

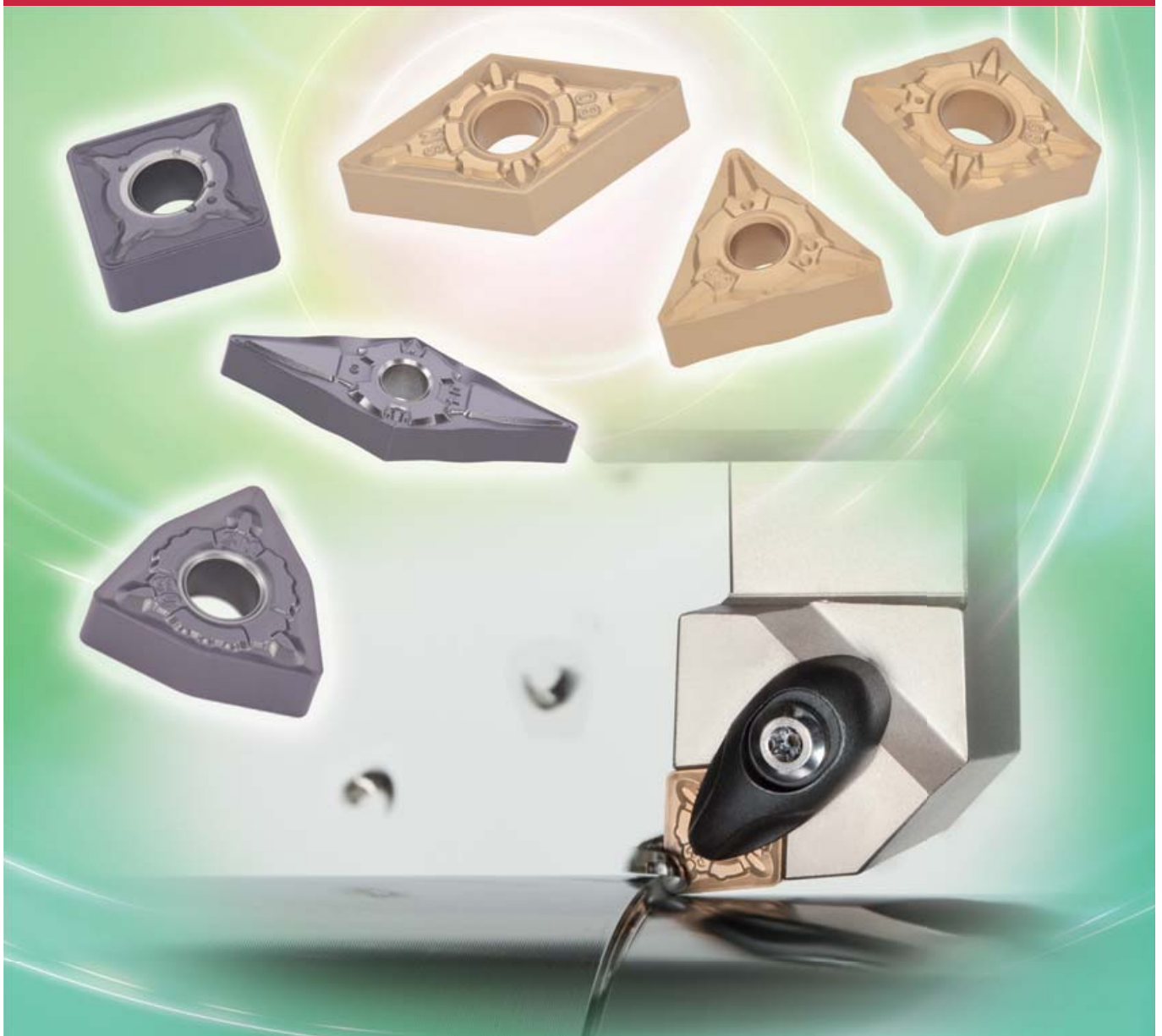
TURNLINE Stainless steel turning series

T6100 SERIES CVD coated grade

AH600 SERIES PVD coated grade

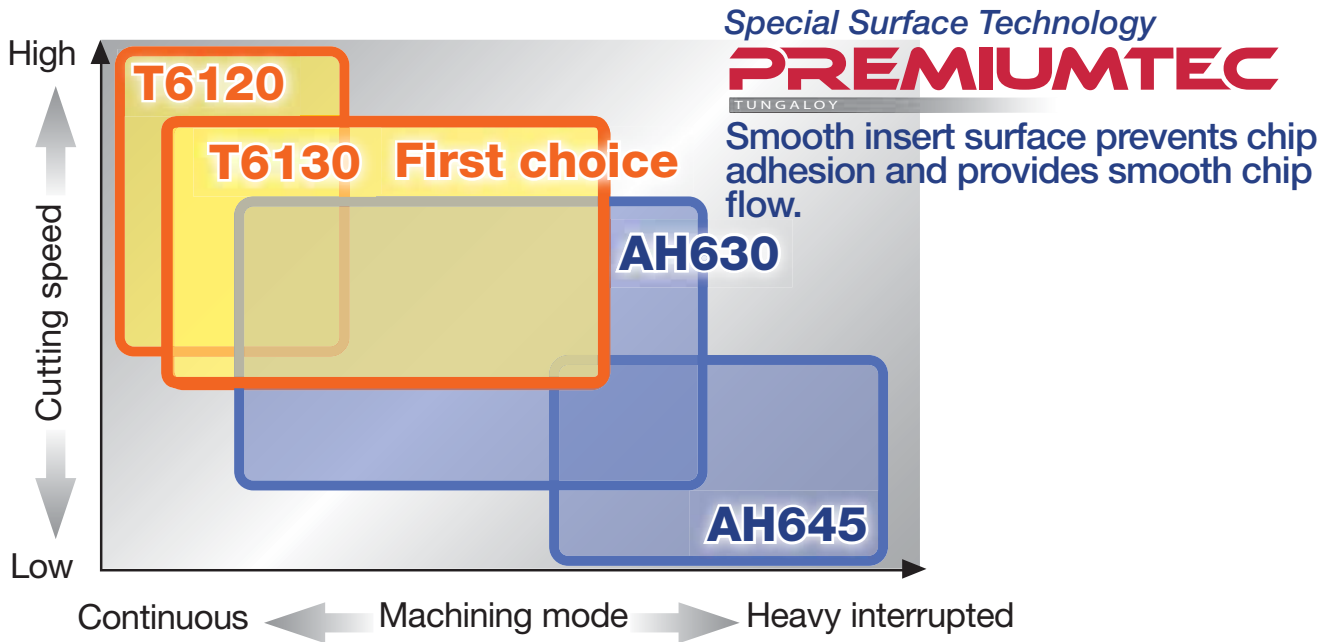
PREMIUMTEC
TUNGALOY

Most efficient grades for stainless steel turning



Incredible reliability in stainless steel turning !

■ Application range of T6100 & AH600



T6100 SERIES
TUNGALOY

New CVD coated grade



Columnar Stabilization Technology

Excellent fracture and chipping resistance for extended tool life.

Unique substrate with improved adhesion strength

High adhesion strength significantly improves chipping and fracture resistance.

T6120

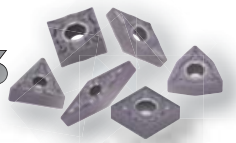
- Suitable for high speed cutting.
- Delivers excellent plastic deformation resistance.
- Especially suitable for austenite and precipitation hardened stainless steel machining.

T6130

- Provides excellent wear resistance in medium to high speed machining.
- Ideal grade especially for ferrite and martensite stainless steel machining.
- Thicker layer than PVD leads to outstanding wear resistance.

AH600 SERIES
TUNGALOY

New PVD coated grade



Advanced wear and fracture resistance

This innovative coating layer reduces cracks while keeping a high level of wear resistance that enhances fracture resistance.

Extremely high reliability !

Newly developed substrate with high adhesion strength on the coating layer.

AH630

- Recommended grade for general machining with its perfect balance of fracture and wear resistance
- High chipping resistance with excellent adhesion strength

AH645

- Excellent fracture resistance when machining at low to medium cutting speed
- Suitable grade for interrupted and heavy machining of stainless steel






M Stainless

Stainless

Negative type






Finishing
Continuous to light interrupted

Recommended

SF T6130  **Wear**  **SF T6120** 



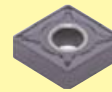


Medium cutting
Continuous to light interrupted

Recommended

SM T6130  **Impact**  **SM AH630** 
Wear  **SM T6120** 

Medium to heavy cutting
Continuous to light interrupted






Recommended

SH T6130  **Impact**  **SH AH630** 
Wear  **SH T6120** 

Positive type






Finishing
Continuous to light interrupted

Recommended

PSS T6130  **Impact**  **PSS AH630** 
Wear  **PSS T6120** 






Medium cutting
Continuous to light interrupted

Recommended

PS T6130  **Impact**  **PS AH630** 
Wear  **PS T6120** 

Medium to heavy cutting
Continuous to light interrupted

Recommended

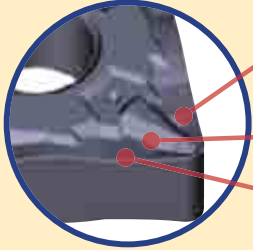
PM T6130  **Impact**  **PM AH630** 
Wear  **PM T6120** 

Chipbreaker

Negative type

For finishing operations

SF type



- Excellent chip control for finish machining
- Outstanding chip control when high feed turning at small depths of cut.
- Sharp edge reduces cutting forces and burrs

Low cutting force

- ➔ Large rake angle

Reduces chip adhesion

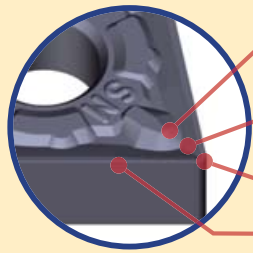
- ➔ Dimples around protrusion reduces contact with chips

Excellent chip evacuation

- ➔ Large inclination

For medium cutting

SM type



- Versatile chipbreaker applicable to a wide range of cutting conditions.
- Sharp cutting edge leads the excellent chip control

Outstanding control of chips

- ➔ Well-designed protrusion curls chips smoothly

Low cutting force

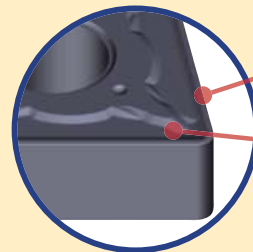
- ➔ Created by the large rake angle and deep chipbreaker

Tough cutting edge with excellent sharpness offers stable machining

- ➔ Sharp positive-land on the corner
- ➔ Toughness with wide land at the main cutting edge

For medium to heavy cutting

SH type



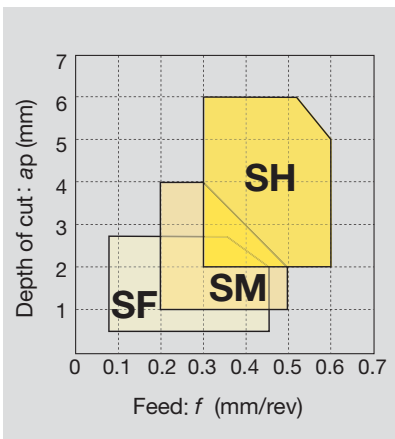
- Suitable for roughing operations and interrupted machining with tough cutting edges
- Applicable for a wide range of cutting conditions and ideal for machining with a fluctuating depth of cut
- Newly designed cutting edges increase the fracture resistance

Incredible fracture resistance

- ➔ Provided from advanced cutting edges

Low cutting forces and excellent chip control

- ➔ Credit to a unique chipbreaker geometry



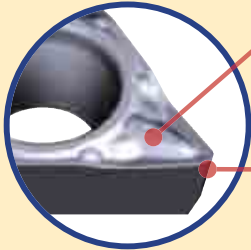
Operation	Machining mode	Chip-breaker	Grades	Depth of cut ap (mm)	Feed f (mm/rev)
Finishing	Continuous	SF	T6120	0.5 ~ 2.5	0.08 ~ 0.45
	Continuous to Light interrupted		T6130		
	Heavy interrupted		AH630		
Medium cutting	Continuous	SM	T6120	1.0 ~ 4.0	0.2 ~ 0.5
	Continuous to Light interrupted		T6130		
	Light interrupted		AH630		
	Heavy interrupted		AH645		
Medium to heavy cutting	Continuous	SH	T6130	2.0 ~ 6.0	0.3 ~ 0.6
	Continuous to Light interrupted		AH630		
	Heavy interrupted		AH645		

Note: Conditions in above table are for regular sized inserts.

Positive type

Finishing to light cutting

PSS type



- Optimum chipbreaker for finish cutting of stainless steel
- Provides excellent chip control at small depths of cut

Remarkable chip breaking

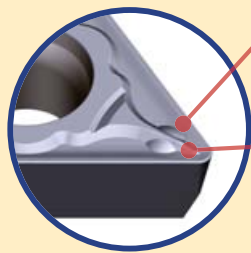
➔ Arc shaped protrusion allows stable chip control even at small depths of cut

Stable machining with low cutting force

➔ Optimized inclination and rake angle reduces cutting forces and controls the chip flow when finish cutting

Finishing to medium cutting

PS type



- Recommended chipbreaker for finish to medium cutting of stainless steel

Provides high reliability with low cutting force

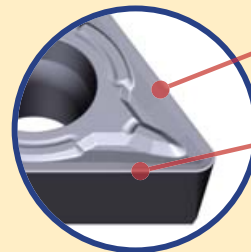
➔ Ideal combination of optimum rake angle and tough cutting edge

Stable chip control in a wide range of cutting conditions

➔ Uniquely designed protrusion creates smooth chip curling

Heavy cutting

PM type



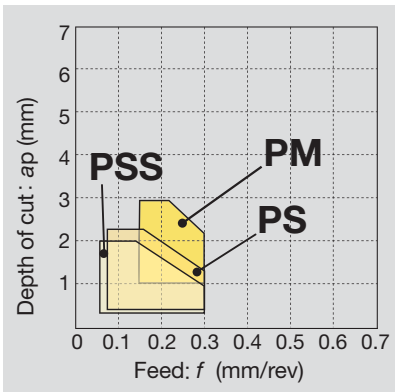
- Sharp and tough cutting edge provides high reliability for stainless steel machining

Allows exceptional chip control with low cutting force

➔ Sharp cutting edges with optimum rake angle

Reduces chipping and notch wear

➔ Flexible land width along the cutting edge prevents chipping



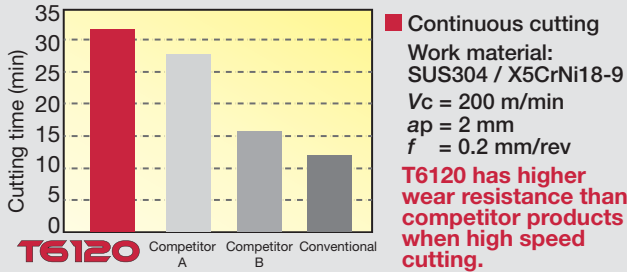
Operation	Chipbreaker	Grades	Depth of cut a_p (mm)	Feed f (mm/rev)
Finishing to Light cutting	PSS	T6120	0.3 ~ 2.0	0.08 ~ 0.3
		T6130		
		AH630		
		AH645		
Finishing to Medium cutting	PS	T6120	0.5 ~ 2.5	0.08 ~ 0.3
		T6130		
		AH630		
		AH645		
Heavy cutting	PM	T6120	1.0 ~ 3.0	0.15 ~ 0.3
		T6130		
		AH630		
		AH645		

Note: Conditions in above table are for regular sized inserts.

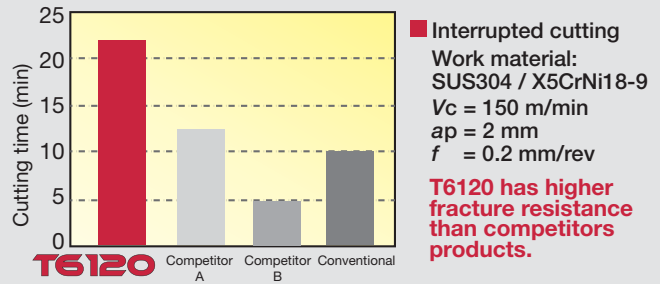
Cutting performance

T6120

Wear resistance test

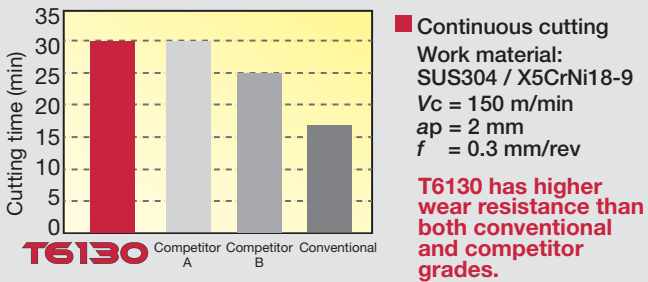


Fracture resistance test

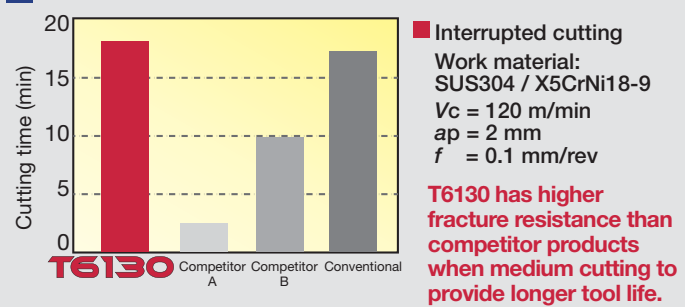


T6130

Wear resistance test

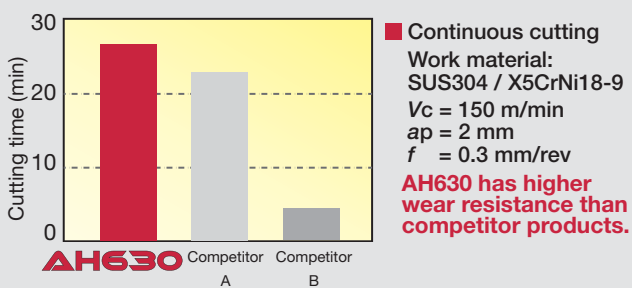


Fracture resistance test

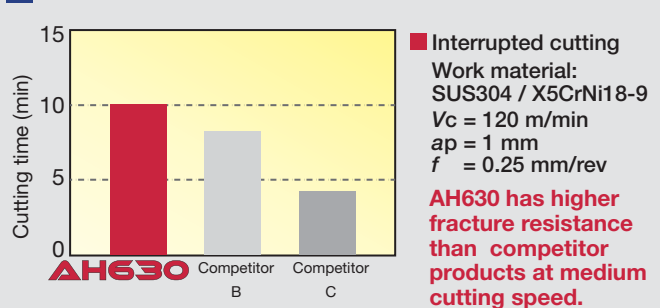


AH630

Wear resistance test

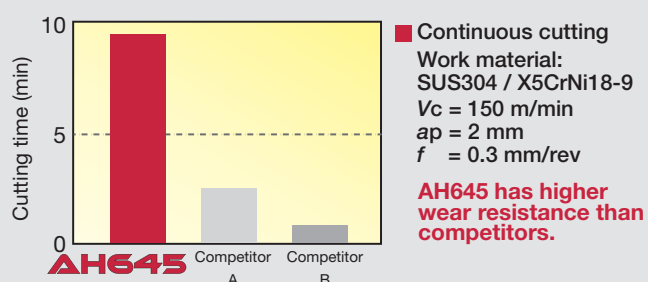


Fracture resistance test

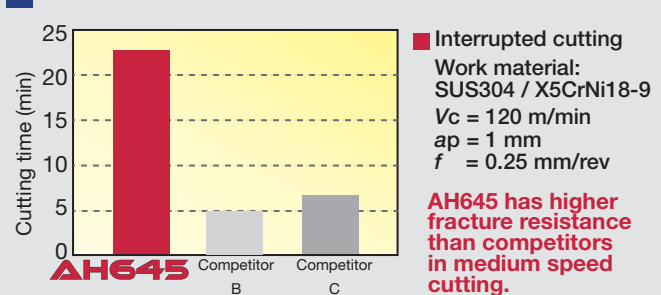


AH645

Wear resistance test



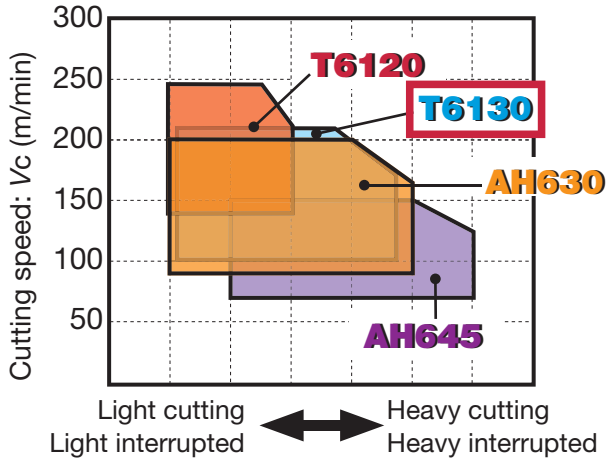
Fracture resistance test



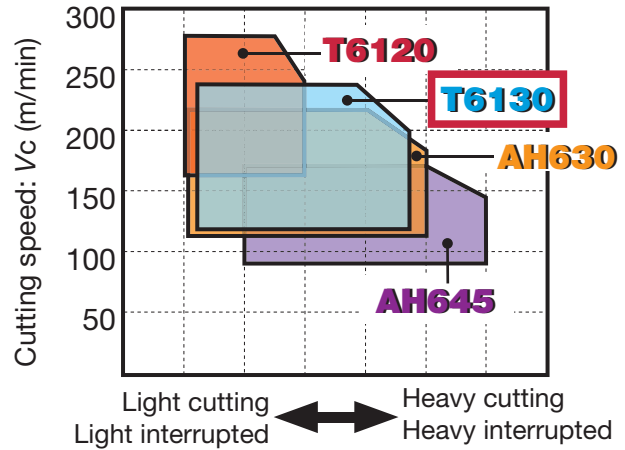
Standard cutting conditions

Standard cutting condition depending on work material

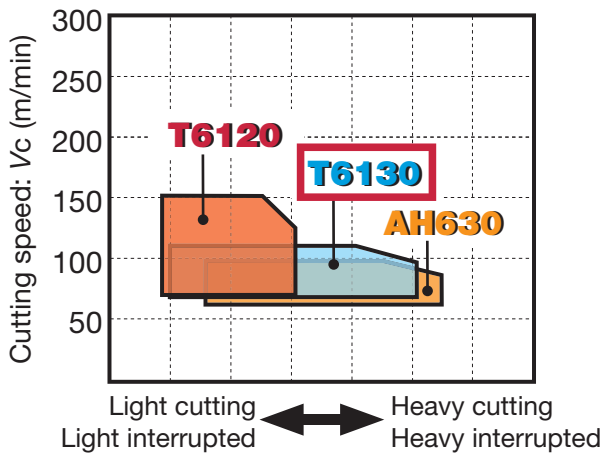
Austenitic stainless steel



Ferritic / martensite stainless steel



Precipitation hardened stainless steel



Work materials	Grades	Cutting speed: Vc (m/min)
Austenitic SUS304, SUS316 etc. (X5CrNi18-9, X5CrNiMo17-12-2 etc.) *AH630: First choice	T6120	140 - 240
	T6130	100 - 200
	AH630	90 - 190
	AH645	70 - 150
Ferrite / Martensite SUS430 / SUS410 etc. (X6Cr17, X12Cr13 etc.)	T6120	160 - 280
	T6130	120 - 240
	AH630	110 - 210
	AH645	90 - 170
Precipitation hardened SUS631 etc. (X7CrNiAl17-7 etc.)	T6120	80 - 150
	T6130	70 - 110
	AH630	60 - 90

 :1st choice

Inserts Negative type

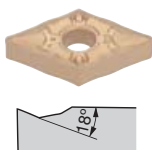
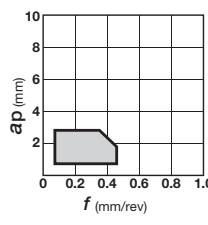
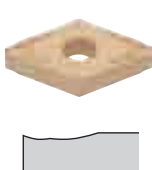
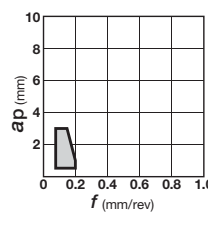
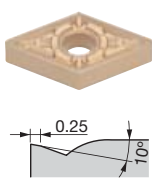
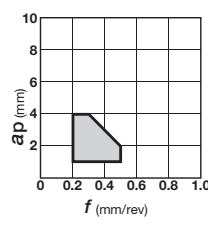
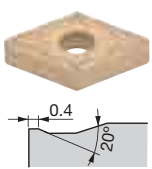
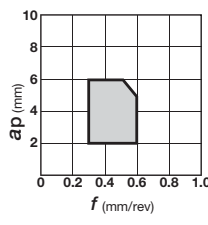
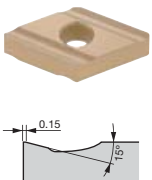
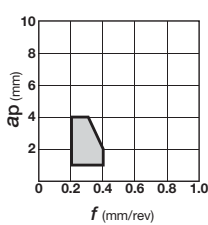
Rhombic, 80°

Application	Chipbreaker	$f - a_p$	Cat. No.	Stocked grades				Dimensions (mm)				
	Appearance (Cross section)			Coated				I.C. dia ϕd	Thick- ness S	Hole dia ϕd_1	Corner radius r_ϵ	
				T6120	T6130	AH630	AH645					
Finishing	SF		CNMG090304-SF	●	●	●		9.525	3.18	3.81	0.4	
	CNMG090308-SF		●	●	●		0.8					
	CNMG120404-SF		●	●	●		12.7	4.76	5.16	0.4		
	* CNMG120408-SF		●	●	●					0.8		
	CNMG120412-SF		●	●	●					1.2		
	SS		CNMG120404-SS	●	●	●	●	12.7	4.76	5.16	0.4	
	* CNMG120408-SS		●	●	●	●	0.8					
	CNMG120412-SS		●	●	●	●	1.2					
	Medium cutting	SM		CNMG120404-SM	●	●	●	●	12.7	4.76	5.16	0.4
		* CNMG120408-SM		●	●	●	●	0.8				
CNMG120412-SM		●		●	●	●	1.2					
SA			CNMG120404-SA	●	●	●	●	12.7	4.76	5.16	0.4	
* CNMG120408-SA			●	●	●	●	0.8					
CNMG120412-SA			●	●	●	●	1.2					
Medium to heavy cutting	SH		CNMG120408-SH		●	●	●	12.7	4.76	5.16	0.8	
	CNMG120412-SH			●	●	●	1.2					
	CNMG120416-SH			●	●	●	1.6					
	* CNMG160612-SH			●	●	●	15.875	6.35	6.35	1.2		
	CNMG160616-SH			●	●	●				1.6		
	CNMG190612-SH			●	●	●	19.05	6.35	7.93	1.2		
	CNMG190616-SH		●	●	●	1.6						
	S		CNMG120404R-S		●	●	●	12.7	4.76	5.16	0.4	
	CNMG120404L-S			●	●	●	0.4					
	* CNMG120408R-S			●	●	●	0.8					
CNMG120408L-S			●	●	●	0.8						

*Note: Chipbreaker cross sections are of the inserts marked *

● : Stocked items

Rhombic, 55°

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No.	Stocked grades				Dimensions (mm)			
				Coated				I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				T6120	T6130	AH630	AH645				
Finishing	SF 		DNMG150404-SF	●	●	●		12.7	4.76	5.16	0.4
			* DNMG150408-SF	●	●	●					0.8
			DNMG150604-SF	●	●	●		12.7	6.35	5.16	0.4
			DNMG150608-SF	●	●	●					0.8
			SS 		DNMG150404-SS	●	●	●	●	12.7	4.76
	DNMG150408-SS	●			●	●	●	0.8			
	* DNMG150412-SS	●			●	●	●	12.7	6.35	5.16	1.2
	DNMG150604-SS	●			●	●	●				0.4
	DNMG150608-SS	●			●	●	●				0.8
	DNMG150612-SS	●	●	●	●	1.2					
Medium cutting	SM 		DNMG150404-SM	●	●	●	●	12.7	4.76	5.16	0.4
			* DNMG150408-SM	●	●	●	●				0.8
			DNMG150412-SM	●	●	●	●				1.2
			DNMG150604-SM	●	●	●	●	12.7	6.35	5.16	0.4
			DNMG150608-SM	●	●	●	●				0.8
			DNMG150612-SM	●	●	●	●				1.2
Medium to heavy cutting	SH 		DNMG150408-SH		●	●	●	12.7	4.76	5.16	0.8
			* DNMG150412-SH		●	●	●				1.2
			DNMG150416-SH		●	●	●				1.6
			DNMG150608-SH		●	●	●	12.7	6.35	5.16	0.8
			DNMG150612-SH		●	●	●				1.2
	S 		DNMG150404R-S		●	●	●	12.7	4.76	5.16	0.4
			DNMG150404L-S		●	●	●				0.4
			* DNMG150408R-S		●	●	●				0.8
			DNMG150408L-S		●	●	●	12.7	6.35	5.16	0.8
			DNMG150604R-S		●	●	●				0.4
DNMG150604L-S		●	●	●	0.4						
DNMG150608R-S		●	●	●	0.8						
DNMG150608L-S		●	●	●	0.8						

*Note: Chipbreaker cross sections are of the inserts marked *

● : Stocked items

Square, 90°

Appli- cation	Chipbreaker Appearance (Cross section)	f - ap	Cat. No.	Stocked grades				Dimensions (mm)				
				Coated				I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε	
				T6120	T6130	AH630	AH645					
Finishing	SF		SNMG120404-SF	●	●	●		12.7	4.76	5.16	0.4	
			*SNMG120408-SF	●	●	●					0.8	
		SS		SNMG120404-SS	●	●	●	●	12.7	4.76	5.16	0.4
				*SNMG120408-SS	●	●	●	●				0.8
				SNMG120412-SS	●	●	●	●				1.2
Medium cutting	SM		*SNMG120408-SM	●	●	●	●	12.7	4.76	5.16	0.8	
			SNMG120412-SM	●	●	●	●				1.2	
		SA		*SNMG120404-SA	●	●	●	●	12.7	4.76	5.16	0.4
				SNMG120408-SA	●	●	●	●				0.8
				SNMG120412-SA	●	●	●	●				1.2
Medium to heavy cutting	SH		SNMG120408-SH		●	●	●	12.7	4.76	5.16	0.8	
			SNMG120412-SH		●	●	●				1.2	
				*SNMG150612-SH		●	●	●	15.875	6.35	6.35	1.2
				SNMG150616-SH		●	●	●				1.6
				SNMG190612-SH		●	●	●	19.05	6.35	7.93	1.2
				SNMG190616-SH		●	●	●				1.6
		S		SNMG120404R-S		●	●	●	12.7	4.76	5.16	0.4
			SNMG120404L-S		●	●	●	0.4				
			*SNMG120408R-S		●	●	●	0.8				
			SNMG120408L-S		●	●	●	0.8				

*Note: Chipbreaker cross sections are of the inserts marked *

● : Stocked items

Triangular, 60°

Application	Chipbreaker	$f - a_p$	Cat. No.	Stocked grades				Dimensions (mm)			
	Appearance (Cross section)			Coated				I.C. dia ϕd	Thick- ness s	Hole dia ϕd_1	Corner radius r ϵ
				T6120	T6130	AH630	AH645				
Finishing	SF		TNMG160404-SF	●	●	●		9.525	4.76	3.81	0.4
	*TNMG160408-SF		●	●	●		0.8				
	TNMG160412-SF		●	●	●		1.2				
	SS		TNMG160404-SS	●	●	●	●	9.525	4.76	3.81	0.4
	TNMG160408-SS		●	●	●	●	0.8				
	TNMG160412-SS		●	●	●	●	1.2				
*TNMG220404-SS	●		●	●	●	12.7	4.76	5.16	0.4		
TNMG220408-SS	●		●	●	●				0.8		
TNMG220412-SS	●	●	●	●	1.2						
Medium cutting	SM		TNMG160404-SM	●	●	●	●	9.525	4.76	3.81	0.4
	*TNMG160408-SM		●	●	●	●	0.8				
	TNMG160412-SM		●	●	●	●	1.2				
	TNMG220408-SM		●	●	●	●	12.7	5.16		0.8	
	TNMG220412-SM		●	●	●	●				1.2	
	SA		TNMG160404-SA	●	●	●	●	9.525	4.76	3.81	0.4
	*TNMG160408-SA		●	●	●	●	0.8				
	TNMG160412-SA		●	●	●	●	1.2				
	TNMG220408-SA		●	●	●	●	12.7	5.16		0.8	
	TNMG220412-SA		●	●	●	●				1.2	
	S		TNMG160404R-S		●	●	●	9.525	4.76	3.81	0.4
	TNMG160404L-S			●	●	●	0.4				
	*TNMG160408R-S			●	●	●	0.8				
	TNMG160408L-S			●	●	●	0.8				
	TNMG220404R-S			●	●	●	12.7	4.76		5.16	0.4
TNMG220404L-S			●	●	●	0.4					
TNMG220408R-S			●	●	●	0.8					
TNMG220408L-S		●	●	●	0.8						

*Note: Chipbreaker cross sections are of the inserts marked *

● : Stocked items

Trigon, 80°

Applica- tion	Chipbreaker	$f - ap$	Cat. No.	Stocked grades				Dimensions (mm)			
	Appearance (Cross section)			Coated				I.C.dia ϕd	Thick- ness s	Hole dia $\phi d1$	Corner radius r ϵ
				T6120	T6130	AH630	AH645				
Finishing	SF		WNMG060404-SF	●	●	●		9.525	4.76	3.81	0.4
	WNMG060408-SF		●	●	●		0.8				
	WNMG080404-SF		●	●	●		12.7	4.76	5.16	0.4	
	* WNMG080408-SF		●	●	●					0.8	
Medium cutting	SS		WNMG080404-SS	●	●	●	●	12.7	4.76	5.16	0.4
	* WNMG080408-SS		●	●	●	●	0.8				
	WNMG080412-SS		●	●	●	●	1.2				
	SM		WNMG080404-SM	●	●	●	●	12.7	4.76	5.16	0.4
	* WNMG080408-SM		●	●	●	●	0.8				
	WNMG080412-SM		●	●	●	●	1.2				
Medium to heavy cutting	SA		* WNMG080408-SA	●	●	●	●	12.7	4.76	5.16	0.8
	WNMG080412-SA		●	●	●	●	1.2				
	SH		WNMG080408-SH		●	●	●	12.7	4.76	5.16	0.8
	* WNMG080412-SH			●	●	●	1.2				

*Note: Chipbreaker cross sections are of the inserts marked *

● : Stocked items

Rhombic, 35°

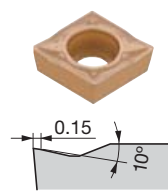
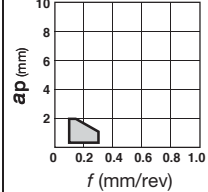
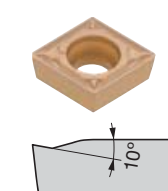
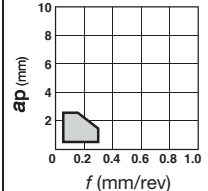
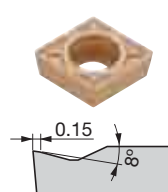
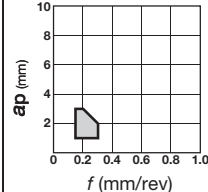
Applica- tion	Chipbreaker	$f - a_p$	Cat. No.	Stocked grades				Dimensions (mm)			
	Appearance (Cross section)			Coated				I.C.dia $\varnothing d$	Thick- ness s	Hole dia $\varnothing d1$	Corner radius r_{ϵ}
				T6120	T6130	AH630	AH645				
Finishing	SF		VNMG160404-SF	●	●	●		9.525	4.76	3.81	0.4
			*VNMG160408-SF	●	●	●					0.8
	SS		*VNMG160404-SS	●	●	●	●	9.525	4.76	3.81	0.4
			VNMG160408-SS	●	●	●	●				0.8
			VNMG160412-SS	●	●	●	●				1.2
Medium cutting	SM		VNMG160404-SM	●	●	●	●	9.525	4.76	3.81	0.4
			*VNMG160408-SM	●	●	●	●				0.8
			VNMG160412-SM	●	●	●	●				1.2

*Note: Chipbreaker cross sections are of the inserts marked *

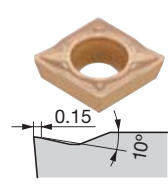
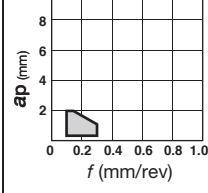
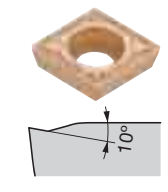
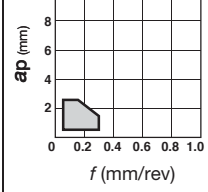
● : Stocked items

Inserts Positive type

Rhombic, 80° (7°)

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Stocked grades				Dimensions (mm)			
				Coated				I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				T6120	T6130	AH630	AH645				
Finishing to light cutting	PSS 		CCMT060204-PSS	●	●	●	●	6.35	2.38	2.8	0.4
			CCMT060208-PSS	●	●	●	●				0.8
			*CCMT09T304-PSS	●	●	●	●	9.525	3.97	4.4	0.4
			CCMT09T308-PSS	●	●	●	●				0.8
			CCMT120404-PSS	●	●	●	●	12.7	4.76	5.5	0.4
			CCMT120408-PSS	●	●	●	●				0.8
			CCMT120412-PSS	●	●	●	●				1.2
Finishing to medium cutting	PS 		CCMT060202-PS	●	●	●	●	6.35	2.38	2.8	0.2
			CCMT060204-PS	●	●	●	●				0.4
			*CCMT060208-PS	●	●	●	●	9.525	3.97	4.4	0.8
			CCMT09T302-PS	●	●	●	●				0.2
			CCMT09T304-PS	●	●	●	●	12.7	4.76	5.5	0.4
			CCMT09T308-PS	●	●	●	●				0.8
			CCMT120404-PS	●	●	●	●				0.4
CCMT120408-PS	●	●	●	●	0.8						
CCMT120412-PS	●	●	●	●	1.2						
Medium cutting	PM 		CCMT060204-PM	●	●	●	●	6.35	2.38	2.8	0.4
			CCMT060208-PM	●	●	●	●				0.8
			CCMT09T304-PM	●	●	●	●	9.525	3.97	4.4	0.4
			*CCMT09T308-PM	●	●	●	●				0.8
			CCMT09T312-PM	●	●	●	●	12.7	4.76	5.5	1.2
			CCMT120408-PM	●	●	●	●				0.8
			CCMT120412-PM	●	●	●	●				1.2

Rhombic, 80° (11°)

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Stocked grades				Dimensions (mm)			
				Coated				I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε
				T6120	T6130	AH630	AH645				
Finishing to light cutting	PSS 		CPMT080204-PSS	●	●	●	●	7.94	2.38	3.4	0.4
			CPMT080208-PSS	●	●	●	●				0.8
			*CPMT090304-PSS	●	●	●	●	9.525	3.18	4.4	0.4
			CPMT090308-PSS	●	●	●	●				0.8
Finishing to medium cutting	PS 		CPMT080202-PS	●	●	●	●	7.94	2.38	3.4	0.2
			CPMT080204-PS	●	●	●	●				0.4
			CPMT080208-PS	●	●	●	●				0.8
			*CPMT090304-PS	●	●	●	●	9.525	3.18	4.4	0.4
			CPMT090308-PS	●	●	●	●				0.8

*Note: Chipbreaker cross sections are of the inserts marked *

● : Stocked items

Rhombic, 80° (11°)

Application	Chipbreaker	$f - a_p$	Cat. No	Stocked grades				Dimensions (mm)			
	Appearance (Cross section)			Coated				I.C.dia ϕd	Thick- ness S	Hole dia $\phi d1$	Corner radius $r\epsilon$
				T6120	T6130	AH630	AH645				
Medium cutting	PM		CPMT060204-PM	●	●	●	●	6.35	2.38	2.8	0.4
	CPMT060208-PM		●	●	●	●	0.8				
	*CPMT090304-PM		●	●	●	●	9.525	3.18	4.4	0.4	
	CPMT090308-PM		●	●	●	●				0.8	

Rhombic, 55° (7°)

Application	Chipbreaker	$f - a_p$	Cat. No	Stocked grades				Dimensions (mm)			
	Appearance (Cross section)			Coated				I.C.dia ϕd	Thick- ness S	Hole dia $\phi d1$	Corner radius $r\epsilon$
				T6120	T6130	AH630	AH645				
Finishing to light cutting	PSS		DCMT070204-PSS	●	●	●	●	6.35	2.38	2.8	0.4
	DCMT070208-PSS		●	●	●	●	0.8				
	*DCMT11T304-PSS		●	●	●	●	9.525	3.97	4.4	0.4	
	DCMT11T308-PSS		●	●	●	●				0.8	
	DCMT11T312-PSS		●	●	●	●				1.2	
Finishing to medium cutting	PS		DCMT070202-PS	●	●	●	●	6.35	2.38	2.8	0.2
	*DCMT070204-PS		●	●	●	●	0.4				
	DCMT11T302-PS		●	●	●	●	9.525	3.97	4.4	0.2	
	*DCMT11T304-PS		●	●	●	●				0.4	
	DCMT11T308-PS		●	●	●	●				0.8	
DCMT11T312-PS	●	●	●	●	1.2						
Medium cutting	PM		DCMT070204-PM	●	●	●	●	6.35	2.38	2.8	0.4
	DCMT070208-PM		●	●	●	●	0.8				
	DCMT11T304-PM		●	●	●	●	9.525	3.97	4.4	0.4	
	*DCMT11T308-PM		●	●	●	●				0.8	
	DCMT11T312-PM		●	●	●	●				1.2	

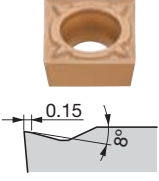
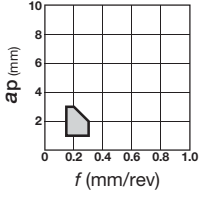
Square, 90° (7°)

Application	Chipbreaker	$f - a_p$	Cat. No	Stocked grades				Dimensions (mm)			
	Appearance (Cross section)			Coated				I.C.dia ϕd	Thick- ness S	Hole dia $\phi d1$	Corner radius $r\epsilon$
				T6120	T6130	AH630	AH645				
Finishing to medium cutting	PS		*SCMT09T304-PS	●	●	●	●	9.525	3.97	4.4	0.4
	SCMT09T308-PS		●	●	●	●	0.8				
	SCMT120404-PS		●	●	●	●	12.7	4.76	5.5	0.4	
	SCMT120408-PS		●	●	●	●				0.8	

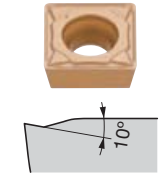
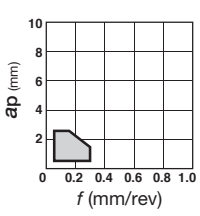
*Note: Chipbreaker cross sections are of the inserts marked *

● : Stocked items

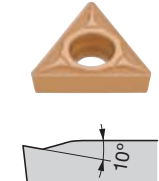
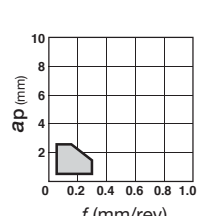
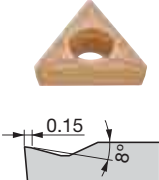
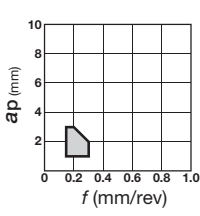
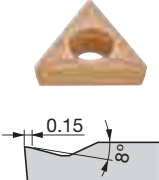
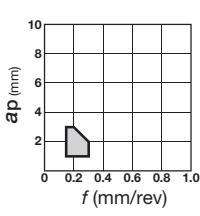
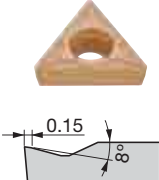
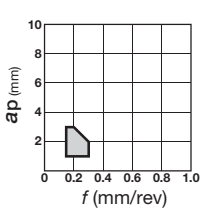
Square, 90° (7°)

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Stocked grades				Dimensions (mm)			
				Coated				I.C.dia ød	Thick- ness S	Hole dia ød1	Corner radius rE
				T6120	T6130	AH630	AH645				
Medium cutting	PM 		*SCMT09T304-PM	●	●	●	●	9.525	3.97	4.4	0.4
			SCMT09T308-PM	●	●	●	●				0.8
			SCMT120408-PM	●	●	●	●	12.7	4.76	5.5	0.8
			SCMT120412-PM	●	●	●	●				1.2

Square, 90° (11°)

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Stocked grades				Dimensions (mm)			
				Coated				I.C.dia ød	Thick- ness S	Hole dia ød1	Corner radius rE
				T6120	T6130	AH630	AH645				
Finishing to medium cutting	PS 		SPMT090304-PS	●	●	●	●	9.525	3.97	4.4	0.4
			SPMT090308-PS	●	●	●	●				0.8
			SPMT120404-PS	●	●	●	●	12.7	4.76	5.5	0.4
			*SPMT120408-PS	●	●	●	●				0.8

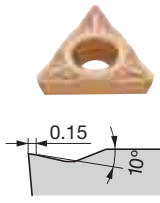
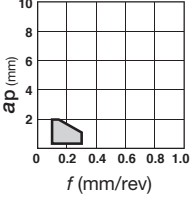
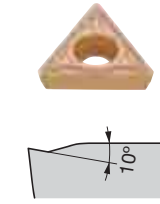
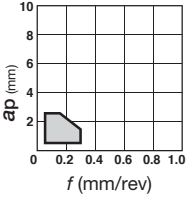
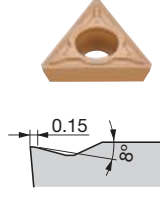
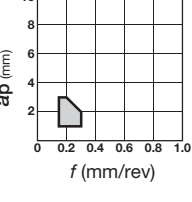
Triangular, 60° (7°)

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Stocked grades				Dimensions (mm)						
				Coated				I.C.dia ød	Thick- ness S	Hole dia ød1	Corner radius rE			
				T6120	T6130	AH630	AH645							
Finishing to medium cutting	PS 		TCMT110202-PS	●	●	●	●	6.35	2.38	2.8	0.2			
			*TCMT110204-PS	●	●	●	●				0.4			
			TCMT110208-PS	●	●	●	●				0.8			
			Medium cutting	PM 		TCMT110302-PS	●	●	●	●	6.35	3.18	2.8	0.2
						TCMT110304-PS	●	●	●	●				0.4
						TCMT110308-PS	●	●	●	●	9.525	3.97	4.4	0.8
						TCMT16T302-PS	●	●	●	●				0.2
TCMT16T304-PS	●	●				●	●	0.4						
TCMT16T308-PS	●	●				●	●	0.8						
Medium cutting	PM 					TCMT110202-PM	●	●	●	●	6.35	2.38	2.8	0.2
			TCMT110204-PM	●	●	●	●	0.4						
			TCMT110208-PM	●	●	●	●	0.8						
			Medium cutting	PM 		TCMT110302-PM	●	●	●	●	6.35	3.18	2.8	0.2
						TCMT110304-PM	●	●	●	●				0.4
						TCMT110308-PM	●	●	●	●	9.525	3.97	4.4	0.8
						*TCMT16T304-PM	●	●	●	●				0.4
TCMT16T308-PM	●	●	●	●	0.8									
TCMT16T312-PM	●	●	●	●	1.2									

*Note: Chipbreaker cross sections are of the inserts marked *

● : Stocked items

Triangular, 60° (11°)

Application	Chipbreaker Appearance (Cross section)	f - ap	Cat. No	Stocked grades				Dimensions (mm)						
				Coated				I.C.dia ød	Thick- ness s	Hole dia ød1	Corner radius rε			
				T6120	T6130	AH630	AH645							
Finishing to light cutting			TPMT090204-PSS	●	●	●	●	5.56	2.38	2.5	0.4			
			TPMT090208-PSS	●	●	●	●				0.8			
			*TPMT110204-PSS	●	●	●	●	6.35	2.38	2.8	0.4			
			TPMT110208-PSS	●	●	●	●				0.8			
			TPMT110304-PSS	●	●	●	●	6.35	3.18	3.4	0.4			
			TPMT110308-PSS	●	●	●	●				0.8			
			TPMT130304-PSS	●	●	●	●	7.94	3.18	3.4	0.4			
			TPMT130308-PSS	●	●	●	●				0.8			
			TPMT16T304-PSS	●	●	●	●	9.525	3.97	4.4	0.4			
			TPMT16T308-PSS	●	●	●	●				0.8			
			Finishing to medium cutting			TPMT090202-PS	●	●	●	●	5.56	2.38	2.5	0.2
						TPMT090204-PS	●	●	●	●				0.4
TPMT090208-PS	●	●				●	●	0.8						
TPMT110202-PS	●	●				●	●	6.35	2.38	2.8	0.2			
*TPMT110204-PS	●	●				●	●				0.4			
TPMT110208-PS	●	●				●	●	0.8						
TPMT110304-PS	●	●				●	●	6.35	3.18	3.4	0.4			
TPMT110308-PS	●	●				●	●				0.8			
TPMT130304-PS	●	●				●	●	7.94	3.18	3.4	0.4			
TPMT130308-PS	●	●				●	●				0.8			
TPMT16T304-PS	●	●				●	●	9.525	3.97	4.4	0.4			
TPMT16T308-PS	●	●				●	●				0.8			
Medium cutting			TPMT090204-PM	●	●	●	●	5.56	2.38	2.5	0.4			
			TPMT090208-PM	●	●	●	●				0.8			
			TPMT110204-PM	●	●	●	●	6.35	2.38	2.8	0.4			
			TPMT110208-PM	●	●	●	●				0.8			
			TPMT110304-PM	●	●	●	●	6.35	3.18	3.4	0.4			
			TPMT110308-PM	●	●	●	●				0.8			
			TPMT130304-PM	●	●	●	●	7.94	3.18	3.4	0.4			
			TPMT130308-PM	●	●	●	●				0.8			
			*TPMT16T304-PM	●	●	●	●	9.525	3.97	4.4	0.4			
			TPMT16T308-PM	●	●	●	●				0.8			
			TPMT16T312-PM	●	●	●	●				1.2			

*Note: Chipbreaker cross sections are of the inserts marked *

● : Stocked items

Rhombic, 35° (5°)

Application	Chipbreaker	$f - ap$	Cat. No	Stocked grades				Dimensions (mm)			
	Appearance (Cross section)			Coated				I.C. dia ød	Thick- ness s	Hole dia ød1	Corner radius r ϵ
				T6120	T6130	AH630	AH645				
Finishing to light cutting	PSS		VBMT110304-PSS	●	●	●	●	6.35	3.18	2.8	0.4
	VBMT110308-PSS		●	●	●	●	0.8				
	*VBMT160404-PSS		●	●	●	●	9.525	4.76	4.4	0.4	
	VBMT160408-PSS		●	●	●	●				0.8	
Finishing to medium cutting	PS		*VBMT110302-PS	●	●	●	●	6.35	3.18	2.8	0.2
	VBMT110304-PS		●	●	●	●	0.4				
	VBMT110308-PS		●	●	●	●	0.8				
	VBMT160402-PS		●	●	●	●	9.525	4.76	4.4	0.2	
	VBMT160404-PS		●	●	●	●				0.4	
	VBMT160408-PS		●	●	●	●				0.8	

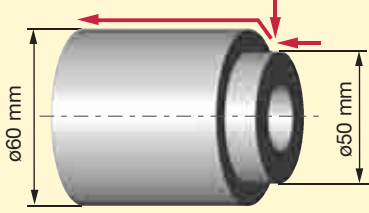
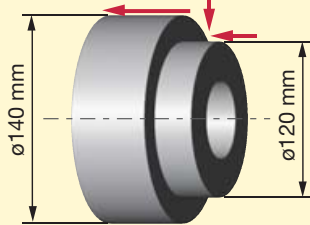
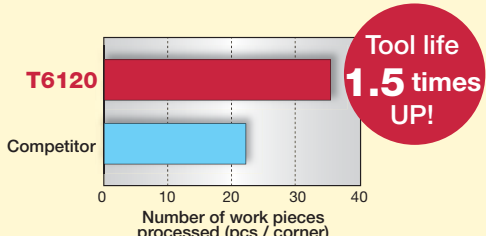
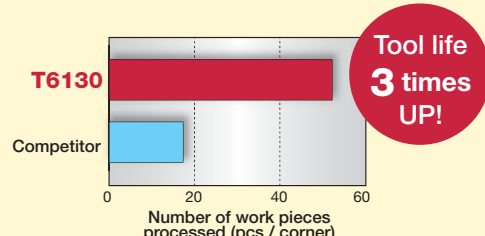
Rhombic, 35° (7°)

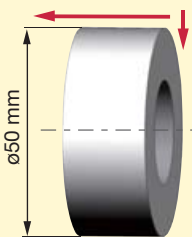
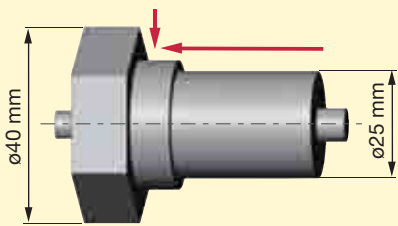
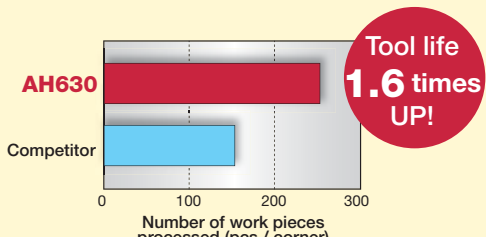
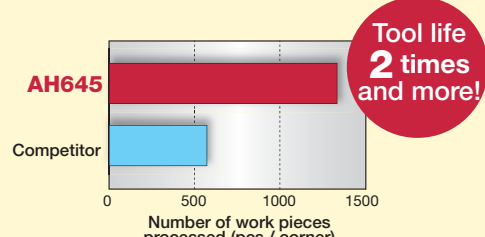
Application	Chipbreaker	$f - ap$	Cat. No	Stocked grades				Dimensions (mm)			
	Appearance (Cross section)			Coated				I.C. dia ød	Thick- ness s	Hole dia ød1	Corner radius r ϵ
				T6120	T6130	AH630	AH645				
Finishing to light cutting	PSS		VCMT110304-PSS	●	●	●	●	6.35	3.18	2.8	0.4
	VCMT110308-PSS		●	●	●	●	0.8				
	*VCMT160404-PSS		●	●	●	●	9.525	4.76	4.4	0.4	
	VCMT160408-PSS		●	●	●	●				0.8	
Finishing to medium cutting	PS		VCMT110302-PS	●	●	●	●	6.35	3.18	2.8	0.2
	VCMT110304-PS		●	●	●	●	0.4				
	*VCMT110308-PS		●	●	●	●	0.8				
	VCMT160404-PS		●	●	●	●	9.525	4.76	4.4	0.4	
	VCMT160408-PS		●	●	●	●				0.8	

*Note: Chipbreaker cross sections are of the inserts marked *

● : Stocked items

Practical examples

Workpiece type		Shaft	Machine parts
Insert		CNMG120408-SM	WNMG080412-SM
Grade		T6120	T6130
Work material		SUS304 / X5CrNi18-9	SUS303 / X10CrNiS18-9
			
Cutting conditions	Cutting speed: V_c (m/min)	120	125
	Feed: f (mm/rev)	0.5	0.3
	Depth of cut: a_p (mm)	1.5	1.3
	Machining	Continuous	Continuous
Coolant		Wet	Wet
Results		 <p>T6120 Tool life 1.5 times UP!</p> <p>T6120 has excellent wear resistance, achieving 1.5 times longer tool life than competitor CVD grades.</p>	 <p>T6130 Tool life 3 times UP!</p> <p>T6130 allows better surface finish and 3 times longer tool life than competitor inserts due to its high wear and chipping resistance.</p>

Workpiece type		Shaft	Machine parts
Insert		CNMG120408-SM	CNMG120404-SM
Grade		AH630	AH645
Work material		SUS304 / X5CrNi18-9	SUS304 / X5CrNi18-9
			
Cutting conditions	Cutting speed: V_c (m/min)	150	100
	Feed: f (mm/rev)	0.3	0.15
	Depth of cut: a_p (mm)	2	1 ~ 2.5
	Machining	Continuous	Interrupted
Coolant		Wet	Wet
Results		 <p>AH630 Tool life 1.6 times UP!</p> <p>AH630 has a good balance of wear and chipping resistance, achieving 1.6 times longer tool life than competitor grades.</p>	 <p>AH645 Tool life 2 times and more!</p> <p>AH645 has excellent fracture resistance, achieving 2 times longer tool life than competitor grades.</p>



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Produced from Recycled paper

Feb. 2013 (TJ)