Member IMC Group
Tungaloy

TurnLine

For more information

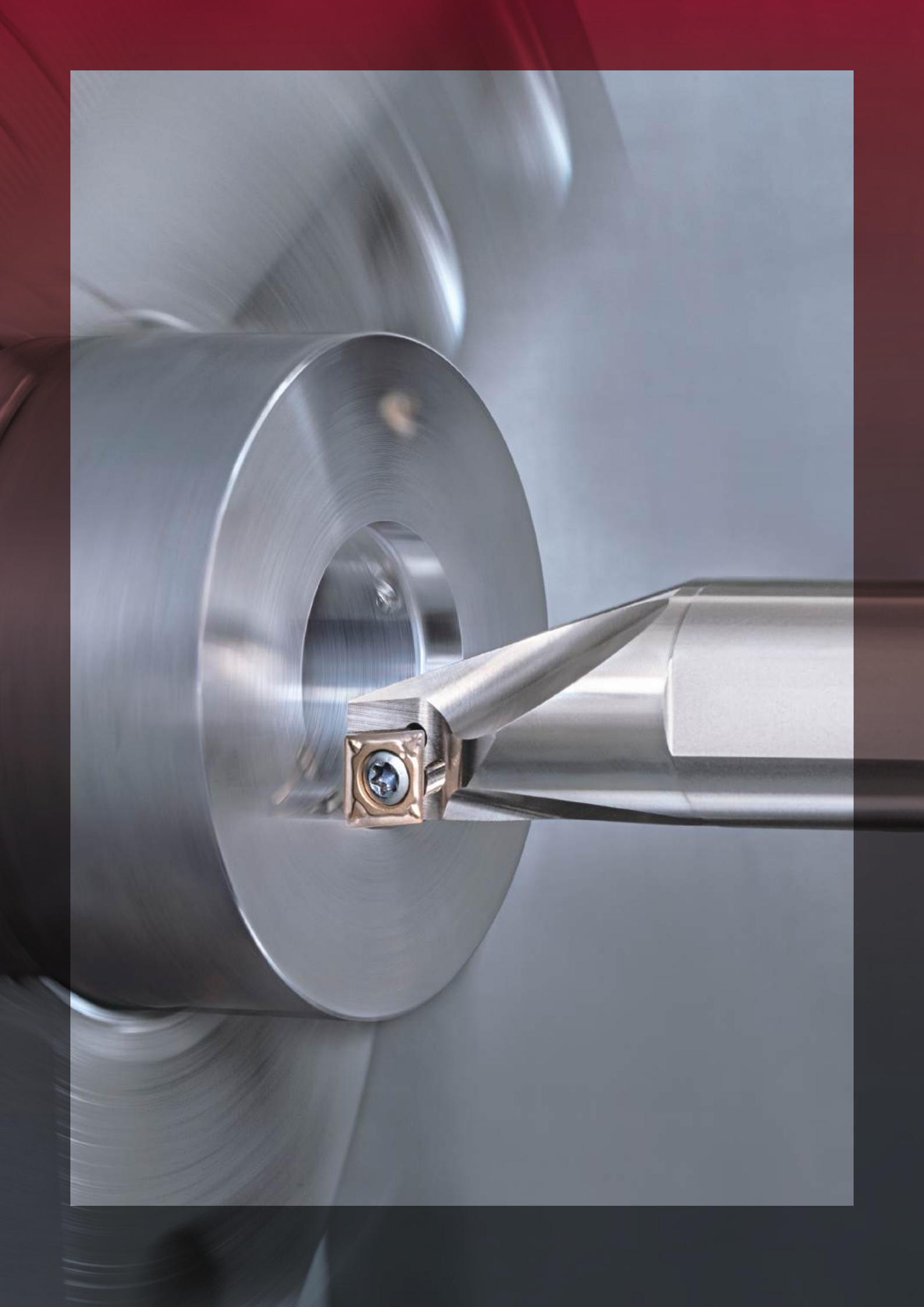
Grades for stainless steel

T6200 & AH6200

Tungaloy Report No. 547-US

Introducing T6225 — a new CVD grade for stainless steel

TUNGALOY ADDFORCE ACCELERATED LINES

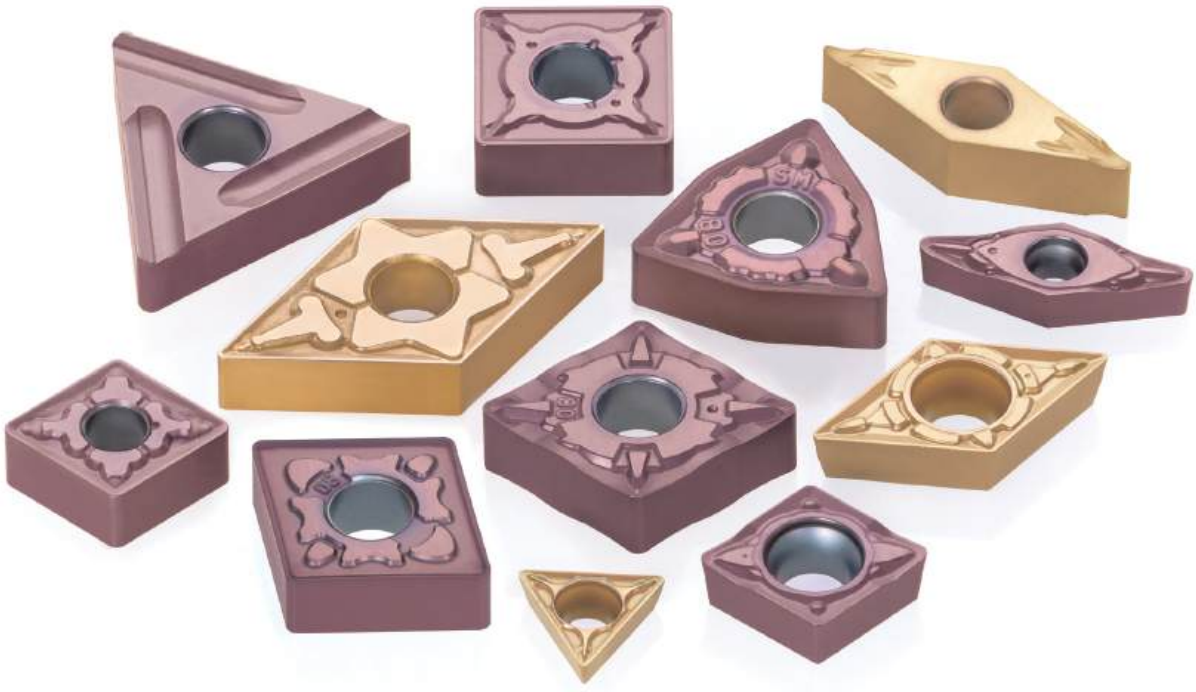


TUNGALOY

ADDFORCE TURN

ACCELERATED TURNING & THREADING

T6200 & AH6200

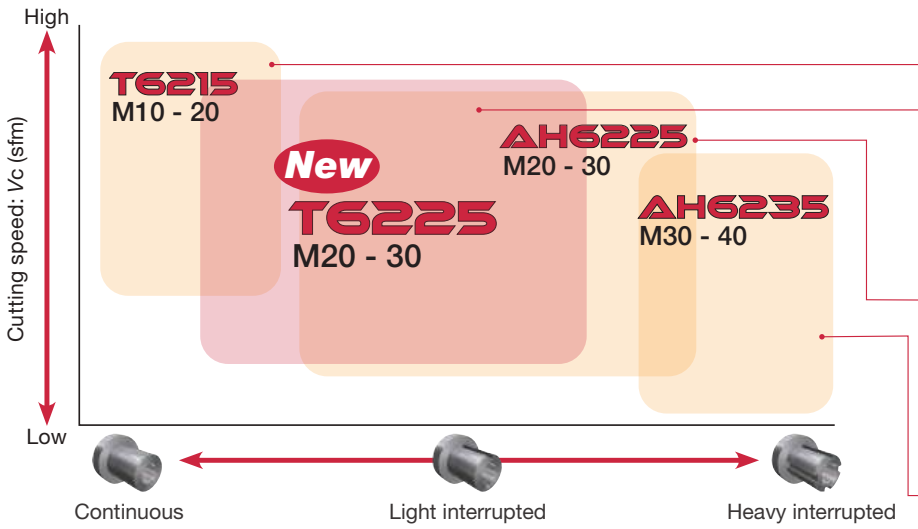


Latest grade series **providing solutions for all your machining challenges in stainless steel**

T6200 & AH6200

APPLICATION RANGE

M Stainless steel



T6215

A CVD-coated grade suited for high speed cutting. Demonstrates superior wear resistance during continuous cutting.

New T6225

Versatile CVD grade covering from continuous to light interrupted cutting. Provides excellent wear resistance in the medium cutting range.

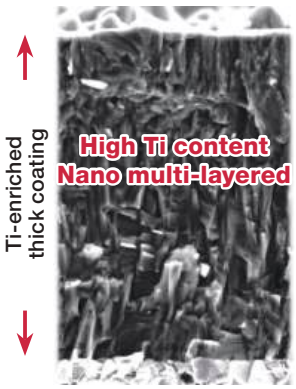
AH6225

A first-choice for stainless steel.
A versatile PVD grade for excellent performance in a wide range of stainless steel applications.

AH6235

Provides high reliability during interrupted cuts or at great depths of cut.

AH6200 SERIES



AH6225 / AH6235

Versatile PVD-coated grade

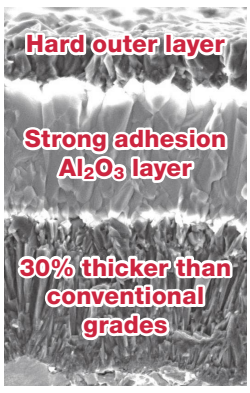
Ti-enriched coating

- Thick Ti-enriched PVD coating for enhanced thermal shock resistance.
- Reduced crater wear.

High Ti-content nano-structured multilayer coating

The outer layer consists of a high Ti-content nano-structured multilayer made possible by Tungaloy's latest coating technology. Its high hardness and nano structure provides the grade with a good balance of wear and fracture resistance, enhancing tool life and predictability.

T6200 SERIES



T6215 / T6225

Superior wear resistance

Enhanced hardness of outer layer

- Hard outer layer coating significantly reduces flank wear.

Strong adhesion of Al_2O_3 layers

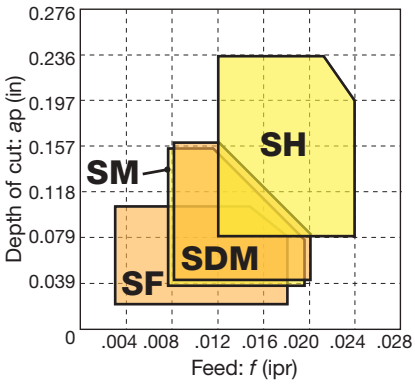
- Tungaloy's latest Al_2O_3 coating technology enhances the grade's adhesion of coating, preventing edge chipping and coating delamination.

Thick coating

- 30% thicker than conventional grades.
- Provides superior wear resistance and long tool life.

CHIPBREAKERS

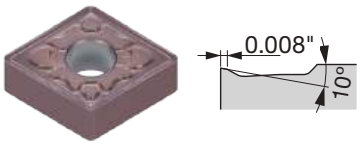
For negative inserts



Chipbreaker	Feature
SF	Demonstrates excellent chip control at high feed rates and light d.o.c. Ideal for finish machining of stainless steel.
SM	First choice for stainless steel turning. Provides light cutting action and good chip control over a wide range of cutting conditions.
SDM	New chipbreaker that generates low cutting forces. Demonstrates excellent resistance to notch and crater wear.
SH	Strong cutting edge design with high fracture resistance for medium to heavy-duty cutting. Suited for rough machining or interrupted cuts.

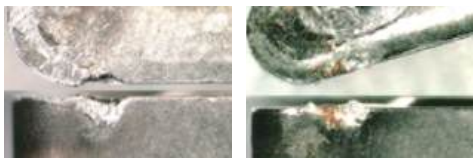
ISO	Operation	Chipbreaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm)		
						Austenitic stainless steel	Ferritic / martensite stainless steel	Precipitation hardened stainless steel
M	Finishing	SF	T6215	0.020 - 0.098	0.003 - 0.018	459 - 787	525 - 919	262 - 492
			T6225	0.020 - 0.098	0.003 - 0.018	295 - 656	361 - 787	197 - 361
			AH6225	0.020 - 0.098	0.003 - 0.018	295 - 656	361 - 787	197 - 361
			AH6235	0.020 - 0.098	0.003 - 0.018	164 - 492	230 - 558	-
	Medium cutting	SM	T6215	0.039 - 0.157	0.008 - 0.020	459 - 787	525 - 919	262 - 492
			T6225	0.039 - 0.157	0.008 - 0.020	295 - 656	361 - 787	197 - 361
			AH6225	0.039 - 0.157	0.008 - 0.020	295 - 656	361 - 787	197 - 361
			AH6235	0.039 - 0.157	0.008 - 0.020	164 - 492	230 - 558	-
		SDM	T6215	0.039 - 0.157	0.008 - 0.020	459 - 787	525 - 919	262 - 492
			AH6225	0.039 - 0.157	0.008 - 0.020	295 - 656	361 - 787	197 - 361
			AH6235	0.039 - 0.157	0.008 - 0.020	164 - 492	230 - 558	-
	Heavy cutting	SH	T6215	0.079 - 0.236	0.012 - 0.024	459 - 787	525 - 919	262 - 492
			AH6225	0.079 - 0.236	0.012 - 0.024	295 - 656	361 - 787	197 - 361
			AH6235	0.079 - 0.236	0.012 - 0.024	164 - 492	230 - 558	-

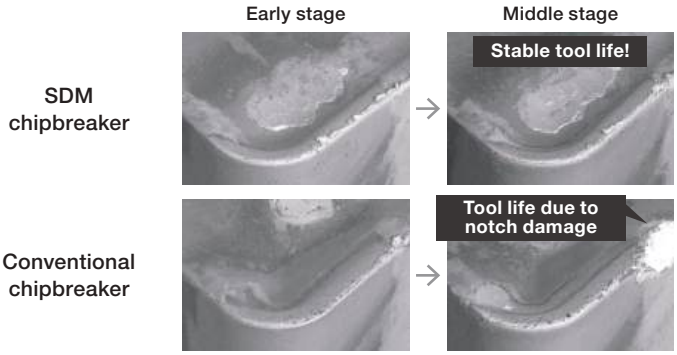
SDM chipbreaker for stainless steel machining



New SDM chipbreaker demonstrates excellent notch wear resistance due to the uniquely designed T-land profile and large rake angle. For applications that cause excessive notch damage development, SDM chipbreaker, in combination with the new grade, can dramatically improve tool life.

Typical notch wear damage

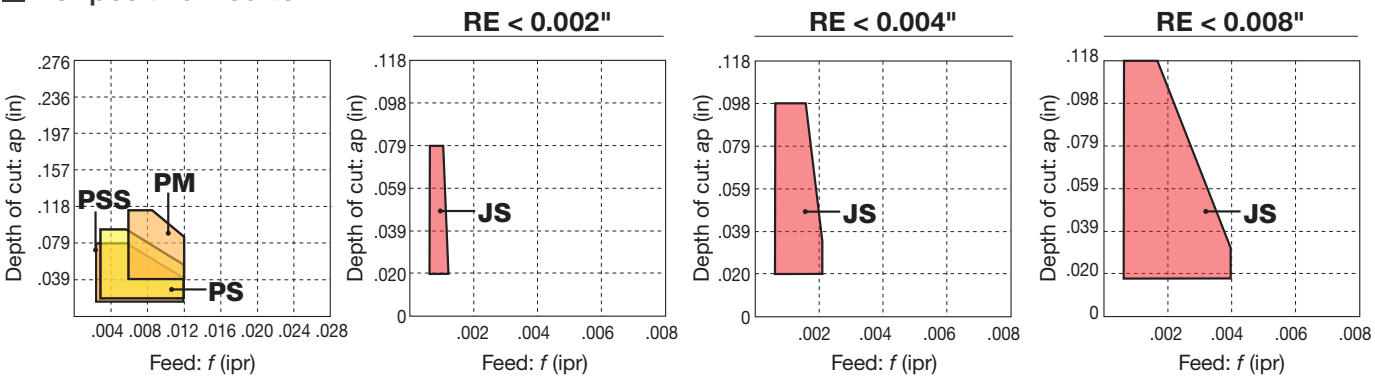




Workpiece material : SUS316L
Cutting speed : *Vc* = 492 sfm
Feed : *f* = 0.012 ipr
Depth of cut : *ap* = 0.079"
Machining : Face turning, continuous
Coolant : Wet

T6200 & AH6200

For positive inserts



Chipbreaker	Feature
PSS	Pressed-to-form 3D chipbreakers designed to provide excellent chip control and low cutting forces in finish to medium cutting.
PS	First choice for finish to medium cutting of stainless steel. Features pressed-to-form 3D chipbreakers and sharp cutting edge for excellent chip control.
PM	Chipbreaker for medium cutting with excellent chip control and process security.
JS	First choice for finish machining of small parts. 3D geometry designed to provide a good balance of edge integrity and excellent chip control during finishing operations.

PSS / PS / PM

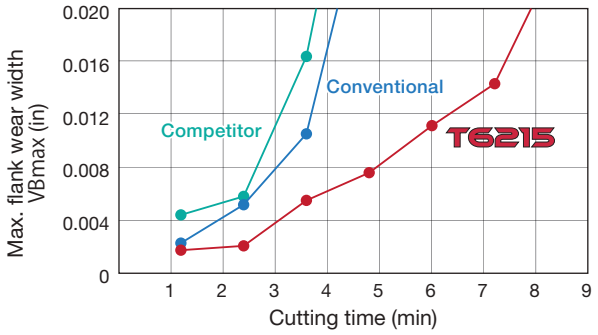
ISO	Operation	Chipbreaker	Grade	Depth of cut *ap* (in)	Feed *f* (ipr)	Cutting speed: *Vc* (sfm)		
						Austenitic stainless steel	Ferritic / martensite stainless steel	Precipitation hardened stainless steel
M	Finishing	PSS	T6215	0.012 - 0.079	0.003 - 0.012	459 - 787	525 - 919	262 - 492
			AH6225	0.012 - 0.079	0.003 - 0.012	295 - 656	361 - 787	197 - 361
			AH6235	0.012 - 0.079	0.003 - 0.012	164 - 492	230 - 558	-
	Finishing to medium cutting	PS	T6215	0.020 - 0.098	0.003 - 0.012	459 - 787	525 - 919	262 - 492
			AH6225	0.020 - 0.098	0.003 - 0.012	295 - 656	361 - 787	197 - 361
			AH6235	0.020 - 0.098	0.003 - 0.012	164 - 492	230 - 558	-
	Medium cutting	PM	T6215	0.039 - 0.118	0.006 - 0.012	459 - 787	525 - 919	262 - 492
			AH6225	0.039 - 0.118	0.006 - 0.012	295 - 656	361 - 787	197 - 361
			AH6235	0.039 - 0.118	0.006 - 0.012	164 - 492	230 - 558	-

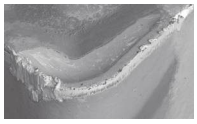
JS

ISO	Workpiece materials	Chipbreaker	Grade	Cutting speed *Vc* (sfm)	Depth of cut *ap* (in)	Feed: *f* (ipr)			
						RE < 0.002	RE < 0.004	RE < 0.008	RE < 0.016
M	Austenitic stainless steel	JS	AH6225	295 - 656	0.020 - 0.118	0.0008 - 0.0012	0.0008 - 0.0020	0.0008 - 0.0039	0.0020 - 0.0079
	Ferritic / martensite stainless steel	JS	AH6225	361 - 787	0.020 - 0.118	0.0008 - 0.0012	0.0008 - 0.0020	0.0008 - 0.0039	0.0020 - 0.0079
	Precipitation hardened stainless steel	JS	AH6225	197 - 361	0.020 - 0.118	0.0008 - 0.0012	0.0008 - 0.0020	0.0008 - 0.0039	0.0020 - 0.0079

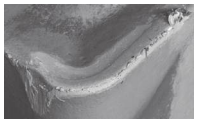
CUTTING PERFORMANCE

M Austenitic stainless steel 316SS





T6215
7.2 min. machining



Conventional
3.6 min. machining

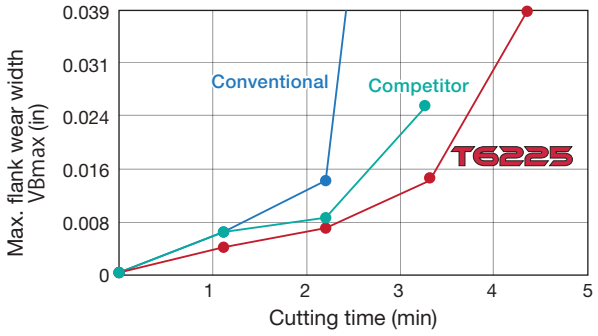
Competitor
3.6 min. machining

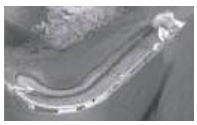
Insert	: CNMG1204**
Cutting speed	: *Vc* = 787 sfm
Feed	: *f* = 0.012 ipr
Depth of cut	: *ap* = 0.079"
Machining	: Continuous cutting
Coolant	: Wet

T6215 demonstrated superior wear resistance during high speed turning of austenitic stainless steel.

New

M Austenitic stainless steel 316SS





T6225
2.2 min. machining

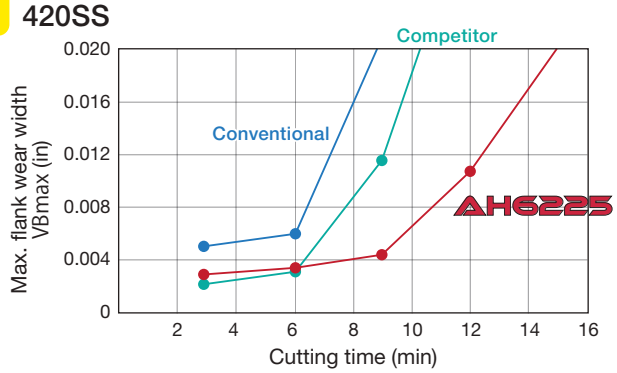
Conventional
2.2 min. machining

Competitor
2.2 min. machining

Insert	: CNMG1204**
Cutting speed	: *Vc* = 492 sfm
Feed	: *f* = 0.012 ipr
Depth of cut	: *ap* = 0.079"
Machining	: Continuous cutting
Coolant	: Wet

T6225 demonstrated superior resistance to wear and plastic deformation during machining of austenitic stainless steel.

M Martensitic stainless steel 420SS



AH6225
9 min. machining

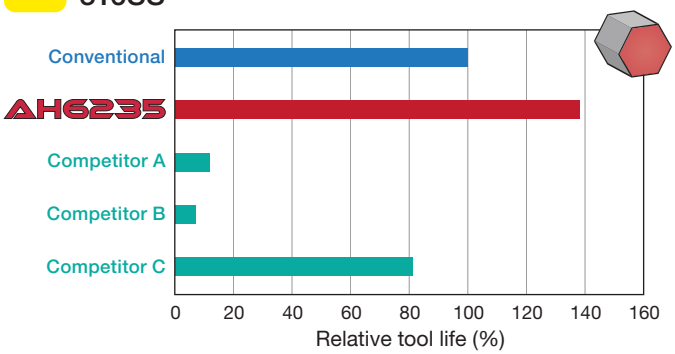
Conventional
9 min. machining

Competitor
9 min. machining

Insert	: CNMG1204**
Cutting speed	: *Vc* = 656 sfm
Feed	: *f* = 0.012 ipr
Depth of cut	: *ap* = 0.079"
Machining	: Continuous cutting
Coolant	: Wet

AH6225 showed excellent wear resistance in martensitic stainless steel machining.

M Austenitic stainless steel 316SS



Insert	: CNMG1204**
Cutting speed	: *Vc* = 394 sfm
Feed	: *f* = 0.006 ipr
Depth of cut	: *ap* = 0.079"
Machining	: Heavy interrupted cutting
Coolant	: Wet
Criteria	: Breakage

AH6235 provided superior fracture resistance during interrupted cutting of austenitic stainless steel.

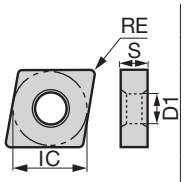
Insert NEGATIVE TYPE

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

CN

Rhombic, 80° with hole

P	Steel	ᑕ ᑕ✣ ᑕ✣ ✣
M	Stainless	● ●ᑕ ●ᑕ ✣
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated T6225	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	SF	CNMG 321 SF	CNMG090304-SF	●		●		0.016	0.375	0.125	0.150
		CNMG 322 SF	CNMG090308-SF	●		●		0.031	0.375	0.125	0.150
		CNMG 431 SF	CNMG120404-SF	●		●		0.016	0.500	0.187	0.203
		CNMG 432 SF	CNMG120408-SF	●		●		0.031	0.500	0.187	0.203
		CNMG 433 SF	CNMG120412-SF	●		●		0.047	0.500	0.187	0.203
	SS	CNMG 331E SS	CNMG090404E-SS			●	●	0.016	0.375	0.187	0.150
		CNMG 332E SS	CNMG090408E-SS			●	●	0.031	0.375	0.187	0.150
		CNMG 431 SS	CNMG120404-SS	●		●	●	0.016	0.500	0.187	0.203
		CNMG 432 SS	CNMG120408-SS	●		●	●	0.031	0.500	0.187	0.203
		CNMG 433 SS	CNMG120412-SS	●		●	●	0.047	0.500	0.187	0.203
	TS	CNMG 430.5 TS	CNMG120402-TS			●		0.008	0.500	0.187	0.203
		CNMG 431 TS	CNMG120404-TS			●		0.016	0.500	0.187	0.203
		CNMG 432 TS	CNMG120408-TS			●		0.031	0.500	0.187	0.203
		CNMG 433 TS	CNMG120412-TS			●		0.047	0.500	0.187	0.203
Medium cutting	TM	CNMG 331E TM	CNMG090404E-TM	●		●		0.016	0.375	0.187	0.150
		CNMG 332E TM	CNMG090408E-TM	●		●		0.031	0.375	0.187	0.150
		CNMG 333E TM	CNMG090412E-TM	●		●		0.047	0.375	0.187	0.150
		CNMG 431 TM	CNMG120404-TM	●		●	●	0.016	0.500	0.187	0.203
		CNMG 432 SF	CNMG120408-TM	●		●	●	0.031	0.500	0.187	0.203
		CNMG 433 SF	CNMG120412-TM	●		●	●	0.047	0.500	0.187	0.203
		CNMG 434 TM	CNMG120416-TM	●		●	●	0.063	0.500	0.187	0.203
	SM	CNMG 331E SM	CNMG090404E-SM	●		●		0.016	0.375	0.187	0.150
		CNMG 332E SM	CNMG090408E-SM	●		●		0.031	0.375	0.187	0.150
		CNMG 333E SM	CNMG090412E-SM	●	●	●		0.047	0.375	0.187	0.150
		CNMG 431 SM	CNMG120404-SM	●		●	●	0.016	0.500	0.187	0.203
		CNMG 432 SM	CNMG120408-SM	●	●	●	●	0.031	0.500	0.187	0.203
		CNMG 433 SM	CNMG120412-SM	●	●	●	●	0.047	0.500	0.187	0.203
		CNMG 543 SM	CNMG160612-SM	●	●	●		0.047	0.625	0.250	0.250
		CNMG 544 SM	CNMG160616-SM			●		0.063	0625	0.250	0.250
		CNMG 643 SM	CNMG190612-SM			●		0.047	0.750	0.250	0.313
		CNMG 644 SM	CNMG190616-SM			●		0.063	0.750	0.250	0.313

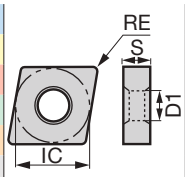
● : New product
● : Line up

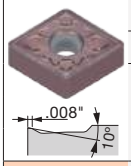
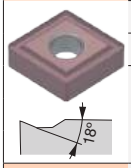
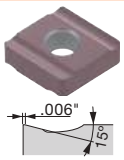
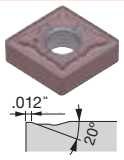
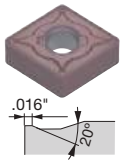
● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

CN

Rhombic, 80° with hole

P	Steel	ⓒ ⓒ✣ ✣
M	Stainless	● ●ⓒ ✣
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Medium cutting	**SDM**	**CNMG 431 SDM**	**CNMG120404-SDM**	●	●	●	0.016	0.500	0.187	0.203
		CNMG 432 SDM	CNMG120408-SDM	●	●	●	0.031	0.500	0.187	0.203
		CNMG 433 SDM	CNMG120412-SDM	●	●	●	0.047	0.500	0.187	0.203
	SA	**CNMG 431 SA**	**CNMG120404-SA**	●	●	●	0.016	0.500	0.187	0.203
		CNMG 432 SA	CNMG120408-SA	●	●	●	0.031	0.500	0.187	0.203
		CNMG 433 SA	CNMG120412-SA	●	●	●	0.047	0.500	0.187	0.203
	S	**CNMG 431 R-S**	**CNMG120404R-S**		●	●	0.016	0.500	0.187	0.203
		CNMG 431 L-S	CNMG120404L-S		●	●	0.016	0.500	0.187	0.203
		CNMG 432 R-S	**CNMG120408R-S**		●	●	0.031	0.500	0.187	0.203
		CNMG 432 L-S	CNMG120408L-S		●	●	0.031	0.500	0.187	0.203
Medium to heavy cutting	**TH**	**CNMG 432 TH**	**CNMG120408-TH**		●		0.031	0.500	0.187	0.203
		CNMG 433 TH	CNMG120412-TH		●		0.047	0.500	0.187	0.203
	SH	**CNMG 432 TH**	**CNMG120408-SH**		●	●	0.031	0.500	0.187	0.203
		CNMG 433 TH	CNMG120412-SH		●	●	0.047	0.500	0.187	0.203
		CNMG 434 TH	CNMG120416-SH		●	●	0.063	0.500	0.187	0.203
		CNMG 543 TH	**CNMG160612-SH**		●	●	0.047	0.625	0.250	0.250
		CNMG 544 TH	CNMG160616-SH		●	●	0.063	0.625	0.250	0.250
		CNMG 643 TH	**CNMG190612-SH**		●	●	0.047	0.750	0.250	0.312
		CNMG 644 TH	CNMG190616-SH		●	●	0.063	0.750	0.250	0.312

● : Line up

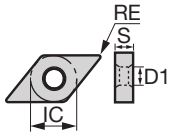
Insert NEGATIVE TYPE

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

DN

Rhombic, 55° with hole

P	Steel	ɔ	ɔ✣	ɔ✣	✣
M	Stainless	●	●ɔ	●ɔ	✣
K	Cast iron				
N	Non-ferrous				
S	Superalloy				
H	Hard material				



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated T6225	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	**SF**	**DNMG 431 SF**	**DNMG150404-SF**	●		●		0.016	0.500	0.187	0.203
		DNMG 432 SF	DNMG150408-SF	●		●		0.031	0.500	0.187	0.203
		DNMG 441 SF	**DNMG150604-SF**	●		●		0.016	0.500	0.250	0.203
		DNMG 442 SF	DNMG150608-SF	●		●		0.031	0.500	0.250	0.203
	SS	**DNMG 331E SS**	**DNMG110404E-SS**			●	●	0.016	0.375	0.187	0.150
		DNMG 332E SS	DNMG110408E-SS			●	●	0.031	0.375	0.187	0.150
		DNMG 431 SS	**DNMG150404-SS**	●		●	●	0.016	0.500	0.187	0.203
		DNMG 432 SS	DNMG150408-SS	●		●	●	0.031	0.500	0.187	0.203
		DNMG 433 SS	DNMG150412-SS	●		●	●	0.047	0.500	0.187	0.203
		DNMG 441 SS	**DNMG150604-SS**	●		●	●	0.016	0.500	0.250	0.203
		DNMG 442 SS	DNMG150608-SS	●		●	●	0.031	0.500	0.250	0.203
		DNMG 443 SS	DNMG150612-SS	●		●	●	0.047	0.500	0.250	0.203
Medium cutting	**TM**	**DNMG 431 TM**	**DNMG150404-TM**	●		●	●	0.016	0.500	0.187	0.203
		DNMG 432 TM	DNMG150408-TM	●		●	●	0.031	0.500	0.187	0.203
		DNMG 433 TM	DNMG150412-TM	●		●	●	0.047	0.500	0.187	0.203
	.008"	DNMG 434 TM	DNMG150416-TM	●		●	●	0.063	0.500	0.187	0.203
	SM	**DNMG 331E SM**	**DNMG110404E-SM**	●		●		0.016	0.375	0.187	0.150
		DNMG 332E SM	DNMG110408E-SM	●		●		0.031	0.375	0.187	0.150
		DNMG 431 SM	**DNMG150404-SM**	●		●	●	0.016	0.500	0.187	0.203
		DNMG 432 SM	DNMG150408-SM	●		●	●	0.031	0.500	0.187	0.203
		DNMG 433 SM	DNMG150412-SM	●		●	●	0.047	0.500	0.187	0.203
	.010"	**DNMG 441 SM**	**DNMG150604-SM**	●		●	●	0.016	0.500	0.250	0.203
		DNMG 442 SM	DNMG150608-SM	●	●	●	●	0.031	0.500	0.250	0.203
		DNMG 443 SM	DNMG150612-SM	●	●	●	●	0.047	0.500	0.250	0.203
	SDM	**DNMG 431 SDM**	**DNMG150404-SDM**	●		●	●	0.016	0.500	0.187	0.203
		DNMG 432 SDM	DNMG150408-SDM	●		●	●	0.031	0.500	0.187	0.203
		DNMG 433 SDM	DNMG150412-SDM	●		●	●	0.047	0.500	0.187	0.203
		DNMG 441 SDM	**DNMG150604-SDM**	●		●	●	0.016	0.500	0.250	0.203
		DNMG 442 SDM	DNMG150608-SDM	●		●	●	0.031	0.500	0.250	0.203
	.008"	DNMG 443 SDM	DNMG150612-SDM	●		●	●	0.047	0.500	0.250	0.203

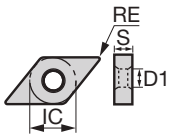
● : New product
● : Line up

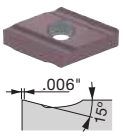
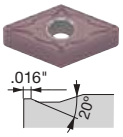
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

DN

Rhombic, 55° with hole

P	Steel	ɔ ɔ✣ ✣
M	Stainless	● ●ɔ ✣
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	

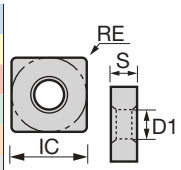


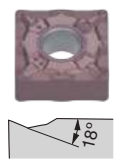
Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Medium cutting	S	DNMG 431 R-S	DNMG150404R-S		●	●	0.016	0.500	0.187	0.203
		DNMG 431 L-S	DNMG150404L-S		●	●	0.016	0.500	0.187	0.203
		DNMG 432 R-S	DNMG150408R-S		●	●	0.031	0.500	0.187	0.203
		DNMG 432 L-S	DNMG150408L-S		●	●	0.031	0.500	0.187	0.203
		DNMG 441 R-S	DNMG150604R-S		●	●	0.016	0.500	0.250	0.203
		DNMG 441 L-S	DNMG150604L-S		●	●	0.016	0.500	0.250	0.203
		DNMG 442 R-S	DNMG150608R-S		●	●	0.031	0.500	0.250	0.203
		DNMG 442 L-S	DNMG150608L-S		●	●	0.031	0.500	0.250	0.203
Medium to heavy cutting	SH	DNMG 432 SH	DNMG150408-SH		●	●	0.031	0.500	0.187	0.203
		DNMG 433 SH	DNMG150412-SH		●	●	0.047	0.500	0.187	0.203
		DNMG 434 SH	DNMG150416-SH		●	●	0.063	0.500	0.187	0.203
		DNMG 442 SH	DNMG150608-SH		●	●	0.031	0.500	0.250	0.203
		DNMG 443 SH	DNMG150612-SH		●	●	0.047	0.500	0.250	0.203

SN

Square, 90° with hole

P	Steel	ɔ ɔ✣ ✣
M	Stainless	● ●ɔ ✣
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	SF	SNMG 431 SF	SNMG120404-SF	●	●		0.016	0.500	0.187	0.203
		SNMG 432 SF	SNMG120408-SF	●	●		0.031	0.500	0.187	0.203
	SS	SNMG 431 SS	SNMG120404-SS	●	●	●	0.016	0.500	0.187	0.203
		SNMG 432 SS	SNMG120408-SS	●	●	●	0.031	0.500	0.187	0.203
		SNMG 433 SS	SNMG120412-SS	●	●	●	0.047	0.500	0.187	0.203

● : Line up

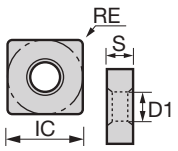
Insert NEGATIVE TYPE

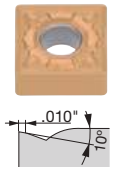
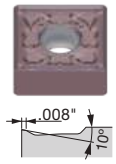
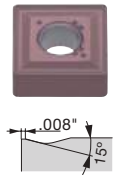
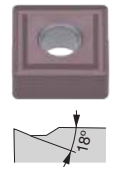
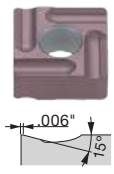
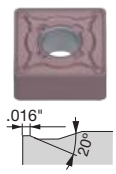
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

SN

Square, 90° with hole

P	Steel	ɔ	ɔ✣	ɔ✣	✣	
M	Stainless	●	●ɔ	●ɔ	✣	
K	Cast iron					
N	Non-ferrous					
S	Superalloy					
H	Hard material					



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated T6225	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Medium cutting	**SM**	**SNMG 432 SM**	**SNMG120408-SM**	●	●	●	●	0.031	0.500	0.187	0.203
		SNMG 433 SM	SNMG120412-SM	●	●	●	●	0.047	0.500	0.187	0.203
	SDM	**SNMG 432 SDM**	**SNMG120408-SDM**	●		●	●	0.031	0.500	0.187	0.203
		SNMG 433 SDM	SNMG120412-SDM	●		●	●	0.047	0.500	0.187	0.203
	All-round	**SNMG 543**	**SNMG150612**			●		0.047	0.625	0.250	0.203
		**SNMG 643**	**SNMG190612**			●		0.047	0.750	0.250	0.312
	SA	**SNMG 431 SA**	**SNMG120404-SA**	●		●	●	0.016	0.500	0.187	0.203
		SNMG 432 SA	SNMG120408-SA	●		●	●	0.031	0.500	0.187	0.203
		SNMG 433 SA	SNMG120412-SA	●		●	●	0.047	0.500	0.187	0.203
	S	**SNMG 431 R-S**	**SNMG120404R-S**			●	●	0.016	0.500	0.187	0.203
		**SNMG 431 L-S**	**SNMG120404L-S**			●	●	0.016	0.500	0.187	0.203
		SNMG 432 R-S	**SNMG120408R-S**			●	●	0.031	0.500	0.187	0.203
		SNMG 432 L-S	**SNMG120408L-S**			●	●	0.031	0.500	0.187	0.203
Medium to heavy cutting	**SH**	**SNMG 432 SH**	**SNMG120408-SH**			●	●	0.031	0.500	0.187	0.203
		SNMG 433 SH	SNMG120412-SH			●	●	0.047	0.500	0.187	0.203
		SNMG 543 SH	**SNMG150612-SH**			●	●	0.047	0.625	0.250	0.250
		SNMG 544 SH	SNMG150616-SH			●	●	0.063	0.625	0.250	0.250
		SNMG 643 SH	**SNMG190612-SH**			●	●	0.047	0.750	0.250	0.312
		SNMG 644 SH	SNMG190616-SH			●	●	0.063	0.750	0.250	0.312

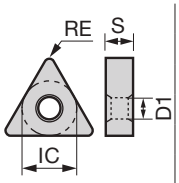
● : New product
● : Line up

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

TN

Triangular, 60° with hole

P	Steel	ᑕ	ᑕ✣	ᑕ✣	✣	
M	Stainless	●	●ᑕ	●ᑕ	✣	
K	Cast iron					
N	Non-ferrous					
S	Superalloy					
H	Hard material					



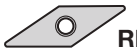
Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated T6225	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	**SF**	**TNMG 331 SF**	**TNMG160404-SF**	●		●		0.016	0.375	0.187	0.150
		TNMG 332 SF	TNMG160408-SF	●		●		0.031	0.375	0.187	0.150
		TNMG 333 SF	TNMG160412-SF	●		●		0.047	0.375	0.187	0.150
	SS	**TNMG 231E SS**	**TNMG110404E-SS**			●	●	0.016	0.250	0.187	0.089
		TNMG 232E SS	TNMG110408E-SS			●	●	0.031	0.250	0.187	0.089
		TNMG 331 SS	**TNMG160404-SS**	●		●	●	0.016	0.375	0.187	0.150
		TNMG 332 SS	TNMG160408-SS	●		●	●	0.031	0.375	0.187	0.150
		TNMG 333 SS	TNMG160412-SS	●		●	●	0.047	0.375	0.187	0.150
		TNMG 431 SS	**TNMG220404-SS**	●		●	●	0.016	0.500	0.187	0.203
		TNMG 432 SS	TNMG220408-SS	●		●	●	0.031	0.500	0.187	0.203
		TNMG 433 SS	TNMG220412-SS	●		●	●	0.047	0.500	0.187	0.203
Medium cutting	**SM**	**TNMG 231E SM**	**TNMG110404E-SM**	●		●		0.016	0.250	0.187	0.089
		TNMG 232E SM	TNMG110408E-SM	●		●		0.031	0.250	0.187	0.089
		TNMG 331 SM	**TNMG160404-SM**	●		●	●	0.016	0.375	0.187	0.150
		TNMG 332 SM	TNMG160408-SM	●	●	●	●	0.031	0.375	0.187	0.150
		TNMG 333 SM	TNMG160412-SM	●		●	●	0.047	0.375	0.187	0.150
		TNMG 432 SM	**TNMG220408-SM**	●		●	●	0.031	0.500	0.187	0.203
		TNMG 433 SM	TNMG220412-SM	●		●	●	0.047	0.500	0.187	0.203
	SDM	**TNMG 331 SDM**	**TNMG160404-SDM**	●		●	●	0.016	0.375	0.187	0.150
		TNMG 332 SDM	TNMG160408-SDM	●		●	●	0.031	0.375	0.187	0.150
		TNMG 333 SDM	TNMG160412-SDM	●		●	●	0.047	0.375	0.187	0.150
	All-round	**TNMG 433**	**TNMG220412**			●		0.047	0.500	0.187	0.203
		TNMG 434	TNMG220416			●		0.063	0.500	0.187	0.203
	SA	**TNMG 331 SA**	**TNMG160404-SA**	●		●	●	0.016	0.375	0.187	0.150
		TNMG 332 SA	TNMG160408-SA	●		●	●	0.031	0.375	0.187	0.150
		TNMG 333 SA	TNMG160412-SA	●		●	●	0.047	0.375	0.187	0.150
		TNMG 432 SA	**TNMG220408-SA**	●		●	●	0.031	0.500	0.187	0.203
		TNMG 433 SA	TNMG220412-SA	●		●	●	0.047	0.500	0.187	0.203
	S	**TNMG 331 R-S**	**TNMG160404R-S**			●	●	0.016	0.375	0.187	0.150
		TNMG 331 L-S	TNMG160404L-S			●	●	0.016	0.375	0.187	0.150
		TNMG 332 R-S	**TNMG160408R-S**			●	●	0.031	0.375	0.187	0.150
		TNMG 332 L-S	TNMG160408L-S			●	●	0.031	0.375	0.187	0.150
		TNMG 431 R-S	**TNMG220404R-S**			●	●	0.016	0.500	0.187	0.203
		TNMG 431 L-S	TNMG220404L-S			●	●	0.016	0.500	0.187	0.203
		TNMG 432 R-S	**TNMG220408R-S**			●	●	0.031	0.500	0.187	0.203
		TNMG 432 L-S	TNMG220408L-S			●	●	0.031	0.500	0.187	0.203

● : New product
● : Line up

Insert NEGATIVE TYPE

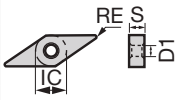
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

VN



Rhombic, 35° with hole

P	Steel	ɔ ɔ✣ ✣
M	Stainless	● ●ɔ ✣
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	SF	VNMG 331 SF	VNMG160404-SF	●	●		0.016	0.375	0.187	0.150
		VNMG 332 SF	VNMG160408-SF	●	●		0.031	0.375	0.187	0.150
	SS	VNMG 2.331E SS	VNMG120404E-SS	●	●	●	0.016	0.281	0.187	0.150
		VNMG 2.332E SS	VNMG120408E-SS	●	●	●	0.031	0.281	0.187	0.150
		VNMG 331 SS	VNMG160404-SS	●	●	●	0.016	0.375	0.187	0.150
		VNMG 332 SS	VNMG160408-SS	●	●	●	0.031	0.375	0.187	0.150
		VNMG 333 SS	VNMG160412-SS	●	●	●	0.047	0.375	0.187	0.150
Medium cutting	TM	VNMG 331 TM	VNMG160404-TM		●		0.016	0.375	0.187	0.150
	SM	VNMG 2.331E SM	VNMG120404E-SM	●	●	●	0.016	0.281	0.187	0.150
		VNMG 2.332E SM	VNMG120408E-SM	●	●	●	0.031	0.281	0.187	0.150
		VNMG 331 SM	VNMG160404-SM	●	●	●	0.016	0.375	0.187	0.150
		VNMG 332 SM	VNMG160408-SM	●	●	●	0.031	0.375	0.187	0.150
		VNMG 333 SM	VNMG160412-SM	●	●	●	0.047	0.375	0.187	0.150
	SDM	VNMG 331 SDM	VNMG160404-SDM	●	●	●	0.016	0.375	0.187	0.150
		VNMG 332 SDM	VNMG160408-SDM	●	●	●	0.031	0.375	0.187	0.150
		VNMG 333 SDM	VNMG160412-SDM	●	●	●	0.047	0.375	0.187	0.150

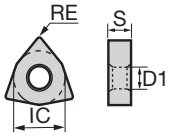
● : Line up

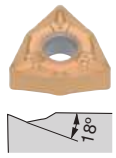
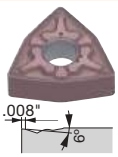
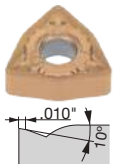
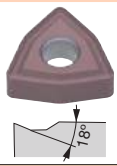
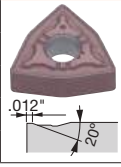
● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

WN

Trigon, 80° with hole

P	Steel	ⓒ	ⓒ✣	ⓒ✣	✣
M	Stainless	●	●ⓒ	●ⓒ	✣
K	Cast iron				
N	Non-ferrous				
S	Superalloy				
H	Hard material				



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated T6225	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	**SF**	**WNMG 331 SF**	**WNMG060404-SF**	●	●	●		0.016	0.375	0.187	0.150
		WNMG 332 SF	WNMG060408-SF	●		●		0.031	0.375	0.187	0.150
		WNMG 431 SF	**WNMG080404-SF**	●		●		0.016	0.500	0.187	0.203
		WNMG 432 SF	WNMG080408-SF	●		●		0.031	0.500	0.187	0.203
	SS	**WNMG 331E SS**	**WNMG060404E-SS**			●	●	0.016	0.375	0.187	0.150
		WNMG 332E SS	WNMG060408E-SS			●	●	0.031	0.375	0.187	0.150
		WNMG 333E SS	WNMG060412E-SS			●	●	0.047	0.375	0.187	0.150
		WNMG 431 SS	**WNMG080404-SS**	●		●	●	0.016	0.500	0.187	0.203
		WNMG 432 SS	WNMG080408-SS	●		●	●	0.031	0.500	0.187	0.203
		WNMG 433 SS	WNMG080412-SS	●		●	●	0.047	0.500	0.187	0.203
Medium cutting	**TM**	**WNMG 431 TM**	**WNMG080404-TM**	●		●	●	0.016	0.500	0.187	0.203
		WNMG 432 TM	WNMG080408-TM	●		●	●	0.031	0.500	0.187	0.203
		WNMG 433 TM	WNMG080412-TM	●		●	●	0.047	0.500	0.187	0.203
		WNMG 434 TM	WNMG080416-TM	●		●	●	0.063	0.500	0.187	0.203
	SM	**WNMG 331E SM**	**WNMG060404E-SM**	●		●		0.016	0.375	0.187	0.150
		WNMG 332E SM	WNMG060408E-SM	●		●		0.031	0.375	0.187	0.150
		WNMG 333E SM	WNMG060412E-SM	●		●		0.047	0.375	0.187	0.150
		WNMG 431 SM	**WNMG080404-SM**	●		●	●	0.016	0.500	0.187	0.203
		WNMG432-SM	WNMG080408-SM	●		●	●	0.031	0.500	0.187	0.203
		WNMG 433 SM	WNMG080412-SM	●	●	●	●	0.047	0.500	0.187	0.203
	SDM	**WNMG 431 SDM**	**WNMG080404-SDM**	●		●	●	0.016	0.500	0.187	0.203
		WNMG 432 SDM	WNMG080408-SDM	●		●	●	0.031	0.500	0.187	0.203
		WNMG 433 SDM	WNMG080412-SDM	●		●	●	0.047	0.500	0.187	0.203
	SA	**WNMG 432 SA**	**WNMG080408-SA**	●		●	●	0.031	0.500	0.187	0.203
		WNMG 433 SA	WNMG080412-SA	●		●	●	0.047	0.500	0.187	0.203
Medium to heavy cutting	**TH**	**WNMG 432 TH**	**WNMG080408-TH**			●		0.031	0.500	0.187	0.203
											

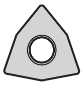
● : New product
● : Line up

T6200 & AH6200

Insert NEGATIVE TYPE

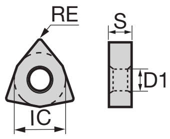
● : Continuous cutting
◐ : Light interrupted cutting
✠ : Heavy interrupted cutting

WN

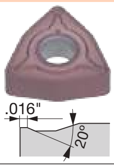


Trigon, 80° with hole

	Work material	T6215	AH6225	AH6235
P	Steel	◐	◐✠	✠
M	Stainless	●	●◐	✠
K	Cast iron			
N	Non-ferrous			
S	Superalloy			
H	Hard material			



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Medium to heavy cutting	SH	WNMG 432 SH	WNMG080408-SH		●	●	0.031	0.500	0.187	0.203
		WNMG 433 SH	WNMG080412-SH		●	●	0.047	0.500	0.187	0.203



● : Line up

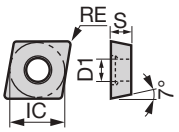
Insert POSITIVE TYPE

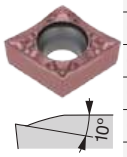
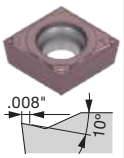
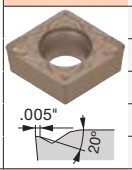
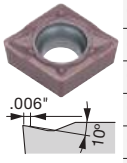
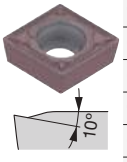
● : Continuous cutting
ᑕ : Light interrupted cutting
✣ : Heavy interrupted cutting

CC

Rhombic, 80°
with hole
Positive 7°

P	Steel	ᑕ	ᑕ✣	✣
M	Stainless	●	●ᑕ	✣
K	Cast iron			
N	Non-ferrous			
S	Superalloy			
H	Hard material			



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	**JS**	**CCGT 21.50 M-JS**	**CCGT060201M-JS**		●		<0.004	0.250	0.094	0.110
		CCGT 21.50.5 M-JS	CCGT060202M-JS		●		<0.008	0.250	0.094	0.110
		CCGT 21.51 M-JS	CCGT060204M-JS		●		<0.016	0.250	0.094	0.110
		CCGT 32.50 M-JS	**CCGT09T301M-JS**		●		<0.004	0.375	0.156	0.173
		CCGT 32.50.5 M-JS	CCGT09T302M-JS		●		<0.008	0.375	0.156	0.173
		CCGT 32.51 M-JS	CCGT09T304M-JS		●		<0.016	0.375	0.156	0.173
	PF	**CCMT 21.51 PF**	**CCMT060204-PF**		●		<0.016	0.250	0.094	0.110
										
	PSF	**CCMT 21.50.5 PSF**	**CCMT060202-PSF**		●		0.008	0.250	0.094	0.110
		CCMT 21.51 PSF	CCMT060204-PSF		●		0.016	0.250	0.094	0.110
		CCMT 32.50.5 PSF	**CCMT09T302-PSF**		●		0.008	0.375	0.156	0.173
		CCMT 32.51 PSF	CCMT09T304-PSF		●		0.016	0.375	0.156	0.173
		CCMT 32.52 PSF	CCMT09T308-PSF		●		0.031	0.375	0.156	0.173
Finishing to light cutting	**PSS**	**CCMT 21.51 PSS**	**CCMT060204-PSS**	●	●	●	0.016	0.250	0.094	0.110
		CCMT 21.52 PSS	CCMT060208-PSS	●	●	●	0.031	0.250	0.094	0.110
		CCMT 32.51 PSS	**CCMT09T304-PSS**	●	●	●	0.016	0.375	0.156	0.173
		CCMT 32.52 PSS	CCMT09T308-PSS	●	●	●	0.031	0.375	0.156	0.173
		CCMT 431 PSS	**CCMT120404-PSS**	●	●	●	0.016	0.500	0.187	0.216
		CCMT 432 PSS	CCMT120408-PSS	●	●	●	0.031	0.500	0.187	0.216
		CCMT 433 PSS	CCMT120412-PSS	●	●	●	0.047	0.500	0.187	0.216
Finishing to medium cutting	**PS**	**CCMT 21.50.5 PS**	**CCMT060202-PS**	●	●	●	0.008	0.250	0.094	0.110
		CCMT 21.51 PS	CCMT060204-PS	●	●	●	0.016	0.250	0.094	0.110
		CCMT 21.52 PS	CCMT060208-PS	●	●	●	0.031	0.250	0.094	0.110
		CCMT 32.50.5 PS	**CCMT09T302-PS**	●	●	●	0.008	0.375	0.156	0.173
		CCMT 32.51 PS	CCMT09T304-PS	●	●	●	0.016	0.375	0.156	0.173
		CCMT 32.52 PS	CCMT09T308-PS	●	●	●	0.031	0.375	0.156	0.173
		CCMT 431 PS	**CCMT120404-PS**	●	●	●	0.016	0.500	0.187	0.217
		CCMT 432 PS	CCMT120408-PS	●	●	●	0.031	0.500	0.187	0.217
		CCMT 433 PS	CCMT120412-PS	●	●	●	0.047	0.500	0.187	0.217

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New product
● : Line up

Tolerance

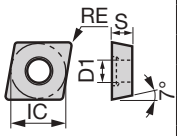
Insert POSITIVE TYPE

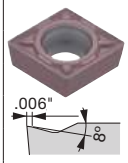
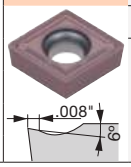
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

CC

Rhombic, 80°
with hole
Positive 7°

P	Steel	ɔ ɔ✣ ✣
M	Stainless	● ●ɔ ✣
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Medium cutting	**PM**	**CCMT 21.51 PM**	**CCMT060204-PM**	●	●	●	0.016	0.250	0.094	0.110
		**CCMT 21.52 PM**	**CCMT060208-PM**	●	●	●	0.031	0.250	0.094	0.110
		CCMT 32.51 PM	**CCMT09T304-PM**	●	●	●	0.016	0.375	0.156	0.173
		CCMT 32.52 PM	**CCMT09T308-PM**	●	●	●	0.031	0.375	0.156	0.173
		CCMT 32.53 PM	**CCMT09T312-PM**	●	●	●	0.047	0.375	0.156	0.173
		CCMT 432 PM	**CCMT120408-PM**	●	●	●	0.031	0.500	0.187	0.217
		CCMT 433 PM	**CCMT120412-PM**	●	●	●	0.047	0.500	0.187	0.217
	24	**CCMT 21.52-24**	**CCMT060208-24**		●		0.031	0.250	0.094	0.110
		**CCMT 32.52-24**	**CCMT09T308-24**		●		0.031	0.375	0.156	0.173

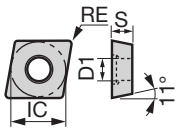
● : Line up

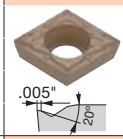
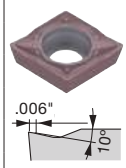
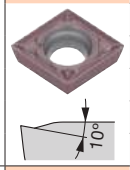
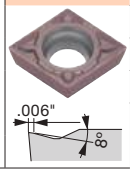
● : Continuous cutting
ᑕ : Light interrupted cutting
✣ : Heavy interrupted cutting

CP

Rhombic, 80°
with hole
Positive 11°

P	Steel	ᑕ	ᑕ✣	✣
M	Stainless	●	●ᑕ	✣
K	Cast iron			
N	Non-ferrous			
S	Superalloy			
H	Hard material			



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	**PSF**	**CPMT 2.51.50.5 PSF**	**CPMT080202-PSF**		●		0.008	0.313	0.094	0.134
		CPMT 2.51.51 PSF	CPMT080204-PSF		●		0.016	0.313	0.094	0.134
		CPMT 320.5 PSF	**CPMT090302-PSF**		●		0.008	0.375	0.125	0.173
		CPMT 321 PSF	CPMT090304-PSF		●		0.016	0.375	0.125	0.173
Finishing to medium cutting	**PSS**	**CPMT 21.51 PSS**	**CPMT060204-PSS**		●		0.016	0.250	0.094	0.110
		CPMT 2.51.51 PSS	CPMT080204-PSS	●	●	●	0.016	0.313	0.094	0.134
		CPMT 2.51.52 PSS	CPMT080208-PSS	●	●	●	0.031	0.313	0.094	0.134
		CPMT 321 PSS	**CPMT090304-PSS**	●	●	●	0.016	0.375	0.125	0.173
		CPMT 322 PSS	CPMT090308-PSS	●	●	●	0.031	0.375	0.125	0.173
		CPMT 32.51 PSS	CPMT09T304-PSS		●		0.016	0.375	0.156	0.173
		CPMT 32.52 PSS	CPMT09T308-PSS		●		0.031	0.375	0.156	0.173
	PS	**CPMT 2.51.50.5 PS**	**CPMT080202-PS**	●	●	●	0.008	0.313	0.094	0.134
		CPMT 2.51.51 PS	CPMT080204-PS	●	●	●	0.016	0.313	0.094	0.134
		CPMT 2.51.52 PS	CPMT080208-PS	●	●	●	0.031	0.313	0.094	0.134
		CPMT 321 PS	**CPMT090304-PS**	●	●	●	0.016	0.375	0.125	0.173
		CPMT 322 PS	CPMT090308-PS	●	●	●	0.031	0.375	0.125	0.173
Medium cutting	**PM**	**CPMT 21.51 PM**	**CPMT060204-PM**	●	●	●	0.016	0.250	0.094	0.110
		CPMT 21.52 PM	CPMT060208-PM	●	●	●	0.031	0.250	0.094	0.110
		CPMT 321 PM	**CPMT090304-PM**	●	●	●	0.016	0.375	0.125	0.173
		CPMT 322 PM	CPMT090308-PM	●	●	●	0.031	0.375	0.125	0.173

● : New product
● : Line up

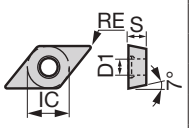
Insert POSITIVE TYPE

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

DC

Rhombic, 55°
with hole
Positive 7°

P	Steel	◐	◐✣	✣
M	Stainless	●	●◐	✣
K	Cast iron			
N	Non-ferrous			
S	Superalloy			
H	Hard material			



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	JS	DCGT 21.50 M-JS	DCGT070201M-JS		●		<0.004	0.250	0.094	0.110
		DCGT 21.50.5 M-JS	DCGT070202M-JS		●		<0.008	0.250	0.094	0.110
		DCGT 32.50 M-JS	DCGT11T301M-JS		●		<0.004	0.375	0.156	0.173
		DCGT 32.50.5 M-JS	DCGT11T302M-JS		●		<0.008	0.375	0.156	0.173
		DCGT 32.51 M-JS	DCGT11T304M-JS		●		<0.016	0.375	0.156	0.173
	PF	DCMT 21.51 PF	DCMT070204-PF		●		0.016	0.250	0.094	0.110
		DCMT 21.52 PF	DCMT070208-PF		●		0.031	0.250	0.094	0.110
	PSF	DCMT 21.50.5 PSF	DCMT070202-PSF		●		0.008	0.250	0.094	0.110
		DCMT 21.51 PSF	DCMT070204-PSF		●		0.016	0.250	0.094	0.110
		DCMT 32.50.5 PS	DCMT11T302-PSF		●		0.008	0.375	0.156	0.173
		DCMT 32.51 PSF	DCMT11T304-PSF		●		0.016	0.375	0.156	0.173
		DCMT 32.52 PSF	DCMT11T308-PSF		●		0.031	0.375	0.156	0.173
Finishing to light cutting	PSS	DCMT 21.51 PSS	DCMT070204-PSS	●	●	●	0.016	0.250	0.094	0.110
		DCMT 21.52 PSS	DCMT070208-PSS	●	●	●	0.031	0.250	0.094	0.110
		DCMT 32.51 PSS	DCMT11T304-PSS	●	●	●	0.016	0.375	0.156	0.173
		DCMT 32.52 PSS	DCMT11T308-PSS	●	●	●	0.031	0.375	0.156	0.173
		DCMT 32.53 PSS	DCMT11T312-PSS	●	●	●	0.047	0.375	0.156	0.173
Finishing to medium cutting	PS	DCMT 21.50.5 PS	DCMT070202-PS	●	●	●	0.008	0.250	0.094	0.110
		DCMT 21.51 PS	DCMT070204-PS	●	●	●	0.016	0.250	0.094	0.110
		DCMT 32.50.5 PS	DCMT11T302-PS	●	●	●	0.008	0.375	0.156	0.173
		DCMT 32.51 PS	DCMT11T304-PS	●	●	●	0.016	0.375	0.156	0.173
		DCMT 32.52 PS	DCMT11T308-PS	●	●	●	0.031	0.375	0.156	0.173
		DCMT 32.53 PS	DCMT11T312-PS	●	●	●	0.047	0.375	0.156	0.173
Medium cutting	PM	DCMT070204-PM	DCMT070204-PM	●	●	●	0.016	0.250	0.094	0.110
		DCMT070208-PM	DCMT070208-PM	●	●	●	0.031	0.250	0.094	0.110
		DCMT11T304-PM	DCMT11T304-PM	●	●	●	0.016	0.375	0.156	0.173
		DCMT11T308-PM	DCMT11T308-PM	●	●	●	0.031	0.375	0.156	0.173
		DCMT11T312-PM	DCMT11T312-PM	●	●	●	0.047	0.375	0.156	0.173
	24	DCMT 32.52-24	DCMT11T308-24		●		0.031	0.375	0.156	0.173

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New product
● : Line up

Tolerance

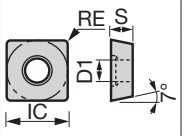
Insert POSITIVE TYPE

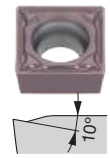
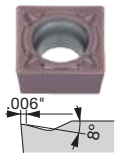
● : Continuous cutting
ɔ : Light interrupted cutting
✣ : Heavy interrupted cutting

SC

Square, 90° with hole Positive 7°

P	Steel	ɔ ɔ✣ ✣
M	Stainless	● ●ɔ ✣
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	

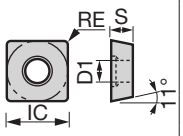


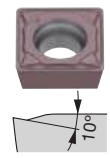
Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing to medium cutting	PS 	SCMT 32.51 PS	SCMT09T304-PS	●	●	●	0.016	0.375	0.156	0.173
		SCMT 32.52 PS	SCMT09T308-PS	●	●	●	0.031	0.375	0.156	0.173
		SCMT 431 PS	SCMT120404-PS	●	●	●	0.016	0.500	0.187	0.217
		SCMT 432 PS	SCMT120408-PS	●	●	●	0.031	0.500	0.187	0.217
Medium cutting	PM 	SCMT 32.51 PM	SCMT09T304-PM	●	●	●	0.016	0.375	0.156	0.173
		SCMT 32.52 PM	SCMT09T308-PM	●	●	●	0.031	0.375	0.156	0.173
		SCMT 432 PM	SCMT120408-PM	●	●	●	0.031	0.500	0.187	0.217
		SCMT 433 PM	SCMT120412-PM	●	●	●	0.047	0.500	0.187	0.217

SP

Square, 90° with hole Positive 11°

P	Steel	ɔ ɔ✣ ✣
M	Stainless	● ●ɔ ✣
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing to medium cutting	PS 	SPMT 321 PS	SPMT090304-PS	●	●	●	0.016	0.375	0.125	0.173
		SPMT 322 PS	SPMT090308-PS	●	●	●	0.031	0.375	0.125	0.173
		SPMT 431 PS	SPMT120404-PS	●	●	●	0.016	0.500	0.187	0.217
		SPMT 432 PS	SPMT120408-PS	●	●	●	0.031	0.500	0.187	0.217

● : Line up

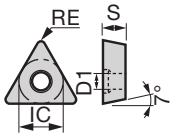
Insert POSITIVE TYPE

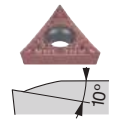
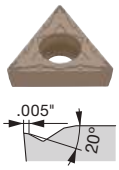
● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

TC

Triangular, 60° with hole Positive 7°

P	Steel	◐ ◐✣ ✣
M	Stainless	● ●◐ ✣
K	Cast iron	
N	Non-ferrous	
S	Superalloy	
H	Hard material	



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	JS	TCGT 21.50 M-JS	TCGT110201M-JS		●		<0.004	0.250	0.094	0.110
		TCGT 21.50.5 M-JS	TCGT110202M-JS		●		<0.008	0.250	0.094	0.110
		TCGT 21.51 M-JS	TCGT110204M-JS		●		<0.016	0.250	0.094	0.110
	PSF	TCMT 730.5 PSF	TCMT090202-PSF		●		0.008	0.219	0.094	0.098
		TCMT 7301 PSF	TCMT090204-PSF		●		0.016	0.219	0.094	0.098
		TCMT 21.50.5 PSF	TCMT110202-PSF		●		0.008	0.250	0.094	0.110
		TCMT 21.51 PSF	TCMT110204-PSF		●		0.016	0.250	0.094	0.110
		TCMT 220.5 PSF	TCMT110302-PSF		●		0.008	0.250	0.125	0.110
		TCMT 2201 PSF	TCMT110304-PSF		●		0.016	0.250	0.125	0.110
		TCMT 32.51 PSF	TCMT16T304-PSF		●		0.016	0.375	0.156	0.173
Finishing to medium cutting	PS	TCMT 731 PS	TCMT090204-PS		●		0.016	0.219	0.094	0.098
		TCMT 732 PS	TCMT090208-PS		●		0.031	0.219	0.094	0.098
		TCMT 21.50.5 PS	TCMT110202-PS	●	●	●	0.008	0.250	0.094	0.110
		TCMT 21.51 PS	TCMT110204-PS	●	●	●	0.016	0.250	0.094	0.110
		TCMT 21.52 PS	TCMT110208-PS	●	●	●	0.031	0.250	0.094	0.110
		TCMT 220.5 PS	TCMT110302-PS	●	●	●	0.008	0.250	0.125	0.110
		TCMT 2201 PS	TCMT110304-PS	●	●	●	0.016	0.250	0.125	0.110
		TCMT 2202 PS	TCMT110308-PS	●	●	●	0.031	0.250	0.125	0.110
		TCMT 32.50.5 PS	TCMT16T302-PS	●	●	●	0.008	0.375	0.156	0.173
		TCMT 32.51 PS	TCMT16T304-PS	●	●	●	0.016	0.375	0.156	0.173
		TCMT 32.52 PS	TCMT16T308-PS	●	●	●	0.031	0.375	0.156	0.173
	PSS	TCMT 731 PSS	TCMT090204-PSS		●		0.016	0.219	0.094	0.098
		TCMT 732 PSS	TCMT090208-PSS		●		0.031	0.219	0.094	0.098
		TCMT 21.51 PSS	TCMT110204-PSS		●		0.016	0.250	0.094	0.110
		TCMT 21.52 PSS	TCMT110208-PSS		●		0.031	0.250	0.094	0.110
		TCMT 221 PSS	TCMT110304-PSS		●		0.016	0.250	0.125	0.110
		TCMT 222 PSS	TCMT110308-PSS		●		0.031	0.250	0.125	0.110
		TCMT 32.51 PSS	TCMT16T304-PSS		●		0.016	0.375	0.156	0.173
		TCMT 32.52 PSS	TCMT16T308-PSS		●		0.031	0.375	0.156	0.173
Medium cutting	PM	TCMT 21.50.5 PM	TCMT110202-PM	●	●	●	0.008	0.250	0.094	0.110
		TCMT 21.51 PM	TCMT110204-PM	●	●	●	0.016	0.250	0.094	0.110
		TCMT 21.52 PM	TCMT110208-PM	●	●	●	0.031	0.250	0.094	0.110
		TCMT 220.5 PM	TCMT110302-PM	●	●	●	0.008	0.250	0.125	0.110
		TCMT 2201 PM	TCMT110304-PM	●	●	●	0.016	0.250	0.125	0.110
		TCMT 2202 PM	TCMT110308-PM	●	●	●	0.031	0.250	0.125	0.110
		TCMT 32.51 PM	TCMT16T304-PM	●	●	●	0.016	0.375	0.156	0.173
		TCMT 32.52 PM	TCMT16T308-PM	●	●	●	0.031	0.375	0.156	0.173
		TCMT 32.53 PM	TCMT16T312-PM	●	●	●	0.047	0.375	0.156	0.173

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New product
● : Line up

Tolerance

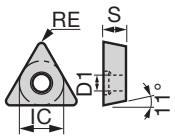
Insert POSITIVE TYPE

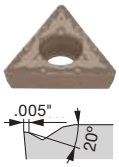
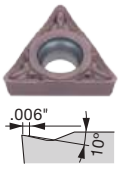
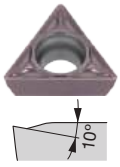
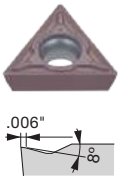
● : Continuous cutting
◐ : Light interrupted cutting
✣ : Heavy interrupted cutting

TP

Triangular, 60° with hole Positive 11°

P	Steel	◐	◐✣	✣
M	Stainless	●	●◐	✣
K	Cast iron			
N	Non-ferrous			
S	Superalloy			
H	Hard material			



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	PSF	TPMT 730.5 PSF	TPMT090202-PSF		●		0.008	0.219	0.094	0.098
		TPMT 731 PSF	TPMT090204-PSF		●		0.016	0.219	0.094	0.098
		TPMT 21.50.5 PSF	TPMT110202-PSF		●		0.008	0.250	0.094	0.110
		TPMT 21.51 PSF	TPMT110204-PSF		●		0.016	0.250	0.094	0.110
		TPMT 220.5 PSF	TPMT110302-PSF		●		0.008	0.250	0.125	0.134
		TPMT 221 PSF	TPMT110304-PSF		●		0.016	0.250	0.125	0.134
		TPMT 2.521 PSF	TPMT130304-PSF		●		0.016	0.313	0.125	0.134
		TPMT 32.51 PSF	TPMT16T304-PSF		●		0.016	0.375	0.156	0.173
Finishing to light cutting	PSS	TPMT 731 PSS	TPMT090204-PSS	●	●	●	0.016	0.219	0.094	0.098
		TPMT 732 PSS	TPMT090208-PSS	●	●	●	0.031	0.219	0.094	0.098
		TPMT 21.51 PSS	TPMT110204-PSS	●	●	●	0.016	0.250	0.094	0.110
		TPMT 21.52 PSS	TPMT110208-PSS	●	●	●	0.031	0.250	0.094	0.110
		TPMT 221 PSS	TPMT110304-PSS	●	●	●	0.016	0.250	0.125	0.134
		TPMT 222 PSS	TPMT110308-PSS	●	●	●	0.031	0.250	0.125	0.134
		TPMT 2.521 PSS	TPMT130304-PSS	●	●	●	0.016	0.313	0.125	0.134
		TPMT 2.522 PSS	TPMT130308-PSS	●	●	●	0.031	0.313	0.125	0.134
		TPMT 32.51 PSS	TPMT16T304-PSS	●	●	●	0.016	0.375	0.156	0.173
		TPMT 32.52 PSS	TPMT16T308-PSS	●	●	●	0.031	0.375	0.156	0.173
Finishing to medium cutting	PS	TPMT 730.5 PS	TPMT090202-PS	●	●	●	0.008	0.219	0.094	0.098
		TPMT 731 PS	TPMT090204-PS	●	●	●	0.016	0.219	0.094	0.098
		TPMT 732 PS	TPMT090208-PS	●	●	●	0.031	0.219	0.094	0.098
		TPMT 21.50.5 PS	TPMT110202-PS	●	●	●	0.008	0.250	0.094	0.110
		TPMT 21.51 PS	TPMT110204-PS	●	●	●	0.016	0.250	0.094	0.110
		TPMT 21.52 PS	TPMT110208-PS	●	●	●	0.031	0.250	0.094	0.110
		TPMT 221 PS	TPMT110304-PS	●	●	●	0.016	0.250	0.125	0.134
		TPMT 222 PS	TPMT110308-PS	●	●	●	0.031	0.250	0.125	0.134
		TPMT 2.521 PS	TPMT130304-PS	●	●	●	0.016	0.313	0.125	0.134
		TPMT 2.522 PS	TPMT130308-PS	●	●	●	0.031	0.313	0.125	0.134
		TPMT 32.51 PS	TPMT16T304-PS	●	●	●	0.016	0.375	0.156	0.173
		TPMT 32.52 PS	TPMT16T308-PS	●	●	●	0.031	0.375	0.156	0.173
Medium cutting	PM	TPMT 731 PM	TPMT090204-PM	●	●	●	0.016	0.219	0.094	0.098
		TPMT 732 PM	TPMT090208-PM	●	●	●	0.031	0.219	0.094	0.098
		TPMT 21.51 PM	TPMT110204-PM	●	●	●	0.016	0.250	0.094	0.110
		TPMT 21.52 PM	TPMT110208-PM	●	●	●	0.031	0.250	0.094	0.110
		TPMT 221 PM	TPMT110304-PM	●	●	●	0.016	0.250	0.125	0.134
		TPMT 222 PM	TPMT110308-PM	●	●	●	0.031	0.250	0.125	0.134
		TPMT 2.521 PM	TPMT130304-PM	●	●	●	0.016	0.313	0.125	0.134
		TPMT 2.522 PM	TPMT130308-PM	●	●	●	0.031	0.313	0.125	0.134
		TPMT 32.51 PM	TPMT16T304-PM	●	●	●	0.016	0.375	0.156	0.173
		TPMT 32.52 PM	TPMT16T308-PM	●	●	●	0.031	0.375	0.156	0.173
		TPMT 32.53 PM	TPMT16T312-PM	●	●	●	0.047	0.375	0.156	0.173

● : New product
● : Line up

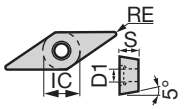
Insert POSITIVE TYPE

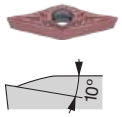
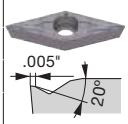
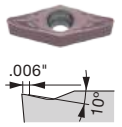
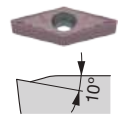
● : Continuous cutting
ⓒ : Light interrupted cutting
✣ : Heavy interrupted cutting

VB

Rhombic, 35°
with hole
Positive 5°

P	Steel	ⓒ	ⓒ✣	✣
M	Stainless	●	●ⓒ	✣
K	Cast iron			
N	Non-ferrous			
S	Superalloy			
H	Hard material			



Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	**JS**	**VBGT 220 M-JS**	**VBGT110301M-JS**		●		<0.004	0.250	0.125	0.110
		VBGT 220.5 M-JS	VBGT110302M-JS		●		<0.008	0.250	0.125	0.110
		VBGT 221 M-JS	VBGT110304M-JS		●		<0.016	0.250	0.125	0.110
										
	PSF	**VBMT 220.5 PSF**	**VBMT110302-PSF**		●		0.008	0.250	0.125	0.110
		VBMT 221 PSF	VBMT110304-PSF		●		0.016	0.250	0.125	0.110
		VBMT 330.5 PSF	**VBMT160402-PSF**		●		0.008	0.375	0.187	0.173
		VBMT 331 PSF	VBMT160404-PSF		●		0.016	0.375	0.187	0.173
Finishing to light cutting	**PSS**	**VBMT 221 PSS**	**VBMT110304-PSS**	●	●	●	0.016	0.250	0.125	0.110
		VBMT 222 PSS	VBMT110308-PSS	●	●	●	0.031	0.250	0.125	0.110
		VBMT 331 PSS	**VBMT160404-PSS**	●	●	●	0.016	0.375	0.187	0.173
		VBMT 332 PSS	VBMT160408-PSS	●	●	●	0.031	0.375	0.187	0.173
		VBMT 333 PSS	VBMT160412-PSS		●		0.047	0.375	0.187	0.173
Finishing to medium cutting	**PS**	**VBMT 220.5 PS**	**VBMT110302-PS**	●	●	●	0.008	0.250	0.125	0.110
		VBMT 221 PS	VBMT110304-PS	●	●	●	0.016	0.250	0.125	0.110
		VBMT 222 PS	VBMT110308-PS	●	●	●	0.031	0.250	0.125	0.110
		VBMT 330.5 PS	**VBMT160402-PS**	●	●	●	0.008	0.375	0.187	0.173
		VBMT 331 PS	VBMT160404-PS	●	●	●	0.016	0.375	0.187	0.173
		VBMT 332 PS	VBMT160408-PS	●	●	●	0.031	0.375	0.187	0.173

Corner radius (RE) with a sign of inequality (<) means minus tolerance.

● : New product
● : Line up

Tolerance

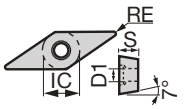
Insert POSITIVE TYPE

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

VC

Rhombic, 35° with hole Positive 7°

P	Steel	ᑕ	ᑕ✣	✣
M	Stainless	●	●ᑕ	✣
K	Cast iron			
N	Non-ferrous			
S	Superalloy			
H	Hard material			

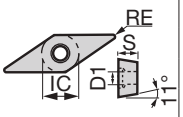


Application	Chipbreaker	Inch Designation	Metric Designation	Coated T6215	Coated AH6225	Coated AH6235	Dimension (in) RE	IC	S	D1
Finishing	PSF	VCMT 630.5 PSF	VCMT080202-PSF		●		0.008	0.187	0.094	0.091
		VCMT 631 PSF	VCMT080204-PSF		●		0.016	0.187	0.094	0.091
		VCMT 220.5 PSF	VCMT110302-PSF		●		0.008	0.250	0.125	0.110
		VCMT 221 PSF	VCMT110304-PSF		●		0.016	0.250	0.125	0.110
		VCMT 331 PSF	VCMT160404-PSF		●		0.016	0.375	0.187	0.173
		VCMT 332 PSF	VCMT160408-PSF		●		0.031	0.375	0.187	0.173
Finishing to light cutting	PSS	VCMT 221 PSS	VCMT110304-PSS	●	●	●	0.016	0.250	0.125	0.110
		VCMT 222 PSS	VCMT110308-PSS	●	●	●	0.031	0.250	0.125	0.110
		VCMT 331 PSS	VCMT160404-PSS	●	●	●	0.016	0.375	0.187	0.173
		VCMT 332 PSS	VCMT160408-PSS	●	●	●	0.031	0.375	0.187	0.173
Finishing to medium cutting	PS	VCMT 220.5 PS	VCMT110302-PS	●	●	●	0.008	0.250	0.125	0.110
		VCMT 221 PS	VCMT110304-PS	●	●	●	0.016	0.250	0.125	0.110
		VCMT 222 PS	VCMT110308-PS	●	●	●	0.031	0.250	0.125	0.110
		VCMT 331 PS	VCMT160404-PS	●	●	●	0.016	0.375	0.187	0.173
		VCMT 332 PS	VCMT160408-PS	●	●	●	0.031	0.375	0.187	0.173

VP

35° Rhombic with hole Positive 11°

P	Steel	ᑕ✣		
M	Stainless	●ᑕ		
K	Cast iron			
N	Non-ferrous			
S	Superalloy			
H	Hard material			



Application	Chipbreaker	Inch Designation	Metric Designation	Coated AH6225	Dimension (in) RE	IC	S	D1
Finishing	JS	VPGT 220 M-JS	VPGT110301M-JS	●	<0.004	0.250	0.125	0.110
		VPGT 220.5 M-JS	VPGT110302M-JS	●	<0.008	0.250	0.125	0.110
		VPGT 221 M-JS	VPGT110304M-JS	●	<0.016	0.250	0.125	0.110

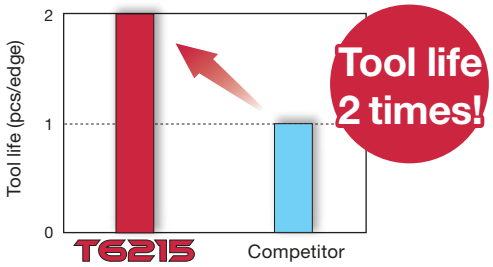
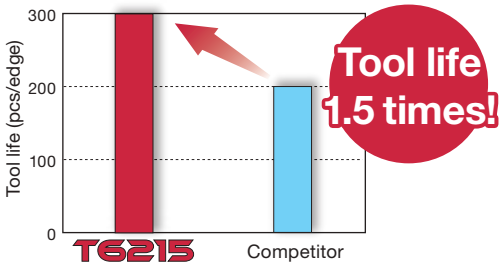
Corner radius (RE) with a sign of inequality (<) means minus tolerance.

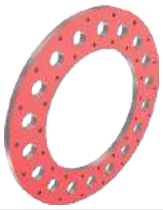
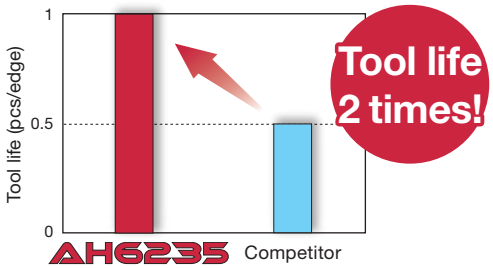
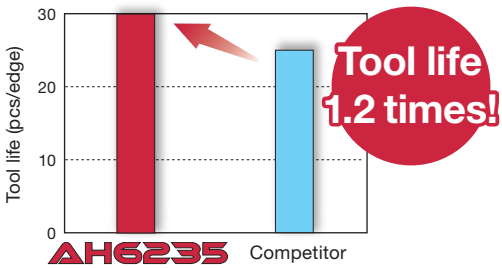
● : New product
● : Line up

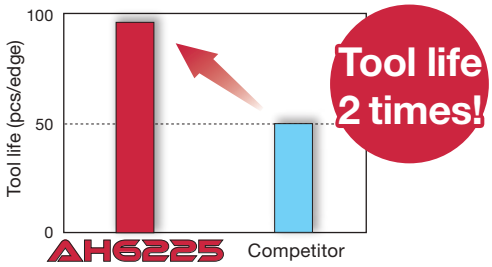
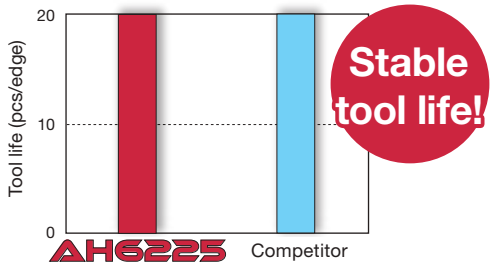
Tolerance

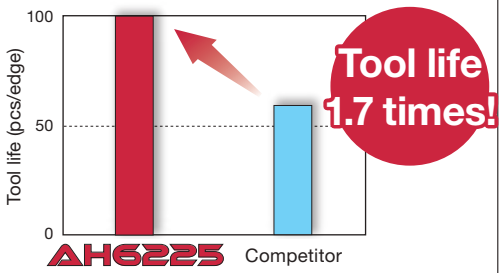
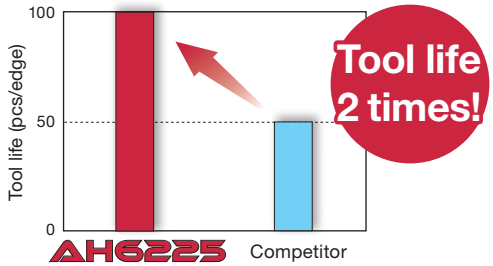
T6200 & AH6200

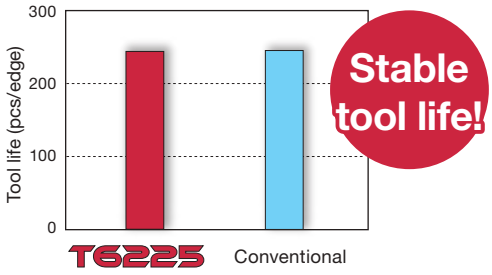
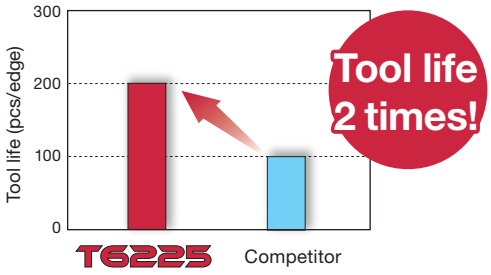
PRACTICAL EXAMPLES

Workpiece type		Pipe part	Machine part
Insert		DNMG150408-SM	TNMG160408-SM
Grade		T6215	T6215
Workpiece material		304SS	304SS
		 M	 M
Cutting conditions	Cutting speed: *Vc* (sfm)	492	656
	Feed : *f* (ipr)	0.012	0.012
	Depth of cut : *ap* (in)	0.118	0.098
	Machining	External turning	External face turning
	Coolant	Wet	Wet
Results		 **T6215** provided double tool life and successfully minimized notch wear, which was a major challenge with the competitor's grade.	 **T6215** provided 1.5 times tool life and eliminated plastic deformation. The grade also improved surface finish, providing process security.

Workpiece type		Generator part	Machine part
Insert		CNMG120408-SH	CNMG120412-SM
Grade		AH6235	AH6235
Workpiece material		410	304SS
		 M	 M
Cutting conditions	Cutting speed: *Vc* (sfm)	230	262
	Feed : *f* (ipr)	0.006	0.008
	Depth of cut : *ap* (in)	0.079 - 0.157	0.059
	Machining	Face turning (interrupted cutting)	Face turning (interrupted cutting)
	Coolant	Wet	Wet
Results		 **AH6235** provided double tool life and process security, eliminating insert failure during interrupted cuts.	 **AH6235** provided 1.2 times tool life and substantially reduced edge chipping and fracture.

Workpiece type		Joint part	Ball valve part
Insert		CNMG120404-SM	CNMG120408-SM
Grade		AH6225	AH6225
Workpiece material		304SS	304SS
		 M	 M
Cutting conditions	Cutting speed: *Vc* (sfm)	260	490
	Feed : *f* (ipr)	0.004	0.008
	Depth of cut : *ap* (in)	0.039	0.059
	Machining	External turning	External turning
	Coolant	Wet	Wet
Results		 **AH6225** doubled tool life and significantly reduced premature insert failure, helping the customer gain productivity.	 **AH6225** eliminated tool life unpredictability such as premature insert failures, while satisfying the tool life requirement of 20 pcs per edge.

Workpiece type		Coupling part	Machine part
Insert		TNMG160408-SM	VNMG160404-SF
Grade		AH6225	AH6225
Workpiece material		Super duplex stainless steel	SUS440 (Martensite stainless steel)
		 M	 M
Cutting conditions	Cutting speed: *Vc* (sfm)	490	330
	Feed : *f* (ipr)	0.010	0.004
	Depth of cut : *ap* (in)	0.039	0.020
	Machining	External turning	External turning
	Coolant	Wet	Wet
Results		 **AH6225** significantly reduced notch wear, while increasing tool life to 100 pcs per edge surpassing the required tool life of 60 pcs per edge.	 **AH6225** doubled tool life, allowing the customer to gain productivity.

Workpiece type		New Machine part (Ring)	New Machine part
Toolholder		ATJNL2525M16-A	ACLNL2525M12-A
Insert		TNMG160408-SM	CNMG120408-SM
Grade		T6225	T6225
Workpiece material		Forging stainless	316SS
		 M	 M
Cutting conditions	Cutting speed: *Vc* (sfm)	197	492
	Feed : *f* (ipr)	0.016	0.012
	Depth of cut : *ap* (in)	0.079	0.039
	Machining	External and face turning	External turning
	Coolant	Wet	Wet
	Machine	CNC lathe	CNC lathe
Results		 **T6225** provided process security, while demonstrating no edge chipping or fracture after completing 250 parts required.	 **T6225** achieved double tool life thanks to its superior wear resistance.

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