**	0.031"			●
Boring (Double sided)	**CB**	**TNMG 221 CB**	**TNMG110304-CB**	0.016"			●
		TNMG 222 CB	**TNMG110308-CB**	0.031"			●
Finishing	**NS**	**TNMG 331 NS**	**TNMG160404-NS**	0.016"			●
		TNMG 332 NS	**TNMG160408-NS**	0.031"			●
Finishing to medium cutting	**TQ**	**TNMG 331 TQ**	**TNMG160404-TQ**	0.016"	●	●	●
		TNMG 332 TQ	**TNMG160408-TQ**	0.031"	●	●	●
	ZM	**TNMG 331 ZM**	**TNMG160404-ZM**	0.016"	●		●
		TNMG 332 ZM	**TNMG160408-ZM**	0.031"	●		●
Medium cutting	**All-round**	**TNMG 221**	**TNMG110304**	0.016"			●
		TNMG 222	**TNMG110308**	0.031"			●
		TNMG 331	**TNMG160404**	0.016"			●
		TNMG 332	**TNMG160408**	0.031"			●
Finishing to medium cutting	**27**	**TNMG 332-27**	**TNMG160408-27**	0.031"			●

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Triangular, 60° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

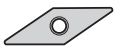
Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Medium cutting	37	TNMG 331-37	TNMG160404-37	0.016"			●
		TNMG 332-37	TNMG160408-37	0.031"			●
	P	TNGG 330.5 R-P	TNGG160402R-P	0.008"			●
		TNGG 330.5 L-P	TNGG160402L-P	0.008"			●
		TNGG 331 R-P	TNGG160404R-P	0.016"			●
		TNGG 331 L-P	TNGG160404L-P	0.016"			●
		TNGG 332 R-P	TNGG160408R-P	0.031"			●
		TNGG 332 L-P	TNGG160408L-P	0.031"			●
	S	TNMG 331 R-S	TNMG160404R-S	0.016"			●
		TNMG 331 L-S	TNMG160404L-S	0.016"			●
		TNMG 332 R-S	TNMG160408R-S	0.031"			●
		TNMG 332 L-S	TNMG160408L-S	0.031"			●
		TNMG 431 R-S	TNMG220404R-S	0.016"			●
		TNMG 431 L-S	TNMG220404L-S	0.016"			●
		TNMG 432 R-S	TNMG220408R-S	0.031"			●
		TNMG 432 L-S	TNMG220408L-S	0.031"			●

● : Line-up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type



Rhombic, 35° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Precision finishing	TF	VNMG 331 TF	VNMG160404-TF	0.016"			●
		VNMG 332 TF	VNMG160408-TF	0.031"			●
	01	VNGG 330.5-01	VNGG160402-01	0.008"			●
		VNGG 331-01	VNGG160404-01	0.016"			●
		VNGG 332-01	VNGG160408-01	0.031"			●
Finishing	TSF	VNMG 2.330.5E TSF	VNMG120402E-TSF	0.008"	●	●	●
		VNMG 2.331E TSF	VNMG120404E-TSF	0.016"	●	●	●
		VNMG 2.332E TSF	VNMG120408E-TSF	0.031"	●	●	●
		VNMG 330.5 TSF	VNMG160402-TSF	0.008"	●	●	●
		VNMG 331 TSF	VNMG160404-TSF	0.016"	●	●	●
		VNMG 332 TSF	VNMG160408-TSF	0.031"	●	●	●
	ZF	VNMG 331 ZF	VNMG160404-ZF	0.016"	●	●	●
		VNMG 332 ZF	VNMG160408-ZF	0.031"	●	●	●
	11	VNMG 331-11	VNMG160404-11	0.016"			●
		VNMG 332-11	VNMG160408-11	0.031"			●
		VNMG 333-11	VNMG160412-11	0.047"	●		●
	TS	VNMG 331 TS	VNMG160404-TS	0.016"	●	●	●
		VNMG 332 TS	VNMG160408-TS	0.031"	●	●	●

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Rhombic, 35° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing to medium cutting	**TQ**	**VNMG 331 TQ**	**VNMG160404-TQ**	0.016"	●	●	●
		VNMG 332 TQ	**VNMG160408-TQ**	0.031"	●	●	●
Medium cutting	**All-round**	**VNMG 331**	**VNMG160404**	0.016"			●
		VNMG 332	**VNMG160408**	0.031"			●
		VNMG 333	**VNMG160412**	0.047"			●

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Trigon, 80° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Precision finishing	TF	WNMG 431 TF	WNMG080404-TF	0.016"			●
		WNMG 432 TF	WNMG080408-TF	0.031"			●
	01	WNGG 430.5-01	WNGG080402-01	0.008"			●
		WNGG 431-01	WNGG080404-01	0.016"			●
		WNGG 432-01	WNGG080408-01	0.031"			●
Finishing	TSF	WNMG 331E TSF	WNMG060404E-TSF	0.016"	●	●	●
		WNMG 332E TSF	WNMG060408E-TSF	0.031"	●	●	●
		WNMG 333E TSF	WNMG060412E-TSF	0.047"	●		●
		WNMG 431 TSF	WNMG080404-TSF	0.016"	●	●	●
		WNMG 432 TSF	WNMG080408-TSF	0.031"	●	●	●
Finishing (Wiper)	FW	WNMG 331E FW	WNMG060404E-FW	0.016"	●		●
		WNMG 332E FW	WNMG060408E-FW	0.031"	●		●
		WNMG 431 FW	WNMG080404-FW	0.016"	●		●
		WNMG 432 FW	WNMG080408-FW	0.031"	●		●
			*Wiper insert				
	AFW	WNMG 331 AFW	WNMG060404-AFW	0.016"			●
		WNMG 332 AFW	WNMG060408-AFW	0.031"			●
		WNMG 431 AFW	WNMG080404-AFW	0.016"			●
		WNMG 432 AFW	WNMG080408-AFW	0.031"			●
Finishing	ZF	WNMG 431 ZF	WNMG080404-ZF	0.016"	●	●	●
		WNMG 432 ZF	WNMG080408-ZF	0.031"	●	●	●

* Please contact our sales representative for your inquiries about the program adjustment when using SW/FW for machining of radius shape or taper machining.

● : Line-up
● : New product

TurnLine - Insert

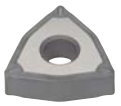
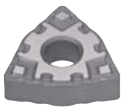
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

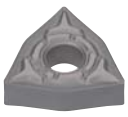
Negative type

Trigon, 80° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐●◐		●◐
M	Stainless			
K	Cast iron	●◐●◐		●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Finishing	11	WNMG 431-11	WNMG080404-11	0.016"			●
		WNMG 432-11	WNMG080408-11	0.031"			●
Finishing of mild steels	17	WNMG 431-17	WNMG080404-17	0.016"			●
		WNMG 432-17	WNMG080408-17	0.031"			●
Finishing	TS	WNMG 431 TS	WNMG080404-TS	0.016"	●	●	●
		WNMG 432 TS	WNMG080408-TS	0.031"	●	●	●
High feed, small depth of cut	AS	WNMG 431 AS	WNMG080404-AS	0.016"			●
		WNMG 432 AS	WNMG080408-AS	0.031"			●
Boring (Double sided)	CB	WNMG 331 CB	WNMG060404-CB	0.016"			●
		WNMG 332 CB	WNMG060408-CB	0.031"			●
Finishing	NS	WNMG 431 NS	WNMG080404-NS	0.016"			●
		WNMG 432 NS	WNMG080408-NS	0.031"			●
Finishing to medium cutting	TQ	WNMG 431 TQ	WNMG080404-TQ	0.016"	●	●	●
		WNMG 432 TQ	WNMG080408-TQ	0.031"	●	●	●



● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
ⓒ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Trigon, 80° with hole

		GT9530	AT9530	NS9530
P	Steel	●ⓒ	●ⓒ	●ⓒ
M	Stainless			
K	Cast iron	●ⓒ	●ⓒ	●ⓒ
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing to medium cutting	**ZM**	**WNMG 432 ZM**	**WNMG080408-ZM**	0.031"	●		●
Medium cutting	**All-round**	**WNMG 431**	**WNMG080404**	0.016"			●
		WNMG 432	**WNMG080408**	0.031"			●
	37	**WNMG 431-37**	**WNMG080404-37**	0.016"			●
		WNMG 432-37	**WNMG080408-37**	0.031"			●

● : Line-up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Negative type

Rhombic, 25° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing	ZF	YNMG 331 ZF	YNMG160404-ZF	0.016"	●		●
		YNMG 332 ZF	YNMG160408-ZF	0.031"	●		●
Finishing to medium cutting	ZM	YNMG 331 ZM	YNMG160404-ZM	0.016"	●		●
		YNMG 332 ZM	YNMG160408-ZM	0.031"	●		●

● : Line-up

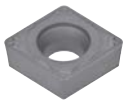
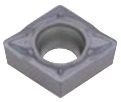
TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Rhombic, 80°
with hole
Positive 7°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing	PSF	CCMT 21.50.5 PSF	CCMT060202-PSF	0.008"	●		●
		CCMT 21.51 PSF	CCMT060204-PSF	0.016"	●		●
		CCMT 32.50.5 PSF	CCMT09T302-PSF	0.008"			●
		CCMT 32.51 PSF	CCMT09T304-PSF	0.016"	●		●
		CCMT 32.52 PSF	CCMT09T308-PSF	0.031"	●		●
Finishing	PF	CCMT 21.50.5 PF	CCMT060202-PF	0.008"	●		●
		CCMT 21.51 PF	CCMT060204-PF	0.016"	●		●
		CCMT 21.52 PF	CCMT060208-PF	0.031"	●		●
		CCMT 32.50.5 PF	CCMT09T302-PF	0.008"			●
		CCMT 32.51 PF	CCMT09T304-PF	0.016"	●		●
		CCMT 32.52 PF	CCMT09T308-PF	0.031"	●		●
Finishing to light cutting	PSS	CCMT 21.51 PSS	CCMT060204-PSS	0.016"	●		●
		CCMT 21.52 PSS	CCMT060208-PSS	0.031"	●		●
		CCMT 32.51 PSS	CCMT09T304-PSS	0.016"	●		●
		CCMT 32.52 PSS	CCMT09T308-PSS	0.031"	●		●
Finishing to medium cutting	PS	CCMT 21.50.5 PS	CCMT060202-PS	0.008"	●	●	●
		CCMT 21.51 PS	CCMT060204-PS	0.016"	●	●	●
		CCMT 21.52 PS	CCMT060208-PS	0.031"	●	●	●
		CCMT 32.50.5 PS	CCMT09T302-PS	0.008"	●	●	●
		CCMT 32.51 PS	CCMT09T304-PS	0.016"	●	●	●
		CCMT 32.52 PS	CCMT09T308-PS	0.031"	●	●	●
Finishing to medium cutting	23	CCMT 21.50.5-23	CCMT060202-23	0.008"			●
		CCMT 21.51-23	CCMT060204-23	0.016"			●
		CCMT 32.51-23	CCMT09T304-23	0.016"			●
		CCMT 32.52-23	CCMT09T308-23	0.031"			●

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Rhombic, 80° with hole Positive 7°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Medium cutting	24	CCMT 21.50.5-24	CCMT060202-24	0.008"			●
		CCMT 21.51-24	CCMT060204-24	0.016"			●
		CCMT 21.52-24	CCMT060208-24	0.031"			●
		CCMT 32.50.5-24	CCMT09T302-24	0.008"			●
		CCMT 32.51-24	CCMT09T304-24	0.016"			●
		CCMT 32.52-24	CCMT09T308-24	0.031"			●
		CCMT 432-24	CCMT120408-24	0.031"			●
Finishing	W15	CCGT 21.5VL-W15	CCGT060200L-W15	0.001"			●
		CCGT 21.50.5R-W15	CCGT060202R-W15	0.008"			●
		CCGT 21.50.5L-W15	CCGT060202L-W15	0.008"	●		●
		CCGT 21.51R-W15	CCGT060204R-W15	0.016"			●
		CCGT 21.51L-W15	CCGT060204L-W15	0.016"	●		●
	W20	CCGT32.50.5R-W20	CCGT09T302R-W20	0.008"			●
		CCGT32.50.5L-W20	CCGT09T302L-W20	0.008"	●		●
		CCGT32.51R-W20	CCGT09T304R-W20	0.016"			●
		CCGT32.51L-W20	CCGT09T304L-W20	0.016"	●		●
		CCGT32.52R-W20	CCGT09T308R-W20	0.031"			●
		CCGT32.52L-W20	CCGT09T308L-W20	0.031"	●		●
Medium cutting	PM	CCMT 21.51 PM	CCMT060204-PM	0.016"	●		●
		CCMT 21.52 PM	CCMT060208-PM	0.031"	●		●
		CCMT 32.51 PM	CCMT09T304-PM	0.016"	●		●
		CCMT 32.52 PM	CCMT09T308-PM	0.031"	●		●
Finishing to medium cutting	All-round	CCGT 21.50.5	CCGT060202	0.008"			●
		CCGT 21.51	CCGT060204	0.016"			●
		CCGT 32.50.5	CCGT09T302	0.008"			●
		CCGT 32.51	CCGT09T304	0.016"			●
		CCGT 32.52	CCGT09T308	0.031"			●
For external turning on small lathes (Sharp edge)	J10	CCGT 21.50 FR-J10	CCGT060201FR-J10	0.004"			●
		CCGT 21.50.5 FR-J10	CCGT060202FR-J10	0.008"			●
		CCGT 21.50.5 FL-J10	CCGT060202FL-J10	0.008"			●

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Rhombic, 80°
with hole
Positive 11°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

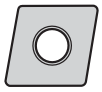
Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing	PSF	CPMT 321 PSF	CPMT090302-PSF	0.008"	●		●
		CPMT 322 PSF	CPMT090304-PSF	0.016"	●		●
	PF	CPMT 320.5 PF	CPMT090302-PF	0.008"	●		●
		CPMT 321 PF	CPMT090304-PF	0.016"	●		●
Finishing to light cutting	PSS	CPMT 21.51 PSS	CPMT060204-PSS	0.016"	●		●
		CPMT 2.51.51 PSS	CPMT080204-PSS	0.016"	●		●
		CPMT 2.51.52 PSS	CPMT080208-PSS	0.031"	●		●
		CPMT 321 PSS	CPMT090304-PSS	0.016"	●		●
		CPMT 322 PSS	CPMT090308-PSS	0.031"	●		●
Finishing to medium cutting	PS	CPMT 21.50.5 PS	CPMT060202-PS	0.008"			●
		CPMT 21.51 PS	CPMT060204-PS	0.016"	●	●	●
		CPMT 2.51.50.5 PS	CPMT080202-PS	0.008"	●	●	●
		CPMT 2.51.51 PS	CPMT080204-PS	0.016"	●	●	●
		CPMT 2.51.52 PS	CPMT080208-PS	0.031"	●	●	●
		CPMT 321 PS	CPMT090304-PS	0.016"	●	●	●
		CPMT 322 PS	CPMT090308-PS	0.031"	●	●	●
		CPMT 32.51 PS	CPMT09T304-PS	0.016"			●
Medium cutting	24	CPMT 432-24	CPMT120408-24	0.031"			●
		CPMT 53.52-24	CPMT160508-24	0.031"			●
		CPMT 53.53-24	CPMT160512-24	0.047"			●

● : Line-up
● : New product

TurnLine - Insert

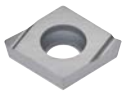
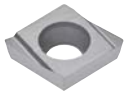
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 80° with hole Positive 11°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing	W15	CPGT 730.5FL-W15	CPGT050202L-W15	0.008"			●
		CPGT 731FL-W15	CPGT050204L-W15	0.016"			●
		CPGT 2.51.50.5FL-W15	CPGT080202L-W15	0.008"			●
		CPGT 2.51.51FL-W15	CPGT080204L-W15	0.016"			●
	W20	CPMW 320.5R W20	CPGT090302R-W20	0.008"			●
		CPMW 320.5L W20	CPGT090302L-W20	0.008"			●
		CPMW 321R W20	CPGT090304R-W20	0.016"			●
		CPMW 321L W20	CPGT090304L-W20	0.016"			●
Medium cutting	PM	CPMT 321 PM	CPMT090304-PM	0.016"			●
		CPMT 322 PM	CPMT090308-PM	0.031"			●

● : Line-up

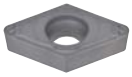
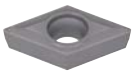
TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Rhombic, 55°
with hole
Positive 7°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Finishing	PSF	DCMT 21.50.5 PSF	DCMT070202-PSF	0.008"	●		●
		DCMT 21.51 PSF	DCMT070204-PSF	0.016"	●		●
		DCMT 32.50.5 PSF	DCMT11T302-PSF	0.008"	●		●
		DCMT 32.51 PSF	DCMT11T304-PSF	0.016"	●		●
	PF	DCMT 21.50.5 PF	DCMT070202-PF	0.008"	●		●
		DCMT 21.51 PF	DCMT070204-PF	0.016"	●		●
		DCMT 21.52 PF	DCMT070208-PF	0.031"	●		●
		DCMT 32.50.5 PF	DCMT11T302-PF	0.008"	●		●
		DCMT 32.51 PF	DCMT11T304-PF	0.016"	●		●
		DCMT 32.52 PF	DCMT11T308-PF	0.031"	●		
Finishing to light cutting	PSS	DCMT 21.51 PSS	DCMT070204-PSS	0.016"	●		●
		DCMT 21.52 PSS	DCMT070208-PSS	0.031"	●		●
		DCMT 32.51 PSS	DCMT11T304-PSS	0.016"	●		●
		DCMT 32.52 PSS	DCMT11T308-PSS	0.031"	●		●
Finishing to medium cutting	PS	DCMT 21.50.5 PS	DCMT070202-PS	0.008"	●	●	●
		DCMT 21.51 PS	DCMT070204-PS	0.016"	●	●	●
		DCMT 21.52 PS	DCMT070208-PS	0.031"	●	●	●
		DCMT 32.50.5 PS	DCMT11T302-PS	0.008"	●	●	●
		DCMT 32.51 PS	DCMT11T304-PS	0.016"	●	●	●
		DCMT 32.52 PS	DCMT11T308-PS	0.031"	●	●	●
	23	DCMT 21.51-23	DCMT070204-23	0.016"			●
		DCMT 32.51 23	DCMT11T304-23	0.016"			●
		DCMT 32.52-23	DCMT11T308-23	0.031"			●

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Rhombic, 55° with hole Positive 7°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Medium cutting	24	DCMT 21.50.5-24	DCMT070202-24	0.008"			●
		DCMT 21.51-24	DCMT070204-24	0.016"			●
		DCMT 21.52-24	DCMT070208-24	0.031"			●
		DCMT 32.50.5-24	DCMT11T302-24	0.008"			●
		DCMT 32.51-24	DCMT11T304-24	0.016"			●
		DCMT 32.52-24	DCMT11T308-24	0.031"			●
Finishing	W10	DCGT 21.50.5R-W10	DCGT070202R-W10	0.008"			●
		DCGT21.50.5L-W10	DCGT070202L-W10	0.008"	●		●
		DCGT 21.51R-W10	DCGT070204R-W10	0.016"			●
		DCGT 21.51L-W10	DCGT070204L-W10	0.016"	●		●
	W15	DCGT 32.50.5R-W15	DCGT11T302R-W15	0.008"			●
		DCGT 32.50.5L-W15	DCGT11T302L-W15	0.008"	●		●
		DCGT 32.51R-W15	DCGT11T304R-W15	0.016"			●
		DCGT 32.51L-W15	DCGT11T304L-W15	0.016"	●		●
		DCGT 32.52R-W15	DCGT11T308R-W15	0.031"			●
		DCGT 32.52L-W15	DCGT11T308L-W15	0.031"			●
Medium cutting	PM	DCMT 21.51 PM	DCMT070204-PM	0.016"	●		●
		DCMT 21.52 PM	DCMT070208-PM	0.031"	●		●
		DCMT 32.51 PM	DCMT11T304-PM	0.016"	●		●
		DCMT 32.52 PM	DCMT11T308-PM	0.031"	●		●
Finishing to medium cutting	All-round	DCGT 21.50.5	DCGT070202	0.008"			●
		DCGT 21.51	DCGT070204	0.016"			●
		DCGT 32.50.5	DCGT11T302	0.008"			●
		DCGT 32.51	DCGT11T304	0.016"			●
		DCGT 32.52	DCGT11T308	0.031"			●

● : Line-up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Rhombic, 55° with hole Positive 7°

		GT9530	J9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐	●◐
M	Stainless				
K	Cast iron	●◐	●◐	●◐	●◐
N	Non-ferrous				
S	Superalloys				
H	Hard materials				

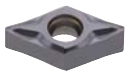
Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	J9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
For external turning on small lathes (Sharp edge)	J10	DCGT 21.50FR J10	DCGT070201FR-J10	0.004"				●
		DCGT 21.50FL J10	DCGT070201FL-J10	0.004"				●
		DCGT 21.50.5FR J10	DCGT070202FR-J10	0.008"				●
		DCGT 21.50.5FL J10	DCGT070202FL-J10	0.008"				●
		DCGT 32.50FR J10	DCGT11T301FR-J10	0.004"				●
		DCGT 32.50FL J10	DCGT11T301FL-J10	0.004"				●
		DCGT 32.50.5FR J10	DCGT11T302FR-J10	0.008"				●
		DCGT 32.50.5FL J10	DCGT11T302FL-J10	0.008"				●
On small lathes (Honed edge)	J10	DCGT 21.50.5R J10	DCGT070202R-J10	0.008"		●		
		DCGT 32.50.5R J10	DCGT11T302R-J10	0.008"		●		

● : Line-up

Positive type
DOUBLE-SIDED

Rhombic, 55° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Finishing to medium cutting	TS	DXGU 220.5 R-TS	DXGU070302R-TS	0.008"	●		●
		DXGU 220.5 L-TS	DXGU070302L-TS	0.008"	●		●
		DXGU 221 R-TS	DXGU070304R-TS	0.016"	●		●
		DXGU 221 L-TS	DXGU070304L-TS	0.016"	●		●
		DXGU 222 R-TS	DXGU070308R-TS	0.031"	●		●
		DXGU 222 L-TS	DXGU070308L-TS	0.031"	●		●
Finishing (Low cutting force)	SS	DXGU 220.5 R-SS	DXGU070302R-SS	0.008"	●		●
		DXGU 220.5 L-SS	DXGU070302L-SS	0.008"	●		●
		DXGU 221 R-SS	DXGU070304R-SS	0.016"	●		●
		DXGU 221 L-SS	DXGU070304L-SS	0.016"	●		●

● : Line-up

TurnLine - Insert

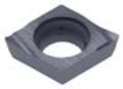
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Rhombic, 75°
with hole
Positive 11°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Finishing	W08	EPGT 52 L-W08	EPGT040100L-W08	0.001"			●
		EPGT 520.5 R-W08	EPGT040102R-W08	0.008"			●
		EPGT 520.5 L-W08	EPGT040102L-W08	0.008"	●		●
		EPGT 521 R-W08	EPGT040104R-W08	0.016"			●
		EPGT 521 L-W08	EPGT040104L-W08	0.016"	●		●



● : Line-up

Positive type

Round,
with hole
Positive 7°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Heavy cutting	61	-	RCMT0502M0-61	–			●
		-	RCMT0602M0-61	–			●
		-	RCMT0803M0-61	–			●
	61	-	RCMM1003M0-61	–			●
		-	RCMM1204M0-61	–			●

● : Line-up

	Designation	0502M0	0602M0	0803M0	1003M0	1204M0
ød1 (in)	RC*T	0.098	0.110	0.134	0.173	0.173
	RCMM	-	-	-	0.142	0.165

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Square, 90° with hole Positive 7°

P	Steel	●◐	●◐					●◐													
M	Stainless																				
K	Cast iron	●◐	●◐					●◐													
N	Non-ferrous																				
S	Superalloys																				
H	Hard materials																				

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530				Cermet NS9530											
Finishing to medium cutting	**PS**	**SCMT 32.51 PS**	**SCMT09T304-PS**	0.016"	●	●				●											
		SCMT 32.52 PS	**SCMT09T308-PS**	0.031"	●	●				●											
		SCMT 431 PS	**SCMT120404-PS**	0.016"						●											
		SCMT 432 PS	**SCMT120408-PS**	0.031"						●											
	23	**SCMT 32.50.5-23**	**SCMT09T302-23**	0.008"						●											
Medium cutting	**24**	**SCMT 2.51.51-24**	**SCMT070204-24**	0.016"						●											
		SCMT 32.50.5-24	**SCMT09T302-24**	0.008"						●											
		SCMT 32.51-24	**SCMT09T304-24**	0.016"						●											
		SCMT 32.52-24	**SCMT09T308-24**	0.031"						●											
		SCMT 431-24	**SCMT120404-24**	0.016"						●											
		SCMT 432-24	**SCMT120408-24**	0.031"						●											
	PM	**SCMT 32.51 PM**	**SCMT09T304-PM**	0.016"						●											
		SCMT 32.52 PM	**SCMT09T308-PM**	0.031"						●											
		SCMT 432 PM	**SCMT120408-PM**	0.031"						●											
		SCMT 433 PM	**SCMT120412-PM**	0.047"						●											

● : Line-up
● : New product

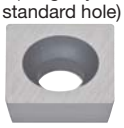
TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Square, 90° with hole
Positive 11°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing to medium cutting	PS	SPMT321 PS	SPMT090304-PS	0.016"	●	●	●
		SPMT322 PS	SPMT090308-PS	0.031"	●	●	●
	23	SPMT321-23	SPMT090304-23	0.016"			●
		SPMT322-23	SPMT090308-23	0.031"			●
Medium cutting	24	SPMT 321-24	SPMT090304-24	0.016"			●
		SPMT 322-24	SPMT090308-24	0.031"			●
		SPMT 431-24	SPMT120404-24	0.016"			●
		SPMT 432-24	SPMT120408-24	0.031"			●
Finishing	W15	SPGT 320.5L W15	SPGT090302L-W15	0.008"			●
		SPGT 321L W15	SPGT090304L-W15	0.016"			●
		SPGT 322L W15	SPGT090308L-W15	0.031"			●
	W20	SPGT431L W20	SPGT120404L-W20	0.016"			●
Finishing to medium cutting	- (Tungaloy's standard hole)	SPGM 321L	SPGM090304L	0.016"			●
		SPGM 421L	SPGM120304L	0.016"			●
		SPGM 422 L	SPGM120308L	0.031"			●
	- (Tungaloy's standard hole)	SPGA 321	SPGA090304	0.016"			●
							

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

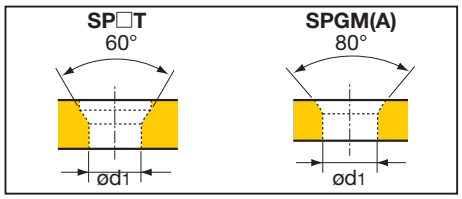
Square, 90°
without hole
Positive 11°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Finishing to medium cutting	23	SPMR 321-23	SPMR090304-23	0.016"			●
		SPMR 322-23	SPMR090308-23	0.031"			●
		SPMR 421-23	SPMR120304-23	0.016"			●
		SPMR 422-23	SPMR120308-23	0.031"			●
	-	SPGR 321L	SPGR090304L	0.016"			●
	-	SPG 423	SPGN120312	0.047"			●
	-	SPU 422	SPMN120308	0.031"			●

● : Line-up

● Specification of insert hole



Designation		0903□□	1204□□
ød1 (in)	SP□T	0.173	0.217
	SPGM(A)	0.157	0.197

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Triangular, 60°
with hole
Positive 7°

		GT9530	AT9530	NS9530
P	Steel	●◐●◐		●◐
M	Stainless			
K	Cast iron	●◐●◐		●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Precision finishing	01	TCGT21.51-01	TCGT110204-01	0.016"	●		●
		TCGT21.52-01	TCGT110208-01	0.031"			●
Finishing to medium cutting	PS	TCMT 21.50.5 PS	TCMT110202-PS	0.008"	●	●	●
		TCMT 21.51 PS	TCMT110204-PS	0.016"	●	●	●
		TCMT 21.52 PS	TCMT110208-PS	0.031"	●	●	●
		TCMT 32.50 PS	TCMT16T302-PS	0.008"			●
		TCMT 32.51 PS	TCMT16T304-PS	0.016"			●
	23	TCMT 731-23	TCMT090204-23	0.016"			●
		TCMT 21.51-23	TCMT110204-23	0.016"			●
		TCMT 32.51-23	TCMT16T304-23	0.016"			●
Medium cutting	24	TCMT 730.5-24	TCMT090202-24	0.008"			●
		TCMT 731-24	TCMT090204-24	0.016"			●
		TCMT 21.50.5-24	TCMT110202-24	0.008"			●
		TCMT 21.51-24	TCMT110204-24	0.016"			●
		TCMT 32.51-24	TCMT16T304-24	0.016"			●
Finishing	W15	TCGT 32.51L W15	TCGT16T304L-W15	0.016"			●
Medium cutting	PM	TCMT 21.51 PM	TCMT110204-PM	0.016"			●
		TCMT 21.52 PM	TCMT110208-PM	0.031"			●
		TCMT 32.51 PM	TCMT16T304-PM	0.016"			●
		TCMT 32.52 PM	TCMT16T308-PM	0.031"			●

● : Line-up
● : New product

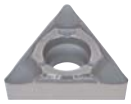
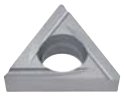
TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Triangular, 60°
with hole
Positive 7°

		GT9530	J9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐	●◐
M	Stainless				
K	Cast iron	●◐	●◐	●◐	●◐
N	Non-ferrous				
S	Superalloys				
H	Hard materials				

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet J9530	Coated cermet AT9530	Cermet NS9530
Finishing to medium cutting	SS	TCGT 21.50.5 SS	TCGT110202-SS	0.008"				●
		TCGT 21.51 SS	TCGT110204-SS	0.016"				●
		TCGT 21.52 SS	TCGT110208-SS	0.031"				●
		TCGT 32.51 SS	TCGT16T304-SS	0.016"				●
Finishing	-	TCGT 630 R	TCGT080102R	0.008"				●
								
For external turning on small lathes (Sharp edge)	J10	TCGT 21.50.5 FR-J10	TCGT110202FR-J10	0.008"				●
		TCGT 21.50.5 FL-J10	TCGT110202FL-J10	0.008"				●
		TCGT 220.5 FR-J10	TCGT110302FR-J10	0.008"				●
		TCGT 220.5 FL-J10	TCGT110302FL-J10	0.008"				●
On small lathes (Honed edge)	J10	TCGT 220.5 R-J10	TCGT110302R-J10	0.008"		●		
		TCGT 220.5 L-J10	TCGT110302L-J10	0.008"		●		

● : Line-up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Triangular, 60°
with hole
Positive 11°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Precision finishing	01	TPGT 730.5-01	TPGT090202-01	0.008"	●		●
		TPGT 731-01	TPGT090204-01	0.016"	●		●
		TPGT21.50.5-01	TPGT110202-01	0.008"	●		●
		TPGT 21.51-01	TPGT110204-01	0.016"	●		●
		TPGT 21.52-01	TPGT110208-01	0.031"			●
		TPGT 2.520.5-01	TPGT130302-01	0.008"			●
		TPGT 2.521-01	TPGT130304-01	0.016"	●		●
		TPGT 2.522-01	TPGT130308-01	0.031"			●
		TPGT 32.51-01	TPGT16T304-01	0.016"	●		●
		TPGT 32.52-01	TPGT16T308-01	0.031"			●
Finishing	PSF	TPMT 730.5 PSF	TPMT090202-PSF	0.008"			●
		TPMT 731 PSF	TPMT090204-PSF	0.016"	●		●
		TPMT21.50.5 PSF	TPMT110202-PSF	0.008"	●		●
		TPMT 21.51 PSF	TPMT110204-PSF	0.016"	●		●
		TPMT 220.5 PSF	TPMT110302-PSF	0.008"			●
		TPMT 221 PSF	TPMT110304-PSF	0.016"	●		●
	PF	TPMT 21.51 PF	TPMT110204-PF	0.016"	●		●
		TPMT 21.52 PF	TPMT110208-PF	0.031"	●		●
		TPMT 220.5 PF	TPMT110302-PF	0.008"			●
		TPMT 221 PF	TPMT110304-PF	0.016"	●		●
		TPMT 2.521 PF	TPMT130304-PF	0.016"	●		●
		TPMT 2.522 PF	TPMT130308-PF	0.031"			●
		TPMT 32.51 PF	TPMT16T304-PF	0.016"	●		●

● : Line-up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Triangular, 60°
with hole
Positive 11°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing to light cutting	PSS	TPMT 731 PSS	TPMT090204-PSS	0.016"	●		●
		TPMT 732 PSS	TPMT090208-PSS	0.031"	●		●
		TPMT 21.51 PSS	TPMT110204-PSS	0.016"	●		●
		TPMT 21.52 PSS	TPMT110208-PSS	0.031"	●		●
		TPMT 2.522 PSS	TPMT130308-PSS	0.031"	●		●
		TPMT 32.51 PSS	TPMT16T304-PSS	0.016"	●		●
		TPMT 32.52 PSS	TPMT16T308-PSS	0.031"	●		●
Finishing to medium cutting	PS	TPMT 730.5 PS	TPMT090202-PS	0.008"	●	●	●
		TPMT 731 PS	TPMT090204-PS	0.016"	●	●	●
		TPMT 732 PS	TPMT090208-PS	0.031"	●	●	●
		TPMT 21.50.5 PS	TPMT110202-PS	0.008"	●	●	●
		TPMT 21.51 PS	TPMT110204-PS	0.016"	●	●	●
		TPMT 21.52 PS	TPMT110208-PS	0.031"	●	●	●
		TPMT 221 PS	TPMT110304-PS	0.016"	●	●	●
		TPMT 222 PS	TPMT110308-PS	0.031"	●	●	●
		TPMT 2.520.5 PS	TPMT130302-PS	0.008"	●	●	●
		TPMT 2.521 PS	TPMT130304-PS	0.016"	●	●	●
		TPMT 2.522 PS	TPMT130308-PS	0.031"	●	●	●
		TPMT 32.51 PS	TPMT16T304-PS	0.016"	●	●	●
		TPMT 32.52 PS	TPMT16T308-PS	0.031"	●	●	●
	23	TPMT 730.5-23	TPMT090202-23	0.008"			●
		TPMT 731-23	TPMT090204-23	0.016"			●
		TPMT 21.51-23	TPMT110204-23	0.016"			●
		TPMT 2.521-23	TPMT130304-23	0.016"			●
		TPMT 2.522-23	TPMT130308-23	0.031"			●
		TPMT 32.51-23	TPMT16T304-23	0.016"			●
		TPMT 32.52-23	TPMT16T308-23	0.031"			●

● : Line-up
● : New product

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Triangular, 60°
with hole
Positive 11°

		Coated cermet		Cermet
P	Steel	●◐●◐		●◐
M	Stainless			
K	Cast iron	●◐●◐		●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530	AT9530	NS9530
Medium cutting	24	TPMT 731-24	TPMT090204-24	0.016"			●
		TPMT 21.51-24	TPMT110204-24	0.016"			●
		TPMT 21.52-24	TPMT110208-24	0.031"			●
		TPMT 2.521-24	TPMT130304-24	0.016"			●
		TPMT 2.522-24	TPMT130308-24	0.031"			●
		TPMT 32.51-24	TPMT16T304-24	0.016"			●
		TPMT 32.52-24	TPMT16T308-24	0.031"			●
Finishing	W08	TPGT 63VL-W08	TPGT080200L-W08	0.001"	●		●
		TPGT 630.5L-W08	TPGT080202L-W08	0.008"	●		●
		TPGT 631L-W08	TPGT080204L-W08	0.016"	●		●
	W10	TPGH 630.5L W10	TPGH080202L-W10	0.008"	●		●
		TPGH 631 L W10	TPGH080204L-W10	0.016"	●		●
		TPGH 731 L W10	TPGH090204L-W10	0.016"	●		●
	W13	TPGH 21.51L W13	TPGH110204L-W13	0.016"	●		●
		TPGH 220.5L W13	TPGH110302L-W13	0.008"	●		●
		TPGH 221.5L W13	TPGH110304L-W13	0.016"	●		●

● : Line-up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Triangular, 60°
with hole
Positive 11°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing	W15	TPGT 730.5R W15	TPGT090202R-W15	0.008"			●
		TPGT730.5L W15	TPGT090202L-W15	0.008"	●		●
		TPGT 731R W15	TPGT090204R-W15	0.016"			●
		TPGT 731L W15	TPGT090204L-W15	0.016"	●		●
		TPGT 21.50.5R W15	TPGT110202R-W15	0.008"			●
		TPGT 21.50.5L W15	TPGT110202L-W15	0.008"	●		●
		TPGT 21.51L-W15	TPGT110204L-W15	0.016"	●		●
		TPGT 21.52R-W15	TPGT110208R-W15	0.031"			●
		TPGT 220.5R-W15	TPGT110302L-W15	0.008"			●
		TPGT 221L-W15	TPGT110304R-W15	0.016"			●
		TPGT 221L-W15	TPGT110304L-W15	0.016"			●
		TPGT 222L-W15	TPGT110308L-W15	0.031"			●
		TPGT 2.520.5R W15	TPGT130302R-W15	0.008"			●
		TPGT 2.520.5L W15	TPGT130302L-W15	0.008"	●		●
		TPGT 2.521R W15	TPGT130304R-W15	0.016"			●
		TPGT 2.521L W15	TPGT130304L-W15	0.016"	●		●
		TPGT 2.522L W15	TPGT130308L-W15	0.031"			●
		TPGT 32.50.5R W15	TPGT16T302R-W15	0.008"			●
		TPGT 32.50.5L W15	TPGT16T302L-W15	0.008"	●		●
		TPGT 32.51R W15	TPGT16T304R-W15	0.016"			●
		TPGT 32.51L W15	TPGT16T304L-W15	0.016"	●		●
		TPGT 32.52L W15	TPGT16T308L-W15	0.031"			●
Medium cutting	PM	TPMT 21.51 PM	TPMT110204-PM	0.016"	●		●
		TPMT 221 PM	TPMT110304-PM	0.016"	●		●
		TPMT 2.521 PM	TPMT130304-PM	0.016"			●
		TPMT 2.522 PM	TPMT130308-PM	0.031"	●		●
		TPMT 32.51 PM	TPMT16T304-PM	0.016"			●
	SS	TPGT 21.50.5 SS	TPGT110202-SS	0.008"			●
		TPGT 21.51 SS	TPGT110204-SS	0.016"			●
		TPGT 21.52.5 SS	TPGT130302-SS	0.008"			●
		TPGT 2.520.5 SS	TPGT130304-SS	0.016"			●
		TPGT 32.51 SS	TPGT16T304-SS	0.016"			●

● : Line-up

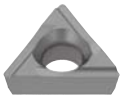
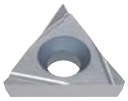
TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

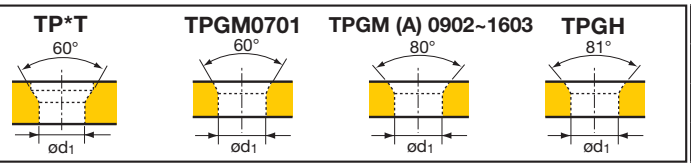
Triangular, 60°
with hole
Positive 11°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Finishing to medium cutting	H11 	TPGH 220.5L H11	TPGH110302L-H11	0.008"	●		●
		TPGH 221L H11	TPGH110304L-H11	0.016"	●		●
	- Tungaloy-standard hole Not ISO  TPGM...R/L	TPGM 5.520.5 R	TPGM070102R	0.008"			●
		TPGM 5.520.5 L	TPGM070102L	0.008"			●
		TPGM 5.521 R	TPGM070104R	0.016"			●
		TPGM 5.521 L	TPGM070104L	0.016"			●
		TPGM 730.5R	TPGM090202R	0.008"			●
		TPGM 730.5L	TPGM090202L	0.008"			●
		TPGM 731L	TPGM090204L	0.016"			●
		TPGM 21.50.5R	TPGM110202R	0.008"			●
		TPGM 21.50.5L	TPGM110202L	0.008"			●
		TPGM 21.51R	TPGM110204R	0.016"			●
		TPGM 21.51L	TPGM110204L	0.016"			●
		TPGM 220.5R	TPGM110302R	0.008"			●
		TPGM 220.5L	TPGM110302L	0.008"			●
		TPGM 221R	TPGM110304R	0.016"			●
		TPGM 221L	TPGM110304L	0.016"			●
		TPGM 320.5L	TPGM160302L	0.008"			●
		TPGM 32.51R	TPGM160304R	0.016"			●
		TPGM 32.51L	TPGM160304L	0.016"			●
	-	TPGA 21.50.5	TPGA110202	0.008"			●
		TPGA 220.5	TPGA110302	0.008"			●
		TPGA 321	TPGA160304	0.016"			●

● : Line-up

Mounting hole specifications



ød1 (in)	0701**	0802**	0902**	1102**	1103**	1303**	1603**	16T3**
TP*T(W)	-	0.091	0.098	0.110	0.134	0.134	-	0.173
TPGM(A)	0.106	-	0.126	0.110	0.118	-	0.157	-
TPGH	-	0.091	0.118	0.134	0.134	-	0.177	-

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Triangular, 60°
without hole
Positive 11°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

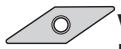
Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Finishing to medium cutting	23	TPMR 221-23	TPMR110304-23	0.016"			●
		TPMR 222-23	TPMR110308-23	0.031"			●
		TPMR 321-23	TPMR160304-23	0.016"			●
		TPMR 322-23	TPMR160308-23	0.031"			●
Medium cutting	24	TPMR 221-24	TPMR110304-24	0.016"			●
		TPMR 222-24	TPMR110308-24	0.031"			●
		TPMR 321-24	TPMR160304-24	0.016"			●
		TPMR 322-24	TPMR160308-24	0.031"			●
Finishing to medium cutting	-	TPGR 220.5L	TPGR110302L	0.008"			●
		TPGR 221L	TPGR110304L	0.016"			●
		TPGR 321R	TPGR160304R	0.016"			●
		TPGR 321L	TPGR160304L	0.016"			●
		TPGR 322L	TPGR160308L	0.031"			●
	-	TPG 321	TPGN160304	0.016"			●
		TPG 322	TPGN160308	0.031"			●

● : Line-up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 35°
with hole
Positive 5°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

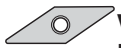
Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing	PSF	VBMT 220.5 PSF	VBMT110302-PSF	0.008"	●		●
		VBMT 221 PSF	VBMT110304-PSF	0.016"	●		●
		VBMT 330.5 PSF	VBMT160402-PSF	0.008"	●		●
		VBMT 331 PSF	VBMT160404-PSF	0.016"	●		●
	PF	VBMT 220.5 PF	VBMT110302-PF	0.008"	●		●
		VBMT 221 PF	VBMT110304-PF	0.016"	●		●
		VBMT 222 PF	VBMT110308-PF	0.031"	●		●
		VBMT 331 PF	VBMT160404-PF	0.016"	●		●
		VBMT 332 PF	VBMT160408-PF	0.031"	●		●
Finishing to light cutting	PSS	VBMT 221 PSS	VBMT110304-PSS	0.016"	●		●
		VBMT 222 PSS	VBMT110308-PSS	0.031"	●		●
		VBMT 331 PSS	VBMT160404-PSS	0.016"	●		●
		VBMT 332 PSS	VBMT160408-PSS	0.031"	●		●
Finishing to medium cutting	PS	VBMT 220.5 PS	VBMT110302-PS	0.008"	●	●	●
		VBMT 221 PS	VBMT110304-PS	0.016"	●	●	●
		VBMT 222 PS	VBMT110308-PS	0.031"	●	●	●
		VBMT 330.5 PS	VBMT160402-PS	0.008"	●	●	●
		VBMT 331 PS	VBMT160404-PS	0.016"	●	●	●
		VBMT 332 PS	VBMT160408-PS	0.031"	●	●	●
Medium cutting	24	VBMT 331-24	VBMT160404-24	0.016"			●
		VBMT 332-24	VBMT160408-24	0.031"			●

● : Line-up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 35°
with hole
Positive 5°

		GT9530	J9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐	●◐
M	Stainless				
K	Cast iron	●◐	●◐	●◐	●◐
N	Non-ferrous				
S	Superalloys				
H	Hard materials				

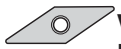
Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet J9530	Coated cermet AT9530	Cermet NS9530
For external turning on small lathes (Sharp edge)	J10	VBGT 220 FR J10	VBGT110301FR-J10	0.004"				●
		VBGT 220 FL J10	VBGT110301FL-J10	0.004"				●
		VBGT 220.5 FR J10	VBGT110302FR-J10	0.008"				●
		VBGT 220.5 FL J10	VBGT110302FL-J10	0.008"				●
		VBGT 221 FR J10	VBGT110304FR-J10	0.016"				●
		VBGT 221 FL J10	VBGT110304FL-J10	0.016"				●
On small lathes (Honed edge)	J10	VBGT 220.5R J10	VBGT110302R-J10	0.008"		●		
		VBGT 220.5L J10	VBGT110302L-J10	0.008"		●		
		VBGT 221R J10	VBGT110304R-J10	0.016"		●		
		VBGT 221L J10	VBGT110304L-J10	0.016"		●		

● : Line-up

TurnLine - Insert

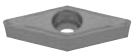
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type



Rhombic, 35°
with hole
Positive 7°

P	Steel	●◐	●◐
M	Stainless		
K	Cast iron	●◐	●◐
N	Non-ferrous		
S	Superalloys		
H	Hard materials		

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing	PSF	VCMT 630.5 PSF	VCMT080202-PSF	0.008"	●		●
		VCMT 631 PSF	VCMT080204-PSF	0.016"	●		●
		VCMT 331 PSF	VCMT160404-PSF	0.016"	●		●
		VCMT 332 PSF	VCMT160408-PSF	0.031"	●		●
Finishing	PF	VCMT 630.5 PF	VCMT080202-PF	0.008"	●		●
		VCMT 631 PF	VCMT080204-PF	0.016"	●		●
		VCMT 331 PF	VCMT160404-PF	0.016"	●		●
		VCMT 332 PF	VCMT160408-PF	0.031"	●		●
Finishing to light cutting	PSS	VCMT 221 PSS	VCMT110304-PSS	0.016"	●		●
		VCMT 222 PSS	VCMT110308-PSS	0.031"	●		●
		VCMT 331 PSS	VCMT160404-PSS	0.016"	●		●
		VCMT 332 PSS	VCMT160408-PSS	0.031"	●		●
Finishing to medium cutting	PS	VCMT 220.5 PS	VCMT110302-PS	0.008"	●	●	●
		VCMT 221 PS	VCMT110304-PS	0.016"	●	●	●
		VCMT 222 PS	VCMT110308-PS	0.031"	●	●	●
		VCMT 331 PS	VCMT160404-PS	0.016"	●	●	●
		VCMT 332 PS	VCMT160408-PS	0.031"	●	●	●
Finishing to medium cutting	24	VCMT 331-24	VCMT160404-24	0.016"			●
		VCMT 332-24	VCMT160408-24	0.031"			●

● : Line-up
● : New product

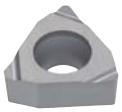
TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type

Trigon, 80°
with hole
Positive 5°

		GT9530	J9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐	●◐
M	Stainless				
K	Cast iron	●◐	●◐	●◐	●◐
N	Non-ferrous				
S	Superalloys				
H	Hard materials				

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet J9530	Coated cermet AT9530	Cermet NS9530
Finishing	W08	WBGT 72V-L W08	WBGT030100L-W08	0.001"				●
		WBGT 720.5-L W08	WBGT030102L-W08	0.008"				●
		WBGT 72.51-L W08	WBGT030104L-W08	0.016"				●
Finishing (Sharp edge)	W11	WBGT 310.5L W11	WBGT060102L-W11	0.008"				●
		WBGT 31.51L W11	WBGT060104L-W11	0.016"				●
		WBGT 410.5L W11	WBGT080202L-W11	0.008"				●
		WBGT 41.51L W11	WBGT080204L-W11	0.016"				●

● : Line-up

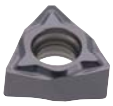
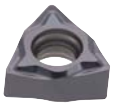
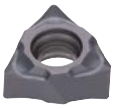
TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

Positive type
DOUBLE-SIDED

Trigon, 80° with hole

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	Coated cermet GT9530	Coated cermet AT9530	Cermet NS9530
Finishing to medium cutting	TS	WXGU 220.5 R TS	WXGU040302R-TS	0.008"	●		●
		WXGU 220.5 L TS	WXGU040302L-TS	0.008"	●		●
		WXGU 221 R TS	WXGU040304R-TS	0.016"	●		●
		WXGU 221 L TS	WXGU040304L-TS	0.016"	●		●
		WXGU 222 R TS	WXGU040308R-TS	0.031"	●		●
		WXGU 222 L TS	WXGU040308L-TS	0.031"	●		●
Finishing (Wiper)	TSW	WXGU 221 R TSW	WXGU040304R-TSW	0.016"	●		●
		WXGU 221 L TSW	WXGU040304L-TSW	0.016"	●		●
		WXGU 222 R TSW	WXGU040308R-TSW	0.031"	●		●
		WXGU 222 L TSW	WXGU040308L-TSW	0.031"	●		●
Finishing (Low cutting force)	SS	WXGU 220.5 R SS	WXGU040302R-SS	0.008"	●		●
		WXGU 220.5 L SS	WXGU040302L-SS	0.008"	●		●
		WXGU 221 R SS	WXGU040304R-SS	0.016"	●		●
		WXGU 221 L SS	WXGU040304L-SS	0.016"	●		●

● : Line-up

TurnLine - Insert

● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

Positive type

Rhombic, 25° with hole Positive 7°

		GT9530	AT9530	NS9530
P	Steel	●◐	●◐	●◐
M	Stainless			
K	Cast iron	●◐	●◐	●◐
N	Non-ferrous			
S	Superalloys			
H	Hard materials			

Application	Chipbreaker	Designation Inch	Designation Metric	Corner radius	GT9530 (Coated cermet)	AT9530 (Coated cermet)	NS9530 (Cermet)
Finishing to medium cutting	ZF	-	YWMT11T202-ZF	0.008"	●		
		-	YWMT11T204-ZF	0.016"	●		
		-	YWMT16T302-ZF	0.008"	●		
		-	YWMT16T304-ZF	0.016"	●		
		-	YWMT16T308-ZF	0.031"	●		
	ZM	-	YWMT11T204-ZM	0.016"	●		
		-	YWMT16T304-ZM	0.016"	●		
		-	YWMT16T308-ZM	0.031"	●		

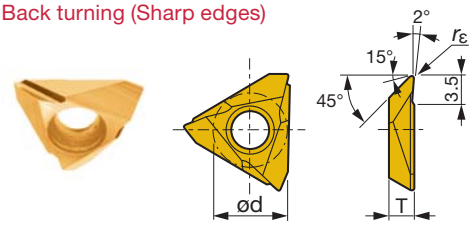
● : Line-up

TurnLine - Insert

J-SERIES

JTB (sharp edge)

Back turning (Sharp edges)



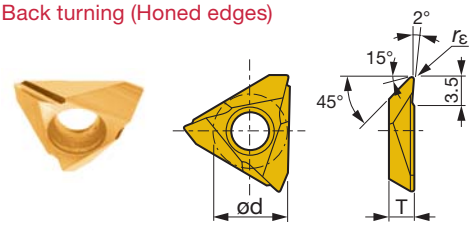
Right hand (R) shown.

Designation	rε (mm)	Cermet NS9530 R	Cermet NS9530 L	ød (mm)	T (mm)	Max. depth of cut (mm)
JTBR/L3000F	0.03			9.438	3.18	2.5
JTBR/L3005F	0.05			9.438	3.18	2.5
JTBR/L3010F	0.1	●	●	9.438	3.18	2.5
JTBR/L3015F	0.15			9.438	3.18	2.5

● : Line up

JTB (with honed edges)

Back turning (Honed edges)



Right hand (R) shown.

Designation	rε (mm)	Coated cermet J9530 R	Coated cermet J9530 L	ød (mm)	T (mm)	Max. depth of cut (mm)
JTBR/L3005	0.05	●		9.438	3.18	2.5
JTBR/L3010	0.1	●		9.438	3.18	2.5

● : Line up

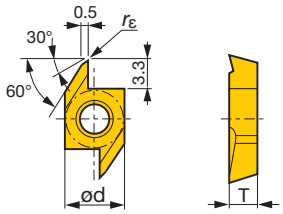
Notes: Right hand holder use right hand insert and left hand holder use left hand insert.

TurnLine - Insert

J-SERIES

J10E (sharp edge)

Back turning (Sharp edges)



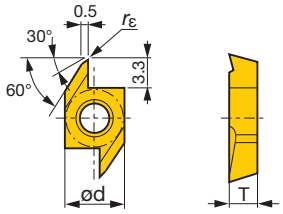
Right hand (R) shown.

Designation	rε (mm)	Cermet NS9530 R	Cermet NS9530 L	ød (mm)	T (mm)	Max. depth of cut (mm)
J10ER/L005BF	0.05	●		6.35	3.18	3
J10ER/L010BF	0.1	●		6.35	3.18	3
J10ER/L015BF	0.15			6.35	3.18	3

● : Line up

J10E (with honed edges)

Back turning (Honed edges)



Right hand (R) shown.

Designation	rε (mm)	Coated cermet J9530 R	Coated cermet J9530 L	ød (mm)	T (mm)	Max. depth of cut (mm)
J10ER/L005B	0.05	●		6.35	3.18	3
J10ER/L010B	0.1	●		6.35	3.18	3

● : Line up

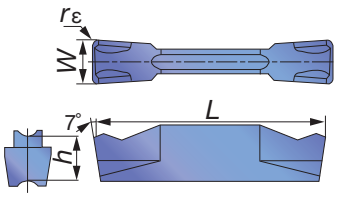
Notes: Right hand holder use right hand insert and left hand holder use left hand insert.

TurnLine -
Inserts for grooving and parting off

TUNGCUT

DGM

External grooving and parting off, 2 corner

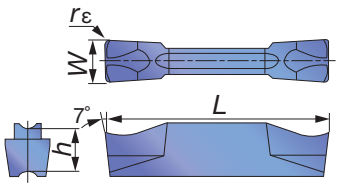


Designation	Insert seat size	W±0.05 (mm)	W±0.002 (in)	rε (in)	Cermet NS9530 R	Cermet NS9530 L	L (in)	h (in)	θ°
DGM2-020	2	2	0.079	0.008	●		0.787	0.197	0
DGM3-020	3	3	0.118	0.008	●		0.787	0.197	0
DGM4-030	4	4	0.157	0.012	●		0.787	0.197	0
DGM5-030	5	5	0.197	0.012	●		0.984	0.217	0

● : Line up

DGS

External grooving and parting off, 2 corner



Designation	Insert seat size	W±0.05 (mm)	W±0.002 (in)	rε (in)	Cermet NS9530 R	Cermet NS9530 L	L (in)	h (in)	θ°
DGS2-020	2	2	0.079	0.008	●		0.787	0.197	0
DGS3-020	3	3	0.118	0.008	●		0.787	0.197	0
DGS4-030	4	4	0.157	0.012	●		0.787	0.197	0
DGS5-030	5	5	0.197	0.012	●		0.984	0.217	0

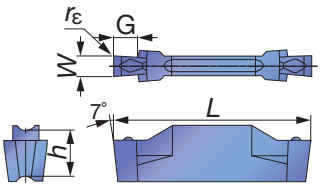
● : Line up

Notes: Right hand holder use right hand insert and left hand holder use left hand insert.

TUNGCUT

DGE

External grooving (Ground)



Designation	Insert seat size	W±0.02 (mm)	W±0.001 (in)	rε (in)	Cermet NS9530	G (in)	L (in)	h (in)
DGE100-000	2	1	0.039	0	●	0.100	0.787	0.197
DGE130-000	2	1.3	0.051	0	●	0.100	0.787	0.197
DGE160-010	2	1.6	0.063	0.004	●	0.100	0.787	0.197
DGE185-010	2	1.85	0.073	0.004	●	0.140	0.787	0.197
DGE215-015	2	2.15	0.085	0.006	●	0.140	0.787	0.197

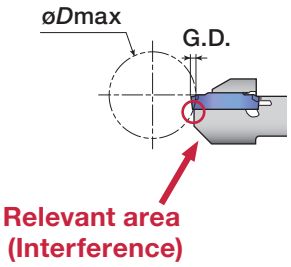
● : Line up

Caution

øDmax is limited as shown in the picture to the right according to the groove depth, G.D. Please refer to the following table.

G.D = Groove depth

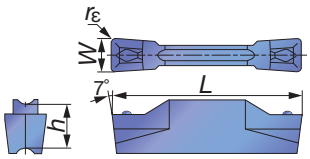
Designation	Max. groove depth (in)	øDmax (in)				
		G.D. = 0.039	G.D. = 0.059	G.D. = 0.078	G.D. = 0.098	G.D. = 0.118
DGE100-000	0.078	∞	0.73	0.45	-	-
DGE130-000						
DGE160-010						
DGE185-010	0.118				0.35	0.28
DGE215-015						



TUNGCUT

DTE

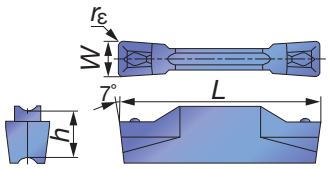
External, grooving and turning



Designation	Insert seat size	W±0.02 (mm)	W±0.001 (in)	rε (in)	Cermet NS9530	L (in)	h (in)
DTE265-015	3	2.65	0.104	0.006	●	0.787	0.197
DTE300-020	3	3	0.118	0.008	●	0.787	0.197
DTE300-040	3	3	0.118	0.016	●	0.787	0.197
DTE315-015	3	3.15	0.124	0.006	●	0.787	0.197
DTE400-040	4	4	0.157	0.016	●	0.787	0.197
DTE400-080	4	4	0.157	0.031	●	0.787	0.197
DTE415-015	4	4.15	0.163	0.006	●	0.787	0.197
DTE478-055	5	4.78	0.188	0.022	●	0.984	0.217
DTE500-040	5	5	0.197	0.016	●	0.984	0.217
DTE500-080	5	5	0.197	0.031	●	0.984	0.217

● : Line up

External, grooving and turning

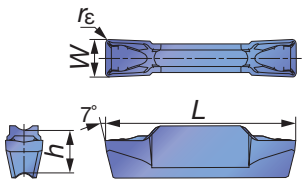


Designation	Insert seat size	W±0.05 (mm)	W±0.001 (in)	rε (in)	Cermet NS9530	L (in)	h (in)
DTE3-040	3	3	0.118	0.016	●	0.787	0.197
DTE4-040	4	4	0.157	0.016	●	0.787	0.197

● : Line up

DTX

External, internal, face grooving and traversing



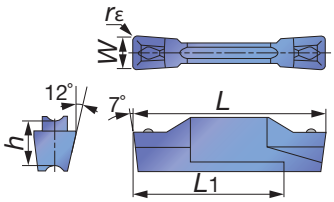
Designation	Insert seat size	W±0.05 (mm)	W±0.002 (in)	rε (in)	Cermet NS9530	L (in)	h (in)
DTX3-030	3	3	0.118	0.012	●	0.787	0.197
DTX4-040	4	4	0.157	0.016	●	0.787	0.197
DTX5-040	5	5	0.197	0.016	●	0.984	0.217
DTX6-080	6	6	0.236	0.031		0.984	0.217

● : Line up

TUNGCUT

DTF

Face grooving and traversing

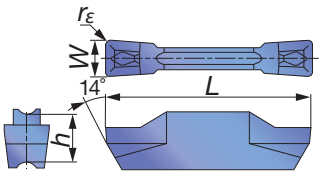


Designation	Insert seat size	W±0.05 (mm)	W±0.002 (in)	rε (in)	Cermet NS9530 R	Cermet NS9530 L	L (in)	h (in)	L1 (in)
DTF3-040-R/L	3	3	0.118	0.016	●	●	0.787	0.197	0.630
DTF4-040-R/L	4	4	0.157	0.016	●	●	0.787	0.197	0.630

● : Line up

DTI

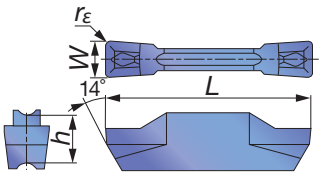
Internal grooving and turning (for high-precision machining)



Designation	Insert seat size	W±0.02 (mm)	W±0.001 (in)	rε (in)	Cermet NS9530	L (in)	h (in)
DTI300-040	3	3	0.118	0.016	●	0.787	0.197
DTI400-040	4	4	0.157	0.016	●	0.787	0.197
DTI400-080	4	4	0.157	0.031	●	0.787	0.197
DTI500-040	5	5	0.197	0.016	●	0.984	0.217
DTI500-080	5	5	0.197	0.031	●	0.984	0.217

● : Line up

Internal grooving and turning



Designation	Insert seat size	W±0.05 (mm)	W±0.002 (in)	rε (in)	Cermet NS9530	L (in)	h (in)
DTI3-040	3	3	0.118	0.016	●	0.016	0.197
DTI4-040	4	4	0.118	0.016	●	0.016	0.197

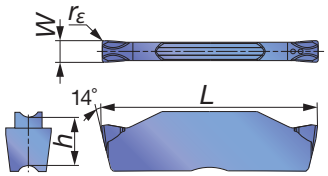
● : Line up

Notes: Right hand holder use right hand insert and left hand holder use left hand insert.

TUNGCUT

DGIM

Small diameter internal grooving

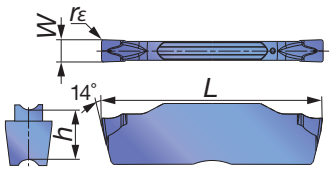


Designation	Insert seat size	W±0.05 (mm)	W±0.002 (in)	rε (in)	Cermet NS9530	L (in)	h (in)
DGIM2-020	2	2	0.079	0.008	●	0.787	0.197

● : Line up

DGIS

Small diameter internal grooving

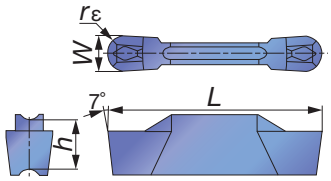


Designation	Insert seat size	W±0.05 (mm)	W±0.002 (in)	rε (in)	Cermet NS9530	L (in)	h (in)
DGIS2-020	2	2	0.079	0.008	●	0.787	0.197

● : Line up

DTR

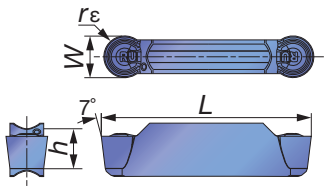
Profiling and undercutting (for high-precision machining)



Designation	Insert seat size	W±0.02 (mm)	W±0.001 (in)	rε (in)	Cermet NS9530	L (in)	h (in)
DTR300-150	3	3	0.118	0.059	●	0.787	0.197
DTR400-200	4	4	0.157	0.079	●	0.787	0.197
DTR478-239	5	4.78	0.188	0.094	●	0.984	0.217
DTR500-250	5	5	0.197	0.098	●	0.984	0.217

● : Line up

Profiling and undercutting



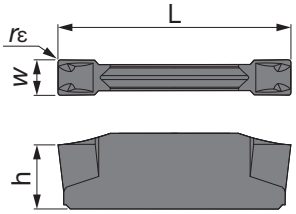
Designation	Insert seat size	W±0.05 (mm)	W±0.002 (in)	rε (in)	Cermet NS9530	L (in)	h (in)
DTR3-150	3	3	0.118	0.059	●	0.787	0.197
DTR4-200	4	4	0.157	0.079	●	0.787	0.197
DTR5-250	5	5	0.197	0.098	●	0.984	0.217

● : Line up

MY-T SERIES

WGE

For general parting off and grooving

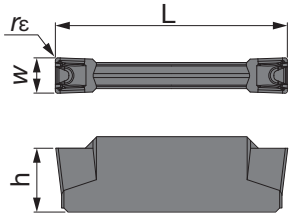


Designation	$W^{+0.1}_{0}$ (mm)	$W^{+0.004}_{0}$ (in)	rε (in)	Cermet NS9530	L (in)	h (in)
WGE20	2	0.078	0.008	●	0.787	0.185
WGE30	3	0.118	0.008	●	0.787	0.216
WGE40	4	0.157	0.008	●	0.984	0.224
WGE50	5	0.196	0.008	●	0.984	0.232

● : Line up

WGT

Traversing (Grooving and parting off)

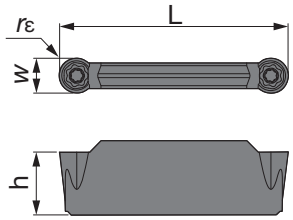


Designation	$W^{+0.1}_{0}$ (mm)	$W^{+0.004}_{0}$ (in)	rε (in)	Cermet NS9530	L (in)	h (in)
WGT30	3	0.118	0.016	●	0.787	0.216
WGT40	4	0.157	0.016	●	0.984	0.224
WGT50	5	0.196	0.016	●	0.984	0.232

● : Line up

WGR

Profiling (Full radius)



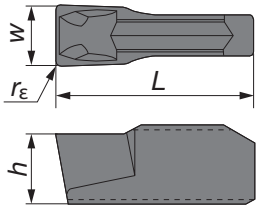
Designation	$W^{+0.1}_{0}$ (mm)	$W^{+0.004}_{0}$ (in)	rε (in)	Cermet NS9530	L (in)	h (in)
WGR30	3	0.118	0.059	●	0.787	0.216
WGR40	4	0.157	0.078	●	0.984	0.224
WGR50	5	0.196	0.098	●	0.984	0.232

● : Line up

MY-T SERIES

GE

Grooving and parting off

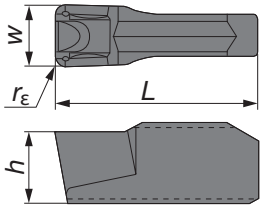


Designation	$W^{+0.1}_{0}$ (mm)	$W^{+0.004}_{0}$ (in)	rε (in)	Cermet NS9530	L (in)	h (in)
GE20	2	0.078	0.008	●	0.393	0.137
GE30	3	0.118	0.008	●	0.393	0.137
GE40	4	0.157	0.008	●	0.393	0.157
GE50	5	0.196	0.008	●	0.472	0.177

● : Line up

GT

Traversing (Grooving and parting off)



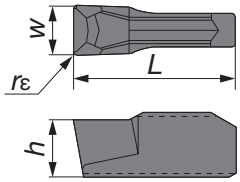
Designation	$W^{+0.1}_{0}$ (mm)	$W^{+0.004}_{0}$ (in)	rε (in)	Cermet NS9530	L (in)	h (in)
GT30	3	0.118	0.016	●	0.393	0.137
GT40	4	0.157	0.016	●	0.393	0.157
GT50	5	0.196	0.016	●	0.472	0.177

● : Line up

MY-T SERIES

GF

Face grooving (Improved chip control)

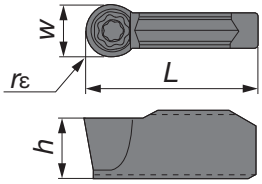


Designation	$W^{+0.1}_{0}$ (mm)	$W^{+0.004}_{0}$ (in)	rε (in)	Cermet NS9530	L (in)	h (in)
GF30	3	0.118	0.008	●	0.393	0.137
GF40	4	0.157	0.008	●	0.393	0.157
GF50	5	0.196	0.008	●	0.472	0.177

● : Line up

GR

Profiling (Full radius)

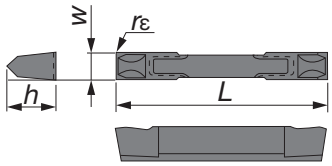


Designation	$W^{+0.1}_{0}$ (mm)	$W^{+0.004}_{0}$ (in)	rε (in)	Cermet NS9530	L (in)	h (in)
GR30	3	0.118	0.059	●	0.393	0.137
GR40	4	0.157	0.078	●	0.393	0.157
GR50	5	0.196	0.098	●	0.472	0.177

● : Line up

CGD

External grooving

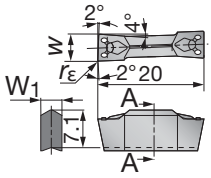


Designation	W±0.025 (mm)	W±0.001 (in)	rε (in)	Cermet NS9530	L (in)	h (in)
CGD200	2	0.078	0.008	●	0.787	0.128
CGD300	3	0.118	0.008	●	1.13	0.248
CGD400	4	0.157	0.008	●	1.13	0.248
CGD500	5	0.197	0.008	●	1.13	0.248
CGD600	6	0.236	0.008	●	1.13	0.335

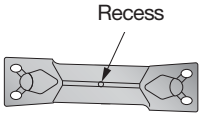
● : Line up

FLEX(R/L)

External, face and internal grooving



Right hand (R) shown.



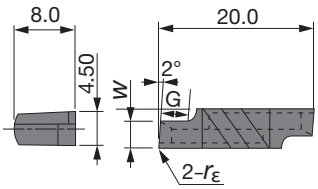
Left hand inserts are identified with a recessed dot.

Designation	w±0.05 (mm)	rε (mm)	Cermet NS9530	W1 (mm)
FLEX30R/L	3	0.4	●	2.15
FLEX40R/L	4	0.4	●	3.1
FLEX50R/L	5	0.4	●	4

● : Line up

XGR/L

External and internal grooving



Right hand (R) shown.

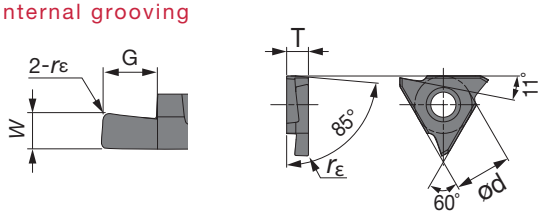
Designation	W±0.05 (mm)	W±0.002 (in)	rε (mm)	Cermet NS9530 R	Cermet NS9530 L	G (mm)
XGR/L6310-02	1	0.039	0.2	●	●	1.5
XGR/L6315-02	1.5	0.059	0.2	●	●	2.3
XGR/L6320-02	2	0.079	0.2	●	●	3
XGR/L6325-02	2.5	0.098	0.2	●	●	3.8
XGR/L6330-02	3	0.118	0.2	●	●	4.5
XGR/L6335-02	3.5	0.138	0.2	●	●	5.3
XGR/L6340-02	4	0.157	0.2	●	●	6
XGR/L6345-02	4.5	0.177	0.2	●	●	6

Note;
For internal machining, use right-hand toolholder (GX-****RI) with left-hand insert (XGL****), and use left-hand toolholder (GX-****LI) with right-hand insert (XGR****).
For external machining, use right-hand toolholder (GX-****RE) with right-hand insert (XGR****), and use left-hand toolholder (GX-****LE) with left-hand insert (XGL****).

● : Line up

GBR/L32

External and internal grooving



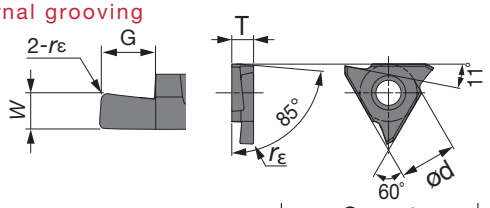
Right hand (R) shown.

Designation	W±0.025 (mm)	W±0.001 (in)	rε (mm)	Cermet NS9530 R	Cermet NS9530 L	G (mm)	ød (mm)	T (mm)
GBR/L32033	0.33	0.013	0.03	●		0.8	9.525	3.18
GBR/L32050	0.5	0.020	0.05	●		1.2	9.525	3.18
GBR/L32075	0.75	0.030	0.05	●	●	2	9.525	3.18
GBR/L32095	0.95	0.037	0.05	●	●	2	9.525	3.18
GBR/L32100	1	0.039	0.05	●	●	2	9.525	3.18
GBR/L32125	1.25	0.049	0.2	●	●	2	9.525	3.18
GBR/L32145	1.45	0.057	0.2	●		2	9.525	3.18
GBR/L32150	1.5	0.059	0.2	●		2	9.525	3.18
GBR/L32200	2	0.079	0.2	●		2.5	9.525	3.18
GBR/L32250	2.5	0.098	0.2	●		2.5	9.525	3.18

● : Line up

GBR/L43

External and internal grooving



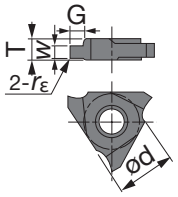
Right hand (R) shown.

Designation	W±0.025 (mm)	W±0.001 (in)	rε (mm)	Cermet NS9530 R	Cermet NS9530 L	G (mm)	ød (mm)	T (mm)
GBR/L43125	1.25	0.049	0.2	●		2	12.7	4.76
GBR/L43145	1.45	0.057	0.2	●		2	12.7	4.76
GBR/L43150	1.5	0.059	0.2	●	●	3.5	12.7	4.76
GBR/L43175	1.75	0.069	0.2	●	●	3.5	12.7	4.76
GBR/L43185	1.85	0.073	0.2	●	●	3.5	12.7	4.76
GBR/L43200	2	0.079	0.2	●	●	3.5	12.7	4.76
GBR/L43230	2.3	0.091	0.2	●	●	3.5	12.7	4.76
GBR/L43250	2.5	0.098	0.3	●		5	12.7	4.76
GBR/L43265	2.65	0.104	0.3	●		5	12.7	4.76
GBR/L43280	2.8	0.110	0.3	●		5	12.7	4.76
GBR/L43300	3	0.118	0.3	●		5	12.7	4.76
GBR/L43330	3.3	0.130	0.3	●		5	12.7	4.76
GBR/L43350	3.5	0.138	0.3	●		5	12.7	4.76
GBR/L43400	4	0.157	0.4	●		5	12.7	4.76
GBR/L43430	4.3	0.169	0.4	●		5	12.7	4.76
GBR/L43450	4.5	0.177	0.4	●		5	12.7	4.76

● : Line up

GLR/L

Lock-ring



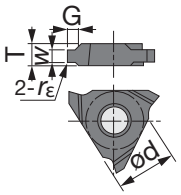
Right hand (R) shown.

Designation	$W^{+0.1}_{+0.05}$ (mm)	$W^{+0.004}_{+0.002}$ (in)	rε (mm)	Cermet NS9530 R	Cermet NS9530 L	G (mm)	ød (mm)	T (mm)
GLR/L3115	1.15	0.045	0.1	●	●	1.5	9.525	3.18
GLR/L3135	1.35	0.053	0.1	●	●	1.5	9.525	3.18
GLR/L3165	1.65	0.065	0.1	●	●	2	9.525	3.18
GLR/L3175	1.75	0.069	0.1	●	●	2	9.525	3.18
GLR/L3195	1.95	0.077	0.1	●	●	2.5	9.525	3.18
GLR/L3220	2.2	0.087	0.1	●		3	9.525	3.18
GLR/L3270	2.7	0.106	0.1	●		3	9.525	3.18
GLR/L4115	1.15	0.045	0.1	●		1.5	12.7	4.76
GLR/L4135	1.35	0.053	0.1	●		1.5	12.7	4.76
GLR/L4165	1.65	0.065	0.1	●		2	12.7	4.76
GLR/L4175	1.75	0.069	0.1	●		2	12.7	4.76
GLR/L4190	1.9	0.075	0.1	●		2.5	12.7	4.76
GLR/L4195	1.95	0.077	0.1	●		2.5	12.7	4.76
GLR/L4220	2.2	0.087	0.1	●		3.5	12.7	4.76
GLR/L4270	2.7	0.106	0.1	●		3.5	12.7	4.76
GLR/L4320	3.2	0.126	0.1	●		4	12.7	4.76
GLR/L4420	4.2	0.165	0.1	●		4	12.7	4.76

● : Line up

GOR/L

O-ring



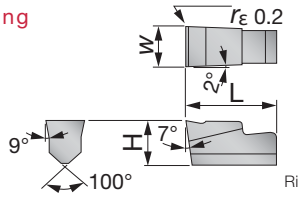
Right hand (R) shown.

Designation	$W^{+0.1}_{+0.05}$ (mm)	$W^{+0.004}_{+0.002}$ (in)	rε (mm)	Cermet NS9530 R	Cermet NS9530 L	G (mm)	ød (mm)	T (mm)
GOR/L4190	2.5	0.098	0.4	●		1.5	12.7	4.76
GOR/L4240	3.2	0.126	0.4	●		2	12.7	4.76
GOR/L4310	4.1	0.161	0.7	●		2.5	12.7	4.76

● : Line up

FGC

Face grooving



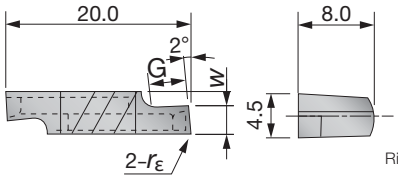
Right hand (R) shown.

Designation	W±0.1 (mm)	Cermet NS9530	L (mm)	H (mm)
FGC3	3	●	10	4.29
FGC4	4	●	10	4.5
FGC5	5	●	12	5.5

● : Line up

XNR/L

Face grooving



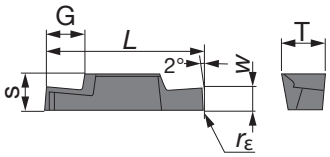
Right hand (R) shown.

Designation	W±0.05 (mm)	rε (mm)	Cermet NS9530 R	Cermet NS9530 L	G (mm)
XNR/L6310-02	1	0.2	●	●	1.5
XNR/L6315-02	1.5	0.2	●	●	2.3
XNR/L6320-02	2	0.2	●	●	3
XNR/L6325-02	2.5	0.2	●	●	3.8
XNR/L6330-02	3	0.2	●	●	4.5
XNR/L6335-02	3.5	0.2	●	●	5.3
XNR/L6340-02	4	0.2	●	●	6
XNR/L6345-02	4.5	0.2	●	●	6

● : Line up

GIR/L

Internal grooving



Right hand (R) shown.

Designation	W±0.05 (mm)	rε (mm)	Cermet NS9530 R	Cermet NS9530 L	S (mm)	T (mm)	L (mm)	G (mm)
GIR/L5210-02	1	0.2	●	●	3.5	4.4	15	1.5
GIR/L5215-02	1.5	0.2	●	●	3.5	4.4	15	2.3
GIR/L5220-02	2	0.2	●	●	3.5	4.4	15	3
GIR/L5225-02	2.5	0.2	●		3.5	4.4	15	3
GIR/L5230-02	3	0.2	●		3.5	4.4	15	3
GIR/L6310-02	1	0.2	●		5.5	6.4	24	1.5
GIR/L6315-02	1.5	0.2	●	●	5.5	6.4	24	2.3
GIR/L6320-02	2	0.2	●	●	5.5	6.4	24	3
GIR/L6325-02	2.5	0.2	●	●	5.5	6.4	24	3.8
GIR/L6330-02	3	0.2	●	●	5.5	6.4	24	4.5
GIR/L6335-02	3.5	0.2	●	●	5.5	6.4	24	5.3
GIR/L6340-02	4.0	0.2	●	●	5.5	6.4	24	5.3
GIR/L6345-02	4.5	0.2	●		5.5	6.4	24	5.3
GIR/L6350-02	5	0.2	●		5.5	6.4	24	5.3

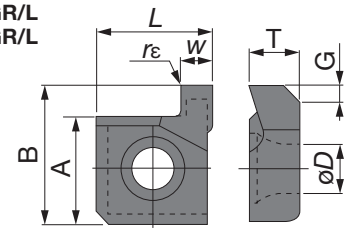
● : Line up

Note:
When using a right or left hand insert, the right hand insert is used with right hand toolholder and the left hand insert is used with left hand toolholder.

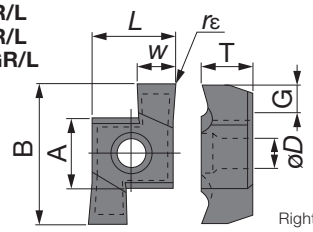
**GR/L

Internal grooving

6GR/L
7GR/L



8GR/L
9GR/L
15GR/L



Right hand (R) shown.

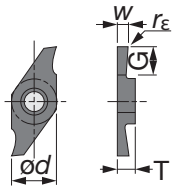
Designation	W±0.025 (mm)	W±0.001 (in)	rε (in)	Cermet NS9530 R	Cermet NS9530 L	A (in)	B (in)	T (in)	øD (in)	L (in)	G (in)
6GR/L100	1	0.039	0.008	●		0.187	0.254	0.092	0.091	0.219	0.059
6GR/L150	1.5	0.059	0.008	●		0.187	0.254	0.092	0.091	0.219	0.059
6GR/L200	2	0.079	0.008	●		0.187	0.254	0.092	0.091	0.219	0.059
7GR/L100	1	0.039	0.008	●		0.219	0.290	0.121	0.102	0.219	0.059
7GR/L150	1.5	0.059	0.008	●		0.219	0.290	0.121	0.102	0.219	0.059
7GR/L200	2	0.079	0.008	●		0.219	0.290	0.121	0.102	0.219	0.059
8GR/L150	1.5	0.059	0.008	●		0.219	0.400	0.152	0.102	0.242	0.079
8GR/L200	2	0.079	0.008	●		0.219	0.400	0.152	0.102	0.242	0.079
8GR/L250	2.5	0.098	0.008	●		0.219	0.400	0.152	0.102	0.242	0.079
8GR/L300	3	0.118	0.008	●		0.219	0.400	0.152	0.102	0.242	0.079
8GR/L350	3.5	0.138	0.008			0.219	0.400	0.152	0.102	0.242	0.079
9GR/L150	1.5	0.059	0.008	●	●	0.250	0.510	0.183	0.102	0.305	0.079
9GR/L200	2	0.079	0.008	●	●	0.250	0.510	0.183	0.102	0.305	0.118
9GR/L250	2.5	0.098	0.008	●	●	0.250	0.510	0.183	0.102	0.305	0.118
9GR/L300	3	0.118	0.008	●	●	0.250	0.510	0.183	0.102	0.305	0.118
9GR/L350	3.5	0.138	0.008	●	●	0.250	0.510	0.183	0.102	0.305	0.118
15GR/L200	2	0.079	0.008	●		0.362	0.819	0.201	0.189	0.425	0.118
15GR/L250	2.5	0.098	0.008	●		0.362	0.819	0.201	0.189	0.425	0.118
15GR/L300	3	0.118	0.008	●		0.362	0.819	0.201	0.189	0.425	0.118
15GR/L350	3.5	0.138	0.008	●		0.362	0.819	0.201	0.189	0.425	0.118

● : Line up

Note:
When using a right or left hand insert, the right hand insert is used with right hand toolholder and the left hand insert is used with left hand toolholder.

JVG (sharp edge)

Grooving (Sharp edges)



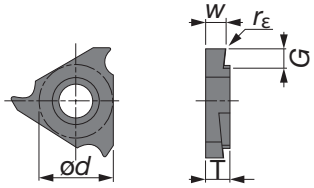
Right hand (R) shown.

Designation	Cermet NS9530 R	Cermet NS9530 L	ød (mm)	T (mm)	$W^{+0.05}_{0}$ (mm)	G (mm)	Max. groove depth (mm)
JVGR/L033F			7.94	3.18	0.33	0.8	0.7
JVGR/L050F			7.94	3.18	0.5	1.2	1.1
JVGR/L075F			7.94	3.18	0.75	2	1.9
JVGR/L095F			7.94	3.18	0.95	2	1.9
JVGR/L100F	●	●	7.94	3.18	1	6	5.5
JVGR/L125F			7.94	3.18	1.25	5.5	5
JVGR/L150F	●	●	7.94	3.18	1.5	6	5.5
JVGR/L200F	●		7.94	3.18	2	6	5.5

● : Line up

JTG (sharp edge)

Grooving (Sharp edges)



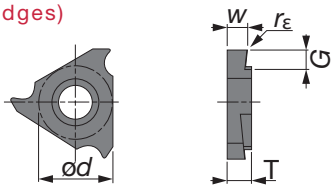
Right hand (R) shown.

Designation	$W^{+0.05}_{0}$ (mm)	rε (mm)	Cermet NS9530 R	Cermet NS9530 L	ød (mm)	T (mm)	G (mm)	Max. groove depth (mm)
JTGR/L3033F	0.33	0.03			9.525	3.18	0.8	0.7
JTGR/L3033F-005	0.33	0.05			9.525	3.18	0.8	0.7
JTGR/L3043F	0.43	0.03			9.525	3.18	1.2	1.1
JTGR/L3050F	0.5	0.03	●		9.525	3.18	1.2	1.1
JTGR/L3050F-005	0.5	0.05			9.525	3.18	1.2	1.1
JTGR/L3065F	0.65	0.03			9.525	3.18	2	1.9
JTGR/L3065F-010	0.65	0.1			9.525	3.18	2	1.9
JTGR/L3075F	0.75	0.03	●	●	9.525	3.18	2	1.9
JTGR/L3075F-010	0.75	0.1			9.525	3.18	2	1.9
JTGR/L3080F	0.8	0.03			9.525	3.18	2	1.9
JTGR/L3080F-010	0.8	0.1			9.525	3.18	2	1.9
JTGR/L3085F	0.85	0.03			9.525	3.18	2	1.9
JTGR/L3095F	0.95	0.03	●		9.525	3.18	2	1.9
JTGR/L3095F-010	0.95	0.1			9.525	3.18	2	1.9
JTGR/L3100F	1	0.05	●		9.525	3.18	2.2	2.1
JTGR/L3100F-010	1	0.1			9.525	3.18	2.2	2.1
JTGR/L3110F	1.1	0.05			9.525	3.18	2.2	2.1
JTGR/L3120F	1.2	0.05			9.525	3.18	2.2	2.1
JTGR/L3120F-010	1.2	0.1			9.525	3.18	2.2	2.1
JTGR/L3125F	1.25	0.05	●		9.525	3.18	2.2	2.1
JTGR/L3125F-010	1.25	0.1			9.525	3.18	2.2	2.1
JTGR/L3130F	1.3	0.05			9.525	3.18	2.2	2.1
JTGR/L3140F	1.4	0.05			9.525	3.18	2.2	2.1
JTGR/L3140F-010	1.4	0.1			9.525	3.18	2.2	2.1
JTGR/L3145F	1.45	0.05	●		9.525	3.18	2.2	2.1
JTGR/L3145F-010	1.45	0.1			9.525	3.18	2.2	2.1
JTGR/L3150F	1.5	0.05	●		9.525	3.18	2.2	2.1
JTGR/L3150F-010	1.5	0.1			9.525	3.18	2.2	2.1
JTGR/L3175F	1.75	0.05	●	●	9.525	3.18	2.2	2.1
JTGR/L3175F-010	1.75	0.1			9.525	3.18	2.2	2.1
JTGR/L3180F	1.8	0.05			9.525	3.18	2.2	2.1
JTGR/L3200F	2	0.05	●		9.525	3.18	2.7	2.6
JTGR/L3200F-010	2	0.1			9.525	3.18	2.7	2.6
JTGR/L3225F	2.25	0.05			9.525	3.18	2.7	2.6
JTGR/L3250F	2.5	0.05	●		9.525	3.18	2.7	2.6
JTGR/L3250F-010	2.5	0.1			9.525	3.18	2.7	2.6
JTGR/L3275F	2.75	0.05			9.525	3.18	2.7	2.6
JTGR/L3300F	3	0.05			9.525	3.18	2.7	2.6
JTGR/L3300F-010	3	0.1			9.525	3.18	2.7	2.6

● : Line up

JTG (Honed edges)

Grooving (Honed edges)



Right hand (R) shown.

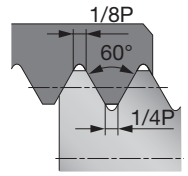
Designation	rε (mm)	Coated cermet J9530 R	Coated cermet J9530 L	ød (mm)	T (mm)	$W^{+0.05}_{0}$ (mm)	G (mm)	Max. groove depth (mm)
JTGR/L3100	0.05	●		9.525	3.18	1	2.2	2.1
JTGR/L3125	0.05	●		9.525	3.18	1.25	2.2	2.1
JTGR/L3150	0.05	●		9.525	3.18	1.5	2.2	2.1
JTGR/L3200	0.05	●		9.525	3.18	2	2.7	2.6

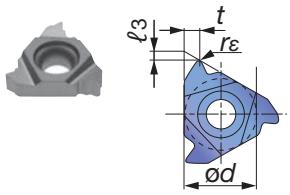
● : Line up

TurnLine - Inserts for threading

TUNGTHREAD

ISO metric





Right hand insert
for external threading shown.

Applicable toolholders

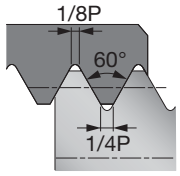
Insert size	External	Internal
11		SNR/L**11...
16	CER/L**16... B-SER/L**16 B-CER/L**16 BC-SER/L**16	TSNR/L**16 SNR/L**16... TCNR/L**16... CNR/L**16...

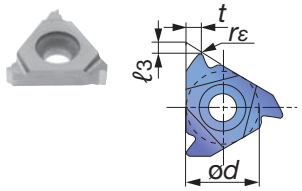
Full-profile insert with chipbreaker

Insert size	Pitch (mm)	TPI	Hand of cut	External insert (in)						Internal insert (in)					
				Designation	Grade Cermet NS9530	ød	t	ℓ3	rε	Designation	Grade Cermet NS9530	ød	t	ℓ3	rε
11	0.5	-	R							**11IR05ISO-M**	●	0.250	0.020	0.047	0.0016
11	0.75	-	R							**11IR075ISO-M**	●	0.250	0.020	0.047	0.0020
11	1	-	R							**11IR10ISO-M**	●	0.250	0.035	0.028	0.0031
11	1.25	-	R							**11IR125ISO-M**	●	0.250	0.035	0.028	0.0039
11	1.5	-	R							**11IR15ISO-M**	●	0.250	0.035	0.028	0.0047
11	1.75	-	R							**11IR175ISO-M**	●	0.250	0.035	0.028	0.0047
11	2	-	R							**11IR20ISO-M**	●	0.250	0.035	0.028	0.0055
16	0.5	-	R	**16ER05ISO-M**	●	0.375	0.020	0.047	0.0024						
16	0.75	-	R	**16ER075ISO-M**	●	0.375	0.020	0.047	0.0035						
16	1	-	R	**16ER10ISO-M**	●	0.375	0.035	0.028	0.0051	**16IR10ISO-M**	●	0.375	0.035	0.028	0.0031
16	1.25	-	R	**16ER125ISO-M**	●	0.375	0.035	0.028	0.0063	**16IR125ISO-M**	●	0.375	0.035	0.028	0.0039
16	1.5	-	R	**16ER15ISO-M**	●	0.375	0.035	0.028	0.0075	**16IR15ISO-M**	●	0.375	0.035	0.028	0.0047
16	1.75	-	R	**16ER175ISO-M**	●	0.375	0.063	0.047	0.0087	**16IR175ISO-M**	●	0.375	0.063	0.047	0.0055
16	2	-	R	**16ER20ISO-M**	●	0.375	0.063	0.047	0.0098	**16IR20ISO-M**	●	0.375	0.063	0.047	0.0055
16	2.5	-	R	**16ER25ISO-M**	●	0.375	0.063	0.047	0.0122	**16IR25ISO-M**	●	0.375	0.063	0.047	0.0071
16	3	-	R	**16ER30ISO-M**	●	0.375	0.063	0.047	0.0150	**16IR30ISO-M**	●	0.375	0.063	0.047	0.0083

● : Line up / Packing Quantity = 5 pcs.

Unified





Right hand insert
for external threading shown.

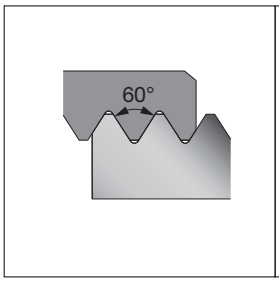
Applicable toolholders

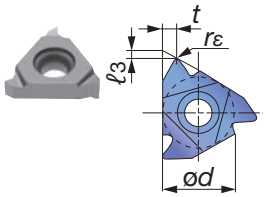
Insert size	External	Internal
16	CER/L**16...	TSNR/L**16
	B-SER/L**16	SNR/L**16...
	B-CER/L**16	TCNR/L**16...
	BC-SER/L**16	CNR/L**16...

Full-profile insert with chipbreaker

Insert size	Pitch (in)	TPI	Hand of cut	External insert (in)						Internal insert (in)					
				Designation	Grade Cermet NS9530	ød	t	ℓ3	rε	Designation	Grade Cermet NS9530	ød	t	ℓ3	rε
16	(0.042)	24	R	**16ER24UN-M**	●	0.375	0.035	0.028	0.0051						
16	(0.050)	20	R	**16ER20UN-M**	●	0.375	0.035	0.028	0.0063	**16IR20UN-M**	●	0.375	0.035	0.028	0.0035
16	(0.056)	18	R	**16ER18UN-M**	●	0.375	0.035	0.028	0.0071	**16IR18UN-M**	●	0.375	0.035	0.028	0.0039
16	(0.063)	16	R	**16ER16UN-M**	●	0.375	0.035	0.028	0.0079	**16IR16UN-M**	●	0.375	0.035	0.028	0.0043
16	(0.071)	14	R	**16ER14UN-M**	●	0.375	0.063	0.047	0.0091	**16IR14UN-M**	●	0.375	0.063	0.047	0.0043
16	(0.083)	12	R	**16ER12UN-M**	●	0.375	0.063	0.047	0.0106	**16IR12UN-M**	●	0.375	0.063	0.047	0.0059
16	(0.125)	8	R	**16ER8UN-M**	●	0.375	0.063	0.047	0.0157	**16IR8UN-M**	●	0.375	0.063	0.047	0.0087

60° thread angle





Right hand insert
for external threading shown.

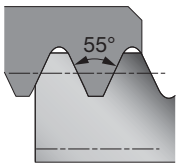
Applicable toolholders

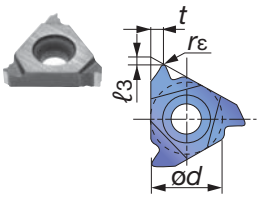
Insert size	External	Internal
11		SNR/L**11...
16	CER/L**16... B-SER/L**16 B-CER/L**16 BC-SER/L**16	TSNR/L**16 SNR/L**16... TCNR/L**16... CNR/L**16...

Partial-profile insert with chipbreaker

Insert size	Pitch (in)	TPI	Hand of cut	External insert (in)						Internal insert (in)					
				Designation	Grade Cermet NS9530	ød	t	ℓ3	rε	Designation	Grade Cermet NS9530	ød	t	ℓ3	rε
11	0.020~0.063	48~16	R							**11IRA60-M**	●	0.250	0.035	0.028	0.0016
16	0.020~0.063	48~16	R	**16ERA60-M**	●	0.375	0.035	0.028	0.0024	**16IRA60-M**	●	0.375	0.063	0.043	0.0016
16	0.020~0.125	48~8	R	**16ERAG60-M**	●	0.375	0.063	0.043	0.0024	**16IRAG60-M**	●	0.375	0.063	0.047	0.0016
16	0.071~0.125	14~8	R	**16ERG60-M**	●	0.375	0.063	0.047	0.0087	**16IRG60-M**	●	0.375	0.063	0.047	0.0055

Whitworth





Right hand insert
for external threading shown.

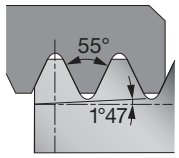
Applicable toolholders

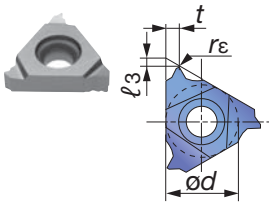
Insert size	External	Internal
16	CER/L**16... B-SER/L**16 B-CER/L**16 BC-SER/L**16	TSNR/L**16 SNR/L**16... TCNR/L**16... CNR/L**16...

Full-profile insert with chipbreaker

Insert size	Pitch (in)	TPI	Hand of cut	External insert (in)						Internal insert (in)					
				Designation	Grade Cermet NS9530	ød	t	ℓ3	rε	Designation	Grade Cermet NS9530	ød	t	ℓ3	rε
16	(0.053)	19	R	**16ER19W-M**	●	0.375	0.035	0.028	0.0067	**16IR19W-M**	●	0.375	0.035	0.028	0.0067
16	(0.071)	14	R	**16ER14W-M**	●	0.375	0.063	0.047	0.0091	**16IR14W-M**	●	0.375	0.063	0.047	0.0091
16	(0.091)	11	R	**16ER11W-M**	●	0.375	0.063	0.047	0.0114	**16IR11W-M**	●	0.375	0.063	0.047	0.0114

PT





Right hand insert
for external threading shown.

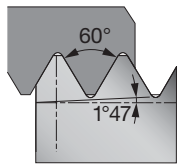
Applicable toolholders

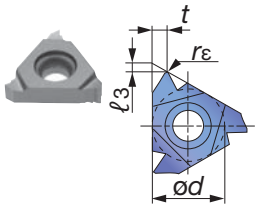
Insert size	External	Internal
16	CER/L**16...	TSNR/L**16
	B-SER/L**16	SNR/L**16...
	B-CER/L**16	TCNR/L**16...
	BC-SER/L**16	CNR/L**16...

Full-profile insert with chipbreaker

Insert size	Pitch (in)	TPI	Hand of cut	External insert (in)						Internal insert (in)					
				Designation	Grade Cermet NS9530	ød	t	ℓ3	rε	Designation	Grade Cermet NS9530	ød	t	ℓ3	rε
16	(0.053)	19	R	**16ER19PT-M**	●	0.375	0.035	0.028	0.0071	**16IR19PT-M**	●	0.375	0.035	0.028	0.0071
16	(0.071)	14	R	**16ER14PT-M**	●	0.375	0.063	0.047	0.0098	**16IR14PT-M**	●	0.375	0.063	0.047	0.0098
16	(0.091)	11	R	**16ER11PT-M**	●	0.375	0.063	0.047	0.0126	**16IR11PT-M**	●	0.375	0.063	0.047	0.0126

NPT





Right hand insert
for external threading shown.

Applicable toolholders

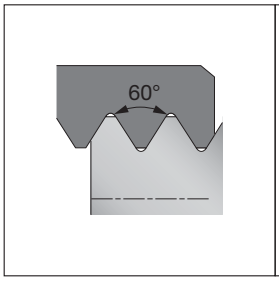
Insert size	External	Internal
16	CER/L**16...	TSNR/L**16
	B-SER/L**16	SNR/L**16...
	B-CER/L**16	TCNR/L**16...
	BC-SER/L**16	CNR/L**16...

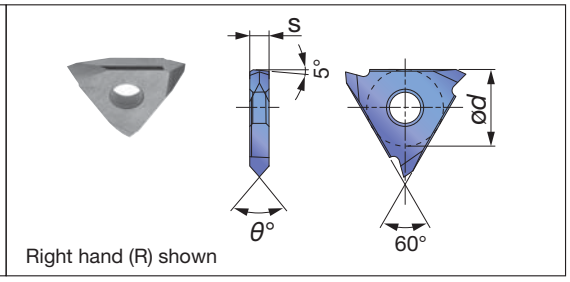
Full-profile insert with chipbreaker

Insert size	Pitch (in)	TPI	Hand of cut	External insert (in)						Internal insert (in)					
				Designation	Grade Cermet NS9530	ød	t	ℓ3	rε	Designation	Grade Cermet NS9530	ød	t	ℓ3	rε
16	(0.056)	18	R	**16ER18NPT-M**	●	0.375	0.035	0.028	0.0028	**16IR18NPT-M**	●	0.375	0.035	0.028	0.0028
16	(0.071)	14	R	**16ER14NPT-M**	●	0.375	0.063	0.047	0.0031	**16IR14NPT-M**	●	0.375	0.063	0.047	0.0031
16	(0.087)	11.5	R	**16ER115NPT-M**	●	0.375	0.063	0.047	0.0035	**16IR115NPT-M**	●	0.375	0.063	0.047	0.0035

TT-type Insert

60° thread angle



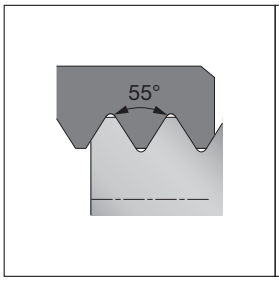


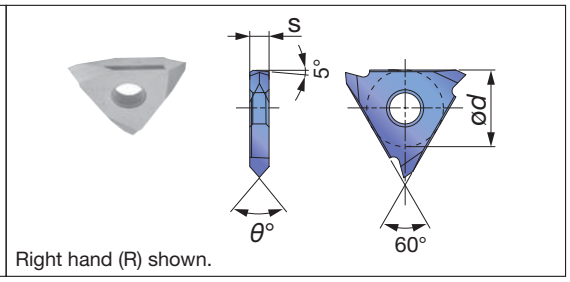
Partial-profile insert for external and internal threads

Pitch (mm)	TPI	Hand of cut	Designation	Grade Cermet NS9530	ød (mm)	s (mm)	θ°	Applicable toolholders
≤ 3	≥ 8	R	**TTR42M-005**	●	12.7	3.2	60	TT-****RE/LI
≤ 3	≥ 8	L	**TTL42M-005**	●	12.7	3.2	60	TT-****LE/RI

TT-type Insert

55° thread angle



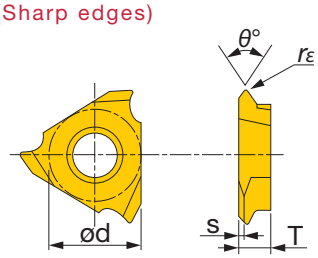


Partial-profile insert for external and internal threads

Pitch (mm)	TPI	Hand of cut	Designation	Grade Cermet NS9530	ød (mm)	s (mm)	θ°	Applicable toolholders
≤ 3	≥ 8	R	**TTR42W-005**	●	12.7	3.2	55	TT-****RE/LI
≤ 3	≥ 8	L	**TTL42W-005**	●	12.7	3.2	55	TT-****LE/RI

JTT (sharp edge)

External threading (Sharp edges)



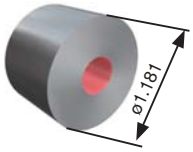
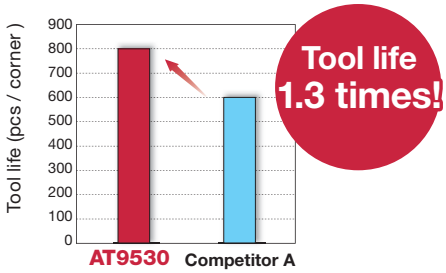
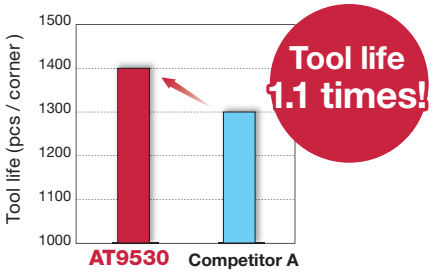
Right hand (R) shown.

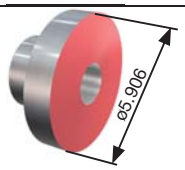
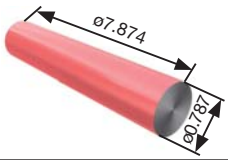
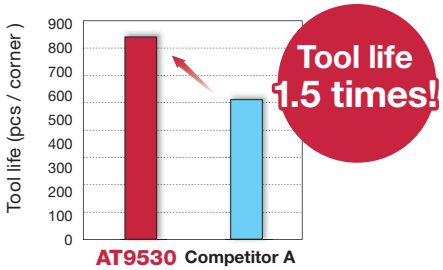
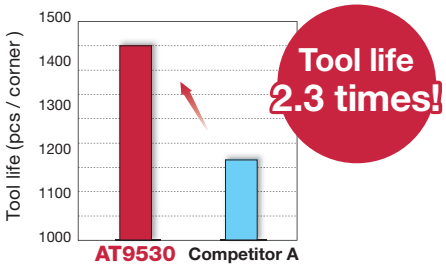
Designation	rε (in)	Cermet NS9530 R	Cermet NS9530 L	θ°	ød (in)	T (in)	s (in)
JTTR/L3005F-55	0.002			55	0.375	0.125	0.024
JTTR/L3005F	0.002	●		60	0.375	0.125	0.035
JTTR/L3010F	0.004	●		60	0.375	0.125	0.035

Machinable pitch range: 0.020" to 0.039".

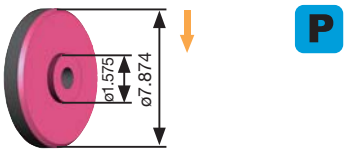
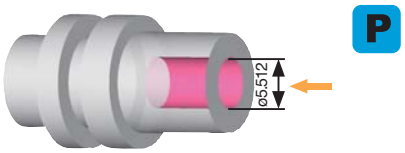
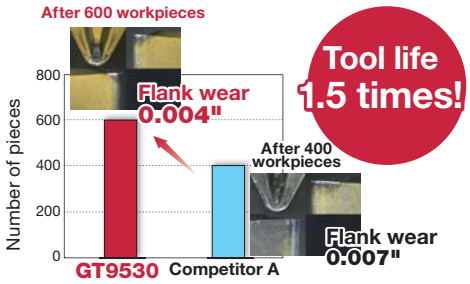
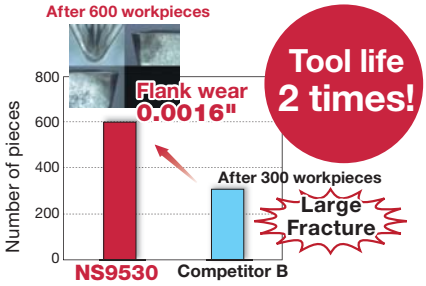
● : Line up

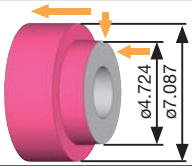
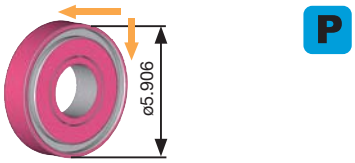
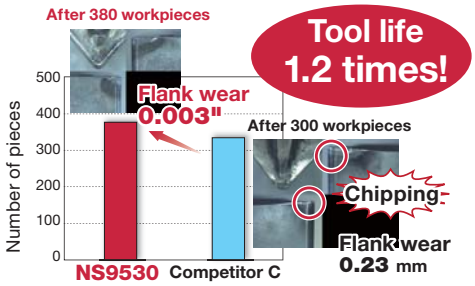
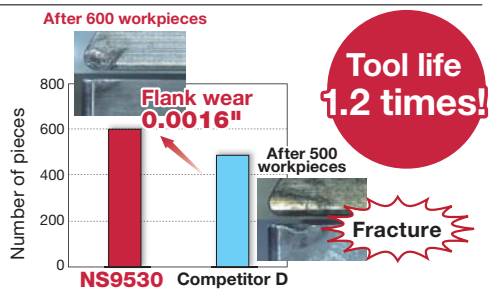
PRACTICAL EXAMPLES

Workpiece type		Hub parts	Shaft parts
Insert		VNMG 331 TSF	CCMT 21.51 PS
Grade		AT9530	AT9530
Workpiece material		1045 Carbon steel	Alloy steels
		P	 P
Cutting conditions	Cutting speed : *Vc* (sfm)	919	328
	Feed : *f* (ipr)	0.012	0.004
	Depth of cut : *ap* (in)	0.004	0.016
	Machining	External turning (Continuous cutting)	Internal turning (Continuous cutting)
	Coolant	Wet	Wet
Results		 AT9530 extended the tool life 7x over the competitor's, significantly increasing productivity and machining stability, thanks to the grade's improved resistance to wear and fracture.	 AT9530 exhibited outstanding wear resistance during alloy steel machining, extending the tool life by 10% over the competitor's grade. The grade's high fracture toughness serves to minimize unpredicted insert fracture, providing stability during machining.

Workpiece type		Rotor parts	Shaft parts
Insert		VNMG 330.5 TSF	TNMG 332
Grade		AT9530	AT9530
Workpiece material		Sintered material	Alloy steels
		 P	 P
Cutting conditions	Cutting speed : *Vc* (sfm)	722	331
	Feed : *f* (ipr)	0.003	0.009
	Depth of cut : *ap* (in)	0.020	0.016
	Machining	Face turning (Continuous cutting)	External turning (Continuous cutting)
	Coolant	Wet	Wet
Results		 AT9530 provided consistent surface finish quality from the start of machining throughout the life of the insert. The grade also provided outstanding wear resistance during machining powder metal, improving the tool life by 50% over the competitor's grade.	 AT9530 provided consistent surface finish quality from the start of machining throughout the life of the insert. AT9530 also provided outstanding wear resistance during machining alloy steel, more than doubling the tool life over the competitor's grade.

PRACTICAL EXAMPLES

Workpiece type		Automotive parts	Automotive parts
Insert		DNMG 432 TSF	TPMT110304-PS
Grade		GT9530	NS9530
Workpiece material		Low carbon steels 	Low carbon steels 
Cutting conditions	Cutting speed : *Vc* (sfm)	740	410
	Feed : *f* (ipr)	0.01	0.006
	Depth of cut : *ap* (in)	0.012	0.04
	Machining	Face turning (Continuous cutting)	Internal turning (Continuous cutting)
	Coolant	Wet	Wet
Results		 GT9530 had no issues with surface finish or dimensional precision. Specifically, GT9530 solved the problem of streaking on the work materials, which still remains with alternate products. GT9530 provided 1.5 times longer tool life than competitor products.	 No unexpected fractures occurred when using NS9530. Meanwhile, large fractures can be seen in the above picture on the edge of the current item. The tough and smooth top layer offered stable machining and achieved 2 times longer tool life !

Workpiece type		Machine parts	Machine parts
Insert		CNMG 431 TS	TNGG 331 R-C
Grade		NS9530	NS9530
Workpiece material		Alloy steels 	Alloy steels 
Cutting conditions	Cutting speed : *Vc* (sfm)	740	950
	Feed : *f* (ipr)	0.006 - 0.008	0.004 - 0.008
	Depth of cut : *ap* (in)	0.012 - 0.02	0.04
	Machining	External and face turning (Continuous cutting)	External and face turning (Continuous cutting)
	Coolant	Wet	Wet
Results		 While chipping occurred as shown in pictures, NS9530 demonstrated better chipping resistance than competitor. Moreover, NS9530 delivered 20% longer tool life than the competitor items.	 NS9530 showed excellent fracture and chipping resistance due to PremiumTec. NS9530 provides 1.2 times longer tool life than the competitor grade.

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