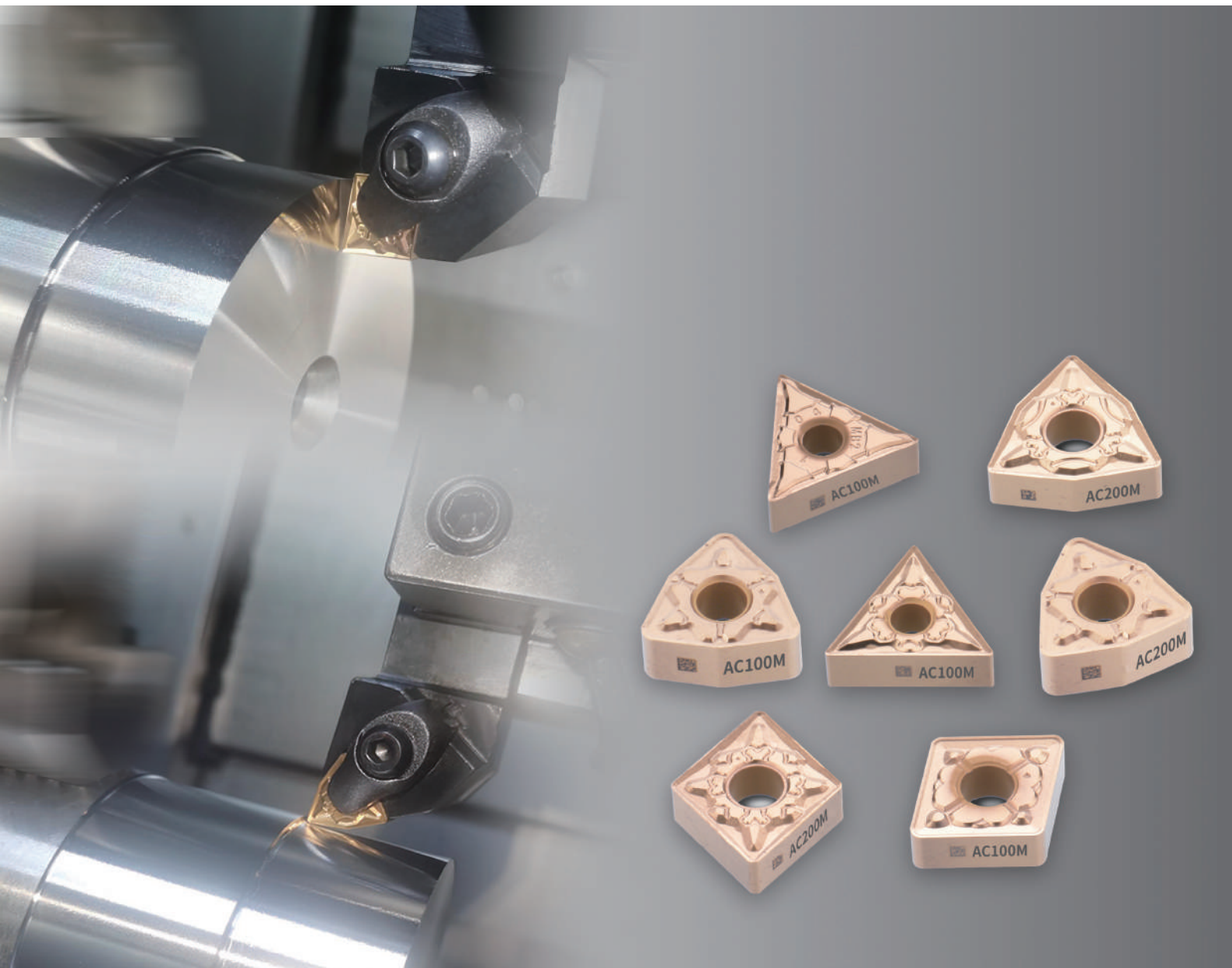


NEW
PRODUCT!

AC100M, AC200M

New CVD coating grades for stainless steel high-speed turning grade

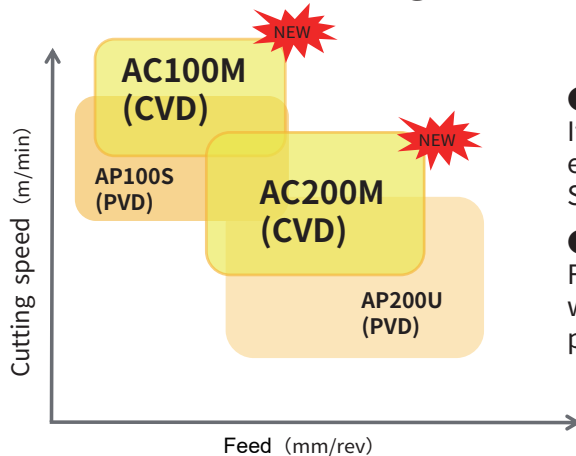


Grade Introduction

CVD coating grades for stainless steel turning-AC100M/AC200M

New CVD coating grades for stainless steel turning-AC100M/AC200M, fully cover the stainless steel speed continuous turning to general turning with stable and long tool life as well as high efficiency. The new CVD coating has good wear resistance, heat resistance and plastic deformation resistance due to combined micro grain K-Al₂O₃ and MT-TiCN

Application Range



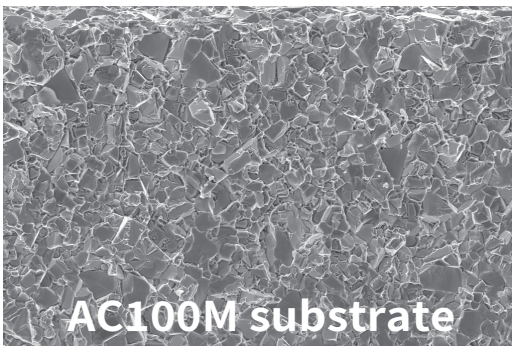
● AC100M

It offers good wear resistance at high-speed and high-efficiency stainless steel turning
Suitable for some heat resistant alloy turning

● AC200M

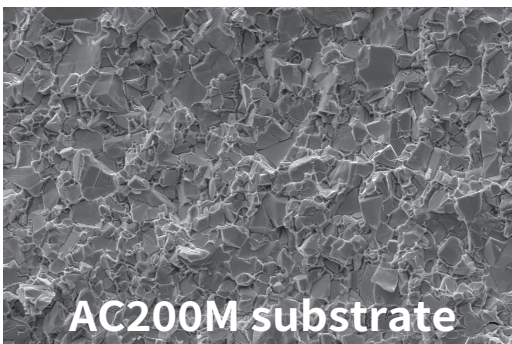
First choice for stainless steel turning, CVD coating combined with new carbide substrate, showing a stable machining performance and extraordinary notch wear resistance

AC100M/AC200M Grade Features



● AC100M

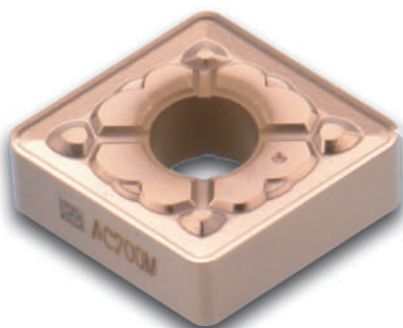
It offers good wear resistance at high-speed and high-efficiency stainless steel turning
Suitable for some heat resistant alloy turning



● AC200M

First choice for stainless steel turning, CVD coating combined with new carbide substrate, showing a stable machining performance and extraordinary notch wear resistance

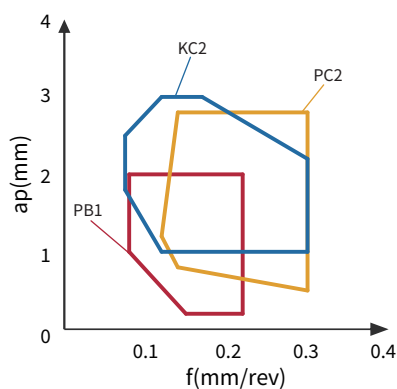
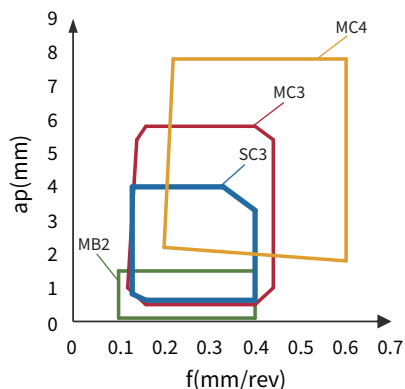
AC100M/AC200M Grade Features

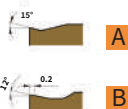
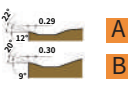
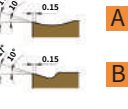
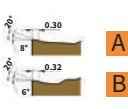
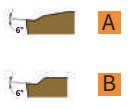
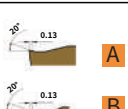


SEM image of coating surface of nose

- Combined micro grain K-Al₂O₃ and MT-TiCN
 - Higher toughness, wear resistance and built-up edge resistance
 - New post-processing for a smoother surface, good built-up edge resistance and chip evacuation
 - First choice for stainless steel high-speed turning
 - New substrate for stainless steel finish turning, with gradient sintering process to get excellent wear resistance and toughness.
- It also can achieve high-speed turning even under unstable machining conditions
- Suitable for stainless steel high-speed turning and some heat resistant alloy machining

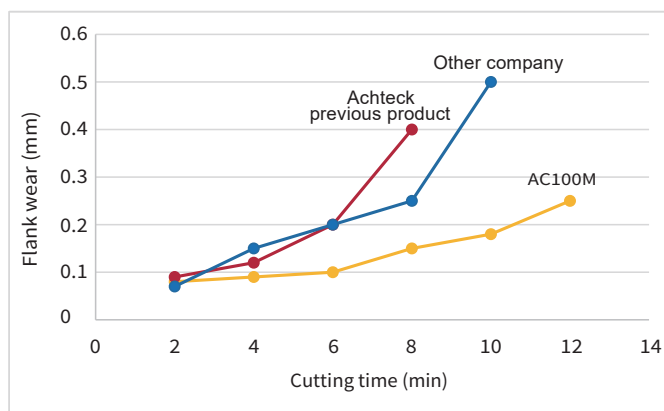
Geometry Choices



Application		Geometry		Features	Chipbreaker cross section
Negative	Finishing	MB2		First choice for finish turning Zero edge width design decreased the built-up edge, achieved good surface quality and good chip breaking	
	Medium turning	MC3		First choice for medium turning Sharp cutting edge design, low cutting force, achieved good chip breaking, and chip evacuation in a wide range	
		SC3		Second choice for medium turning Used in stainless steel medium turning Suitable for interrupted turning Big rake angle and small edge width design for smooth cutting	
Negative	Roughing	MC4		Choice for rough turning Big chip breaker provided a smooth chip evacuation, excellent chip breaking and high metal removing rate	
Positive	Finishing	PB1		First choice for finish turning Positive rake angle design reduced the adhesion trend and offered good surface quality and long tool life. Used in steel and stainless steel machining	
	Semi-finishing	PC2		First choice for semi-finish turning Cutting edge design offered smooth cutting, effectively avoided built-up edge. It has a wide range of chip evacuation	
	Roughing	KC2		First choice for rough turning Simple and durable chip breaker design offered a wide application and high versatility	

Tool cutting performance

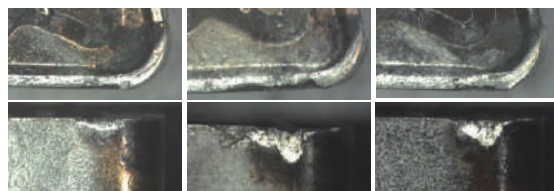
• AC100M wear resistance comparison



AC100M

Other company

Achteck previous product



Insert: CNMG 120408E-MC3 AC100M

Material: 316L

Speed: 220m/min

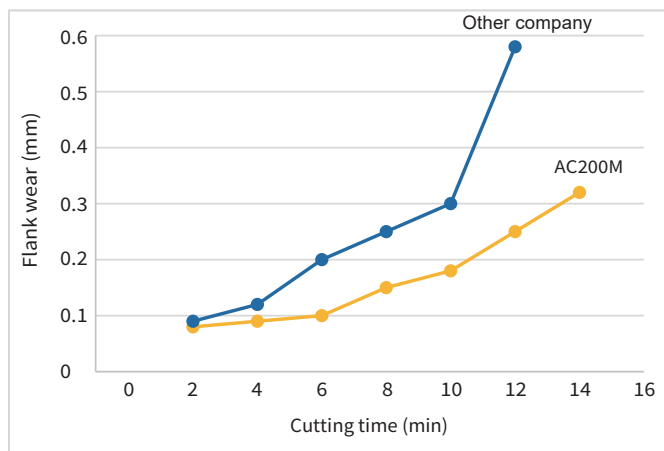
Feed: 0.25mm/rev

Cutting depth: 1.5mm

Coolant: Wet

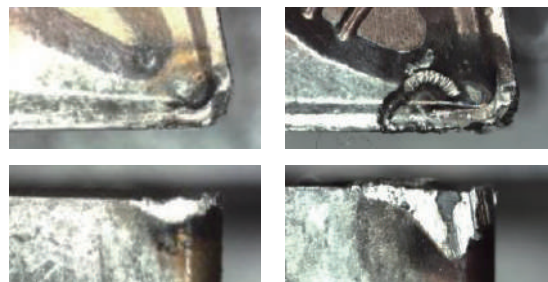
AC100M with MC3 geometry has excellent wear resistance, notch wear resistance and longer tool life

• AC200M wear resistance comparison



AC200M

Other company



Insert: CNMG 120408E-MC3 AC200M

Material: 316L

Speed: 180m/min

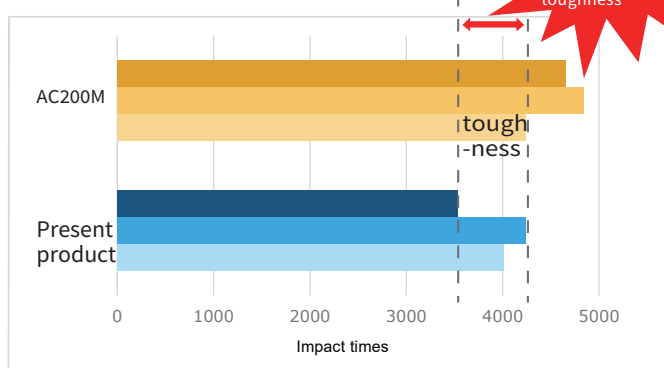
Feed: 0.25mm/rev

Cutting depth: 1.5mm

Coolant: Wet

The flank wear of AC200M is half of the customer's current grade, and its wear resistance is doubled

• AC200M toughness comparison



AC200M has 20% improvement in toughness

AC200M

Other company



notch wear resistance

Insert: CNMG 120408E-MC3 AC200M

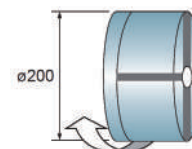
Material: 316L

Speed: 100m/min

Feed: 0.25mm/rev

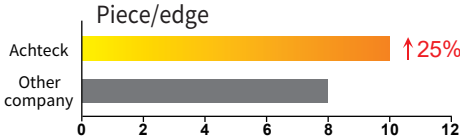
Cutting depth: 1.0mm

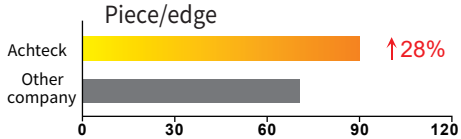
Coolant: Wet

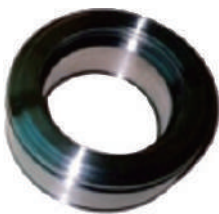
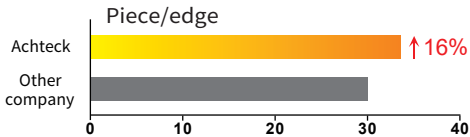


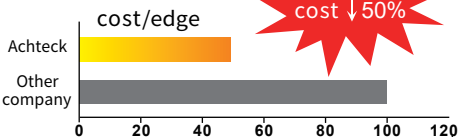
In interrupted turning, AC200M has greatly improved toughness and the notch wear decreased to half at the same time

Success Stories

Tool	WNMG 060412E-MC3 AC100M
Part	
Material	304
Machining type	Continued
Vc	200m/min
f	0.25-0.3mm/rev
ap	0.8mm
Coolant	Emulsion
Result	Piece/edge  Achteck MC3+AC100M reduced bur, and tool life increased by 25%

Tool	WNMG 080408E-MC3 AC100M
Part	
Material	SUS316L
Machining type	Continued
Vc	230m/min
f	0.2mm/rev
ap	1.0mm
Coolant	Emulsion
Result	Piece/edge  Achteck AC100M improved its surface finish, and tool life increased by 28%

Tool	CNMG 120408E-MC3 AC200M
Part	
Material	316L
Machining type	Continued
Vc	160m/min
f	0.25mm/rev
ap	3.0mm
Coolant	Emulsion
Result	Piece/edge  Rough turning cast part, the tool life in rough turning the oxidated surface increased by 16%

Tool	CNMG 120412E-MC3 AC200M
Part	
Material	431
Machining type	Continued
Vc	120m/min
f	0.45mm/rev
ap	3.0mm
Coolant	Emulsion
Result	cost/edge  The tool life is same as the competitor's, but the tool cost reduced by 50%

Application Range and Parameter Recommendation

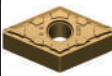
Material	Application Range								
	Finishing ← → Roughing								
ISO classification	M01	M05	M10	M15	M20	M25	M30	M35	M40
M	AC100M								
	AC200M								
S	S01	S05	S10	S15	S20	S25	S30	S35	S40
	AC100M								
	AC200M								

First choice for stainless, second choice for high-temperature alloy

Material				Brinell Hardness (HB)	Strength (N/mm ²)	Grade						
ISO	Classification					Cutting Speed Vc(m/min)						
						AC100M			AC200M			
						f (mm/rev)			f (mm/rev)			
						0.1	0.3	0.5	0.1	0.3	0.5	
M	Heat resistant alloys	Ferritic/martensitic, annealed			200	675	190	170	150	190	160	130
		Martensitic, heat-treated			330	1114	170	150	130	130	115	100
		Austenitic, quench hardened			200	675	250	200	150	200	160	120
		Austenitic, precipitation hardened (PH)			300	1013	150	130		130	110	
		Austenitic/ferritic, duplex			230	778	160	145	130	140	120	100
S	Fe base alloys	Fe based	Annealed		200	680	80	50		70	45	
			Hardened		280	940	60	40		50	35	
		Ni or Co based	Annealed		250	840	60	40		50	35	
			Hardened		350	1180	50	35		40	30	
			Cast		320	1080	40	30		30	20	
	Titanium alloys	Pure titanium			200	680						
		α and β alloys, hardened			375	1260	60	45	35	50	35	25
		β alloys			410	1400	40	35	30	40	30	20
	Tungsten alloys				300	1010						
	Molybdenum alloys				300	1010						

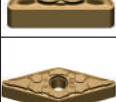
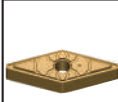
* This table just shows us the cutting data under general cutting condition, and these need to be adjusted according to machine rigidity, tool body, machining condition, coolant and other factors.
 (f=mm/rev needs to be adjusted according to the insert diameter)

● Negative Insert List

Insert	Product code	Size(mm)				Grade	
		r	d	l	s	AC100M	AC200M
	CNMG 120404E-MB2	0.4	12.7	12.9	4.76	●	●
	120408E-MB2	0.8	12.7	12.9	4.76	●	●
	CNMG 120404E-SC3	0.4	12.7	12.9	4.76	●	●
	120408E-SC3	0.8	12.7	12.9	4.76	●	●
	120412E-SC3	1.2	12.7	12.9	4.76	●	●
	160612E-SC3	1.2	15.875	16.1	6.35	●	●
	160616E-SC3	1.6	15.875	16.1	6.35	●	●
	190612E-SC3	1.2	19.05	19.3	6.35	●	●
	190616E-SC3	1.6	19.05	19.3	6.35	●	●
	CNMG 120404E-MC3	0.4	12.7	12.9	4.76	●	●
	120408E-MC3	0.8	12.7	12.9	4.76	●	●
	120412E-MC3	1.2	12.7	12.9	4.76	●	●
	120416E-MC3	1.6	12.7	12.9	4.76	○	○
	160608E-MC3	0.8	15.875	16.1	6.35	●	●
	160612E-MC3	1.2	15.875	16.1	6.35	●	●
	160616E-MC3	1.6	15.875	16.1	6.35	●	●
	190608E-MC3	0.8	19.05	19.3	6.35	○	○
	190612E-MC3	1.2	19.05	19.3	6.35	○	○
	190616E-MC3	1.6	19.05	19.3	6.35	○	○
	CNMG 120408E-MC4	0.8	12.7	12.9	4.76	●	●
	120412E-MC4	1.2	12.7	12.9	4.76	●	●
	DNMG 150404E-MB2	0.4	12.7	15.5	4.76	●	●
	150408E-MB2	0.8	12.7	15.5	4.76	●	●
	150604E-MB2	0.4	12.7	15.5	6.35	●	●
	150608E-MB2	0.8	12.7	15.5	6.35	●	●
	DNMG 150404E-SC3	0.4	12.7	15.5	4.76	●	●
	150408E-SC3	0.8	12.7	15.5	4.76	●	●
	150412E-SC3	1.2	12.7	15.5	4.76	●	●
	150604E-SC3	0.4	12.7	15.5	6.35	●	●
	150608E-SC3	0.8	12.7	15.5	6.35	●	●
	150612E-SC3	1.2	12.7	15.5	6.35	●	●
	DNMG 150404E-MC3	0.4	12.7	15.5	4.76	●	●
	150408E-MC3	0.8	12.7	15.5	4.76	●	●
	150412E-MC3	1.2	12.7	15.5	4.76	○	○
	150604E-MC3	0.4	12.7	15.5	6.35	●	●
	150608E-MC3	0.8	12.7	15.5	6.35	●	●
	150612E-MC3	1.2	12.7	15.5	6.35	●	●
	150616E-MC3	1.2	12.7	15.5	6.35	●	●
	DNMG 150408E-MC4	0.8	12.7	15.5	4.76	○	○
	150412E-MC4	1.2	12.7	15.5	4.76	○	○
	150608E-MC4	0.8	12.7	15.5	6.35	●	●
	150612E-MC4	1.2	12.7	15.5	6.35	●	●
	SNMG 120404E-MB2	0.4	12.7	12.7	4.76	●	●
	120408E-MB2	0.8	12.7	12.7	4.76	●	●
	SNMG 120408E-SC3	0.8	12.7	12.7	4.76	●	●
	120412E-SC3	1.2	12.7	12.7	4.76	●	●
	150612E-SC3	1.2	15.875	15.875	6.35	●	●
	150616E-SC3	1.6	15.875	15.875	6.35	●	●
	190612E-SC3	1.2	19.05	19.05	6.35	●	●
	SNMG 120408E-MC3	0.8	12.7	12.7	4.76	●	●
	120412E-MC3	1.2	12.7	12.7	4.76	●	●
	150612E-MC3	1.2	15.875	15.875	6.35	○	○
	150616E-MC3	1.6	15.875	15.875	6.35	○	○
	190612E-MC3	1.2	19.05	19.05	6.35	●	●
	190616E-MC3	1.6	19.05	19.05	6.35	●	●
	SNMG 120408E-MC4	0.8	12.7	12.7	4.76	●	●
	120412E-MC4	1.2	12.7	12.7	4.76	●	●

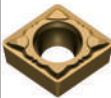
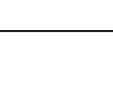
● Stocked ○ Non-stocked

Negative Insert List

Insert	Product code	Size(mm)				Grade	
		r	d	l	s	AC100M	AC200M
	TNMG 160404E-MB2	0.4	9.525	16.5	4.76	●	●
	160408E-MB2	0.8	9.525	16.5	4.76	●	●
	TNMG 160408E-SC3	0.8	9.525	16.5	4.76	●	●
	160412E-SC3	1.2	9.525	16.5	4.76	●	●
	TNMG 160404E-MC3	0.4	9.525	16.5	4.76	●	●
	160408E-MC3	0.8	9.525	16.5	4.76	●	●
	160412E-MC3	1.2	9.525	16.5	4.76	●	●
	220408E-MC3	0.8	12.7	22.0	4.76	●	●
	220412E-MC3	1.2	12.7	22.0	4.76	●	●
	TNMG 160408E-MC4	0.8	9.525	16.5	4.76	●	●
	160412E-MC4	1.2	9.525	16.5	4.76	●	●
	VNMG 160404E-MB2	0.4	9.525	16.5	4.76	●	●
	160408E-MB2	0.8	9.525	16.5	4.76	●	●
	VNMG 160404E-SC3	0.4	9.525	16.5	4.76	●	●
	160408E-SC3	0.8	9.525	16.5	4.76	●	●
	160412E-SC3	1.2	9.525	16.5	4.76	●	●
	VNMG 160404E-MC3	0.4	9.525	16.5	4.76	●	●
	160408E-MC3	0.8	9.525	16.5	4.76	●	●
	WNMG 080404E-MB2	0.4	12.7	8.7	4.76	●	●
	080408E-MB2	0.8	12.7	8.7	4.76	●	●
	WNMG 080404E-SC3	0.4	12.7	8.7	4.76	●	●
	080408E-SC3	0.8	12.7	8.7	4.76	●	●
	080412E-SC3	1.2	12.7	8.7	4.76	●	●
	WNMG 060408E-MC3	0.8	12.7	8.7	4.76	●	●
	060412E-MC3	1.2	12.7	8.7	4.76	●	●
	080408E-MC3	0.8	12.7	8.7	4.76	●	●
	080412E-MC3	1.2	12.7	8.7	4.76	●	●
	WNMG 080408E-MC4	0.8	12.7	8.7	4.76	●	●
	080412E-MC4	1.2	12.7	8.7	4.76	●	●

● Stocked ○ Non-stocked

Positive Insert List

Insert	Product code	Size(mm)				Grade	
		r	d	l	s	AC100M	AC200M
	CCMT 060202E-PB1	0.2	6.35	6.45	2.38	●	●
	060204E-PB1	0.4	6.35	6.45	2.38	●	●
	060208E-PB1	0.8	6.35	6.45	2.38	●	●
	09T302E-PB1	0.2	9.525	9.67	3.97	●	●
	09T304E-PB1	0.4	9.525	9.67	3.97	●	●
	09T308E-PB1	0.8	9.525	9.67	3.97	●	●
	CCMT 060204E-PC2	0.4	6.35	6.45	2.38	●	●
	060208E-PC2	0.8	6.35	6.45	2.38	●	●
	09T304E-PC2	0.4	9.525	9.67	3.97	●	●
	09T308E-PC2	0.8	9.525	9.67	3.97	●	●
	120404E-PC2	0.4	12.7	12.9	4.76	●	●
	120408E-PC2	0.8	12.7	12.9	4.76	●	●
	120412E-PC2	1.2	12.7	12.9	4.76	●	●
	CCMT 060204E-KC2	0.4	6.35	6.45	2.38	●	●
	060208E-KC2	0.8	6.35	6.45	2.38	●	●
	09T304E-KC2	0.4	9.525	9.67	3.97	●	●
	09T308E-KC2	0.8	9.525	9.67	3.97	●	●
	120404E-KC2	0.4	12.7	12.9	4.76	○	○
	120408E-KC2	0.8	12.7	12.9	4.76	●	●
	120412E-KC2	1.2	12.7	12.9	4.76	●	●
	DCMT 070202E-PB1	0.2	6.35	7.75	2.38	●	●
	070204E-PB1	0.4	6.35	7.75	2.38	●	●
	11T302E-PB1	0.2	9.525	11.62	3.97	●	●
	11T304E-PB1	0.4	9.525	11.62	3.97	●	●
	11T308E-PB1	0.8	9.525	11.62	3.97	●	●
	11T312E-PC2	1.2	9.525	11.62	3.97	○	○
	DCMT 070204E-PC2	0.4	6.35	7.75	2.38	●	●
	070208E-PC2	0.8	6.35	7.75	2.38	●	●
	11T304E-PC2	0.4	9.525	11.62	3.97	●	●
	11T308E-PC2	0.8	9.525	11.62	3.97	●	●
	11T312E-PC2	1.2	9.525	11.62	3.97	○	○
	11T312E-PC2	1.2	9.525	11.62	3.97	○	○
	DCMT 070204E-KC2	0.4	6.35	7.75	2.38	●	●
	070208E-KC2	0.8	6.35	7.75	2.38	●	●
	11T304E-KC2	0.4	9.525	11.62	3.97	●	●
	11T308E-KC2	0.8	9.525	11.62	3.97	●	●
	11T312E-KC2	1.2	9.525	11.62	3.97	●	●
	11T312E-KC2	1.2	9.525	11.62	3.97	●	●
	SCMT 09T304E-PB1	0.4	9.525	9.525	3.97	●	●
	09T308E-PB1	0.8	9.525	9.525	3.97	●	●
	120404E-PB1	0.4	12.7	12.7	4.76	●	●
	120404E-PC2	0.4	12.7	12.7	4.76	●	●
	SCMT 09T304E-PC2	0.4	9.525	9.525	3.97	●	●
	09T308E-PC2	0.8	9.525	9.525	3.97	●	●
	120404E-PC2	0.4	12.7	12.7	4.76	●	●
	120408E-PC2	0.8	12.7	12.7	4.76	●	●
	SCMT 09T304E-KC2	0.4	9.525	9.525	3.97	●	●
	09T308E-KC2	0.8	9.525	9.525	3.97	●	●
	120404E-KC2	0.4	12.7	12.7	4.76	○	●
	120408E-KC2	0.8	12.7	12.7	4.76	●	●
	TCMT 090204E-PB1	0.4	5.56	9.63	2.38	●	●
	110202E-PB1	0.2	6.35	11.0	2.38	●	●
	110204E-PB1	0.4	6.35	11.0	2.38	●	●
	110208E-PB1	0.8	6.35	11.0	2.38	●	●
	16T304E-PB1	0.4	9.525	16.5	3.97	●	●
	16T308E-PB1	0.8	9.525	16.5	3.97	●	●
	16T304E-PC2	0.4	9.525	16.5	3.97	●	●
	16T308E-PC2	0.8	9.525	16.5	3.97	●	●
	TCMT 090204E-PC2	0.4	5.56	9.63	2.38	●	●
	090208E-PC2	0.8	5.56	9.63	2.38	●	●
	110204E-PC2	0.4	6.35	11.0	2.38	●	●
	110208E-PC2	0.8	6.35	11.0	2.38	●	●
	16T304E-PC2	0.4	9.525	16.5	3.97	●	●
	16T308E-PC2	0.8	9.525	16.5	3.97	●	●
	16T312E-PC2	1.2	9.525	16.5	3.97	○	○
	16T312E-PC2	1.2	9.525	16.5	3.97	○	○

● Stocked ○ Non-stocked

Positive Insert List

Insert	Product code	Size(mm)				Grade	
		r	d	l	s	AC100M	AC200M
	TCMT 090204E-KC2	0.4	5.56	9.63	2.38	●	●
	090208E-KC2	0.8	5.56	9.63	2.38	●	●
	110204E-KC2	0.4	6.35	11.0	2.38	●	●
	110208E-KC2	0.8	6.35	11.0	2.38	●	●
	16T304E-KC2	0.4	9.525	16.5	3.97	●	●
	16T308E-KC2	0.8	9.525	16.5	3.97	●	●
	16T312E-KC2	1.2	9.525	16.5	3.97	●	●
	VBMT 110304E-PB1	0.4	6.35	11.07	3.18	●	●
	110308E-PB1	0.8	6.35	11.07	3.18	●	●
	160402E-PB1	0.2	9.525	16.61	4.76	●	●
	160404E-PB1	0.4	9.525	16.61	4.76	●	●
	160408E-PB1	0.8	9.525	16.61	4.76	●	●

Insert	Product code	Size(mm)				Grade	
		r	d	l	s	AC100M	AC200M
	VCMT 160404E-PB1	0.4	9.525	16.61	4.76	●	●
	160408E-PB1	0.8	9.525	16.61	4.76	●	●
	VCMT 110304E-PC2	0.4	6.35	11.07	3.18	●	●
	110308E-PC2	0.8	6.35	11.07	3.18	●	●
	160404E-PC2	0.4	9.525	16.61	4.76	●	●
	160408E-PC2	0.8	9.525	16.61	4.76	●	●
	160412E-PC2	1.2	9.525	16.61	4.76	○	○
	VBMT 160404E-KC2	0.4	9.525	16.61	4.76	●	●
	160408E-KC2	0.8	9.525	16.61	4.76	●	●
	160412E-KC2	1.2	9.525	16.61	4.76	●	●

● Stocked ○ Non-stocked