



NS9530 & GT9530

TUNGALOY

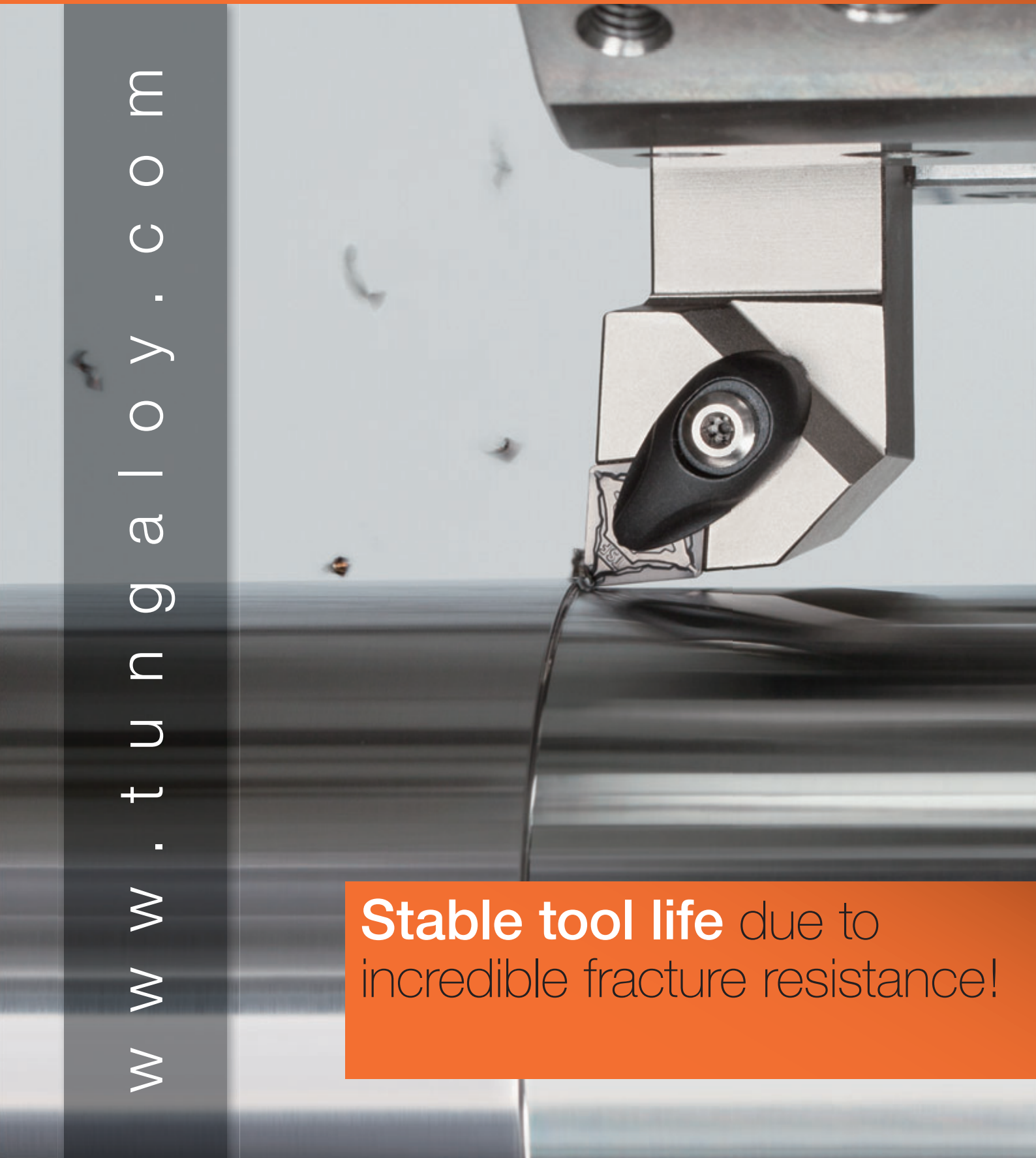


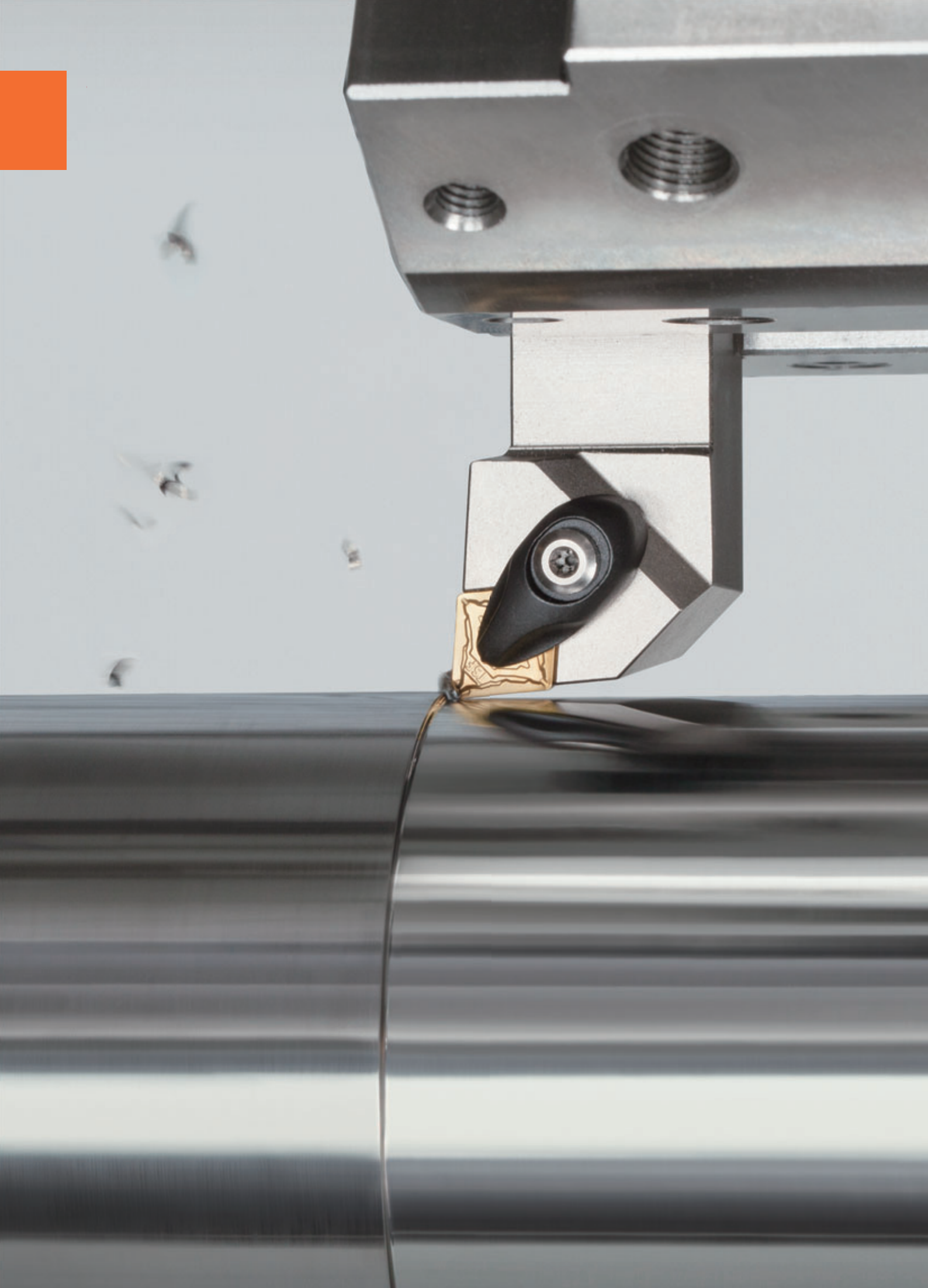
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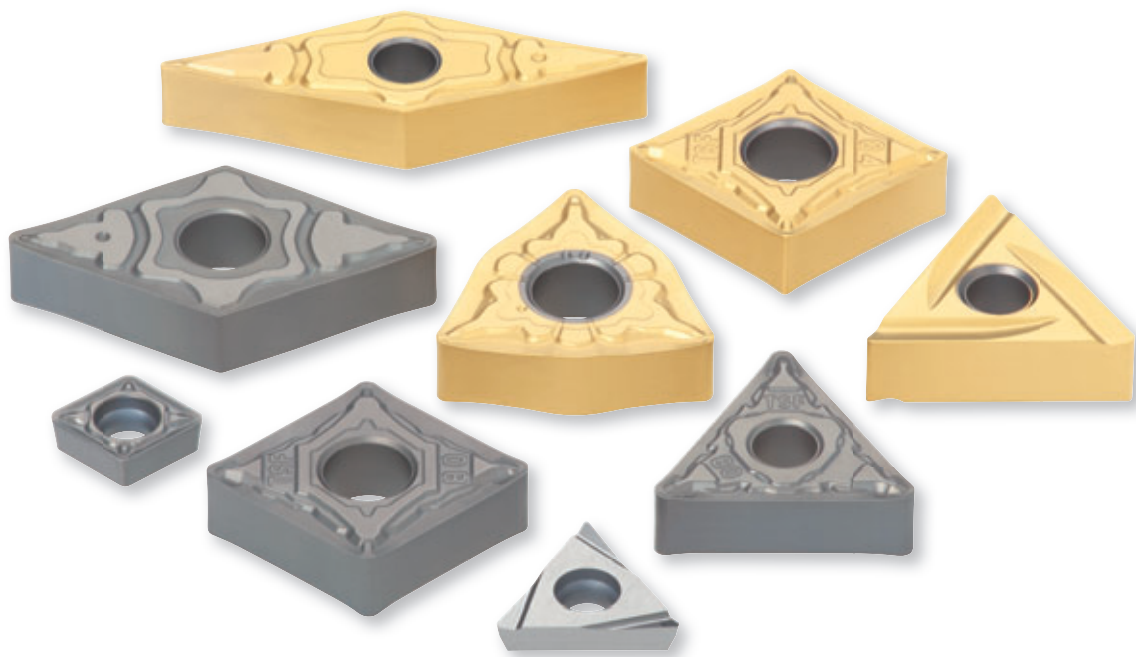
Tungaloy Report No. 425-E

w w w . t u n g a l o y . c o m

Stable tool life due to
incredible fracture resistance!







NS9530 & GT9530

TUNGALOY

Incredible cermet grades with
remarkable toughness!

NS9530 & GT9530

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



Consists of incredible fracture and wear resistance

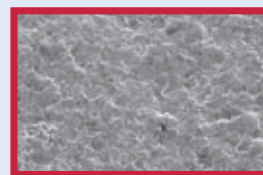
Allows exceptionally stable machining!

Drastically improved microscopic roughness

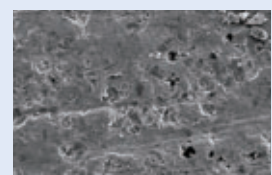
Effectively reduces chip welding on edges, improving surface finish. Enhances wear resistance



Improved toughness by 25% at the top layer

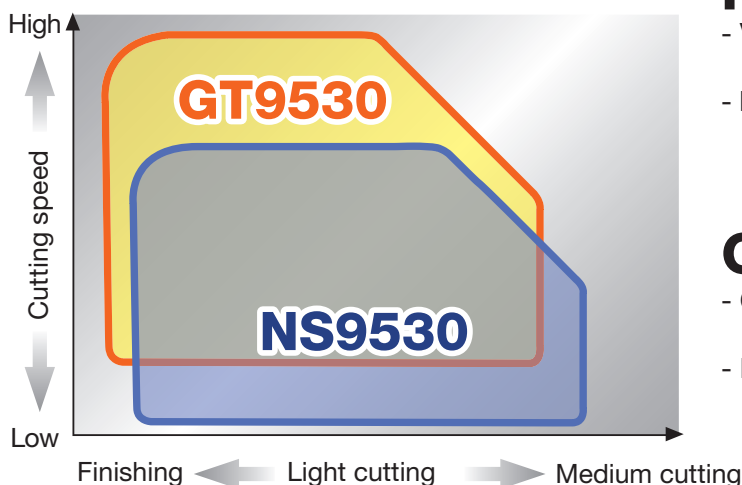


NS9530



Conventional

Application range



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.

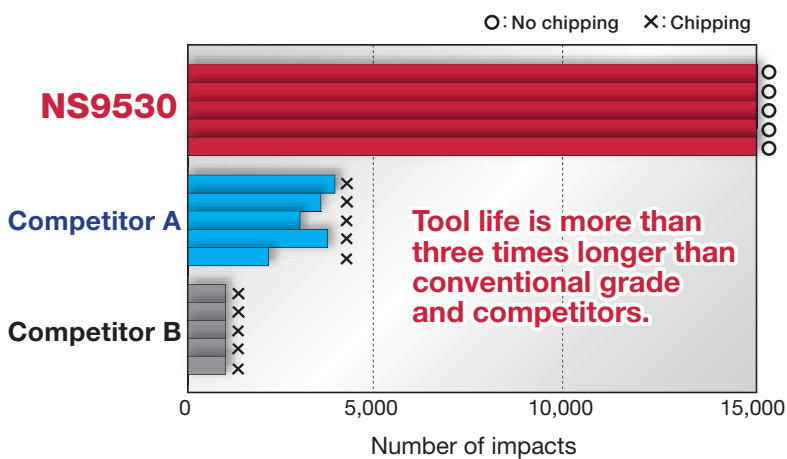
GT9530

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



● Cutting performance

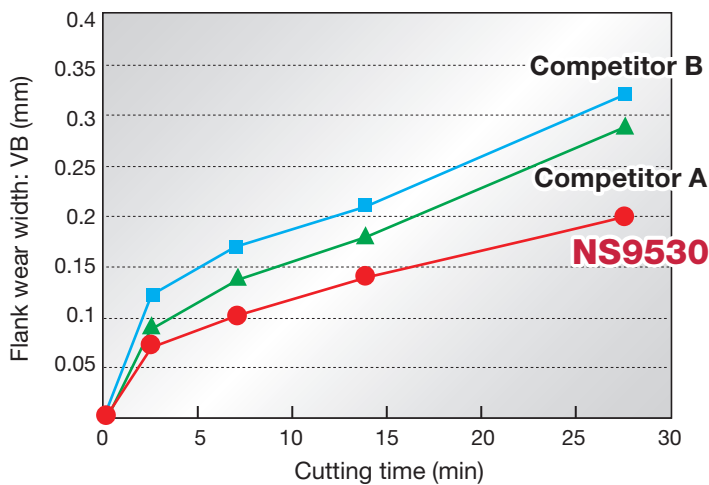
■ Comparison of chipping or fracture resistance



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

Insert	: CNMG120408-TSF
Workpiece	: S55C (C55)
Cutting speed	: $V_c = 150$ m/min
Feed	: $f = 0.25$ mm/rev
Depth of cut	: $a_p = 1.0$ mm
Work process	: Interrupted cutting
Coolant	: Wet

■ Comparison of wear resistance



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

Insert	: CNMG120408-TSF
Workpiece	: S55C (C55)
Cutting speed	: $V_c = 250$ m/min
Feed	: $f = 0.2$ mm/rev
Depth of cut	: $a_p = 1.0$ mm
Work process	: Continuous cutting
Coolant	: Wet

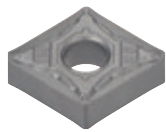
P Steel

Negative type

Finishing - light cutting

$a_p = 0.2 - 1.5 \text{ mm}$

Recommended



TSF
NS9530

Wear

TSF
GT9530

Impact

TS
NS9530

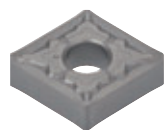
Chip control

ZF
NS9530

Finishing - medium cutting

$a_p = 1.0 - 2.5 \text{ mm}$

Recommended



TS
NS9530

Wear

TS
GT9530

Impact

TQ
NS9530

Chip control

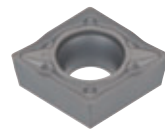
ZM
NS9530

Positive type

Finishing - light cutting

$a_p = 0.5 - 1.5 \text{ mm}$

Recommended



PSS
NS9530

Wear

PSS
GT9530

Impact

PS
NS9530

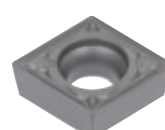
Chip control

PSF
NS9530

Finishing - medium cutting

$a_p = 1.0 - 2.5 \text{ mm}$

Recommended



PS
NS9530

Wear

PS
GT9530

Impact

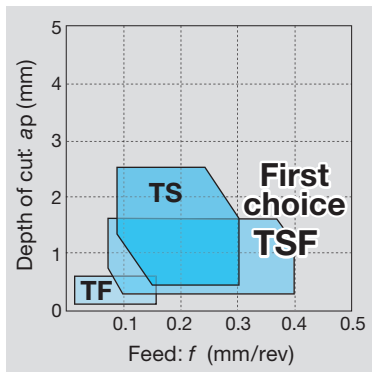
PM
NS9530

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.

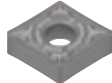

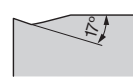
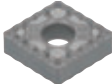

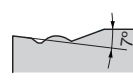
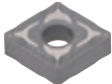


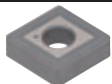

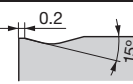
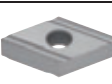
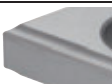
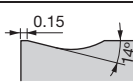
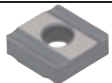
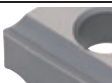
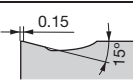
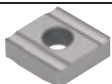
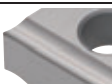
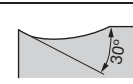
● Standard cutting conditions

Application	Chipbreaker	Grades	Cutting speed Vc (m/min)			Depth of cut ap (mm)	Feed f (mm/rev)
			Low carbon steels Alloy steels 180HB	Medium carbon steels Alloy steels 240HB	High carbon steels Alloy steels 300HB		
Precision finishing	TF	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 0.5	0.03 - 0.15
Finishing	TSF	NS9530	150 - 250	80 - 220	80 - 180	0.2 - 1.5	0.08 - 0.4
		GT9530	150 - 300	80 - 250	80 - 200		
Finishing to medium cutting	TS	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 2.5	0.1 - 0.3
		GT9530	150 - 300	80 - 250	80 - 200		

● 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 chip-breaker)	CB				Exclusive Chipbreaker for boring operation, reducing machining cost.

● Complementary chipbreakers

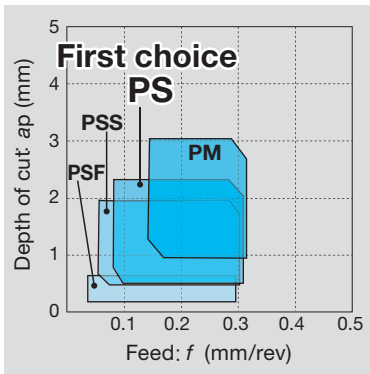
Application	Chipbreaker	Shape			Features
Finishing to medium cutting	TQ				Specially designed chipbreaker with high heat-impact resistance suitable for continuous to light interrupted cutting.
	ZM				Superior chip control in profiling and machining rounded forms. Ideally suited for machining lead free 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 (m/min)			Depth of cut ap (mm)	Feed f (mm/rev)	
			Low carbon steels Alloy steels 180HB	Medium carbon steels Alloy steels 240HB	High carbon steels Alloy steels 300HB			
Precision finishing	01	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 0.4	0.03 - 0.15	
	A - D	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 4.0	0.1 - 0.4	
		GT9530	150 - 300	80 - 250	80 - 200			
		W	NS9530	150 - 250	80 - 220	80 - 180	0.2 - 1.5	0.03 - 0.2
Finishing	ZF	NS9530	150 - 250	80 - 220	80 - 180	0.2 - 1.5	0.07 - 0.2	
		GT9530	150 - 300	80 - 250	80 - 200			
	11	NS9530	150 - 250	80 - 220	80 - 180	0.2 - 1.5	0.07 - 0.2	
		GT9530	150 - 300	80 - 250	80 - 200			
		NS	NS9530	150 - 250	80 - 220	80 - 180	0.2 - 1.5	0.07 - 0.25
		AFW	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 1.5	0.2 - 0.4
	GT9530		150 - 300	80 - 250	80 - 200			
High feed, small depth of cut	AS	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 2.0	0.2 - 0.6	
	ASW	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 2.0	0.3 - 0.6	
Boring (Double sided chipbreaker)	CB	NS9530	150 - 250	80 - 220	80 - 180	0.2 - 2.5	0.1 - 0.25	
		GT9530	150 - 300	80 - 250	80 - 200			
Finishing to medium cutting	TQ	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 2.0	0.15 - 0.3	
		GT9530	150 - 300	80 - 250	80 - 200			
	ZM	NS9530	150 - 250	80 - 220	80 - 180	0.7 - 2.0	0.15 - 0.4	
		GT9530	150 - 300	80 - 250	80 - 200			
	NM	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 2.0	0.15 - 0.4	
		GT9530	150 - 300	80 - 250	80 - 200			
Medium cutting	All-round	NS9530	150 - 250	80 - 220	80 - 180	1.0 - 3.0	0.2 - 0.4	
		GT9530	150 - 300	80 - 250	80 - 200			
	Parallel	NS9530	150 - 250	80 - 220	80 - 180	1.0 - 4.0	0.2 - 0.4	
		GT9530	150 - 300	80 - 250	80 - 200			
		S	NS9530	150 - 250	80 - 220	80 - 180	1.0 - 4.0	0.2 - 0.4
		P	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 4.0	0.2 - 0.5

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.



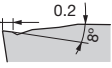









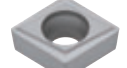


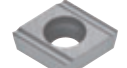

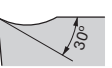


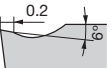


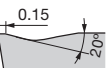



Standard cutting conditions

Application	Chipbreaker	Grades	Cutting speed Vc (m/min)			Depth of cut ap (mm)	Feed f (mm/rev)
			Low carbon steels Alloy steels 180HB	Medium carbon steels Alloy steels 240HB	High carbon steels Alloy steels 300HB		
Finishing	PSF	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 0.5	0.05 - 0.3
		GT9530	150 - 300	80 - 250	80 - 200		
Finishing to light cutting	PSS	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 2.0	0.1 - 0.3
		GT9530	150 - 300	80 - 250	80 - 200		
Finishing to medium cutting	PS	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 2.5	0.1 - 0.3
		GT9530	150 - 300	80 - 250	80 - 200		
Medium cutting	PM	NS9530	150 - 250	80 - 220	80 - 180	1.0 - 3.0	0.15 - 0.3
		GT9530	150 - 300	80 - 250	80 - 200		

Complementary chipbreakers

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

● Complementary chipbreakers

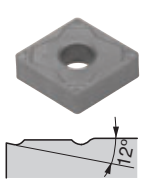
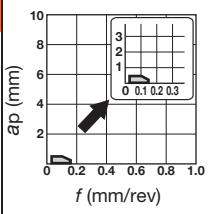
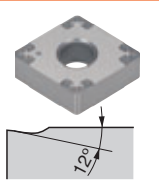
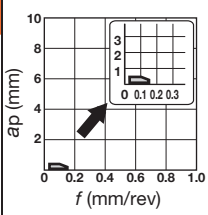
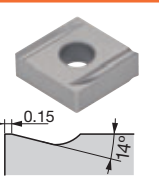
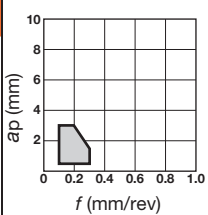
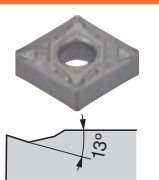
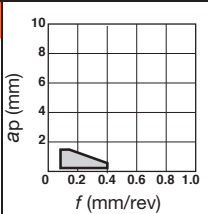
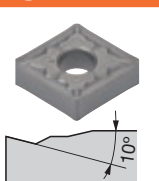
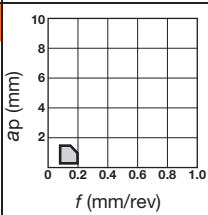
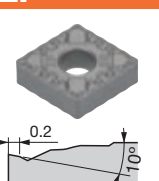
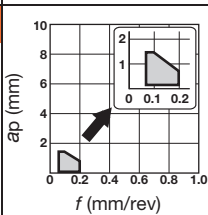
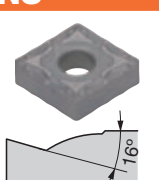
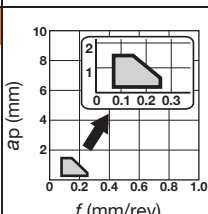
Application	Chipbreaker	Shape			Features
Finishing to medium cutting	ZF				Suitable for temporary increases in depth of cut such as on flange sections. Excels in chip control and is best for machining of lead free steels.
	ZM				Superior chip control in profiling and machining rounded forms. Ideally 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 (m/min)			Depth of cut ap (mm)	Feed f (mm/rev)
			Low carbon steels Alloy steels 180HB	Medium carbon steels Alloy steels 240HB	High carbon steels Alloy steels 300HB		
Precision finishing	01	NS9530	150 - 250	80 - 220	80 - 180	0.05 - 0.5	0.03 - 0.15
		GT9530	150 - 300	80 - 250	80 - 200		
Finishing	PF	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 0.5	0.05 - 0.25
		GT9530	150 - 300	80 - 250	80 - 200		
	W08	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 1.0	0.03 - 0.15
		GT9530	150 - 300	80 - 250	80 - 200		
	W10	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 2.0	0.03 - 0.2
		GT9530	150 - 300	80 - 250	80 - 200		
	W11	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 2.0	0.03 - 0.2
		GT9530	150 - 300	80 - 250	80 - 200		
	W13	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 2.0	0.03 - 0.2
		GT9530	150 - 300	80 - 250	80 - 200		
	W15	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 2.0	0.03 - 0.2
		GT9530	150 - 300	80 - 250	80 - 200		
	W20	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 2.0	0.03 - 0.2
		GT9530	150 - 300	80 - 250	80 - 200		
with hand	NS9530		150 - 250	80 - 220	80 - 180	1.0 - 2.0	0.03 - 0.2
			150 - 250	80 - 220	80 - 180		
Finishing to medium cutting	ZF	GT9530	150 - 300	80 - 250	80 - 200	0.3 - 1.5	0.05 - 0.25
	ZM	GT9530	150 - 300	80 - 250	80 - 200	0.5 - 2.0	0.05 - 0.3
	23	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 2.0	0.1 - 0.3
	SS	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 2.0	0.1 - 0.3
	All-round	NS9530	150 - 250	80 - 220	80 - 180	1.0 - 2.0	0.05 - 0.2
For external turning on small lathes	J10	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 5.0	0.01 - 0.1
Medium cutting	24	NS9530	150 - 250	80 - 220	80 - 180	0.5 - 3.0	0.08 - 0.3
Heavy cutting	61	NS9530	150 - 250	80 - 220	80 - 180	0.2 - 2.0	0.3 - 1.0
Finishing to medium cutting	-	NS9530	150 - 250	80 - 220	80 - 180	0.1 - 2.0	0.05 - 0.3

Inserts Negative type

Rhombic, 80°

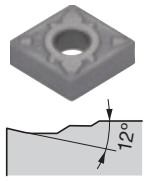
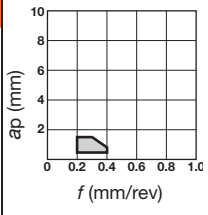
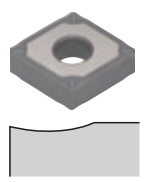
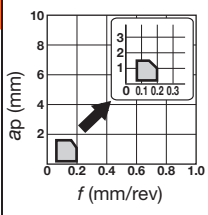
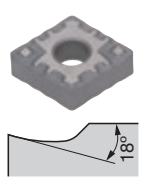
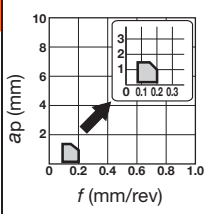
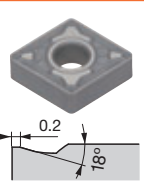
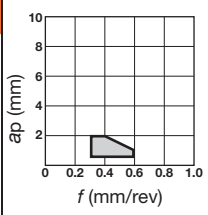
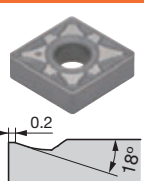
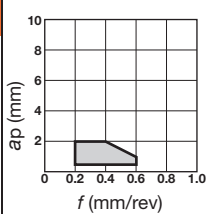
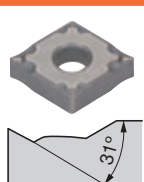
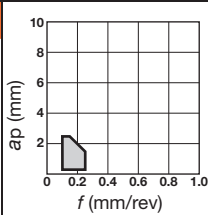
Application	Chipbreaker		Cat. No	Grades		Dimensions (mm)			
	Appearance (Cross section)	$f - ap$		Coated cermet	Cermet	I.C.dia ϕd	Thick- ness s	Hole dia $\phi d1$	Corner radius $r\epsilon$
				GT9530	NS9530				
Precision finishing	TF			CNMG120404-TF	●	12.7	4.76	5.16	0.4
				*CNMG120408-TF	●	12.7	4.76	5.16	0.8
	01 (G)			CNGG090302-01	●	9.525	3.18	3.81	0.2
				CNGG090304-01	●	9.525	3.18	3.81	0.4
				CNGG090308-01	●	9.525	3.18	3.81	0.8
				CNGG120402-01	●	12.7	4.76	5.16	0.2
				CNGG120404-01	●	12.7	4.76	5.16	0.4
				*CNGG120408-01	●	12.7	4.76	5.16	0.8
	C (G)			*CNGG120404L-C	●	12.7	4.76	5.16	0.4
				CNGG120404R-C	●	12.7	4.76	5.16	0.4
				CNGG120408L-C	●	12.7	4.76	5.16	0.8
				CNGG120408R-C	●	12.7	4.76	5.16	0.8
Finishing	TSF			CNMG090404E-TSF	●	9.525	4.76	3.81	0.4
				CNMG090408E-TSF	●	9.525	4.76	3.81	0.8
				CNMG120404-TSF	●	12.7	4.76	5.16	0.4
				*CNMG120408-TSF	●	12.7	4.76	5.16	0.8
	TS			CNMG120404-TS	●	12.7	4.76	5.16	0.4
				*CNMG120408-TS	●	12.7	4.76	5.16	0.8
	ZF			CNMG120404-ZF	●	12.7	4.76	5.16	0.4
				*CNMG120408-ZF	●	12.7	4.76	5.16	0.8
	NS			CNMG120404-NS	●	12.7	4.76	5.16	0.4
				*CNMG120408-NS	●	12.7	4.76	5.16	0.8

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Rhombic, 80°

Negative inserts

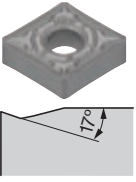
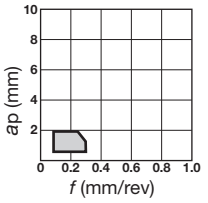
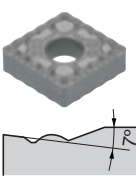
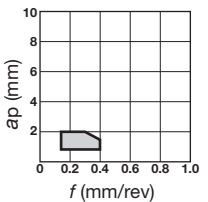
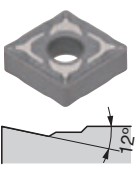
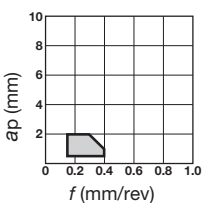
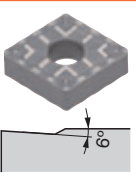
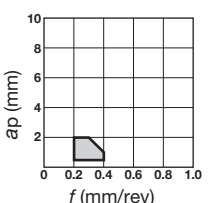
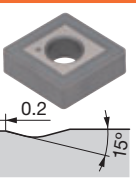
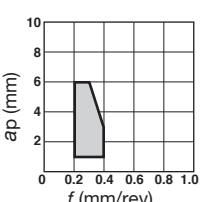
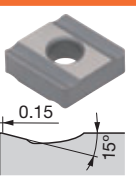
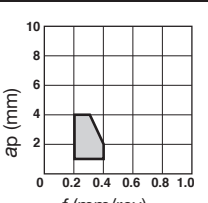
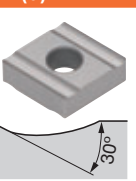
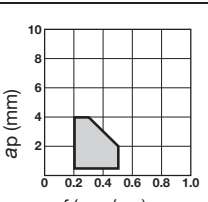
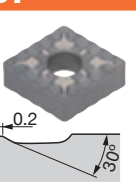
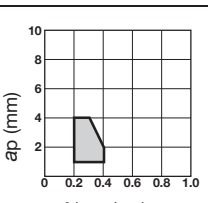
Application	Chipbreaker Appearance (Cross section)	$f - a_p$	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ϕd	Thick- ness s	Hole dia ϕd_1	Corner radius r_E
				GT9530	NS9530				
Finishing	AFW 		CNMG120404-AFW	●	●	12.7	4.76	5.16	0.4
			*CNMG120408-AFW	●		12.7	4.76	5.16	0.8
	11 		CNMG120404-11	●	●	12.7	4.76	5.16	0.4
			*CNMG120408-11	●	●	12.7	4.76	5.16	0.8
Finishing of mild steels	17 		CNMG120404-17		●	12.7	4.76	5.16	0.4
			*CNMG120408-17		●	12.7	4.76	5.16	0.8
High feed, small depth of cut	ASW 		*CNMG120408-ASW		●	12.7	4.76	5.16	0.8
	AS 		CNMG120404-AS		●	12.7	4.76	5.16	0.4
			*CNMG120408-AS		●	12.7	4.76	5.16	0.8
Boring (Double sided chip- breaker)	CB 		CNMG090304-CB		●	9.525	3.18	3.81	0.4
			*CNMG090308-CB		●	9.525	3.18	3.81	0.8

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Rhombic, 80°

Negative inserts

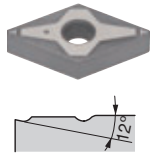
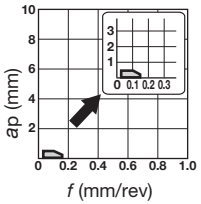
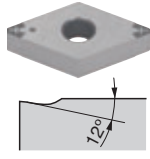
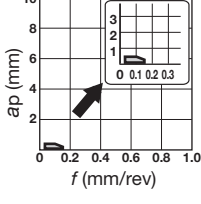
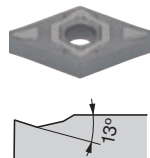
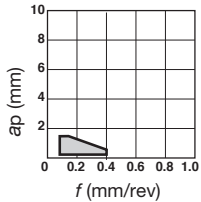
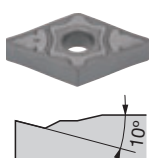
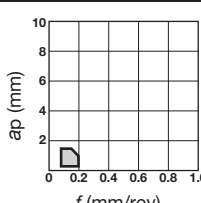
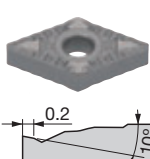
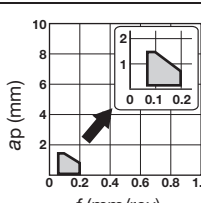
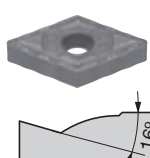
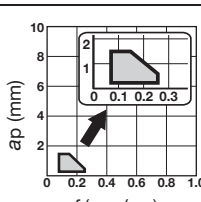
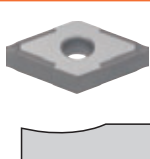
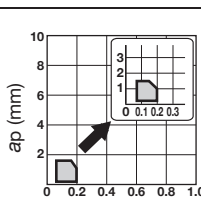
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)				
				Coated cermet	Cermet	I.C.dia	Thick- ness	Hole dia	Corner radius	
				GT9530	NS9530	ød	s	ød1	rε	
Finishing to medium cutting	NEW TQ 		CNMG120404-TQ *CNMG120408-TQ	●	●	12.7	4.76	5.16	0.4	0.8
	ZM 		*CNMG120408-ZM CNMG120412-ZM	●	●	12.7	4.76	5.16	0.8	1.2
	NM 		*CNMG120408-NM		●	12.7	4.76	5.16	0.8	
	27 		CNMG120404-27 *CNMG120408-27		●	12.7	4.76	5.16	0.4	0.8
	All-round 		CNMG090304 CNMG090308 CNMG120404 *CNMG120408		●	9.525	3.18	3.81	0.4	0.8
Medium cutting	S 		CNMG120404L-S CNMG120404R-S CNMG120408L-S *CNMG120408R-S		●	12.7	4.76	5.16	0.4	0.8
	P (G) 		CNMG120404L-P *CNMG120404R-P		●	12.7	4.76	5.16	0.4	0.4
	37 		CNMG120404-37 *CNMG120408-37		●	12.7	4.76	5.16	0.4	0.8

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Rhombic, 55°

Negative inserts

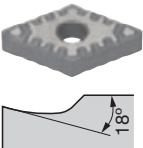
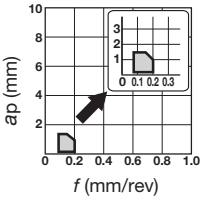
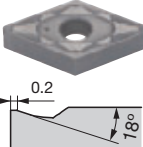
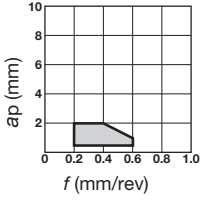
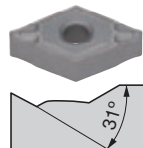
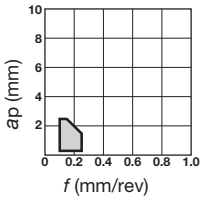
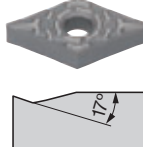
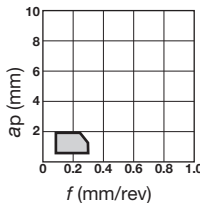
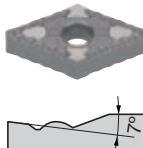
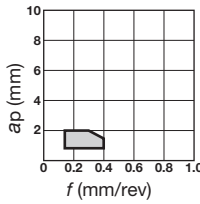
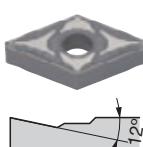
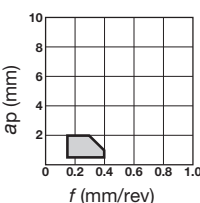
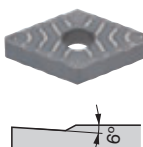
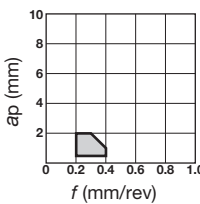
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet GT9530	Cermet NS9530	I.C.dia ød	Thick- ness	Hole dia ød1	Corner radius r _ε
Precision finishing	TF 		DNMG150404-TF	●	12.7	4.76	5.16	0.4	
			*DNMG150408-TF	●	12.7	4.76	5.16	0.8	
	01 (G) 		DNGG110402-01	●	9.525	4.76	3.81	0.2	
			DNGG110404-01	●	9.525	4.76	3.81	0.4	
			DNGG110408-01	●	9.525	4.76	3.81	0.8	
			DNGG150402-01	●	12.7	4.76	5.16	0.2	
Finishing	TSF 		DNMG110404E-TSF	●	9.525	4.76	3.81	0.4	
			DNMG110408E-TSF	●	9.525	4.76	3.81	0.8	
			DNMG110412E-TSF	●	9.525	4.76	3.81	1.2	
			DNMG150404-TSF	●	12.7	4.76	5.16	0.4	
			*DNMG150408-TSF	●	12.7	4.76	5.16	0.8	
			DNMG150604-TSF	●	12.7	6.35	5.16	0.4	
	TS 		DNMG150404-TS	●	12.7	4.76	5.16	0.4	
			*DNMG150408-TS	●	12.7	4.76	5.16	0.8	
			DNMG150604-TS	●	12.7	6.35	5.16	0.4	
			DNMG150608-TS	●	12.7	6.35	5.16	0.8	
ZF 		DNMG150404-ZF	●	12.7	4.76	5.16	0.4		
		*DNMG150408-ZF	●	12.7	4.76	5.16	0.8		
NS 		DNMG150404-NS	●	12.7	4.76	5.16	0.4		
		*DNMG150408-NS	●	12.7	4.76	5.16	0.8		
11 		DNMG110404-11	●	9.525	4.76	3.81	0.4		
		DNMG110408-11	●	9.525	4.76	3.81	0.8		
		*DNMG150404-11	●	12.7	4.76	5.16	0.4		
		DNMG150408-11	●	12.7	4.76	5.16	0.8		

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Rhombic, 55°

Negative inserts

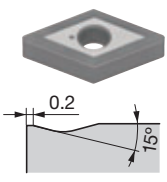
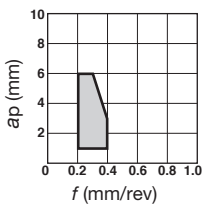
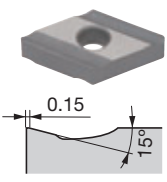
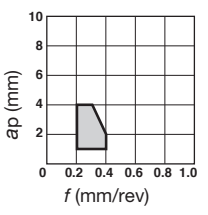
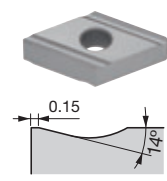
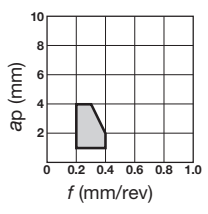
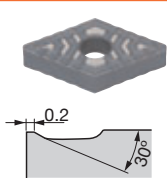
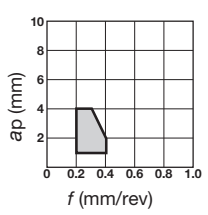
Application	Chipbreaker		f - ap	Cat. No	Grades		Dimensions (mm)					
	Appearance (Cross section)				Coated cermet GT9530	Cermet NS9530	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε		
Finishing of mild steels	17 			DNMG150404-17	●	12.7	4.76	5.16	0.4			
				*DNMG150408-17	●	12.7	4.76	5.16	0.8			
High feed, small depth of cut	AS 			DNMG150404-AS	●	12.7	4.76	5.16	0.4			
				*DNMG150408-AS	●	12.7	4.76	5.16	0.8			
Boring (Double sided chip- breaker)	CB 			DNMG110404-CB	●	9.525	4.76	3.81	0.4			
				*DNMG110408-CB	●	9.525	4.76	3.81	0.8			
NEW	TQ 			DNMG150404-TQ	●	12.7	4.76	5.16	0.4			
				*DNMG150408-TQ	●	12.7	4.76	5.16	0.8			
Finishing to medium cutting	ZM 			*DNMG150408-ZM	●	12.7	4.76	5.16	0.8			
				NM 			*DNMG150408-NM	●	12.7	4.76	5.16	0.8
							DNMG150608-NM	●	12.7	6.35	5.16	0.8
				27 			DNMG150404-27	●	12.7	4.76	5.16	0.4
*DNMG150408-27	●	12.7	4.76				5.16	0.8				

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

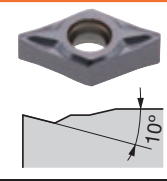
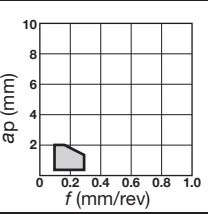
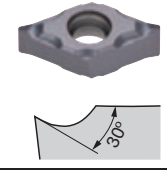
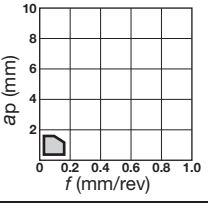
Rhombic, 55°

Negative inserts

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius r _ε
				GT9530	NS9530				
Medium cutting	All-round 		DNMG110404	●	●	9.525	4.76	3.81	0.4
			DNMG110408	●	●	9.525	4.76	3.81	0.8
			DNMG150404	●	●	12.7	4.76	5.16	0.4
			*DNMG150408	●	●	12.7	4.76	5.16	0.8
			DNMG150412		●	12.7	4.76	5.16	1.2
	S 		DNMG150404L-S		●	12.7	4.76	5.16	0.4
			DNMG150404R-S		●	12.7	4.76	5.16	0.4
			DNMG150408L-S		●	12.7	4.76	5.16	0.8
			*DNMG150408R-S		●	12.7	4.76	5.16	0.8
	Parallel (G) 		DNGG150404L	●	●	12.7	4.76	5.16	0.4
			DNGG150404R	●	●	12.7	4.76	5.16	0.4
			DNGG150408L		●	12.7	4.76	5.16	0.8
			*DNGG150408R		●	12.7	4.76	5.16	0.8
	37 		DNMG150404-37		●	12.7	4.76	5.16	0.4
			*DNMG150408-37		●	12.7	4.76	5.16	0.8

Rhombic, 55°



Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius r _ε
				GT9530	NS9530				
Finishing to medium cutting (For small size CNC lathes)	TS 		DXGU070302R-TS	●	●	6.35	3.18	2.7	0.2
			DXGU070302L-TS	●	●	6.35	3.18	2.7	0.2
			DXGU070304R-TS	●	●	6.35	3.18	2.7	0.4
			*DXGU070304L-TS	●	●	6.35	3.18	2.7	0.4
			DXGU070308R-TS	●	●	6.35	3.18	2.7	0.8
			DXGU070308L-TS	●	●	6.35	3.18	2.7	0.8
Finishing (Low cutting force) (For small size CNC lathes)	SS 		DXGU070302R-SS	●	●	6.35	3.18	2.7	0.2
			DXGU070302L-SS	●	●	6.35	3.18	2.7	0.2
			DXGU070304R-SS	●	●	6.35	3.18	2.7	0.4
			*DXGU070304L-SS	●	●	6.35	3.18	2.7	0.4

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Square, 90°

Negative inserts

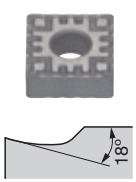
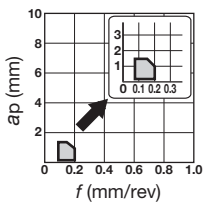
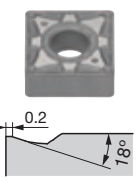
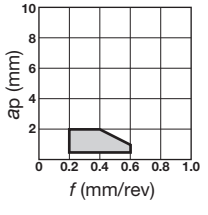
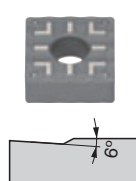
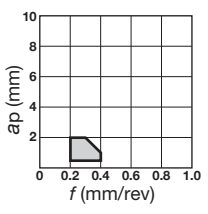
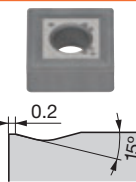
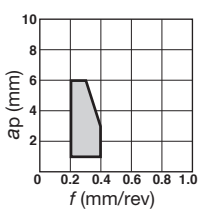
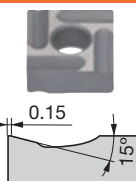
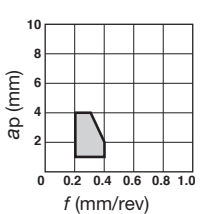
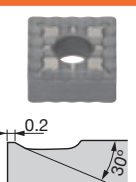
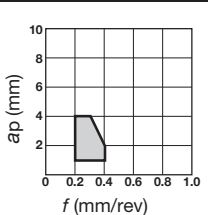
Application	Chipbreaker		f - ap	Cat. No	Grades		Dimensions (mm)			
	Appearance (Cross section)	f (mm/rev)			Coated cermet	Cermet	I.C. dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
					GT9530	NS9530				
Precision finishing	TF			SNMG120404-TF	●	12.7	4.76	5.16	0.4	
				*SNMG120408-TF	●	12.7	4.76	5.16	0.8	
	01 (G)			SNGG090302-01	●	9.525	3.18	3.81	0.2	
				SNGG090304-01	●	9.525	3.18	3.81	0.4	
				*SNGG090308-01	●	9.525	3.18	3.81	0.8	
				SNGG120402-01	●	12.7	4.76	5.16	0.2	
				SNGG120404-01	●	12.7	4.76	5.16	0.4	
				SNGG120408-01	●	12.7	4.76	5.16	0.8	
	B (G)			SNGG090304L-B	●	9.525	3.18	3.81	0.4	
				SNGG090304R-B	●	9.525	3.18	3.81	0.4	
				*SNGG090308L-B	●	9.525	3.18	3.81	0.8	
				SNGG090308R-B	●	9.525	3.18	3.81	0.8	
	C (G)			SNGG120404L-C	●	12.7	4.76	5.16	0.4	
				SNGG120404R-C	●	12.7	4.76	5.16	0.4	
				SNGG120408L-C	●	12.7	4.76	5.16	0.8	
				*SNGG120408R-C	●	12.7	4.76	5.16	0.8	
D (G)			SNGG120408L-D	●	12.7	4.76	5.16	0.8		
			*SNGG120408R-D	●	12.7	4.76	5.16	0.8		
Finishing	TSF			SNMG120404-TSF	●	12.7	4.76	5.16	0.4	
				*SNMG120408-TSF	●	12.7	4.76	5.16	0.8	
	TS			SNMG120404-TS	●	12.7	4.76	5.16	0.4	
				*SNMG120408-TS	●	12.7	4.76	5.16	0.8	
	11			SNMG120404-11	●	12.7	4.76	5.16	0.4	
			*SNMG120408-11	●	12.7	4.76	5.16	0.8		

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Square, 90°

Negative inserts

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ød	Thick- ness S	Hole dia ød1	Corner radius rε
				GT9530	NS9530				
Finishing of mild steels	17 		*SNMG120408-17	●		12.7	4.76	5.16	0.8
High feed, small depth of cut	AS 		SNMG120404-AS	●		12.7	4.76	5.16	0.4
			*SNMG120408-AS	●		12.7	4.76	5.16	0.8
Finishing to medium cutting	27 		*SNMG120408-27	●		12.7	4.76	5.16	0.8
Medium cutting	All-round 		SNMG090304	●		9.525	3.18	3.81	0.4
			SNMG090308	●		9.525	3.18	3.81	0.8
			SNMG120404	●		12.7	4.76	5.16	0.4
			*SNMG120408	●		12.7	4.76	5.16	0.8
	S 		SNMG120404L-S	●		12.7	4.76	5.16	0.4
			SNMG120404R-S	●		12.7	4.76	5.16	0.4
			SNMG120408L-S	●		12.7	4.76	5.16	0.8
			*SNMG120408R-S	●		12.7	4.76	5.16	0.8
37 		*SNMG120408-37	●		12.7	4.76	5.16	0.8	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Triangular, 60°

Negative inserts

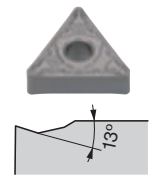
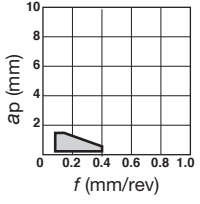
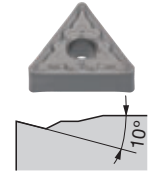
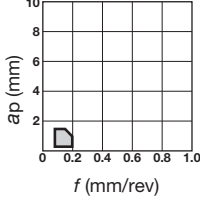
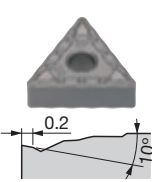
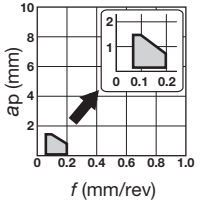
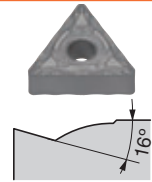
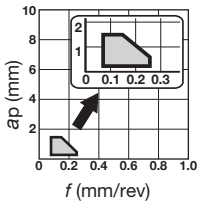

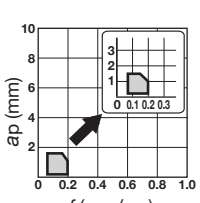

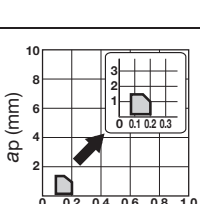

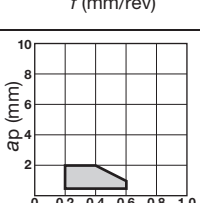

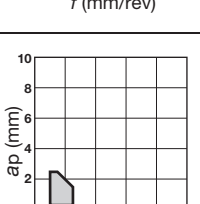
Application	Chipbreaker		Cat. No	Grades		Dimensions (mm)			
	Appearance (Cross section)	f - ap		Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius r _ε
				GT9530	NS9530				
Precision finishing	TF			TNMG160404-TF	●	9.525	4.76	3.81	0.4
				*TNMG160408-TF	●	9.525	4.76	3.81	0.8
	01 (G)			TNGG110302-01	●	6.35	3.18	2.26	0.2
				TNGG110304-01	●	6.35	3.18	2.26	0.4
				TNGG110308-01	●	6.35	3.18	2.26	0.8
				TNGG160402-01	●	9.525	4.76	3.81	0.2
				TNGG160404-01	●	9.525	4.76	3.81	0.4
				*TNGG160408-01	●	9.525	4.76	3.81	0.8
				TNGG160412-01	●	9.525	4.76	3.81	1.2
	A (G)			TNGG110304L-A	●	6.35	3.18	2.26	0.4
				*TNGG110304R-A	●	6.35	3.18	2.26	0.4
				TNGG110308L-A	●	6.35	3.18	2.26	0.8
				TNGG110308R-A	●	6.35	3.18	2.26	0.8
	C (G)			TNGG160304L-C	●	9.525	3.18	3.81	0.4
				TNGG160304R-C	●	9.525	3.18	3.81	0.4
				TNGG160308L-C	●	9.525	3.18	3.81	0.8
				TNGG160308R-C	●	9.525	3.18	3.81	0.8
				TNGG160400L-C	●	9.525	4.76	3.81	0.03
				TNGG160400R-C	●	9.525	4.76	3.81	0.03
				TNGG160402L-C	●	9.525	4.76	3.81	0.2
				TNGG160402R-C	●	9.525	4.76	3.81	0.2
				TNGG160404L-C	●	9.525	4.76	3.81	0.4
				TNGG160404R-C	●	9.525	4.76	3.81	0.4
				TNGG160408L-C	●	9.525	4.76	3.81	0.8
				*TNGG160408R-C	●	9.525	4.76	3.81	0.8
	D (G)			TNGG220404L-D	●	12.7	4.76	5.16	0.4
				TNGG220404R-D	●	12.7	4.76	5.16	0.4
				TNGG220408L-D	●	12.7	4.76	5.16	0.8
				*TNGG220408R-D	●	12.7	4.76	5.16	0.8
W (G)			TNGG160404L-W	●	9.525	4.76	3.81	0.4	
			TNGG160404R-W	●	9.525	4.76	3.81	0.4	
			TNGG160408L-W	●	9.525	4.76	3.81	0.8	
			*TNGG160408R-W	●	9.525	4.76	3.81	0.8	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Triangular, 60°

Negative inserts

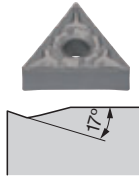
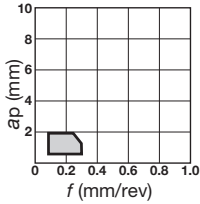
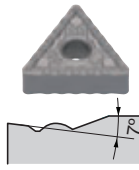
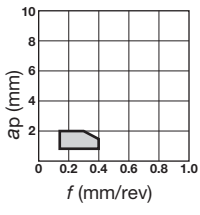
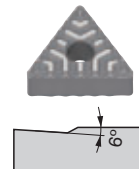
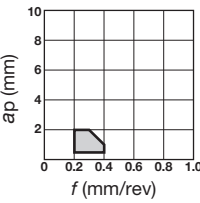
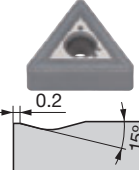
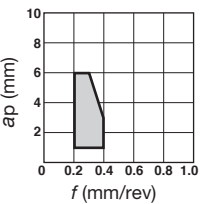

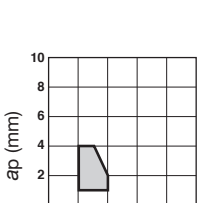

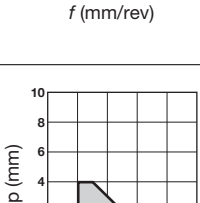

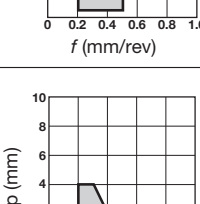
Application	Chipbreaker		f - ap	Cat. No	Grades		Dimensions (mm)				
	Appearance (Cross section)	f (mm/rev)			Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε	
					GT9530	NS9530					
Finishing	TSF			TNMG110404E-TSF	●	●	6.35	4.76	2.26	0.4	
				TNMG110408E-TSF	●	●	6.35	4.76	2.26	0.8	
				TNMG160402-TSF	●	●	9.525	4.76	3.81	0.2	
				TNMG160404-TSF	●	●	9.525	4.76	3.81	0.4	
				*TNMG160408-TSF	●	●	9.525	4.76	3.81	0.8	
		TS			TNMG160404-TS	●	●	9.525	4.76	3.81	0.4
					*TNMG160408-TS	●	●	9.525	4.76	3.81	0.8
		ZF			TNMG160404-ZF	●	●	9.525	4.76	3.81	0.4
					*TNMG160408-ZF	●	●	9.525	4.76	3.81	0.8
		NS			TNMG160404-NS		●	9.525	4.76	3.81	0.4
					*TNMG160408-NS		●	9.525	4.76	3.81	0.8
		11			TNMG110304-11		●	6.35	3.18	2.26	0.4
					TNMG110308-11		●	6.35	3.18	2.26	0.8
					TNMG160402-11		●	9.525	4.76	3.81	0.2
					TNMG160404-11		●	9.525	4.76	3.81	0.4
				*TNMG160408-11		●	9.525	4.76	3.81	0.8	
				TNMG220404-11		●	12.7	4.76	5.16	0.4	
				TNMG220408-11		●	12.7	4.76	5.16	0.8	
Finishing of mild steels	17			TNMG160404-17		●	9.525	4.76	3.81	0.4	
				*TNMG160408-17		●	9.525	4.76	3.81	0.8	
High feed, small depth of cut	AS			TNMG160404-AS		●	9.525	4.76	3.81	0.4	
				*TNMG160408-AS		●	9.525	4.76	3.81	0.8	
Boring (Double sided chip-breaker)	CB			TNMG110304-CB		●	6.35	3.18	2.26	0.4	
				*TNMG110308-CB		●	6.35	3.18	2.26	0.8	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Triangular, 60°

Negative inserts

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)				
				Coated cermet	Cermet	I.C.dia ød	Thick- ness S	Hole dia ød1	Corner radius rε	
				GT9530	NS9530					
Finishing to medium cutting	NEW TQ 		TNMG160404-TQ * TNMG160408-TQ	●	●	9.525	4.76	3.81	0.4	
	ZM 		TNMG160404-ZM * TNMG160408-ZM	●	●	9.525	4.76	3.81	0.4	
	27 		* TNMG160408-27		●	9.525	4.76	3.18	0.8	
	Medium cutting	All-round 		TNMG110304 TNMG110308 TNMG160404 * TNMG160408		●	6.35	3.18	2.26	0.4
		S 		TNMG160404L-S TNMG160404R-S TNMG160408L-S * TNMG160408R-S TNMG220404L-S TNMG220404R-S TNMG220408L-S TNMG220408R-S		●	9.525	4.76	3.81	0.4
		P (G) 		TNGG160402L-P TNGG160402R-P TNGG160404L-P TNGG160404R-P TNGG160408L-P * TNGG160408R-P		●	9.525	4.76	3.81	0.2
37 			TNMG160404-37 * TNMG160408-37		●	9.525	4.76	3.81	0.4	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Trigon, 80°

Negative inserts

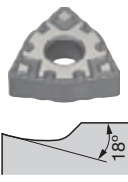
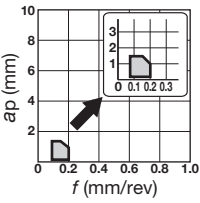
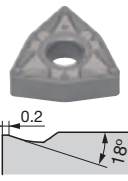
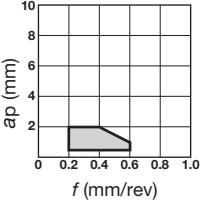
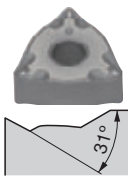
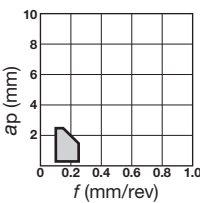
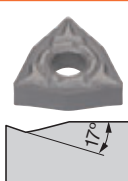
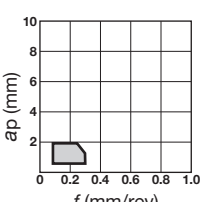
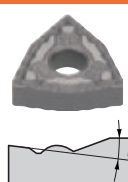
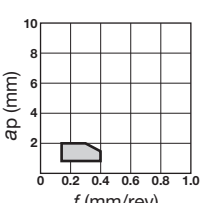
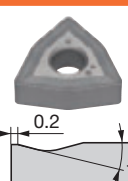
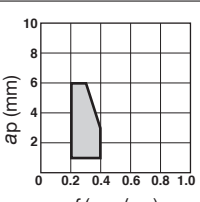
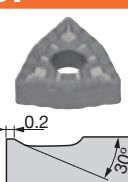
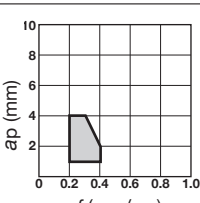
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				GT9530	NS9530				
Precision finishing	TF 		WNMG080404-TF * WNMG080408-TF	●	●	12.7	4.76	5.16	0.4 0.8
	01 (G) 		WNGG080402-01 WNGG080404-01 * WNGG080408-01	●	●	12.7	4.76	5.16	0.2 0.4 0.8
	TSF 		WNMG060404E-TSF	●	●	9.525	4.76	3.81	0.4
			WNMG060408E-TSF	●	●	9.525	4.76	3.81	0.8
			WNMG060412E-TSF	●	●	9.525	4.76	3.81	1.2
			WNMG080404-TSF	●	●	12.7	4.76	5.16	0.4
* WNMG080408-TSF			●	●	12.7	4.76	5.16	0.8	
Finishing	TS 		WNMG080404-TS * WNMG080408-TS	●	●	12.7	4.76	5.16	0.4 0.8
	ZF 		WNMG080404-ZF * WNMG080408-ZF	●	●	12.7	4.76	5.16	0.4 0.8
	NS 		WNMG080404-NS * WNMG080408-NS	●	●	12.7	4.76	5.16	0.4 0.8
	AFW 		WNMG060404-AFW	●	●	9.525	4.76	3.81	0.4
			WNMG060408-AFW	●	●	9.525	4.76	3.81	0.8
			WNMG080404-AFW	●	●	12.7	4.76	5.16	0.4
			* WNMG080408-AFW	●	●	12.7	4.76	5.16	0.8
	11 		WNMG080404-11 * WNMG080408-11	●	●	12.7	4.76	5.16	0.4 0.8

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Trigon, 80°

Negative inserts

Application	Chipbreaker		f - ap	Cat. No	Grades		Dimensions (mm)			
	Appearance (Cross section)	f (mm/rev)			Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
					GT9530	NS9530				
Finishing of mild steels	17			WNMG080404-17	●	12.7	4.76	5.16	0.4	
				*WNMG080408-17	●	12.7	4.76	5.16	0.8	
High feed, small depth of cut	AS			WNMG080404-AS	●	12.7	4.76	5.16	0.4	
				*WNMG080408-AS	●	12.7	4.76	5.16	0.8	
Boring (Double sided chip- breaker)	CB			WNMG060404-CB	●	9.525	4.76	3.81	0.4	
				*WNMG060408-CB	●	9.525	4.76	3.81	0.8	
Finishing to medium cutting	NEW TQ			WNMG080404-TQ	●	12.7	4.76	5.16	0.4	
				*WNMG080408-TQ	●	12.7	4.76	5.16	0.8	
		ZM			*WNMG080408-ZM	●	12.7	4.76	5.16	0.8
Medium cutting	All-round			WNMG080404	●	12.7	4.76	5.16	0.4	
				*WNMG080408	●	12.7	4.76	5.16	0.8	
		37			WNMG080404-37	●	12.7	4.76	5.16	0.4
				*WNMG080408-37	●	12.7	4.76	5.16	0.8	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Trigon, 80°

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				GT9530	NS9530				
Finishing to medium cutting (For small CNC lathes)	TS 		WXGU040302R-TS	●	●	6.35	3.18	2.7	0.2
			WXGU040302L-TS	●	●	6.35	3.18	2.7	0.2
			WXGU040304R-TS	●	●	6.35	3.18	2.7	0.4
			*WXGU040304L-TS	●	●	6.35	3.18	2.7	0.4
			WXGU040308R-TS	●	●	6.35	3.18	2.7	0.8
			WXGU040308L-TS	●	●	6.35	3.18	2.7	0.8
Finishing (Low cutting force) (For small CNC lathes)	SS 		WXGU040302R-SS	●	●	6.35	3.18	2.7	0.2
			WXGU040302L-SS	●	●	6.35	3.18	2.7	0.2
			WXGU040304R-SS	●	●	6.35	3.18	2.7	0.4
			*WXGU040304L-SS	●	●	6.35	3.18	2.7	0.4
Finishing (Wiper)	NEW TSW 		WXGU040304R-TSW	●	●	6.35	3.18	2.7	0.4
			*WXGU040304L-TSW	●	●	6.35	3.18	2.7	0.4
			WXGU040308R-TSW	●	●	6.35	3.18	2.7	0.8
			WXGU040308L-TSW	●	●	6.35	3.18	2.7	0.8

Rhombic, 35°

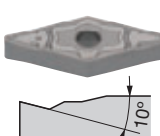
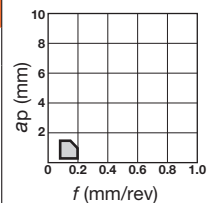
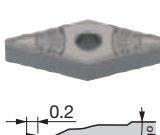
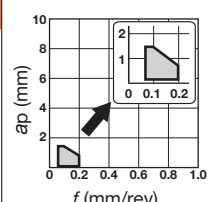
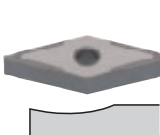
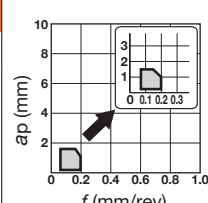
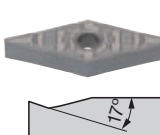
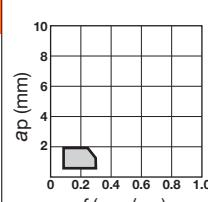
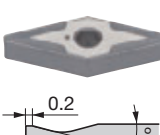
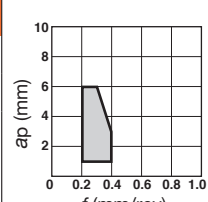
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				GT9530	NS9530				
Precision finishing	TF 		VNMG160404-TF		●	9.525	4.76	3.81	0.4
			*VNMG160408-TF		●	9.525	4.76	3.81	0.8
	01 (G) 		VNGG160402-01		●	9.525	4.76	3.81	0.2
			*VNGG160404-01		●	9.525	4.76	3.81	0.4
			VNGG160408-01		●	9.525	4.76	3.81	0.8
Finishing	TSF 		VNMG160402-TSF	●	●	9.525	4.76	3.81	0.2
			VNMG160404-TSF	●	●	9.525	4.76	3.81	0.4
			*VNMG160408-TSF	●	●	9.525	4.76	3.81	0.8

*Note: Chipbreaker cross sections are of * marked insert.

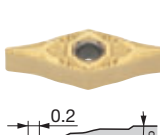
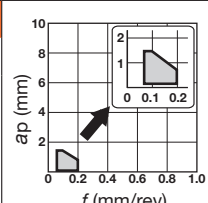
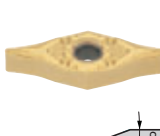
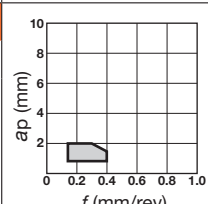
● : Stocked items

Rhombic, 35°

Negative inserts

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia	Thick- ness	Hole dia	Corner radius
				GT9530	NS9530	ød	s	ød1	rε
Finishing	TS 		VNMG160404-TS ● ●	●	●	9.525	4.76	3.81	0.4
			*VNMG160408-TS ● ●	●	●	9.525	4.76	3.81	0.8
	ZF 		VNMG160404-ZF ● ●	●	●	9.525	4.76	3.81	0.4
			*VNMG160408-ZF ● ●	●	●	9.525	4.76	3.81	0.8
	11 		*VNMG160404-11 ● ●		●	9.525	4.76	3.81	0.4
			VNMG160408-11 ● ●		●	9.525	4.76	3.81	0.8
			VNMG160412-11 ● ●		●	9.525	4.76	3.81	1.2
Finishing to medium cutting	TQ 		VNMG160404-TQ ● ●	●	●	9.525	4.76	3.81	0.4
			*VNMG160408-TQ ● ●	●	●	9.525	4.76	3.81	0.8
Medium cutting	All-round 		VNMG160404 ● ●		●	9.525	4.76	3.81	0.4
			*VNMG160408 ● ●		●	9.525	4.76	3.81	0.8
			VNMG160412 ● ●		●	9.525	4.76	3.81	1.2

Rhombic, 25°

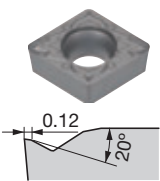
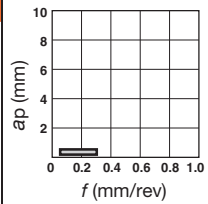
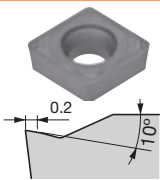
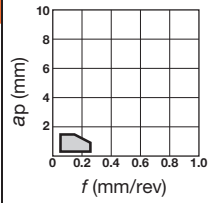
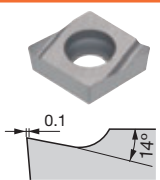
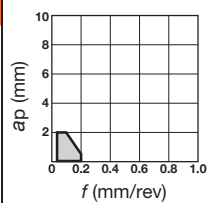
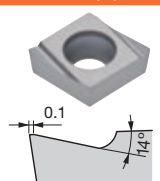
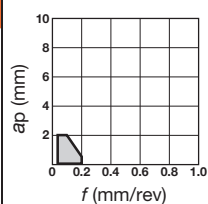
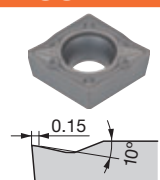
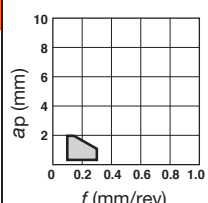
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia	Thick- ness	Hole dia	Corner radius
				GT9530	NS9530	ød	s	ød1	rε
Finishing to medium cutting	ZF 		YNMG160404-ZF ● ●		●	9.525	4.76	3.81	0.4
			*YNMG160408-ZF ● ●		●	9.525	4.76	3.81	0.8
	ZM 		YNMG160404-ZM ● ●	●		9.525	4.76	3.81	0.4
			*YNMG160408-ZM ● ●	●		9.525	4.76	3.81	0.8

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Inserts Positive type

Rhombic, 80° (7°)

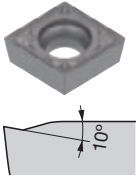
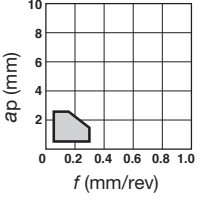
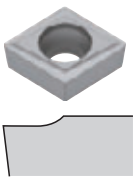
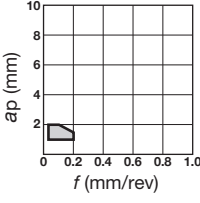
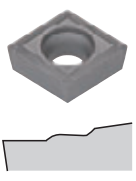
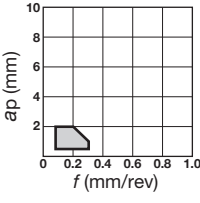
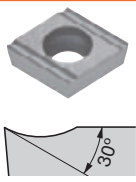
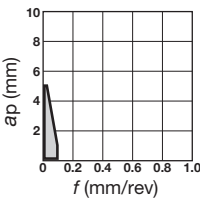
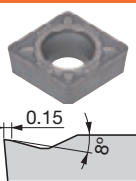
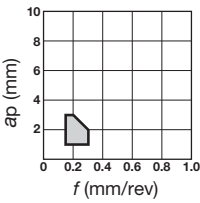
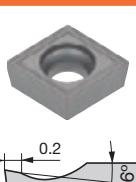
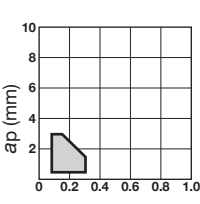
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				GT9530	NS9530				
Finishing	PSF 		CCMT060202-PSF	●	●	6.35	2.38	2.8	0.2
			CCMT060204-PSF	●	●	6.35	2.38	2.8	0.4
			CCMT09T302-PSF		●	9.525	3.97	4.4	0.2
			CCMT09T304-PSF	●	●	9.525	3.97	4.4	0.4
			*CCMT09T308-PSF	●	●	9.525	3.97	4.4	0.8
	PF 		CCMT060202-PF	●	●	6.35	2.38	2.8	0.2
			CCMT060204-PF	●	●	6.35	2.38	2.8	0.4
			CCMT060208-PF	●	●	6.35	2.38	2.8	0.8
			CCMT09T302-PF		●	9.525	3.97	4.4	0.2
			CCMT09T304-PF	●	●	9.525	3.97	4.4	0.4
	*CCMT09T308-PF	●	●	9.525	3.97	4.4	0.8		
	W15 (G) 		CCGT060200L-W15		●	6.35	2.38	2.8	0.03
			CCGT060202L-W15	●	●	6.35	2.38	2.8	0.2
			CCGT060202R-W15		●	6.35	2.38	2.8	0.2
			CCGT060204L-W15	●	●	6.35	2.38	2.8	0.4
*CCGT060204R-W15				●	6.35	2.38	2.8	0.4	
W20 (G) 		CCGT09T302L-W20	●	●	9.525	3.97	4.4	0.2	
		CCGT09T302R-W20		●	9.525	3.97	4.4	0.2	
		CCGT09T304L-W20	●	●	9.525	3.97	4.4	0.4	
		*CCGT09T304R-W20		●	9.525	3.97	4.4	0.4	
		CCGT09T308L-W20	●	●	9.525	3.97	4.4	0.8	
		CCGT09T308R-W20		●	9.525	3.97	4.4	0.8	
Finishing to light cutting	PSS 		CCMT060204-PSS	●	●	6.35	2.38	2.8	0.4
			CCMT060208-PSS	●	●	6.35	2.38	2.8	0.8
			*CCMT09T304-PSS	●	●	9.525	3.97	4.4	0.4
			CCMT09T308-PSS	●	●	9.525	3.97	4.4	0.8

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Rhombic, 80° (7°)

Positive inserts

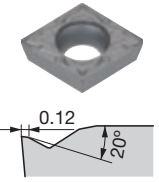
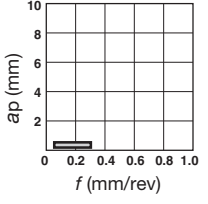
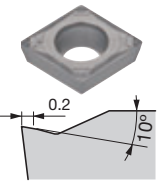
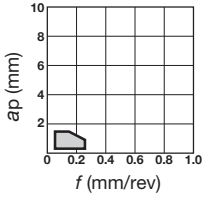
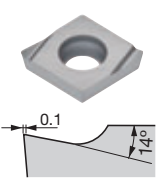
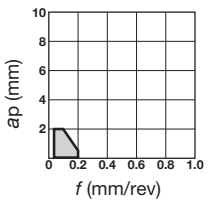
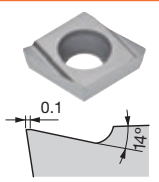
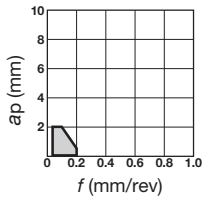
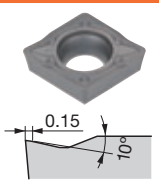
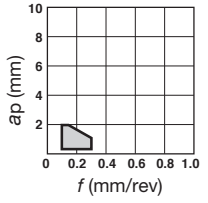
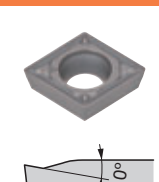
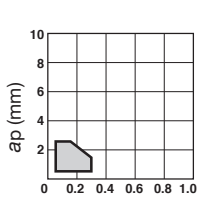

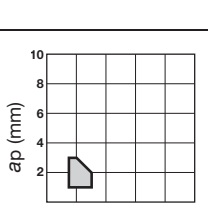

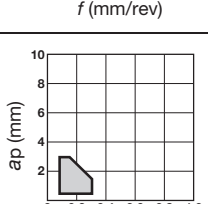
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia	Thick- ness	Hole dia	Corner radius
				GT9530	NS9530	ød	s	ød1	rε
Finishing to medium cutting	PS 		CCMT060202-PS	●	●	6.35	2.38	2.8	0.2
			CCMT060204-PS	●	●	6.35	2.38	2.8	0.4
			CCMT060208-PS	●	●	6.35	2.38	2.8	0.8
			CCMT09T302-PS	●	●	9.525	3.97	4.4	0.2
			*CCMT09T304-PS	●	●	9.525	3.97	4.4	0.4
			CCMT09T308-PS	●	●	9.525	3.97	4.4	0.8
	All-round (G) 		CCGT060202		●	6.35	2.38	2.8	0.2
			CCGT060204		●	6.35	2.38	2.8	0.4
			CCGT09T302		●	9.525	3.97	4.4	0.2
			*CCGT09T304		●	9.525	3.97	4.4	0.4
			CCGT09T308		●	9.525	3.97	4.4	0.8
			23 		CCMT060202-23		●	6.35	2.38
CCMT060204-23		●			6.35	2.38	2.8	0.4	
*CCMT09T304-23		●			9.525	3.97	4.4	0.4	
CCMT09T308-23		●			9.525	3.97	4.4	0.8	
For external turning on small lathes (Sharp edges)	J10 (G) 		*CCGT060201FR-J10		●	6.35	2.38	2.8	0.1
			CCGT060202FL-J10		●	6.35	2.38	2.8	0.2
			CCGT060202FR-J10		●	6.35	2.38	2.8	0.2
Medium cutting	PM 		CCMT060204-PM	●	●	6.35	2.38	2.8	0.4
			CCMT060208-PM	●	●	6.35	2.38	2.8	0.8
			CCMT09T304-PM	●	●	9.525	3.97	4.4	0.4
			*CCMT09T308-PM	●	●	9.525	3.97	4.4	0.8
			24 		CCMT060202-24		●	6.35	2.38
	CCMT060204-24				●	6.35	2.38	2.8	0.4
	CCMT060208-24				●	6.35	2.38	2.8	0.8
	CCMT09T302-24				●	9.525	3.97	4.4	0.2
	*CCMT09T304-24				●	9.525	3.97	4.4	0.4
	CCMT09T308-24		●	9.525	3.97	4.4	0.8		
CCMT120408-24		●	12.7	4.76	5.5	0.8			

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Rhombic, 80° (11°)

Positive inserts

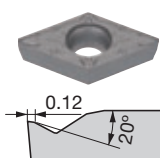
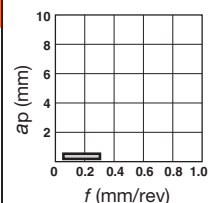

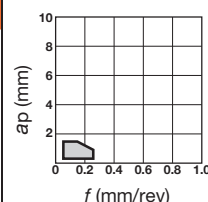

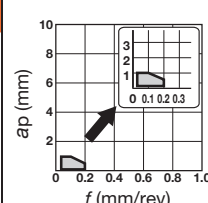

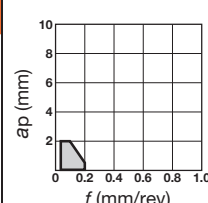

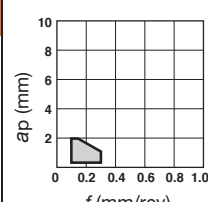

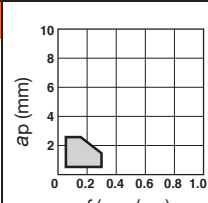

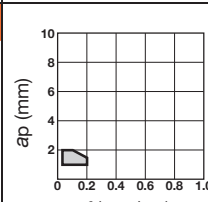

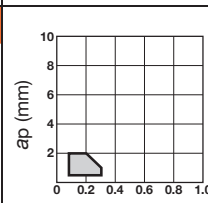
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia	Thick- ness	Hole dia	Corner radius
				GT9530	NS9530	ød	s	ød1	rε
Finishing	PSF 		CPMT090302-PSF	●	●	9.525	3.18	4.4	0.2
			*CPMT090304-PSF	●	●	9.525	3.18	4.4	0.4
	PF 		CPMT090302-PF	●	●	9.525	3.18	4.4	0.2
			*CPMT090304-PF	●	●	9.525	3.18	4.4	0.4
	W15 (G) 		CPGT050202L-W15		●	5.56	2.38	2.5	0.2
			CPGT050204L-W15		●	5.56	2.38	2.5	0.4
			CPGT080202L-W15		●	7.94	2.38	3.4	0.2
			*CPGT080204L-W15		●	7.94	2.38	3.4	0.4
	W20 (G) 		CPGT090302L-W20		●	9.525	3.18	4.4	0.2
			CPGT090302R-W20		●	9.525	3.18	4.4	0.2
			CPGT090304L-W20		●	9.525	3.18	4.4	0.4
			*CPGT090304R-W20		●	9.525	3.18	4.4	0.4
Finishing to light cutting	PSS 		CPMT060204-PSS	●	●	6.35	2.38	2.8	0.4
			CPMT080204-PSS	●	●	7.94	2.38	3.4	0.4
			CPMT080208-PSS	●	●	7.94	2.38	3.4	0.8
			*CPMT090304-PSS	●	●	9.525	3.18	4.4	0.4
			CPMT090308-PSS	●	●	9.525	3.18	4.4	0.8
Finishing to medium cutting	PS 		CPMT060202-PS		●	6.35	2.38	2.8	0.2
			CPMT060204-PS	●	●	6.35	2.38	2.8	0.4
			CPMT080202-PS	●	●	7.94	2.38	3.4	0.2
			CPMT080204-PS	●	●	7.94	2.38	3.4	0.4
			CPMT080208-PS	●	●	7.94	2.38	3.4	0.8
			*CPMT090304-PS	●	●	9.525	3.18	4.4	0.4
			CPMT090308-PS	●	●	9.525	3.18	4.4	0.8
Medium cutting	PM 		*CPMT090304-PM		●	9.525	3.18	4.4	0.4
			CPMT090308-PM		●	9.525	3.18	4.4	0.8
	24 		CPMT120408-24		●	12.7	4.76	5.5	0.8
			*CPMT160508-24		●	15.878	5.56	5.5	0.8
			CPMT160512-24		●	15.878	5.56	5.5	1.2

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Rhombic, 55° (7°)

Positive inserts


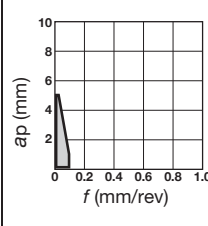
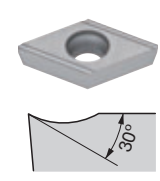
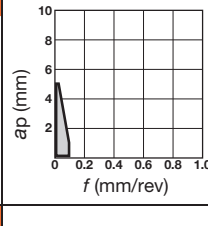
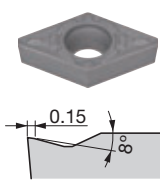
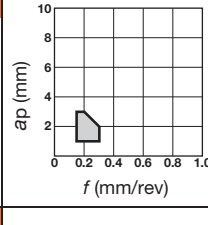
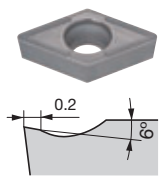
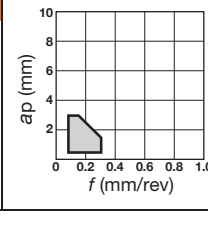
Application	Chipbreaker		Cat. No	Grades		Dimensions (mm)					
	Appearance (Cross section)	f - ap		Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius r _ε		
				GT9530	NS9530						
Finishing	PSF 		DCMT070202-PSF	●	●	6.35	2.38	2.8	0.2		
			DCMT070204-PSF	●	●	6.35	2.38	2.8	0.4		
			DCMT11T302-PSF	●	●	9.525	3.97	4.4	0.2		
			*DCMT11T304-PSF	●	●	9.525	3.97	4.4	0.4		
	PF 		DCMT070202-PF	●	●	6.35	2.38	2.8	0.2		
			DCMT070204-PF	●	●	6.35	2.38	2.8	0.4		
			*DCMT070208-PF	●	●	6.35	2.38	2.8	0.8		
			DCMT11T302-PF	●	●	9.525	3.97	4.4	0.2		
	W10 (G) 		DCGT070202L-W10	●	●	6.35	2.38	2.8	0.2		
			DCGT070202R-W10		●	6.35	2.38	2.8	0.2		
			DCGT070204L-W10	●	●	6.35	2.38	2.8	0.4		
			*DCGT070204R-W10		●	6.35	2.38	2.8	0.4		
			W15 (G) 		DCGT11T302L-W15	●	●	9.525	3.97	4.4	0.2
					DCGT11T302R-W15		●	9.525	3.97	4.4	0.2
	DCGT11T304L-W15	●			●	9.525	3.97	4.4	0.4		
	*DCGT11T304R-W15				●	9.525	3.97	4.4	0.4		
Finishing to light cutting 		DCMT070204-PSS	●	●	6.35	2.38	2.8	0.4			
		DCMT070208-PSS	●	●	6.35	2.38	2.8	0.8			
		*DCMT11T304-PSS	●	●	9.525	3.97	4.4	0.4			
		DCMT11T308-PSS	●	●	9.525	3.97	4.4	0.8			
		Finishing to medium cutting 		DCMT070202-PS	●	●	6.35	2.38	2.8	0.2	
				DCMT070204-PS	●	●	6.35	2.38	2.8	0.4	
DCMT070208-PS	●			●	6.35	2.38	2.8	0.8			
DCMT11T302-PS	●			●	9.525	3.97	4.4	0.2			
*DCMT11T304-PS	●			●	9.525	3.97	4.4	0.4			
DCMT11T308-PS	●			●	9.525	3.97	4.4	0.8			
All-round (G) 				DCGT070202		●	6.35	2.38	2.8	0.2	
				DCGT070204		●	6.35	2.38	2.8	0.4	
		DCGT11T302		●	9.525	3.97	4.4	0.2			
		*DCGT11T304		●	9.525	3.97	4.4	0.4			
		DCGT11T308		●	9.525	3.97	4.4	0.8			
23 		DCMT070204-23		●	6.35	2.38	2.8	0.4			
		*DCMT11T304-23		●	9.525	3.97	4.4	0.4			
		DCMT11T308-23		●	9.525	3.97	4.4	0.8			

*Note: Chipbreaker cross sections are of * marked insert.

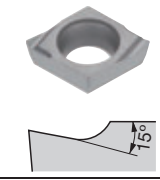
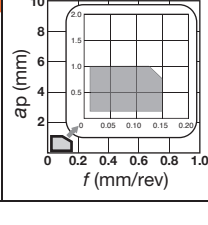
● : Stocked items

Rhombic, 55° (7°)

Positive inserts

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades			Dimensions (mm)			
				Coated cermet	Cermet		I.C.dia	Thick-ness	Hole dia	Corner radius
				GT9530	J9530	NS9530	ød	s	ød1	rε
For external turning on small lathes (Sharp edges)	J10 (G) 		DCGT070201FL-J10		●	6.35	2.38	2.8	0.1	
			DCGT070201FR-J10		●	6.35	2.38	2.8	0.1	
			DCGT070202FL-J10		●	6.35	2.38	2.8	0.2	
			DCGT070202FR-J10		●	6.35	2.38	2.8	0.2	
			DCGT11T301FL-J10		●	9.525	3.97	4.4	0.1	
			DCGT11T301FR-J10		●	9.525	3.97	4.4	0.1	
			DCGT11T302FL-J10		●	9.525	3.97	4.4	0.2	
			*DCGT11T302FR-J10		●	9.525	3.97	4.4	0.2	
For external turning on small lathes (Honed edges)	J10 (G) 		DCGT070202R-J10		●	6.35	2.38	2.8	0.2	
			*DCGT11T302R-J10		●	9.525	3.97	4.4	0.2	
Medium cutting	PM 		DCMT070204-PM	●	●	6.35	2.38	2.8	0.4	
			DCMT070208-PM	●	●	6.35	2.38	2.8	0.8	
			DCMT11T304-PM	●	●	9.525	3.97	4.4	0.4	
			*DCMT11T308-PM	●	●	9.525	3.97	4.4	0.8	
	24 		DCMT070202-24		●	6.35	2.38	2.8	0.2	
			DCMT070204-24		●	6.35	2.38	2.8	0.4	
			DCMT070208-24		●	6.35	2.38	2.8	0.8	
			DCMT11T302-24		●	9.525	3.97	4.4	0.2	
			*DCMT11T304-24		●	9.525	3.97	4.4	0.4	
			DCMT11T308-24		●	9.525	3.97	4.4	0.8	

Rhombic, 75° (11°)

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia	Thick-ness	Hole dia	Corner radius
				GT9530	NS9530	ød	s	ød1	rε
Finishing	W08 (G) 		EPGT040100L-W08		●	3.97	1.59	2.3	0.03
			EPGT040102L-W08	●	●	3.97	1.59	2.3	0.2
			*EPGT040102R-W08		●	3.97	1.59	2.3	0.2
			EPGT040104L-W08	●	●	3.97	1.59	2.3	0.4
			EPGT040104R-W08		●	3.97	1.59	2.3	0.4

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Square, 90° (7°)

Positive inserts

Application	Chipbreaker		Cat. No	Grades		Dimensions (mm)			
	Appearance (Cross section)	$f - a_p$		Coated cermet	Cermet	I.C.dia $\varnothing d$	Thick- ness s	Hole dia $\varnothing d_1$	Corner radius r_E
				GT9530	NS9530				
Finishing to medium cutting	PS		*SCMT09T304-PS	●	●	9.525	3.97	4.4	0.4
			SCMT09T308-PS	●	●	9.525	3.97	4.4	0.8
			SCMT120404-PS		●	12.7	4.76	5.5	0.4
			SCMT120408-PS		●	12.7	4.76	5.5	0.8
	23		*SCMT09T302-23		●	9.525	3.97	4.4	0.2
Medium cutting	PM		*SCMT09T304-PM		●	9.525	3.97	4.4	0.4
			SCMT09T308-PM		●	9.525	3.97	4.4	0.8
			SCMT120408-PM		●	12.7	4.76	5.5	0.8
			SCMT120412-PM		●	12.7	4.76	5.5	1.2
	24		SCMT070204-24		●	7.94	2.38	3.4	0.4
			SCMT09T302-24		●	9.525	3.97	4.4	0.2
			SCMT09T304-24		●	9.525	3.97	4.4	0.4
			*SCMT09T308-24		●	9.525	3.97	4.4	0.8
			SCMT120404-24		●	12.7	4.76	5.5	0.4
		SCMT120408-24		●	12.7	4.76	5.5	0.8	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Square, 90° (11°)

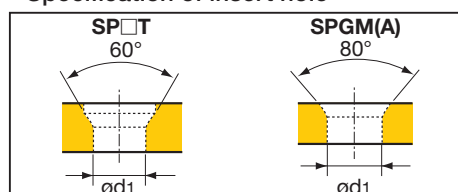
Positive inserts

Application	Chipbreaker		Cat. No	Grades		Dimensions (mm)				
	Appearance (Cross section)	$f - a_p$		Coated cermet	Cermet	I.C.dia $\varnothing d$	Thick- ness s	Hole dia $\varnothing d1$	Corner radius $r\epsilon$	
				GT9530	NS9530					
Finishing	W15 (G) 		SPGT090302L-W15 SPGT090304L-W15 *SPGT090308L-W15	●	●	9.525	3.18	4.4	0.2 0.4 0.8	
	W20 (G) 		*SPGT120404L-W20	●		12.7	4.76	5.5	0.4	
	with hand (G) 		SPGM090304L SPGM120304L *SPGM120308L	●	●	9.525 12.7 12.7	3.18 4.76 4.76	4.4 5.5 5.5	0.4 0.4 0.8	
	Finishing to medium cutting	PS 		SPMT090304-PS *SPMT090308-PS	●	●	9.525	3.18	4.4	0.4 0.8
		23 		SPMT090304-23 *SPMT090308-23	●	●	9.525	3.18	4.4	0.4 0.8
		Medium cutting	24 		SPMT090304-24 *SPMT090308-24 SPMT120404-24 SPMT120408-24	●	●	9.525 9.525 12.7 12.7	3.18 3.18 4.76 4.76	4.4 4.4 5.5 5.5
Finishing to medium cutting	- (G) 			*SPGA090304	●		9.525	3.18	4.4	0.4

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

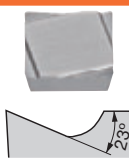
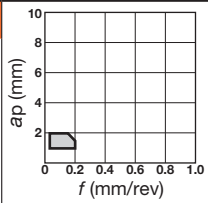
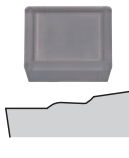
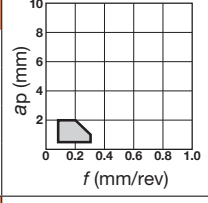

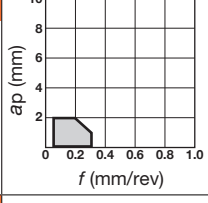
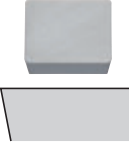
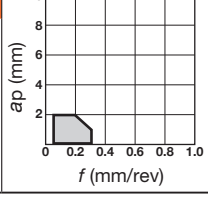
● Specification of insert hole



	Cat. No	0903□□	1204□□
ød1 (mm)	SP□T	4.4	5.5
	SPGM(A)	4.0	5.0

Square, 90° (11°) without hole

Positive inserts

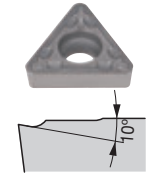
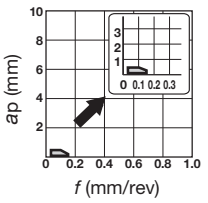
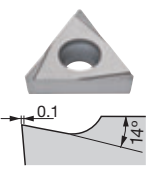
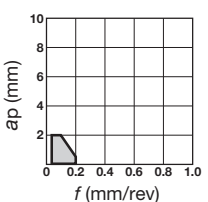
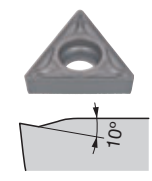
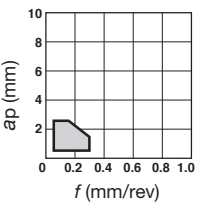
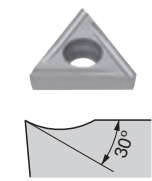
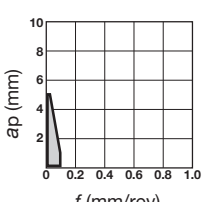
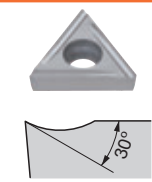
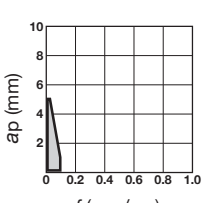
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				GT9530	NS9530				
Finishing to medium cutting	with hand (G) 		*SPGR090304L		●	9.525	3.18	-	0.4
	23 		SPMR090304-23		●	9.525	3.18	-	0.4
			SPMR090308-23		●	9.525	3.18	-	0.8
			SPMR120304-23		●	12.7	3.18	-	0.4
			*SPMR120308-23		●	12.7	3.18	-	0.8
	- (G) 		*SPGN120312		●	12.7	3.18	-	1.2
	- 		*SPMN120308		●	12.7	3.18	-	0.8

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Triangular, 60° (7°)

Positive inserts

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades			Dimensions (mm)			
				Coated cermet	Cermet		I.C.dia	Thick- ness s	Hole dia ød1	Corner radius rε
				GT9530	J9530	NS9530				
Precision finishing	01 (G) 		TCGT110204-01	●	●	6.35	2.38	2.8	0.4	
			*TCGT110208-01		●	6.35	2.38	2.8	0.8	
Finishing	W15 (G) 		*TCGT16T304L-W15		●	9.525	3.97	4.4	0.4	
Finishing to medium cutting	PS 		TCMT110202-PS	●	●	6.35	2.38	2.8	0.2	
			*TCMT110204-PS	●	●	6.35	2.38	2.8	0.4	
			TCMT110208-PS	●	●	6.35	2.38	2.8	0.8	
			TCMT16T302-PS		●	9.525	3.97	4.4	0.2	
			TCMT16T304-PS		●	9.525	3.97	4.4	0.4	
For external turning on small lathes (Sharp edges)	J10 (G) 		TCGT110202FL-J10		●	6.35	2.38	2.8	0.2	
			*TCGT110202FR-J10		●	6.35	2.38	2.8	0.2	
			TCGT110302FL-J10		●	6.35	3.18	3.4	0.2	
			TCGT110302FR-J10		●	6.35	3.18	3.4	0.2	
For external turning on small lathes (Honed edges)	J10 (G) 		TCGT110302L-J10		●	6.35	3.18	3.4	0.2	
			*TCGT110302R-J10		●	6.35	3.18	3.4	0.2	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Triangular, 60° (7°)

Positive inserts

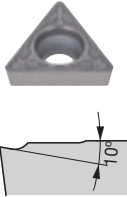
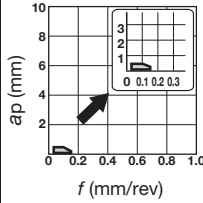
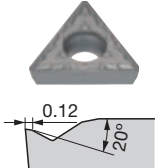
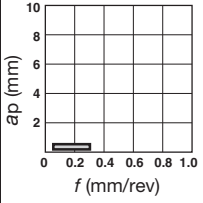
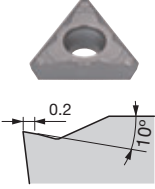
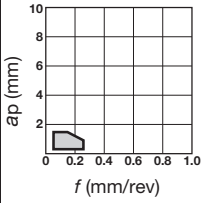
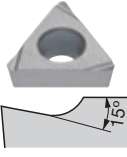
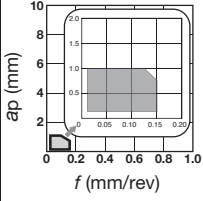
Application	Chipbreaker		f - ap	Cat. No	Grades			Dimensions (mm)			
	Appearance (Cross section)	f (mm/rev)			Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε	
					GT9530	J9530					NS9530
Finishing	with hand (G)			*TCGT080102R		●	4.76	1.59	2.3	0.2	
	Finishing to medium cutting	23			TCMT090204-23		●	5.56	2.38	2.5	0.4
				*TCMT110204-23		●	6.35	2.38	2.8	0.4	
				TCMT16T304-23		●	9.525	3.97	4.4	0.4	
Medium cutting	PM			*TCMT110204-PM		●	6.35	2.38	2.8	0.4	
				TCMT110208-PM		●	6.35	2.38	2.8	0.8	
				TCMT16T304-PM		●	9.525	3.97	4.4	0.4	
				TCMT16T308-PM		●	9.525	3.97	4.4	0.8	
	24			TCMT090202-24		●	5.56	2.38	2.5	0.2	
				TCMT090204-24		●	5.56	2.38	2.5	0.4	
				*TCMT110202-24		●	6.35	2.38	2.8	0.2	
				TCMT110204-24		●	6.35	2.38	2.8	0.4	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Triangular, 60° (11°)

Positive inserts

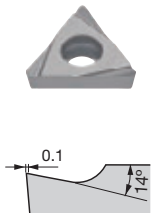
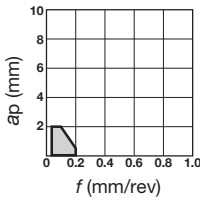
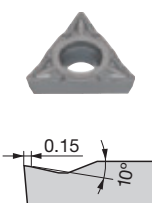
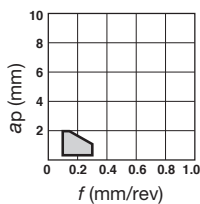
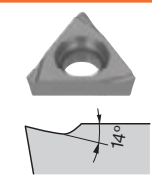
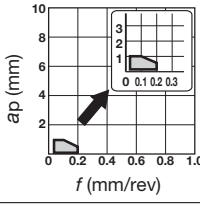
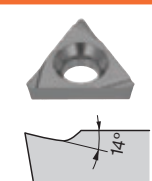
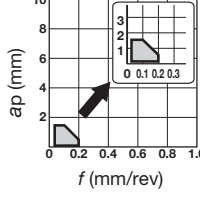
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				GT9530	NS9530				
Precision finishing	01 (G) 		TPGT090202-01	●	●	5.56	2.38	2.5	0.2
			*TPGT090204-01	●	●	5.56	2.38	2.5	0.4
			TPGT110202-01	●	●	6.35	2.38	2.8	0.2
			TPGT110204-01	●	●	6.35	2.38	2.8	0.4
			TPGT110208-01		●	6.35	2.38	2.8	0.8
			TPGT130302-01		●	7.94	3.18	3.4	0.2
			TPGT130304-01	●	●	7.94	3.18	3.4	0.4
			TPGT130308-01		●	7.94	3.18	3.4	0.8
			TPGT16T304-01	●	●	9.525	3.97	4.4	0.4
			TPGT16T308-01		●	9.525	3.97	4.4	0.8
Finishing	PSF 		TPMT090202-PSF		●	5.56	2.38	2.5	0.2
			TPMT090204-PSF	●	●	5.56	2.38	2.5	0.4
			TPMT110202-PSF		●	6.35	2.38	2.8	0.2
			TPMT110204-PSF	●	●	6.35	2.38	2.8	0.4
			*TPMT110302-PSF		●	6.35	3.18	3.4	0.2
	TPMT110304-PSF	●	●	6.35	3.18	3.4	0.4		
	PF 		TPMT110204-PF	●	●	6.35	2.38	2.8	0.4
			TPMT110208-PF	●	●	6.35	2.38	2.8	0.8
			TPMT110302-PF		●	6.35	3.18	3.4	0.2
			TPMT110304-PF	●	●	6.35	3.18	3.4	0.4
			TPMT130304-PF	●	●	7.94	3.18	3.4	0.4
			TPMT130308-PF		●	7.94	3.18	3.4	0.8
	*TPMT16T304-PF	●	●	9.525	3.97	4.4	0.4		
	W08 (G) 		TPGT080200L-W08	●	●	4.76	2.38	2.3	0.03
TPGT080202L-W08			●	●	4.76	2.38	2.3	0.2	
*TPGT080204L-W08			●	●	4.76	2.38	2.3	0.4	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Triangular, 60° (11°)

Positive inserts

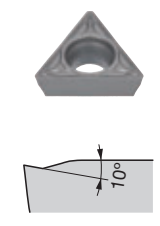
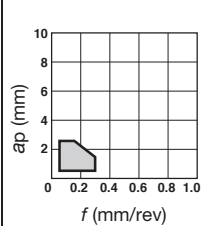
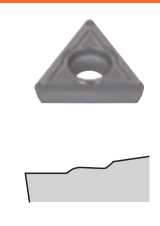
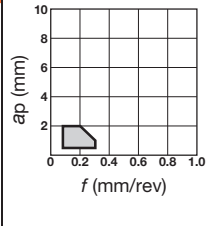
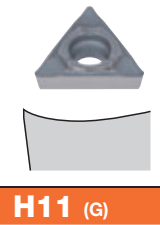
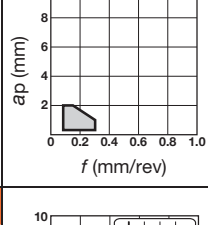
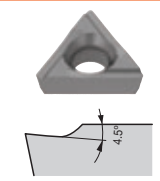
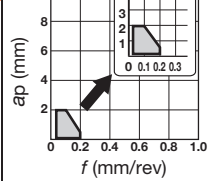
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				GT9530	NS9530				
Finishing			TPGT090202L-W15	●	●	5.56	2.38	2.5	0.2
			TPGT090202R-W15		●	5.56	2.38	2.5	0.2
			TPGT090204L-W15	●	●	5.56	2.38	2.5	0.4
			TPGT090204R-W15		●	5.56	2.38	2.5	0.4
			TPGT110202L-W15	●	●	6.35	2.38	2.8	0.2
			TPGT110202R-W15		●	6.35	2.38	2.8	0.2
			*TPGT110204L-W15	●	●	6.35	2.38	2.8	0.4
			TPGT110302L-W15		●	6.35	3.18	3.4	0.2
			TPGT110304L-W15		●	6.35	3.18	3.4	0.4
			TPGT110304R-W15		●	6.35	3.18	3.4	0.4
			TPGT110308L-W15		●	6.35	3.18	3.4	0.8
			TPGT130302L-W15	●	●	7.94	3.18	3.4	0.2
			TPGT130302R-W15		●	7.94	3.18	3.4	0.2
			TPGT130304L-W15	●	●	7.94	3.18	3.4	0.4
			TPGT130304R-W15		●	7.94	3.18	3.4	0.4
			TPGT130308L-W15		●	7.94	3.18	3.4	0.8
			TPGT16T302L-W15	●	●	9.525	3.97	4.4	0.2
			TPGT16T302R-W15		●	9.525	3.97	4.4	0.2
			TPGT16T304L-W15	●	●	9.525	3.97	4.4	0.4
			TPGT16T304R-W15		●	9.525	3.97	4.4	0.4
TPGT16T308L-W15		●	9.525	3.97	4.4	0.8			
Finishing to light cutting			TPMT090204-PSS	●	●	5.56	2.38	2.5	0.4
			TPMT090208-PSS	●	●	5.56	2.38	2.5	0.8
			*TPMT110204-PSS	●	●	6.35	2.38	2.8	0.4
			TPMT110208-PSS	●	●	6.35	2.38	2.8	0.8
			TPMT130308-PSS	●	●	7.94	3.18	3.4	0.8
			TPMT16T304-PSS	●	●	9.525	3.97	4.4	0.4
TPMT16T308-PSS	●	●	9.525	3.97	4.4	0.8			
W10 (G)			TPGH080202L-W10	●	●	4.76	2.38	2.3	0.2
			TPGH080204L-W10	●	●	4.76	2.38	2.3	0.4
			*TPGH090204L-W10	●	●	5.56	2.38	3.0	0.4
W13 (G)			*TPGH110204L-W13	●	●	6.35	2.38	3.4	0.4
			TPGH110302L-W13	●	●	6.35	3.18	3.4	0.2
			TPGH110304L-W13	●	●	6.35	3.18	3.4	0.4

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Triangular, 60° (11°)

Positive inserts

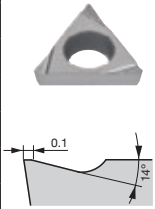
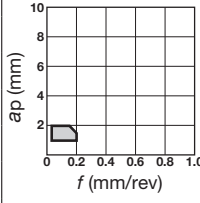
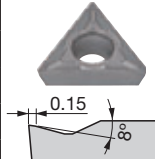
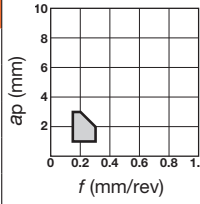
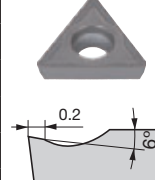
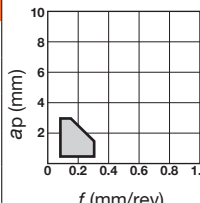
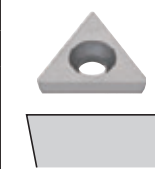
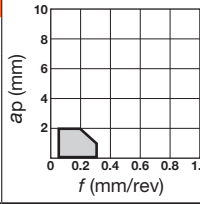
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)			
				Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				GT9530	NS9530				
Finishing to medium cutting	PS 		TPMT090202-PS	●	●	5.56	2.38	2.5	0.2
			TPMT090204-PS	●	●	5.56	2.38	2.5	0.4
			TPMT090208-PS	●	●	5.56	2.38	2.5	0.8
			TPMT110202-PS	●	●	6.35	2.38	2.8	0.2
			TPMT110204-PS	●	●	6.35	2.38	2.8	0.4
			TPMT110208-PS	●	●	6.35	2.38	2.8	0.8
			*TPMT110304-PS	●	●	6.35	3.18	3.4	0.4
			TPMT110308-PS	●	●	6.35	3.18	3.4	0.8
			TPMT130302-PS	●	●	7.94	3.18	3.4	0.2
			TPMT130304-PS	●	●	7.94	3.18	3.4	0.4
			TPMT130308-PS	●	●	7.94	3.18	3.4	0.8
			TPMT16T304-PS	●	●	9.525	3.97	4.4	0.4
			TPMT16T308-PS	●	●	9.525	3.97	4.4	0.8
	23 		TPMT090202-23		●	5.56	2.38	2.5	0.2
			TPMT090204-23		●	5.56	2.38	2.5	0.4
			*TPMT110204-23		●	6.35	2.38	2.8	0.4
			TPMT130304-23		●	7.94	3.18	3.4	0.4
			TPMT130308-23		●	7.94	3.18	3.4	0.8
			TPMT16T304-23		●	9.525	3.97	4.4	0.4
	TPMT16T308-23		●	9.525	3.97	4.4	0.8		
SS (G) 		TPGT110202-SS		●	6.35	2.38	2.8	0.2	
		*TPGT110204-SS		●	6.35	2.38	2.8	0.4	
		TPGT130302-SS		●	7.94	3.18	3.4	0.2	
		TPGT130304-SS		●	7.94	3.18	3.4	0.4	
		TPGT16T304-SS		●	9.525	3.97	4.4	0.4	
H11 (G) 		TPGH110302L-H11	●	●	6.35	3.18	3.4	0.2	
		*TPGH110304L-H11	●	●	6.35	3.18	3.4	0.4	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Triangular, 60° (11°)

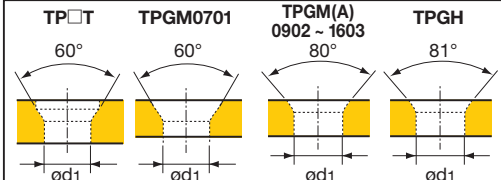
Positive inserts

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)				
				Coated cermet	Cermet	I.C.dia	Thick- ness	Hole dia	Corner radius	
				GT9530	NS9530	ød	S	ød1	rε	
Finishing to medium cutting	with hand (G)			*TPGM070102L	●	●	4.37	1.59	2.7	0.2
				TPGM070102R	●	●	4.37	1.59	2.7	0.2
				TPGM070104L	●	●	4.37	1.59	2.7	0.4
				TPGM070104R	●	●	4.37	1.59	2.7	0.4
				TPGM090202L	●	●	5.56	2.38	3.2	0.2
				TPGM090202R	●	●	5.56	2.38	3.2	0.2
				TPGM090204L	●	●	5.56	2.38	3.2	0.4
				TPGM110202L	●	●	6.35	2.38	3.0	0.2
				TPGM110202R	●	●	6.35	2.38	3.0	0.2
				TPGM110204L	●	●	6.35	2.38	3.0	0.4
				TPGM110204R	●	●	6.35	2.38	3.0	0.4
				TPGM110302L	●	●	6.35	3.18	3.0	0.2
				TPGM110302R	●	●	6.35	3.18	3.0	0.2
				TPGM110304L	●	●	6.35	3.18	3.0	0.4
				TPGM110304R	●	●	6.35	3.18	3.0	0.4
				TPGM160302L	●	●	9.525	3.18	4.0	0.2
			TPGM160304L	●	●	9.525	3.18	4.0	0.4	
			TPGM160304R	●	●	9.525	3.18	4.0	0.4	
Medium cutting	PM			TPMT110204-PM	●	●	6.35	2.38	2.8	0.4
				TPMT110304-PM	●	●	6.35	3.18	3.4	0.4
				TPMT130304-PM	●	●	7.94	3.18	3.4	0.4
				TPMT130308-PM	●	●	7.94	3.18	3.4	0.8
				*TPMT16T304-PM	●	●	9.525	3.97	4.4	0.4
Finishing to medium cutting	24			TPMT090204-24	●	●	5.56	2.38	2.5	0.4
				*TPMT110204-24	●	●	6.35	2.38	2.8	0.4
				TPMT110208-24	●	●	6.35	2.38	2.8	0.8
				TPMT130304-24	●	●	7.94	3.18	3.4	0.4
				TPMT130308-24	●	●	7.94	3.18	3.4	0.8
				TPMT16T304-24	●	●	9.525	3.97	4.4	0.4
				TPMT16T308-24	●	●	9.525	3.97	4.4	0.8
Finishing to medium cutting	- (G)			TPGA110202	●	●	6.35	2.38	3.0	0.2
				TPGA110302	●	●	6.35	3.18	3.0	0.2
				*TPGA160304	●	●	9.525	3.18	4.0	0.4

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

● Specification of insert hole

				Cat. No								
				0701□□	0802□□	0902□□	1102□□	1103□□	1303□□	1603□□	16T3□□	
ød1 (mm)	TP□T	-	2.3	2.5	2.8	3.4	3.4	-	4.4			
	TPGM(A)	2.7	-	3.2	3.0	3.0	-	4.0	-			
	TPGH	-	2.3	3.0	3.4	3.4	-	4.5	-			

Triangular, 60° (11°) without hole

Positive inserts

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)					
				Coated cermet	Cermet	I.C.dia	Thick- ness	Hole dia	Corner radius		
				GT9530	NS9530	ød	s	ød1	r _ε		
Finishing to medium cutting	with hand (G) 		TPGR110302L *TPGR110304L TPGR160304L TPGR160304R TPGR160308L	●	●	6.35 6.35 9.525 9.525 9.525	3.18 3.18 3.18 3.18 3.18	- - - - -	0.2 0.4 0.4 0.4 0.8		
	23 		*TPMR110304-23 TPMR110308-23 TPMR160304-23 TPMR160308-23	●	●	6.35 6.35 9.525 9.525	3.18 3.18 3.18 3.18	- - - -	0.4 0.8 0.4 0.8		
	Medium cutting	24 		TPMR110304-24 TPMR110308-24 *TPMR160304-24 TPMR160308-24	●	●	6.35 6.35 9.525 9.525	3.18 3.18 3.18 3.18	- - - -	0.4 0.8 0.4 0.8	
		Finishing to medium cutting	- (G) 		TPGN160304 *TPGN160308	●	●	9.525 9.525	3.18 3.18	- -	0.4 0.8

Trigon, 80° (5°)

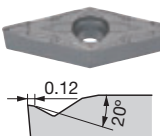
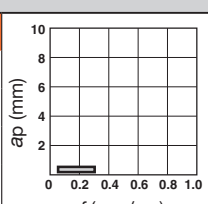
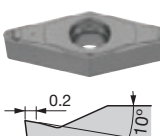
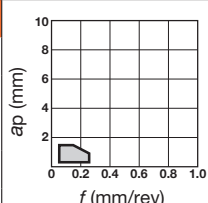
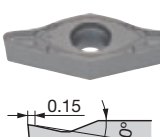
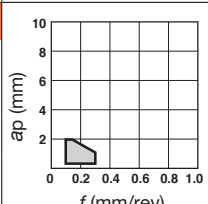
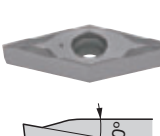
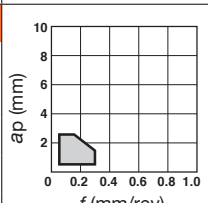

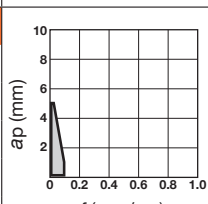

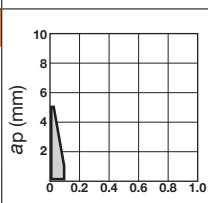

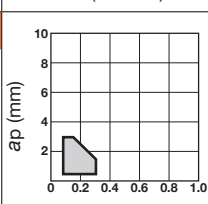
Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Grades		Dimensions (mm)				
				Coated cermet	Cermet	I.C.dia	Thick- ness	Hole dia	Corner radius	
				GT9530	NS9530	ød	s	ød1	r _ε	
Finishing	W08 (G) 		WBGT030100L-W08 WBGT030102L-W08 *WBGT030104L-W08	●	●	5.56 5.56 5.56	1.59 1.59 1.59	2.3 2.3 2.3	0.03 0.2 0.4	
	Finishing	W11 (G) 		WBGT060102L-W11 WBGT060104L-W11 WBGT080202L-W11 *WBGT080204L-W11	●	●	9.525 9.525 12.7 12.7	1.59 1.59 2.38 2.38	2.3 2.3 2.3 2.3	0.2 0.4 0.2 0.4

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Rhombic, 35° (5°)

Positive inserts

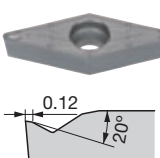
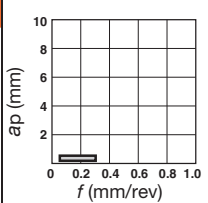
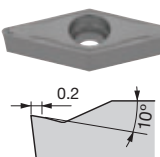
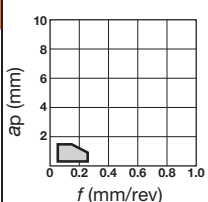
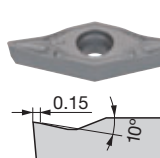
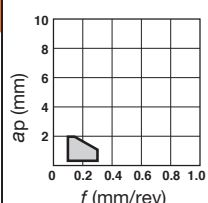
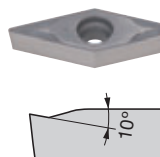
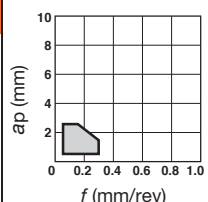
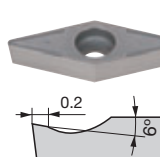
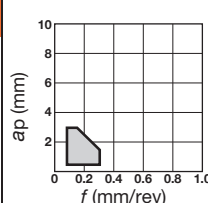
Application	Chipbreaker		Cat. No	Grades			Dimensions (mm)			
	Appearance (Cross section)	f - ap		Coated cermet	Cermet	I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε	
				GT9530	J9530					NS9530
Finishing	PSF 		VBMT110302-PSF	●	●	6.35	3.18	2.8	0.2	
			*VBMT110304-PSF	●	●	6.35	3.18	2.8	0.4	
			VBMT160402-PSF	●	●	9.525	4.76	4.4	0.2	
			VBMT160404-PSF	●	●	9.525	4.76	4.4	0.4	
	PF 		VBMT110302-PF	●	●	6.35	3.18	2.8	0.2	
			VBMT110304-PF	●	●	6.35	3.18	2.8	0.4	
			*VBMT110308-PF	●	●	6.35	3.18	2.8	0.8	
			VBMT160404-PF	●	●	9.525	4.76	4.4	0.4	
			VBMT160408-PF	●	●	9.525	4.76	4.4	0.8	
Finishing to light cutting	PSS 		VBMT110304-PSS	●	●	6.35	3.18	2.8	0.4	
			*VBMT110308-PSS	●	●	6.35	3.18	2.8	0.8	
			VBMT160404-PSS	●	●	9.525	4.76	4.4	0.4	
			VBMT160408-PSS	●	●	9.525	4.76	4.4	0.8	
Finishing to medium cutting	PS 		*VBMT110302-PS	●	●	6.35	3.18	2.8	0.2	
			VBMT110304-PS	●	●	6.35	3.18	2.8	0.4	
			VBMT110308-PS	●	●	6.35	3.18	2.8	0.8	
			VBMT160402-PS	●	●	9.525	4.76	4.4	0.2	
			VBMT160404-PS	●	●	9.525	4.76	4.4	0.4	
			VBMT160408-PS	●	●	9.525	4.76	4.4	0.8	
For external turning on small lathes (Sharp edges)	J10 (G) 		VBGT110301FL-J10		●	6.35	3.18	2.8	0.1	
			VBGT110301FR-J10		●	6.35	3.18	2.8	0.1	
			VBGT110302FL-J10		●	6.35	3.18	2.8	0.2	
			*VBGT110302FR-J10		●	6.35	3.18	2.8	0.2	
			VBGT110304FL-J10		●	6.35	3.18	2.8	0.4	
			VBGT110304FR-J10		●	6.35	3.18	2.8	0.4	
For external turning on small lathes (Honed edges)	J10 (G) 		VBGT110302L-J10		●	6.35	3.18	2.8	0.2	
			*VBGT110302R-J10		●	6.35	3.18	2.8	0.2	
			VBGT110304L-J10		●	6.35	3.18	2.8	0.4	
			VBGT110304R-J10		●	6.35	3.18	2.8	0.4	
Medium cutting	24 		*VBMT160404-24		●	9.525	4.76	4.4	0.4	
			VBMT160408-24		●	9.525	4.76	4.4	0.8	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Rhombic, 35° (7°)

Positive inserts

Application	Chipbreaker		Cat. No	Grades		Dimensions (mm)			
	Appearance (Cross section)	$f - a_p$		Coated cermet	Cermet	I.C.dia ϕd	Thick- ness s	Hole dia $\phi d1$	Corner radius $r\epsilon$
				GT9530	NS9530				
Finishing	PSF 		VCMT080202-PSF	●	●	4.76	2.38	2.3	0.2
			VCMT080204-PSF	●	●	4.76	2.38	2.3	0.4
			VCMT160404-PSF	●	●	9.525	4.76	4.4	0.4
			*VCMT160408-PSF	●	●	9.525	4.76	4.4	0.8
	PF 		VCMT080202-PF	●	●	4.76	2.38	2.3	0.2
			VCMT080204-PF	●	●	4.76	2.38	2.3	0.4
			VCMT160404-PF	●	●	9.525	4.76	4.4	0.4
			*VCMT160408-PF	●	●	9.525	4.76	4.4	0.8
Finishing to light cutting	PSS 		*VCMT110304-PSS	●	●	6.35	3.18	2.8	0.4
			VCMT110308-PSS	●	●	6.35	3.18	2.8	0.8
			VCMT160404-PSS	●	●	9.525	4.76	4.4	0.4
			VCMT160408-PSS	●	●	9.525	4.76	4.4	0.8
Finishing to medium cutting	PS 		VCMT110302-PS	●	●	6.35	3.18	2.8	0.2
			*VCMT110304-PS	●	●	6.35	3.18	2.8	0.4
			VCMT110308-PS	●	●	6.35	3.18	2.8	0.8
			VCMT160404-PS	●	●	9.525	4.76	4.4	0.4
			VCMT160408-PS	●	●	9.525	4.76	4.4	0.8
Medium cutting	24 		VCMT160404-24		●	9.525	4.76	4.4	0.4
			*VCMT160408-24		●	9.525	4.76	4.4	0.8

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

Rhombic, 25° (7°)

Positive inserts

Application	Chipbreaker		Cat. No	Grades		Dimensions (mm)				
	Appearance (Cross section)	$f - a_p$		Coated cermet	Cermet	I.C.dia $\varnothing d$	Thick- ness s	Hole dia $\varnothing d1$	Corner radius r_ϵ	
				GT9530	NS9530					
Finishing to medium cutting	ZF			YWMT11T202-ZF	●	4.679	2.78	2.3	0.2	
				*YWMT11T204-ZF	●	4.679	2.78	2.3	0.4	
				YWMT16T302-ZF	●	7.018	3.97	2.86	0.2	
				YWMT16T304-ZF	●	7.018	3.97	2.86	0.4	
				YWMT16T308-ZF	●	7.018	3.97	2.86	0.8	
		ZM			YWMT11T204-ZM	●	4.679	2.78	2.3	0.4
				*YWMT16T304-ZM	●	7.018	3.97	2.86	0.4	
				YWMT16T308-ZM	●	7.018	3.97	2.86	0.8	

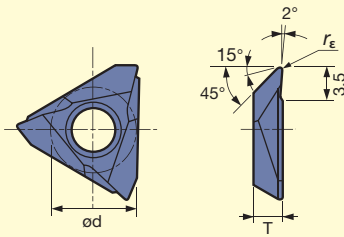
Round, (7°)

Application	Chipbreaker		Cat. No	Grades		Dimensions (mm)				
	Appearance (Cross section)	$f - a_p$		Coated cermet	Cermet	I.C.dia $\varnothing d$	Thick- ness s	Hole dia $\varnothing d1$	Corner radius r_ϵ	
				GT9530	NS9530					
Heavy cutting	61			RCMT0502M0-61	●	5.0	2.38	2.5	-	
				RCMT0602M0-61	●	6.0	2.38	2.8	-	
				*RCMT0803M0-61	●	8.0	3.18	3.4	-	
		61			RCMM1003M0-61	●	10.0	3.18	3.6	-
				*RCMM1204M0-61	●	12.0	4.76	4.2	-	

*Note: Chipbreaker cross sections are of * marked insert.

● : Stocked items

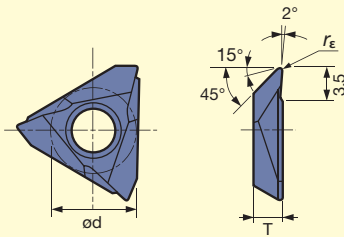
JTBR/L Back turning (Sharp edges)



Right hand (R) shown.

Cat. No.	Grade		Dimensions (mm)			
	Cermet		Max. depth of cut	r_ϵ	ϕd	T
	NS9530					
R	L					
JTBR/L3000F			2.5	0.03	9.438	3.18
JTBR/L3005F			2.5	0.05	9.438	3.18
JTBR/L3010F	●	●	2.5	0.10	9.438	3.18
JTBR/L3015F			2.5	0.15	9.438	3.18

JTBR/L Back turning (Honed edges)



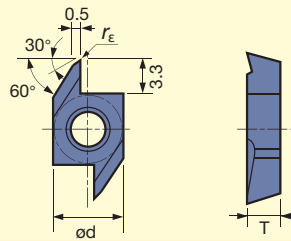
Right hand (R) shown.

Cat. No.	Grade		Dimensions (mm)			
	Coated cermet		Max. depth of cut	r_ϵ	ϕd	T
	J9530					
R	L					
JTBR/L3005	●		2.5	0.05	9.438	3.18
JTBR/L3010	●		2.5	0.10	9.438	3.18
JTBR/L3015			2.5	0.15	9.438	3.18

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

● : Stocked items

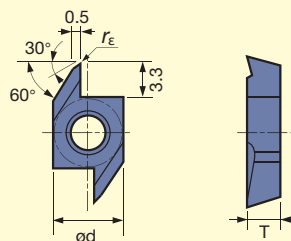
J10ER/L Back turning (Sharp edges)



Right hand (R) shown.

Cat. No.	Grade		Dimensions (mm)			
	Cermet		Max. depth of cut	r_{ϵ}	ϕd	T
	R	L				
	NS9530					
J10ER/L005BF	●		3	0.05	6.35	3.18
J10ER/L010BF	●		3	0.10	6.35	3.18
J10ER/L015BF			3	0.15	6.35	3.18

J10ER/L Back turning (Honed edges)



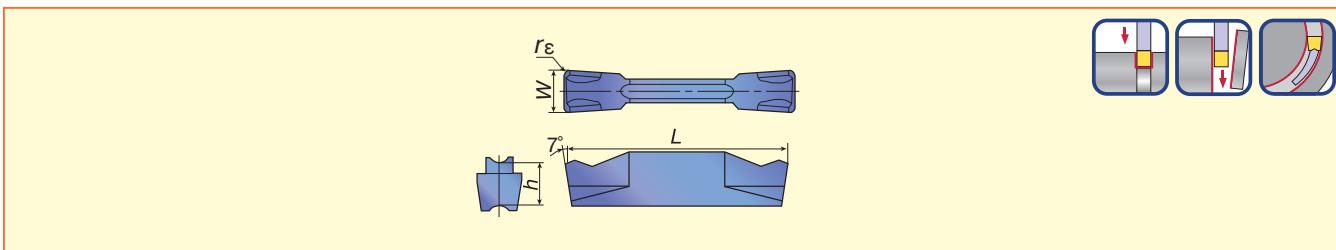
Right hand (R) shown.

Cat. No.	Grade		Dimensions (mm)			
	Coated cermet		Max. depth of cut	r_{ϵ}	ϕd	T
	R	L				
	J9530					
J10ER/L005B	●		3	0.05	6.35	3.18
J10ER/L010B	●		3	0.10	6.35	3.18
J10ER/L015B			3	0.15	6.35	3.18

● Inserts for grooving and parting off

DGM

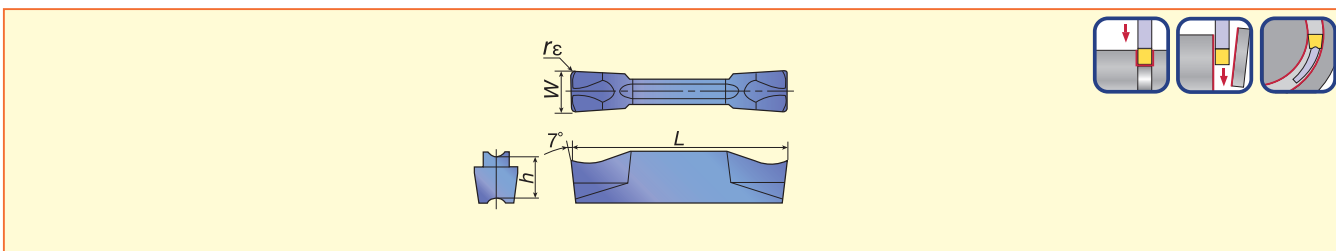
External grooving and parting off, 2 corner



Insert seat size	Cat. No.	Grade			Dimensions (mm)			
		Cermet NS9530			r_ϵ	L	h	κ
		R	L	$W \pm 0.05$				
2	DGM2-020	●		2	0.2	20	5.0	-
3	DGM3-020	●		3	0.2	20	5.0	-
4	DGM4-030	●		4	0.3	20	5.0	-
5	DGM5-030	●		5	0.3	25	5.5	-

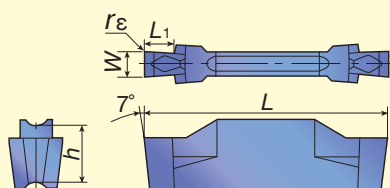
DGS

External grooving and parting off, 2 corner



Insert seat size	Cat. No.	Grade			Dimensions (mm)			
		Cermet NS9530			r_ϵ	L	h	κ
		R	L	$W \pm 0.05$				
2	DGS2-020	●		2	0.2	20	5.0	-
3	DGS3-020	●		3	0.2	20	5.0	-
4	DGS4-030	●		4	0.3	20	5.0	-
5	DGS5-030	●		5	0.3	25	5.5	-

DGE External grooving (Ground)



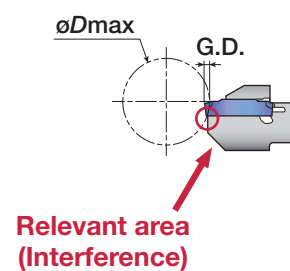
Insert seat size	Cat. No.	Grade			Dimensions (mm)		
		Cermet	$W \pm 0.02$	$r_{\epsilon} \pm 0.05$	L_1	L	h
2	DGE100-000	●	1.00	0.00	2.5	20	5
2	DGE130-000	●	1.30	0.00	2.5	20	5
2	DGE160-010	●	1.60	0.10	2.5	20	5
2	DGE185-010	●	1.85	0.10	3.5	20	5
2	DGE215-015	●	2.15	0.15	3.5	20	5

• **Caution**

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

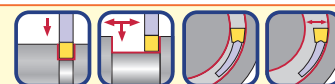
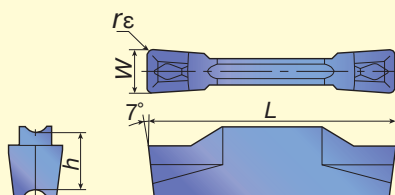
G.D = Groove depth

Cat. No.	Max. groove depth (mm)	ϕD_{max} (mm)				
		G.D. = 1	G.D. = 1.5	G.D. = 2	G.D. = 2.5	G.D. = 3
DGE100-000	2	∞	18.6	11.5	-	-
DGE130-000					-	-
DGE160-010					-	-
DGE185-010	3	∞	18.6	11.5	8.8	7
DGE215-015					8.8	7



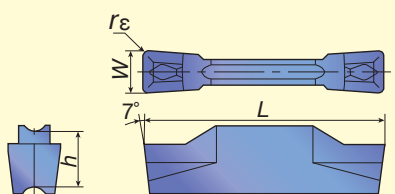
DTE External, face grooving and traversing

Ground



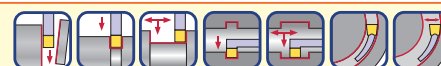
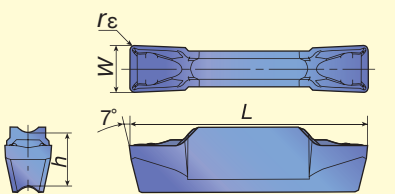
Insert seat size	Cat. No.	Grade Cermet		Dimensions (mm)		
		NS9530	$W \pm 0.02$	$r_{\epsilon} \pm 0.05$	L	h
3	DTE265-015	●	2.65	0.15	20	5.0
3	DTE300-020	●	3.00	0.20	20	5.0
3	DTE300-040	●	3.00	0.40	20	5.0
3	DTE315-015	●	3.15	0.15	20	5.0
4	DTE400-040	●	4.00	0.40	20	5.0
4	DTE400-080	●	4.00	0.80	20	5.0
4	DTE415-015	●	4.15	0.15	20	5.0
5	DTE478-055	●	4.78	0.55	25	5.5
5	DTE500-040	●	5.00	0.40	25	5.5
5	DTE500-080	●	5.00	0.80	25	5.5

Molded



Insert seat size	Cat. No.	Grade Cermet		Dimensions (mm)		
		NS9530	$W \pm 0.05$	r_{ϵ}	L	h
3	DTE3-040	●	3	0.4	20	5
4	DTE4-040	●	4	0.4	20	5

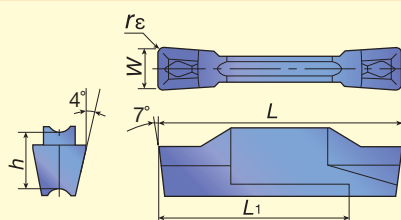
DTX External, internal, face grooving and traversing



Insert seat size	Cat. No.	Grade Cermet		Dimensions (mm)		
		NS9530	$W \pm 0.05$	r_{ϵ}	L	h
3	DTX3-030	●	3	0.3	20	5.0
4	DTX4-040	●	4	0.4	20	5.0
5	DTX5-040	●	5	0.4	25	5.5

● : Stocked items

DTF Face grooving and traversing

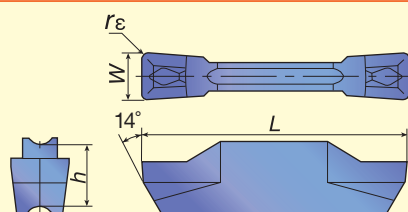


Right hand (R) shown.

Insert seat size	Cat. No.	Grade		Dimensions (mm)						
		Cermet	NS9530	R	L	$W \pm 0.05$	r_E	L	h	L_1
3	DTF3-040-R/L	●	●			3	0.4	20	5	16
4	DTF4-040-R/L	●	●			4	0.4	20	5	16

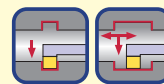
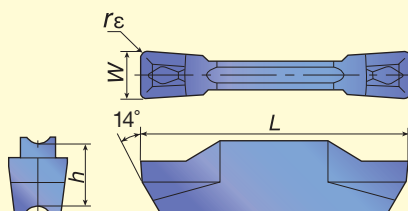
DTI Internal grooving and traversing

Ground



Insert seat size	Cat. No.	Grade		Dimensions (mm)			
		Cermet	NS9530	$W \pm 0.02$	$r_E \pm 0.05$	L	h
3	DTI300-040	●	●	3	0.4	20	5
4	DTI400-040	●	●	4	0.4	20	5
4	DTI400-080	●	●	4	0.8	20	5
5	DTI500-040	●	●	5	0.4	25	5.5
5	DTI500-080	●	●	5	0.8	25	5.5

Molded

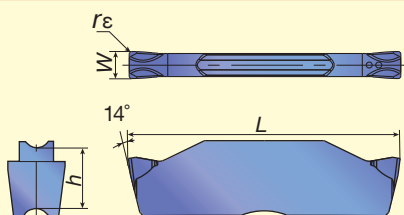


Insert seat size	Cat. No.	Grade		Dimensions (mm)			
		Cermet	NS9530	$W \pm 0.05$	r_E	L	h
3	DTI3-040	●	●	3	0.4	20	5
4	DTI4-040	●	●	4	0.4	20	5

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

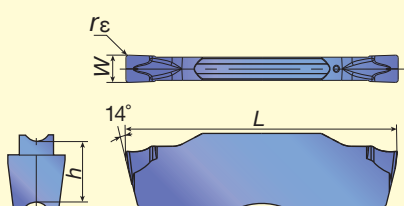
● : Stocked items

DGIM Small diameter internal grooving



Insert seat size	Cat. No.	Grade		Dimensions (mm)		
		Cermet		r_ϵ	L	h
2	DGIM2-020	NS9530	$W \pm 0.05$	0.2	20	5

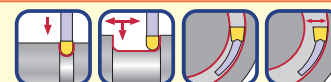
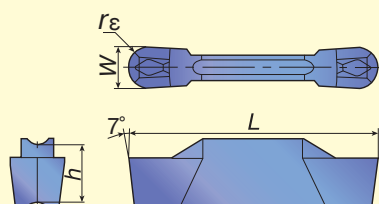
DGIS Small diameter internal grooving



Insert seat size	Cat. No.	Grade		Dimensions (mm)		
		Cermet		r_ϵ	L	h
2	DGIS2-020	NS9530	$W \pm 0.05$	0.2	20	5

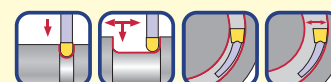
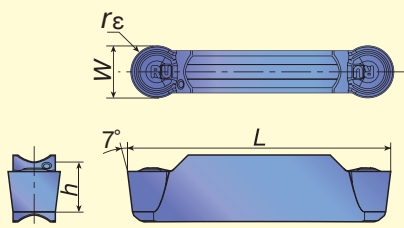
DTR Profiling and undercutting

Ground



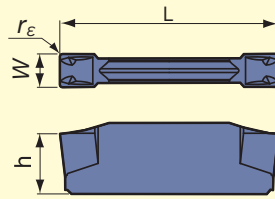
Insert seat size	Cat. No.	Grade		Dimensions (mm)		
		Cermet		r_ϵ	L	h
3	DTR300-150	NS9530	$W \pm 0.02$	1.50	20	5.0
4	DTR400-200	NS9530	$W \pm 0.02$	2.00	20	5.0
5	DTR478-239	NS9530	$W \pm 0.02$	2.39	25	5.5
5	DTR500-250	NS9530	$W \pm 0.02$	2.50	25	5.5

Molded



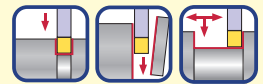
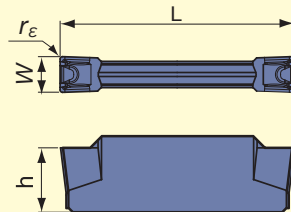
Insert seat size	Cat. No.	Grade		Dimensions (mm)		
		Cermet		r_ϵ	L	h
3	DTR3-150	NS9530	$W \pm 0.05$	1.5	20	5.0
4	DTR4-200	NS9530	$W \pm 0.05$	2.0	20	5.0
5	DTR5-250	NS9530	$W \pm 0.05$	2.5	25	5.5

WGE Grooving and parting off



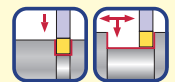
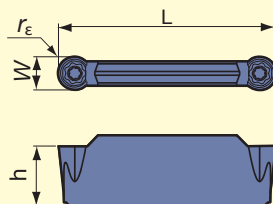
Groove width $W_{\pm 0.1}^{\circ 1}$ (mm)	Cat. No.	Grade		Dimensions (mm)		
		Cermet		L	h	r_ϵ
2	WGE20	●	NS9530	20	4.7	0.2
3	WGE30	●	NS9530	20	5.5	0.2
4	WGE40	●	NS9530	25	5.7	0.2
5	WGE50	●	NS9530	25	5.9	0.2

WGT Traversing (Grooving and parting off)



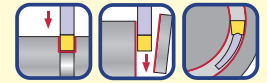
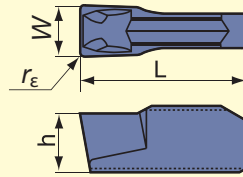
Groove width $W_{\pm 0.1}^{\circ 1}$ (mm)	Cat. No.	Grade		Dimensions (mm)		
		Cermet		L	h	r_ϵ
3	WGT30	●	NS9530	20	5.5	0.4
4	WGT40	●	NS9530	25	5.7	0.4
5	WGT50	●	NS9530	25	5.9	0.4

WGR Profiling (Full radius)



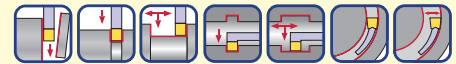
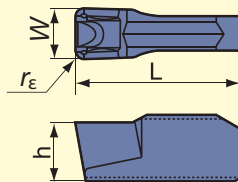
Groove width $W_{\pm 0.1}^{\circ 1}$ (mm)	Cat. No.	Grade		Dimensions (mm)		
		Cermet		L	h	r_ϵ
3	WGR30	●	NS9530	20	5.5	1.5
4	WGR40	●	NS9530	25	5.7	2.0
5	WGR50	●	NS9530	25	5.9	2.5

GE Grooving and parting off



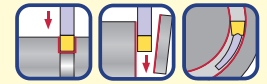
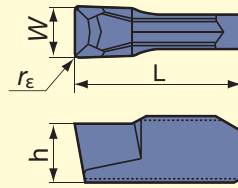
Groove width $W_{\pm 0.1}^{\pm 0.1}$ (mm)	Cat. No.	Grade		Dimensions (mm)		
		Cermet	NS9530	L	h	r_{ϵ}
2	GE20	●	●	10	3.5	0.2
3	GE30	●	●	10	3.5	0.2
4	GE40	●	●	10	4.0	0.2
5	GE50	●	●	12	4.5	0.2

GT Traversing (Grooving and parting off)



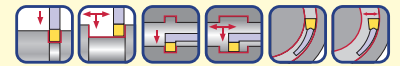
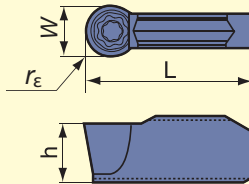
Groove width $W_{\pm 0.1}^{\pm 0.1}$ (mm)	Cat. No.	Grade		Dimensions (mm)		
		Cermet	NS9530	L	h	r_{ϵ}
3	GT30	●	●	10	3.5	0.4
4	GT40	●	●	10	4.0	0.4
5	GT50	●	●	12	4.5	0.4

GF Face grooving (Improved chip control)



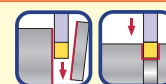
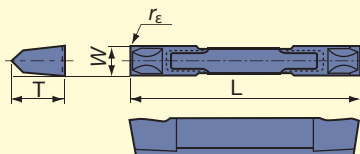
Groove width $W_{0.1}^{+0.1}$ (mm)	Cat. No.	Grade		Dimensions (mm)		
		Cermet	NS9530	L	h	r_{ϵ}
3	GF30	●	●	10	3.5	0.2
4	GF40	●	●	10	4.0	0.2
5	GF50	●	●	12	4.5	0.2

GR Profiling (Full radius)



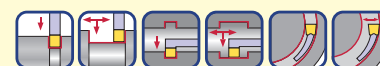
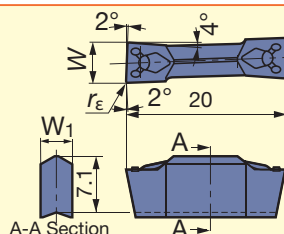
Groove width $W_{0.1}^{+0.1}$ (mm)	Cat. No.	Grade		Dimensions (mm)		
		Cermet	NS9530	L	h	r_{ϵ}
3	GR30	●	●	10	3.5	1.5
4	GR40	●	●	10	4.0	2
5	GR50	●	●	12	4.5	2.5

CGD External grooving



Groove width $W \pm 0.025$ (mm)	Cat. No.	Grade		Dimensions (mm)		
		Cermet NS9530		L	T	r_ϵ
2	CGD200	●		20.0	3.25	0.2
3	CGD300	●		28.6	6.30	0.2
4	CGD400	●		28.6	6.30	0.2
5	CGD500	●		28.6	6.30	0.2
6	CGD600	●		28.6	8.50	0.2

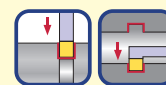
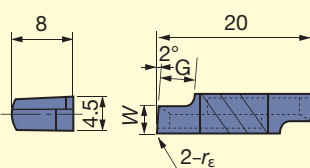
FLEX External, face and internal grooving



Right hand (R) shown.

Groove width $W \pm 0.05$ (mm)	Cat. No.	Grade		Dimensions (mm)		
		Cermet NS9530		r_ϵ	W_1	
3	FLEX30R/L	●	●	0.4	2.15	
4	FLEX40R/L	●	●	0.4	3.10	
5	FLEX50R/L	●	●	0.4	4.00	

XGR/L External and internal grooving



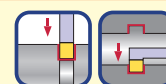
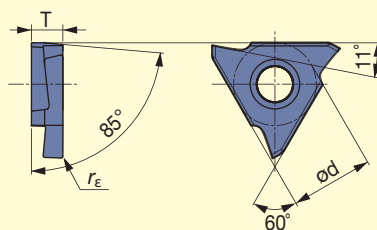
Right hand (R) shown.

Groove width $W \pm 0.05$ (mm)	Cat. No.	Grade		Dimensions (mm)		
		Cermet NS9530		Max. groove depth	G	r_ϵ
1.0	XGR/L6310-02	●	●	1.5	1.8	0.2
1.5	XGR/L6315-02	●	●	2.3	2.5	0.2
2.0	XGR/L6320-02	●	●	3.0	3.2	0.2
2.5	XGR/L6325-02	●	●	3.8	3.9	0.2
3.0	XGR/L6330-02	●	●	4.5	4.6	0.2
3.5	XGR/L6335-02	●	●	5.3	5.4	0.2
4.0	XGR/L6340-02	●	●	6.0	6.1	0.2
4.5	XGR/L6345-02	●	●	6.0	6.1	0.2

● : Stocked items

GBR/L

External and internal grooving

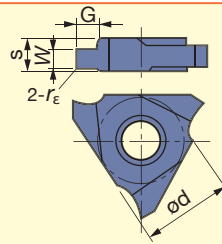


Right hand (R) shown.

Groove width $W \pm 0.025$ (mm)	Cat. No.	Grade Cermet NS9530		Max. groove depth	Dimensions (mm)		
		R	L		r_ϵ	ϕd	T
0.33	GBR/L32033	●		0.8	0.03	9.525	3.18
0.50	GBR/L32050	●		1.2	0.05	9.525	3.18
0.75	GBR/L32075	●	●	2.0	0.05	9.525	3.18
0.95	GBR/L32095	●	●	2.0	0.05	9.525	3.18
1.00	GBR/L32100	●	●	2.0	0.05	9.525	3.18
1.25	GBR/L32125	●	●	2.0	0.20	9.525	3.18
1.45	GBR/L32145	●		2.0	0.20	9.525	3.18
1.50	GBR/L32150	●		2.0	0.20	9.525	3.18
2.00	GBR/L32200	●		2.5	0.20	9.525	3.18
2.50	GBR/L32250	●		2.5	0.20	9.525	3.18
1.25	GBR/L43125	●		2.0	0.20	12.70	4.76
1.45	GBR/L43145	●		2.0	0.20	12.70	4.76
1.50	GBR/L43150	●	●	3.5	0.20	12.70	4.76
1.75	GBR/L43175	●	●	3.5	0.20	12.70	4.76
1.85	GBR/L43185	●	●	3.5	0.20	12.70	4.76
2.00	GBR/L43200	●	●	3.5	0.20	12.70	4.76
2.30	GBR/L43230	●	●	3.5	0.20	12.70	4.76
2.50	GBR/L43250	●		5.0	0.30	12.70	4.76
2.65	GBR/L43265	●		5.0	0.30	12.70	4.76
2.80	GBR/L43280	●		5.0	0.30	12.70	4.76
3.00	GBR/L43300	●		5.0	0.30	12.70	4.76
3.30	GBR/L43330	●		5.0	0.30	12.70	4.76
3.50	GBR/L43350	●		5.0	0.30	12.70	4.76
4.00	GBR/L43400	●		5.0	0.40	12.70	4.76
4.30	GBR/L43430	●		5.0	0.40	12.70	4.76
4.50	GBR/L43450	●		5.0	0.40	12.70	4.76
1.00	GBR/L43050R	●		2.0	0.50	12.70	4.76
1.50	GBR/L43075R	●		3.5	0.75	12.70	4.76
2.00	GBR/L43100R	●		3.5	1.00	12.70	4.76
2.50	GBR/L43125R	●		5.0	1.25	12.70	4.76
3.00	GBR/L43150R	●		5.0	1.50	12.70	4.76
4.00	GBR/L43200R	●		5.0	2.00	12.70	4.76

● : Stocked items

GLR/L Lock-ring



Right hand (R) shown.

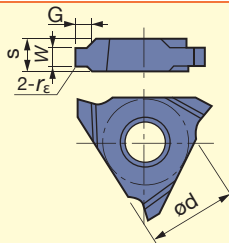
Groove width $W_{+0.05}^{+0.1}$ (mm)	Cat. No.	Grade Cermet NS9530			Dimensions (mm)		
		R	L	G	r_{ϵ}	ϕd	s
1.15	GLR/L3115	●	●	1.5	0.1	9.525	3.18
1.35	GLR/L3135	●	●	1.5	0.1	9.525	3.18
1.65	GLR/L3165	●	●	2.0	0.1	9.525	3.18
1.75	GLR/L3175	●	●	2.0	0.1	9.525	3.18
1.95	GLR/L3195	●	●	2.5	0.1	9.525	3.18
2.20	GLR/L3220	●		3.0	0.1	9.525	3.18
2.70	GLR/L3270	●		3.0	0.1	9.525	3.18

JIS C-type retaining rings for shaft, nominal sizes: 10 ~ 80.
 JIS E-type retaining rings for shallow grooves, nominal sizes: 10 ~ 24.
 JIS C-type retaining rings for shaft, nominal sizes: 20 ~ 80.

1.15	GLR/L4115	●		1.5	0.1	12.7	4.76
1.35	GLR/L4135	●		1.5	0.1	12.7	4.76
1.65	GLR/L4165	●		2.0	0.1	12.7	4.76
1.75	GLR/L4175	●		2.0	0.1	12.7	4.76
1.90	GLR/L4190	●		2.5	0.1	12.7	4.76
1.95	GLR/L4195	●		2.5	0.1	12.7	4.76
2.20	GLR/L4220	●		3.5	0.1	12.7	4.76
2.70	GLR/L4270	●		3.5	0.1	12.7	4.76
3.20	GLR/L4320	●		4.0	0.1	12.7	4.76
4.20	GLR/L4420	●		4.0	0.1	12.7	4.76

JIS C-type retaining rings for shaft, nominal sizes: 10 ~ 120.
 JIS E-type retaining rings for shallow grooves, nominal sizes: 10 ~ 24.
 JIS C-type retaining rings for shaft, nominal sizes: 20 ~ 200.

GOR/L O-ring

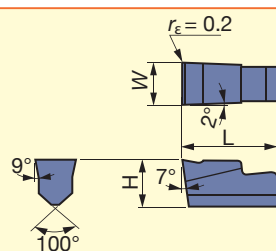


Right hand (R) shown.

Groove width $W_{+0.05}^{+0.1}$ (mm)	Cat. No.	Grade Cermet NS9530			Dimensions (mm)		
		R	L	G	r_{ϵ}	ϕd	s
2.5	GOR/L4190	●		1.5	0.4	12.7	4.76
3.2	GOR/L4240	●		2.0	0.4	12.7	4.76
4.1	GOR/L4310	●		2.5	0.7	12.7	4.76

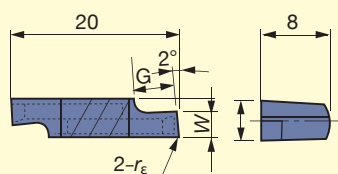
● : Stocked items

FGC Face grooving



Groove width $W \pm 0.1$ (mm)	Cat. No.	Grade Cermet		Dimensions (mm)	
		NS9530		L	H
3	FGC3	●		10	4.29
4	FGC4	●		10	4.50
5	FGC5	●		12	5.50

XNR/L Face grooving

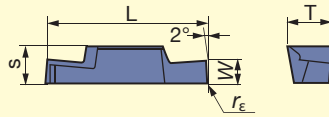


Right hand (R) shown.

Groove width $W \pm 0.05$ (mm)	Cat. No.	Grade Cermet		Dimensions (mm)		
		NS9530		Max. groove depth	G	r_ϵ
		R	L			
1.0	XNR/L6310-02	●	●	1.5	1.8	0.2
1.5	XNR/L6315-02	●	●	2.3	2.5	0.2
2.0	XNR/L6320-02	●	●	3.0	3.2	0.2
2.5	XNR/L6325-02	●	●	3.8	3.9	0.2
3.0	XNR/L6330-02	●	●	4.5	4.6	0.2
3.5	XNR/L6335-02	●	●	5.3	5.4	0.2
4.0	XNR/L6340-02	●	●	6.0	6.1	0.2
4.5	XNR/L6345-02	●	●	6.0	6.1	0.2

GIR/L

Internal grooving



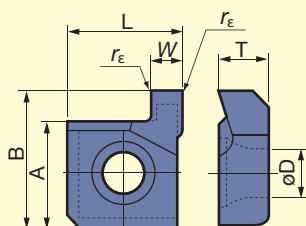
Right hand (R) shown.

Groove width $W_{\pm 0.05}$ (mm)	Cat. No.	Grade		Max. groove depth	Dimensions (mm)				
		Cermet			s	T	L	r_{ϵ}	
		R	L						
1.0	GIR/L5210-02	●	●	1.5	3.5	4.5	15	0.2	
1.5	GIR/L5215-02	●	●	2.3	3.5	4.5	15	0.2	
2.0	GIR/L5220-02	●	●	3.0	3.5	4.5	15	0.2	
2.5	GIR/L5225-02	●		3.0	3.5	4.5	15	0.2	
3.0	GIR/L5230-02	●		3.0	3.5	4.5	15	0.2	
1.0	GIR/L6310-02	●		1.5	5.5	6.5	24	0.2	
1.5	GIR/L6315-02	●	●	2.3	5.5	6.5	24	0.2	
2.0	GIR/L6320-02	●	●	3.0	5.5	6.5	24	0.2	
2.5	GIR/L6325-02	●	●	3.8	5.5	6.5	24	0.2	
3.0	GIR/L6330-02	●	●	4.5	5.5	6.5	24	0.2	
3.5	GIR/L6335-02	●	●	5.3	5.5	6.5	24	0.2	
4.0	GIR/L6340-02	●	●	5.3	5.5	6.5	24	0.2	
4.5	GIR/L6345-02	●		5.3	5.5	6.5	24	0.2	
5.0	GIR/L6350-02	●		5.3	5.5	6.5	24	0.2	

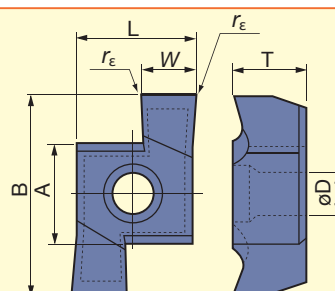
● : Stocked items

GR/L Internal grooving

- One corner type
6GR/L□□□
7GR/L□□□



- Two corner type
8GR/L□□□
9GR/L□□□
15GR/L□□□

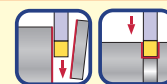
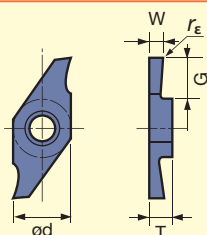


Right hand (R) shown.

Groove width $W \pm 0.025$ (mm)	Cat. No.	Grade			Dimensions (mm)					
		Cermet		Max. groove depth	A	B	T	ϕD	L	r_E
		R	L							
1.0	6GR/L100	●		1.5	4.76	6.44	2.34	2.30	5.56	0.2
1.5	6GR/L150	●		1.5	4.76	6.44	2.34	2.30	5.56	0.2
2.0	6GR/L200	●		1.5	4.76	6.44	2.34	2.30	5.56	0.2
1.0	7GR/L100	●		1.5	5.56	7.36	3.08	2.58	5.56	0.2
1.5	7GR/L150	●		1.5	5.56	7.36	3.08	2.58	5.56	0.2
2.0	7GR/L200	●		1.5	5.56	7.36	3.08	2.58	5.56	0.2
1.5	8GR/L150	●		2.0	5.56	10.16	3.87	2.58	6.15	0.2
2.0	8GR/L200	●		2.0	5.56	10.16	3.87	2.58	6.15	0.2
2.5	8GR/L250	●		2.0	5.56	10.16	3.87	2.58	6.15	0.2
3.0	8GR/L300	●		2.0	5.56	10.16	3.87	2.58	6.15	0.2
1.5	9GR/L150	●	●	2.0	6.35	12.95	4.66	2.86	7.74	0.2
2.0	9GR/L200	●	●	3.0	6.35	12.95	4.66	2.86	7.74	0.2
2.5	9GR/L250	●	●	3.0	6.35	12.95	4.66	2.86	7.74	0.2
3.0	9GR/L300	●	●	3.0	6.35	12.95	4.66	2.86	7.74	0.2
3.5	9GR/L350	●	●	3.0	6.35	12.95	4.66	2.86	7.74	0.2
2.0	15GR/L200	●		3.0	9.20	20.8	5.10	4.80	10.8	0.2
2.5	15GR/L250	●		3.0	9.20	20.8	5.10	4.80	10.8	0.2
3.0	15GR/L300	●		3.0	9.20	20.8	5.10	4.80	10.8	0.2
3.5	15GR/L350	●		3.0	9.20	20.8	5.10	4.80	10.8	0.2
4.0	15GR/L400	●		4.0	9.20	20.8	5.10	4.80	10.8	0.2

● : Stocked items

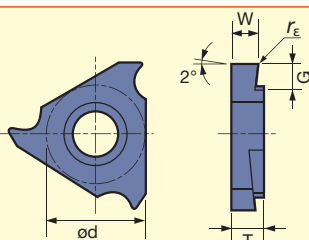
JVGR/L Grooving (Sharp edges)



Right hand (R) shown.

Groove width $W^{+0.05}$ (mm)	Cat. No.	Grade Cermet NS9530		Dimensions (mm)				
		R	L	Max. groove depth	ϕd	T	G	r_E
0.33	JVGR/L033F			0.7	7.94	3.18	0.8	0
0.50	JVGR/L050F			1.1	7.94	3.18	1.2	0
0.75	JVGR/L075F			1.9	7.94	3.18	2.0	0
0.95	JVGR/L095F			1.9	7.94	3.18	2.0	0
1.00	JVGR/L100F	●	●	5.5	7.94	3.18	6.0	0
1.25	JVGR/L125F			5.0	7.94	3.18	5.5	0
1.50	JVGR/L150F	●	●	5.5	7.94	3.18	6.0	0
2.00	JVGR/L200F	●		5.5	7.94	3.18	6.0	0

JTGR/L Grooving (Sharp edges)

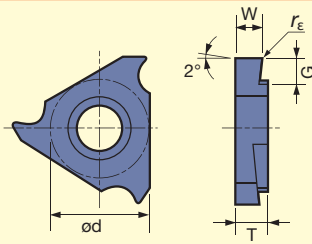


Right hand (R) shown.

Groove width $W^{+0.05}$ (mm)	Cat. No.	Grade Cermet NS9530		Dimensions (mm)				
		R	L	Max. groove depth	ϕd	T	G	r_E
0.33	JTGR/L3033F			0.7	9.525	3.18	0.8	0.03
0.43	JTGR/L3043F			1.1	9.525	3.18	1.2	0.03
0.50	JTGR/L3050F	●		1.1	9.525	3.18	1.2	0.03
0.65	JTGR/L3065F			1.9	9.525	3.18	2.0	0.03
0.75	JTGR/L3075F	●	●	1.9	9.525	3.18	2.0	0.03
0.80	JTGR/L3080F			1.9	9.525	3.18	2.0	0.03
0.85	JTGR/L3085F			1.9	9.525	3.18	2.0	0.03
0.95	JTGR/L3095F	●		1.9	9.525	3.18	2.0	0.03
1.00	JTGR/L3100F	●		2.1	9.525	3.18	2.2	0.05
1.10	JTGR/L3110F			2.1	9.525	3.18	2.2	0.05
1.20	JTGR/L3120F			2.1	9.525	3.18	2.2	0.05
1.25	JTGR/L3125F	●		2.1	9.525	3.18	2.2	0.05
1.30	JTGR/L3130F			2.1	9.525	3.18	2.2	0.05
1.40	JTGR/L3140F			2.1	9.525	3.18	2.2	0.05
1.45	JTGR/L3145F	●		2.1	9.525	3.18	2.2	0.05
1.50	JTGR/L3150F	●		2.1	9.525	3.18	2.2	0.05
1.75	JTGR/L3175F	●	●	2.1	9.525	3.18	2.2	0.05
1.80	JTGR/L3180F			2.1	9.525	3.18	2.2	0.05
2.00	JTGR/L3200F	●		2.6	9.525	3.18	2.7	0.05
2.25	JTGR/L3225F			2.6	9.525	3.18	2.7	0.05
2.50	JTGR/L3250F	●		2.6	9.525	3.18	2.7	0.05
2.75	JTGR/L3275F			2.6	9.525	3.18	2.7	0.05
3.00	JTGR/L3300F			2.6	9.525	3.18	2.7	0.05

● : Stocked items

JTGR/L Grooving (Honed edges)



Right hand (R) shown.

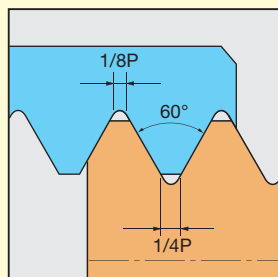
Groove width $W_0^{+0.05}$ (mm)	Cat. No.	Grade		Dimensions (mm)				
		Coated cermet J9530		Max. groove depth	ϕd	T	G	r_ϵ
R	L							
0.33	JTGR/L3033			0.7	9.525	3.18	0.8	0.03
0.50	JTGR/L3050			1.1	9.525	3.18	1.2	0.03
0.75	JTGR/L3075			1.9	9.525	3.18	2.0	0.03
0.95	JTGR/L3095			1.9	9.525	3.18	2.0	0.03
1.00	JTGR/L3100	●		2.1	9.525	3.18	2.2	0.05
1.25	JTGR/L3125	●		2.1	9.525	3.18	2.2	0.05
1.45	JTGR/L3145			2.1	9.525	3.18	2.2	0.05
1.50	JTGR/L3150	●		2.1	9.525	3.18	2.2	0.05
1.75	JTGR/L3175			2.1	9.525	3.18	2.2	0.05
2.00	JTGR/L3200	●		2.6	9.525	3.18	2.7	0.05
2.50	JTGR/L3250			2.6	9.525	3.18	2.7	0.05

● : Stocked items

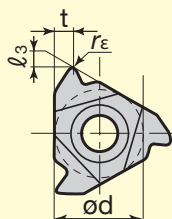
● Inserts for threading

ISO metric

Full-profile inserts with chipbreaker



Right hand insert for external threading shown.



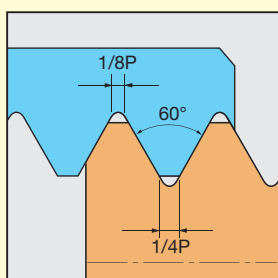
Applicable toolholders

Insert size	External	Internal
11		SNR/L000001100
16	CER/L000001600	TSNR/L0000016
	B-SER/L000016	SNR/L000001600
	B-CER/L000016	TCNR/L000001600
	BC-SER/L000016	CNR/L000001600

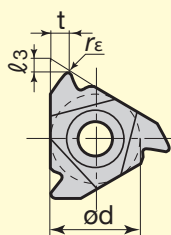
Insert size	Pitch	Number of threads	Hand of cut	External insert					Internal insert						
				Cat. No	Grade	Dimensions (mm)				Cat. No	Grade	Dimensions (mm)			
					Cermet NS9530	ød	t	l ₃	r _ε		Cermet NS9530	ød	t	l ₃	r _ε
11	0.50	-	R							11IR05ISO-M	●	6.35	0.5	1.2	0.04
11	0.75	-	R							11IR075ISO-M	●	6.35	0.5	1.2	0.05
11	1.00	-	R							11IR10ISO-M	●	6.35	0.9	0.7	0.08
11	1.25	-	R							11IR125ISO-M	●	6.35	0.9	0.7	0.10
11	1.50	-	R							11IR15ISO-M	●	6.35	0.9	0.7	0.12
11	1.75	-	R							11IR175ISO-M	●	6.35	0.9	0.7	0.12
11	2.00	-	R							11IR20ISO-M	●	6.35	0.9	0.7	0.14
16	0.50	-	R	16ER05ISO-M	●	9.525	0.5	1.2	0.06						
16	0.75	-	R	16ER075ISO-M	●	9.525	0.5	1.2	0.09						
16	1.00	-	R	16ER10ISO-M	●	9.525	0.9	0.7	0.13	16IR10ISO-M	●	9.525	0.9	0.7	0.08
16	1.25	-	R	16ER125ISO-M	●	9.525	0.9	0.7	0.16	16IR125ISO-M	●	9.525	0.9	0.7	0.10
16	1.50	-	R	16ER15ISO-M	●	9.525	0.9	0.7	0.19	16IR15ISO-M	●	9.525	0.9	0.7	0.12
16	1.75	-	R	16ER175ISO-M	●	9.525	1.6	1.2	0.22	16IR175ISO-M	●	9.525	1.6	1.2	0.14
16	2.00	-	R	16ER20ISO-M	●	9.525	1.6	1.2	0.25	16IR20ISO-M	●	9.525	1.6	1.2	0.14
16	2.50	-	R	16ER25ISO-M	●	9.525	1.6	1.2	0.31	16IR25ISO-M	●	9.525	1.6	1.2	0.18
16	3.00	-	R	16ER30ISO-M	●	9.525	1.6	1.2	0.38	16IR30ISO-M	●	9.525	1.6	1.2	0.21

Unified

Full-profile inserts with chipbreaker



Right hand insert for external threading shown.



Applicable toolholders

Insert size	External	Internal
16	CER/L000001600	TSNR/L0000016
	B-SER/L000016	SNR/L000001600
	B-CER/L000016	TCNR/L000001600
	BC-SER/L000016	CNR/L000001600

Insert size	Pitch	Number of threads	Hand of cut	External insert					Internal insert						
				Cat. No	Grade	Dimensions (mm)				Cat. No	Grade	Dimensions (mm)			
					Cermet NS9530	ød	t	l ₃	r _ε		Cermet NS9530	ød	t	l ₃	r _ε
16	(1.508)	24	R	16ER24UN-M	●	9.525	0.9	0.7	0.13						
16	(1.270)	20	R	16ER20UN-M	●	9.525	0.9	0.7	0.16	16IR20UN-M	●	9.525	0.9	0.7	0.09
16	(1.411)	18	R	16ER18UN-M	●	9.525	0.9	0.7	0.18	16IR18UN-M	●	9.525	0.9	0.7	0.1
16	(1.588)	16	R	16ER16UN-M	●	9.525	0.9	0.7	0.20	16IR16UN-M	●	9.525	0.9	0.7	0.11
16	(1.814)	14	R	16ER14UN-M	●	9.525	1.6	1.2	0.23	16IR14UN-M	●	9.525	1.6	1.2	0.13
16	(2.117)	12	R	16ER12UN-M	●	9.525	1.6	1.2	0.27	16IR12UN-M	●	9.525	1.6	1.2	0.15
16	(3.175)	8	R	16ER8UN-M	●	9.525	1.6	1.2	0.40	16IR8UN-M	●	9.525	1.6	1.2	0.22

● : Stocked items

60° thread angle Partial-profile inserts with chipbreaker

Right hand insert for external threading shown.

Applicable toolholders

Insert size	External	Internal
11		SNR/L0000001100
16	CER/L0000001600	TSNR/L00000016
	B-SER/L000016	SNR/L0000001600
	B-CER/L000016	TCNR/L0000001600
	BC-SER/L000016	CNR/L0000001600

Insert size	Pitch	Number of threads	Hand of cut	External insert				Internal insert							
				Cat. No	Grade	Dimensions (mm)			Cat. No	Grade	Dimensions (mm)				
					Cermet NS9530	ød	t	l ₃		r _E	Cermet NS9530	ød	t	l ₃	r _E
11	0.5 - 1.5	48 - 16	R		●					11IRA60-M	●	6.35	0.9	0.7	0.04
16	0.5 - 1.5	48 - 16	R	16ERA60-M	●	9.525	0.9	0.7	0.06	16IRA60-M	●	9.525	1.6	1.1	0.04
16	0.5 - 3.0	48 - 8	R	16ERAG60-M	●	9.525	1.6	1.1	0.06	16IRAG60-M	●	9.525	1.6	1.2	0.04
16	1.75 - 3.0	14 - 8	R	16ERG60-M	●	9.525	1.6	1.2	0.22	16IRG60-M	●	9.525	1.6	1.2	0.14

Whitworth Full-profile inserts with chipbreaker

Right hand insert for external threading shown.

Applicable toolholders

Insert size	External	Internal
16	CER/L0000001600	TSNR/L00000016
	B-SER/L000016	SNR/L0000001600
	B-CER/L000016	TCNR/L0000001600
	BC-SER/L000016	CNR/L0000001600

Insert size	Pitch	Number of threads	Hand of cut	External insert				Internal insert							
				Cat. No	Grade	Dimensions (mm)			Cat. No	Grade	Dimensions (mm)				
					Cermet NS9530	ød	t	l ₃		r _E	Cermet NS9530	ød	t	l ₃	r _E
16	(1.337)	19	R	16ER19W-M	●	9.525	0.9	0.7	0.17	16IR19W-M	●	9.525	0.9	0.7	0.17
16	(1.814)	14	R	16ER14W-M	●	9.525	1.6	1.2	0.23	16IR14W-M	●	9.525	1.6	1.2	0.23
16	(2.309)	11	R	16ER11W-M	●	9.525	1.6	1.2	0.29	16IR11W-M	●	9.525	1.6	1.2	0.29

PT JIS taper pipe Full-profile inserts with chipbreaker

Right hand insert for external threading shown.

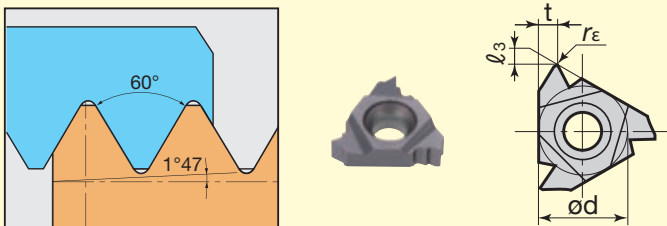
Applicable toolholders

Insert size	External	Internal
16	CER/L0000001600	TSNR/L00000016
	B-SER/L000016	SNR/L0000001600
	B-CER/L000016	TCNR/L0000001600
	BC-SER/L000016	CNR/L0000001600

Insert size	Pitch	Number of threads	Hand of cut	External insert				Internal insert							
				Cat. No	Grade	Dimensions (mm)			Cat. No	Grade	Dimensions (mm)				
					Cermet NS9530	ød	t	l ₃		r _E	Cermet NS9530	ød	t	l ₃	r _E
16	(1.337)	19	R	16ER19PT-M	●	9.525	0.9	0.7	0.18	16IR19PT-M	●	9.525	0.9	0.7	0.18
16	(1.814)	14	R	16ER14PT-M	●	9.525	1.6	1.2	0.25	16IR14PT-M	●	9.525	1.6	1.2	0.25
16	(2.309)	11	R	16ER11PT-M	●	9.525	1.6	1.2	0.32	16IR11PT-M	●	9.525	1.6	1.2	0.32

● : Stocked items

NPT American national taper pipe Full-profile inserts with chipbreaker

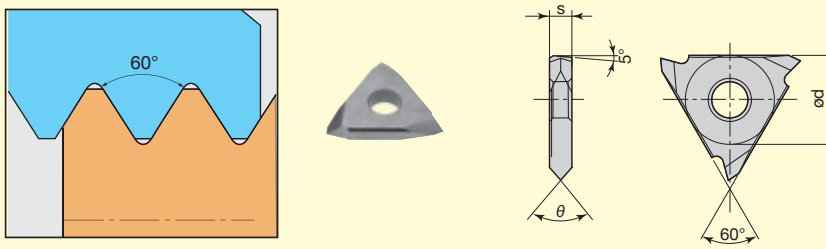


Right hand insert for external threading shown.

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□□

Insert size	Pitch	Number of threads	Hand of cut	External insert				Internal insert							
				Cat. No	Grade	Dimensions (mm)			Cat. No	Grade	Dimensions (mm)				
					Cermet NS9530	ød	t	l ₃		r _E	Cermet NS9530	ød	t	l ₃	r _E
16	(1.411)	18	R	16ER18NPT-M	●	9.525	0.9	0.7	0.07	16IR18NPT-M	●	9.525	0.9	0.7	0.07
16	(1.814)	14	R	16ER14NPT-M	●	9.525	1.6	1.2	0.08	16IR14NPT-M	●	9.525	1.6	1.2	0.08
16	(2.209)	11.5	R	16ER115NPT-M	●	9.525	1.6	1.2	0.09	16IR115NPT-M	●	9.525	1.6	1.2	0.09

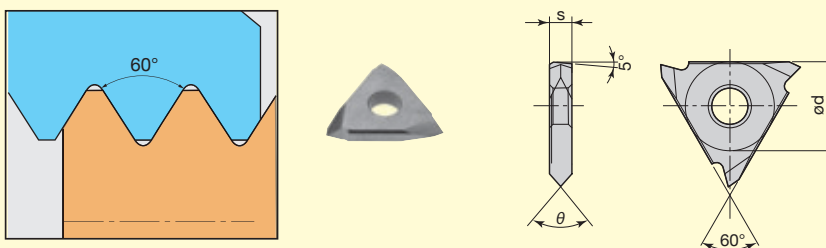
60° metric Partial-profile inserts for external and internal threads



Right hand (R) shown.

Pitch	Number of threads	Cat. No	Grade	Dimensions (mm)			Applicable toolholders
			Cermet NS9530	ød	s	θ	
≤ 3	≥ 8	TTR/L42M-005	●	12.7	3.2	60°	TT-□□□□R/LEL/RI

55° whitworth Partial-profile inserts for external and internal threads



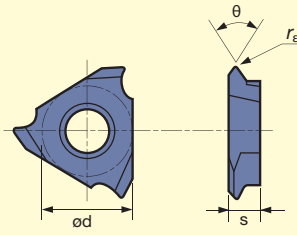
Right hand (R) shown.

Pitch	Number of threads	Cat. No	Grade	Dimensions (mm)			Applicable toolholders
			Cermet NS9530	ød	s	θ	
≤ 3	≥ 8	TTR/L42W-005	●	12.7	3.2	55°	TT-□□□□R/LEL/RI

● : Stocked items

JTTR

External threading (Sharp edges)

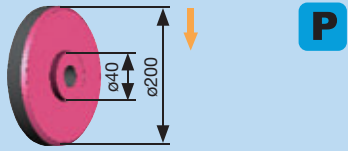
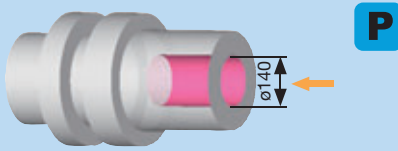
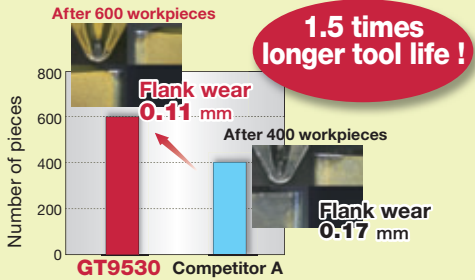
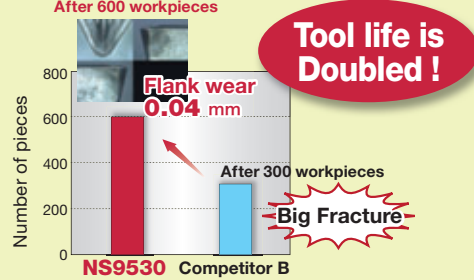
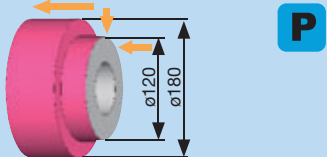
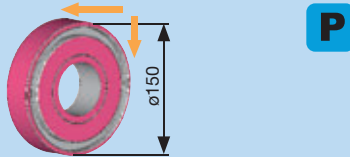




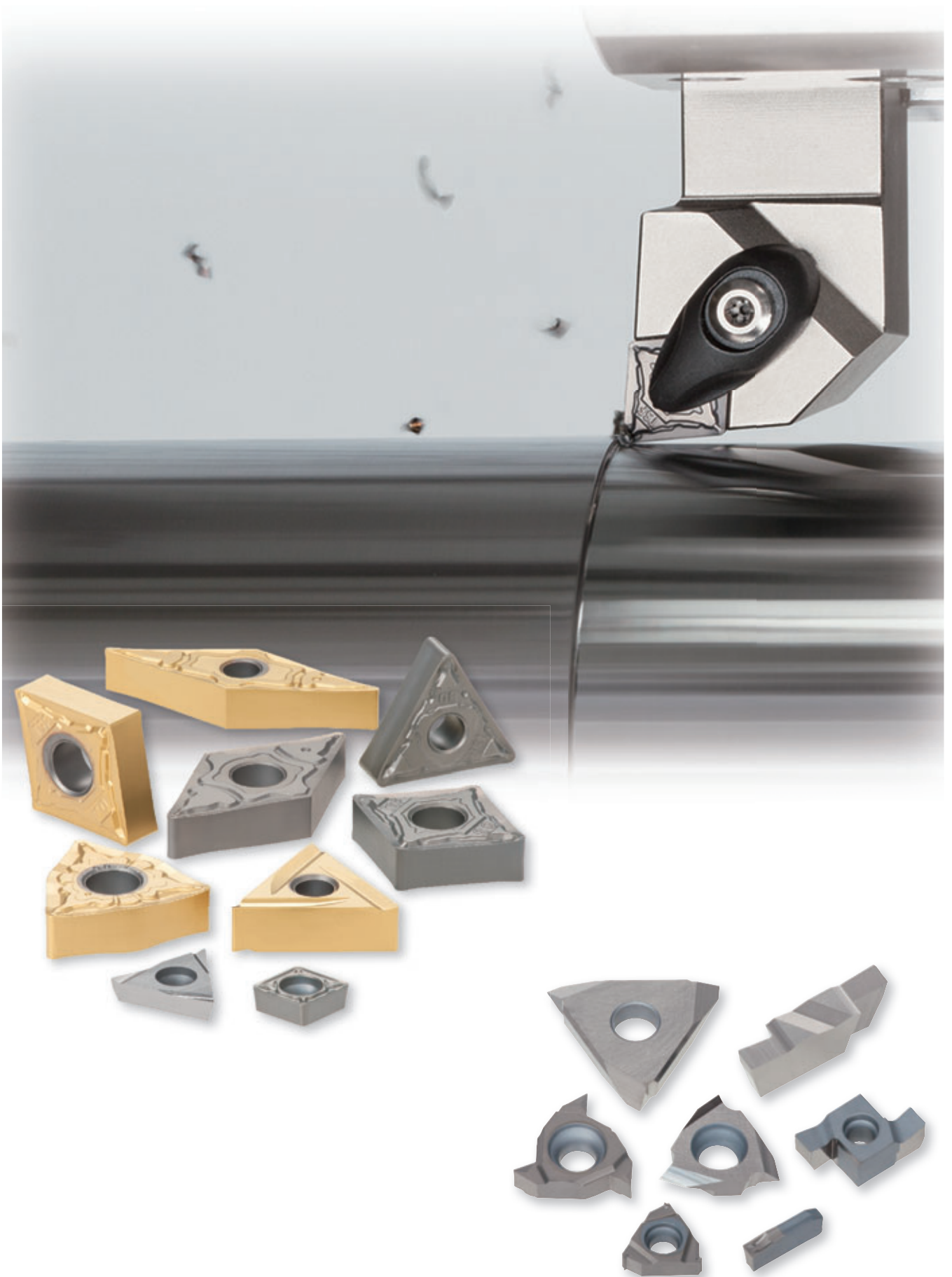
Right hand (R) shown.

Cat. No.	Grade		Dimensions (mm)			
	Cermet		θ	r_{ϵ}	ϕd	T
	NS9530					
JTTR3005F	●	60°	0.05	9.525	3.18	
JTTR3010F	●	60°	0.10	9.525	3.18	

Notes: Machinable pitch range: 0.5 to 1 mm.

Practical examples

Workpiece type		Automotive parts	Automotive parts
Insert		DNMG150408-TSF	TPMT110304-PS
Grade		GT9530	NS9530
Workpiece material		SPCH	SCM415
			
Cutting conditions	Cutting speed: V_c (m/min)	225	125
	Feed: f (mm/rev)	0.25	0.15
	Depth of cut: a_p (mm)	0.3	1.0
	Machining	Face turning (Continuous cutting)	Internal turning (Continuous cutting)
	Coolant	Wet	Wet
Results		 <p>GT9530 Competitor A</p> <p>After 600 workpieces: Flank wear 0.11 mm</p> <p>After 400 workpieces: Flank wear 0.17 mm</p> <p>1.5 times longer tool life !</p>	 <p>NS9530 Competitor B</p> <p>After 600 workpieces: Flank wear 0.04 mm</p> <p>After 300 workpieces: Big Fracture</p> <p>Tool life is Doubled !</p>
		<p>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.</p> <p>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 !</p>	
Workpiece type		Machine parts	Machine parts
Insert		CNMG120404-TS	TNGG160404R-C
Grade		NS9530	NS9530
Workpiece material		SCr440	SNCM
			
Cutting conditions	Cutting speed: V_c (m/min)	230	290
	Feed: f (mm/rev)	0.15 - 0.2	0.1 - 0.2
	Depth of cut: a_p (mm)	0.3 - 0.5	1.0
	Machining	External and face turning (Continuous cutting)	External and face turning (Continuous cutting)
	Coolant	Wet	Wet
Results		 <p>NS9530 Competitor C</p> <p>After 380 workpieces: Flank wear 0.07 mm</p> <p>After 300 workpieces: Chipping, Flank wear 0.23 mm</p> <p>1.2 times longer tool life !</p>	 <p>NS9530 Competitor D</p> <p>After 600 workpieces: Flank wear 0.04 mm</p> <p>After 500 workpieces: Fracture</p> <p>1.2 times longer tool life !</p>
		<p>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.</p> <p>NS9530 showed excellent fracture and chipping resistance due to PremiumTec. NS9530 provides 1.2 times longer tool life than the competitor grade.</p>	



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