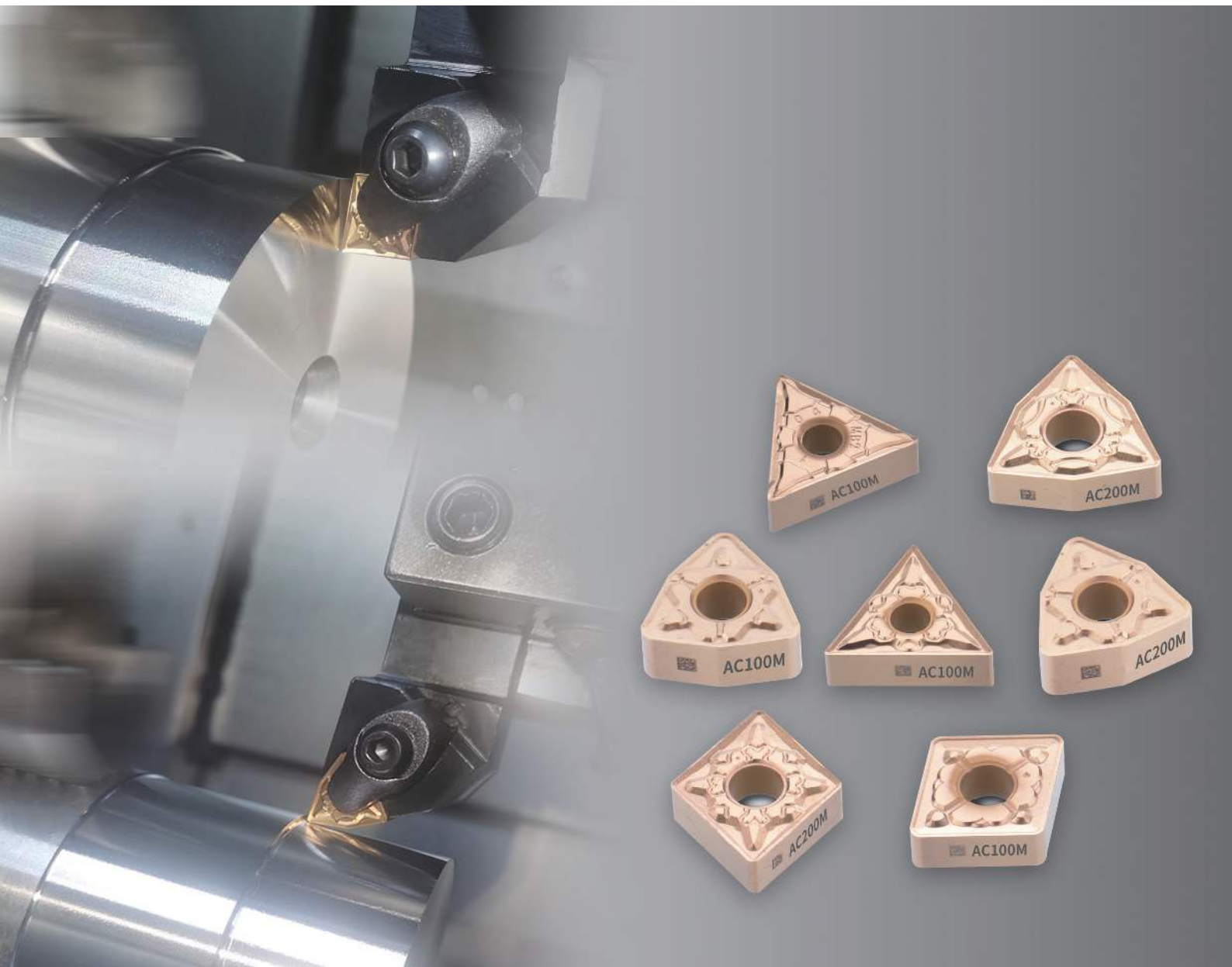


**NEW
PRODUCT!**

AC100M, AC200M New CVD coating grades for stainless steel high-speed turning grade

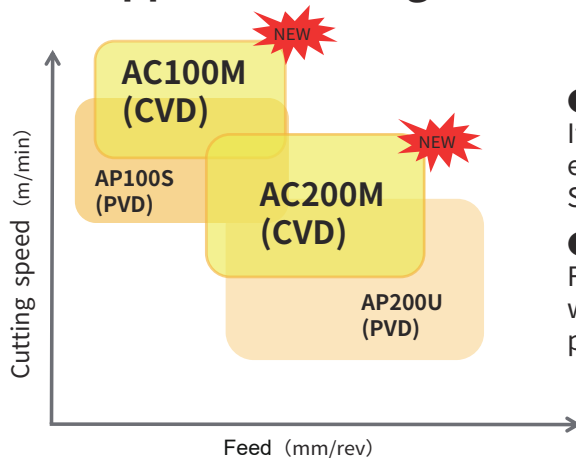


Grade Introduction

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



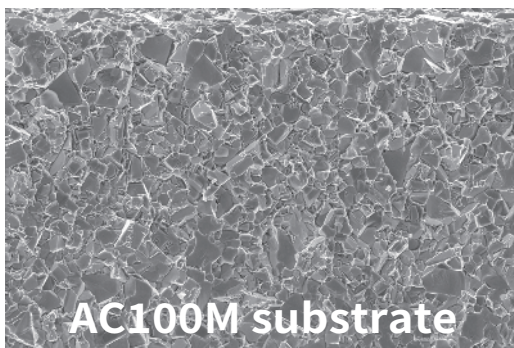
● AC100M

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

● AC200M

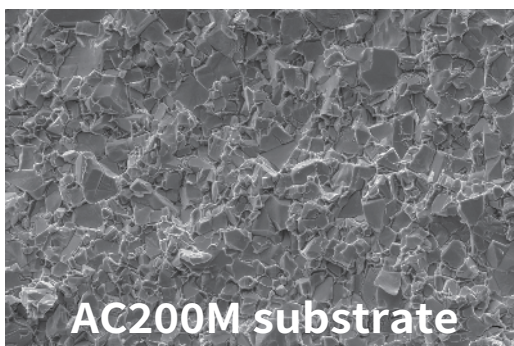
First choice for stainless steel turning, CVD coating combined with new carbide substrate, showing a stable machining performance and extraordinary notch wear resistance

AC100M/AC200M Grade Features



● AC100M

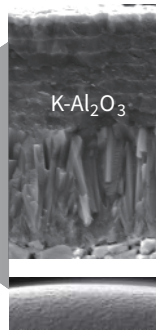
It offers good wear resistance at high-speed and high-efficiency stainless steel turning
 Suitable for some heat resistant alloy turning



● 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



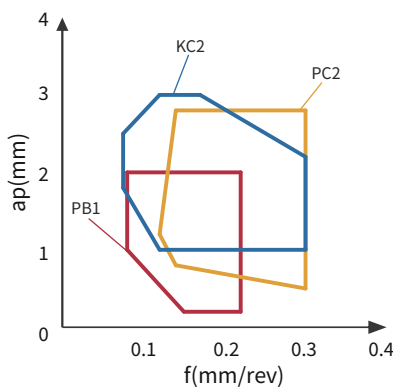
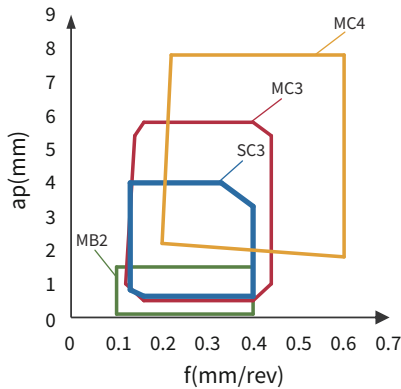
SEM image of coating surface of nose


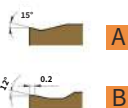

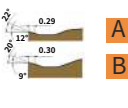

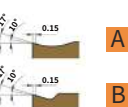

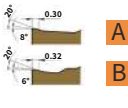

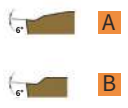

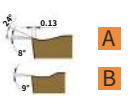

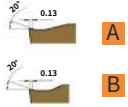
- Combined micro grain K-Al₂O₃ and MT-TiCN
- Higher toughness, wear resistance and built-up edge resistance
- New post-processing for a smoother surface, good built-up edge resistance and chip evacuation
- First choice for stainless steel high-speed turning
- New substrate for stainless steel finish 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

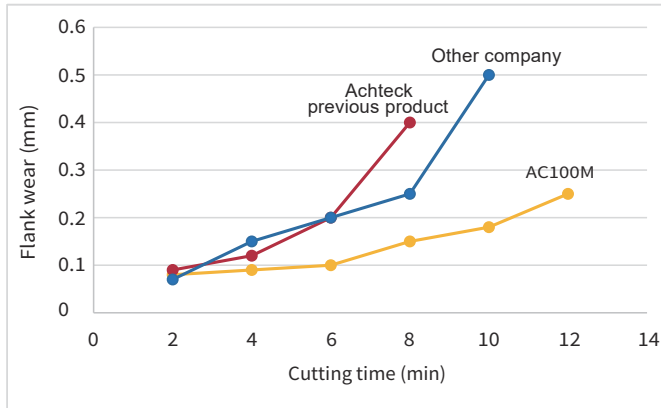
Geometry Choices



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

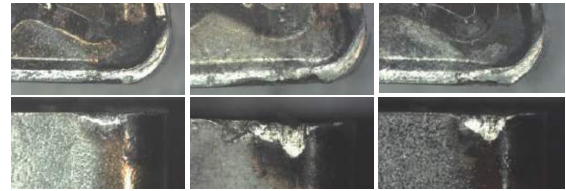
• AC100M wear resistance comparison



AC100M

Other company

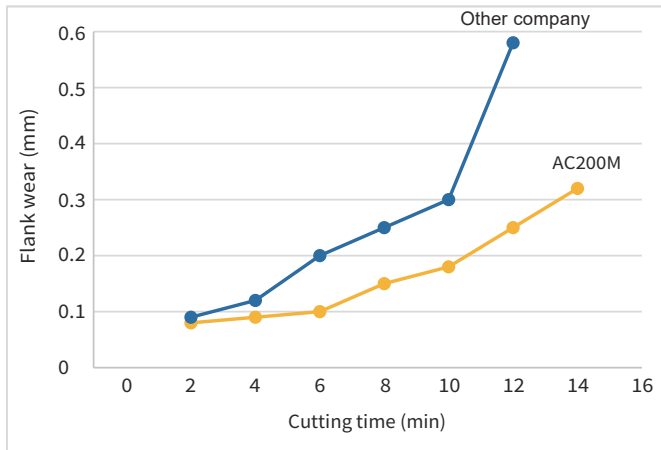
Achteck previous product



Insert: CNMG 120408E-MC3 AC100M
 Material: 316L
 Speed: 220m/min
 Feed: 0.25mm/rev
 Cutting depth: 1.5mm
 Coolant: Wet

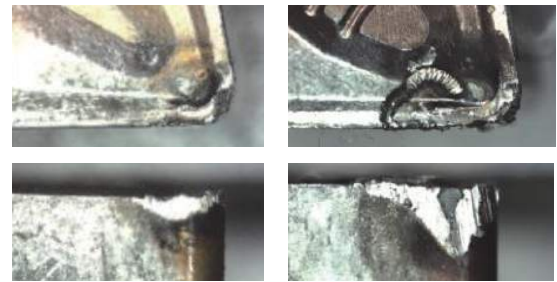
AC100M with MC3 geometry has excellent wear resistance, notch wear resistance and longer tool life

• AC200M wear resistance comparison



AC200M

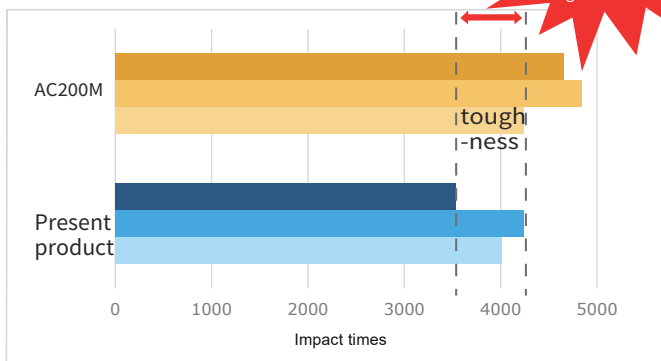
Other company



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

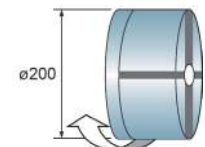
AC200M

Other company




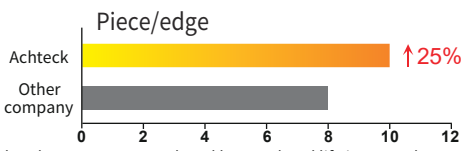
notch wear resistance


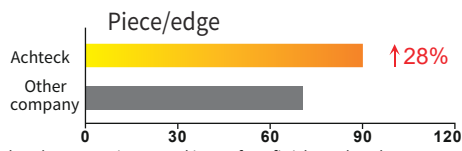
Insert: CNMG 120408E-MC3 AC200M
 Material: 316L
 Speed: 100m/min
 Feed: 0.25mm/rev
 Cutting depth: 1.0mm
 Coolant: Wet

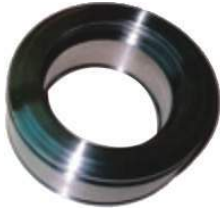
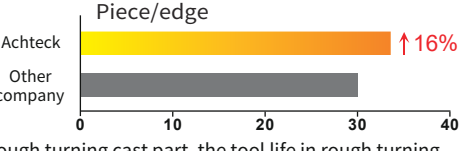



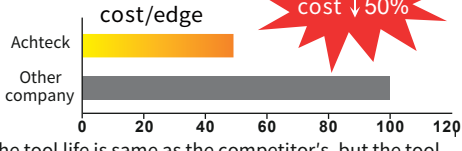
In interrupted turning, AC200M has greatly improved toughness and the notch wear decreased to half at the same time

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	 <p>Achteck MC3+AC100M reduced bur, and tool life increased by 25%</p>

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

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

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

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

ISO	Material			Brinell Hardness (HB)	Strength (N/mm ²)	Grade					
	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		Insert	Product code	Size(mm)				Grade		
		r	d	l	s	AC100M	AC200M			r	d	l	s	AC100M	AC200M	
	CNMG 120404E-MB2	0.4	12.7	12.9	4.76	●	●		DNMG 150404E-MC3	0.4	12.7	15.5	4.76	●	●	
	120408E-MB2	0.8	12.7	12.9	4.76	●	●		150408E-MC3	0.8	12.7	15.5	4.76	●	●	
	CNMG 120404E-SC3	0.4	12.7	12.9	4.76	●	●		150412E-MC3	1.2	12.7	15.5	4.76	○	○	
	120408E-SC3	0.8	12.7	12.9	4.76	●	●		150604E-MC3	0.4	12.7	15.5	6.35	●	●	
	120412E-SC3	1.2	12.7	12.9	4.76	●	●		150608E-MC3	0.8	12.7	15.5	6.35	●	●	
	160612E-SC3	1.2	15.875	16.1	6.35	●	●		150612E-MC3	1.2	12.7	15.5	6.35	●	●	
	160616E-SC3	1.6	15.875	16.1	6.35	●	●			DNMG 150408E-MC4	0.8	12.7	15.5	4.76	○	○
	190612E-SC3	1.2	19.05	19.3	6.35	●	●			150412E-MC4	1.2	12.7	15.5	4.76	○	○
	190616E-SC3	1.6	19.05	19.3	6.35	●	●			150608E-MC4	0.8	12.7	15.5	6.35	●	●
	CNMG 120404E-MC3	0.4	12.7	12.9	4.76	●	●			150612E-MC4	1.2	12.7	15.5	6.35	●	●
	120408E-MC3	0.8	12.7	12.9	4.76	●	●			SNMG 120404E-MB2	0.4	12.7	12.7	4.76	●	●
	120412E-MC3	1.2	12.7	12.9	4.76	●	●			120408E-MB2	0.8	12.7	12.7	4.76	●	●
	120416E-MC3	1.6	12.7	12.9	4.76	○	○		SNMG 120408E-SC3	0.8	12.7	12.7	4.76	●	●	
	160608E-MC3	0.8	15.875	16.1	6.35	●	●		120412E-SC3	1.2	12.7	12.7	4.76	●	●	
	160612E-MC3	1.2	15.875	16.1	6.35	●	●		150612E-SC3	1.2	15.875	15.875	6.35	●	●	
	160616E-MC3	1.6	15.875	16.1	6.35	●	●		150616E-SC3	1.6	15.875	15.875	6.35	●	●	
	190608E-MC3	0.8	19.05	19.3	6.35	○	○		190612E-SC3	1.2	19.05	19.05	6.35	●	●	
	190612E-MC3	1.2	19.05	19.3	6.35	○	○			SNMG 120408E-MC3	0.8	12.7	12.7	4.76	●	●
190616E-MC3	1.6	19.05	19.3	6.35	○	○	120412E-MC3			1.2	12.7	12.7	4.76	●	●	
	CNMG 120408E-MC4	0.8	12.7	12.9	4.76	●	●	150612E-MC3	1.2	15.875	15.875	6.35	○	○		
	120412E-MC4	1.2	12.7	12.9	4.76	●	●	150616E-MC3	1.6	15.875	15.875	6.35	○	○		
	DNMG 150404E-MB2	0.4	12.7	15.5	4.76	●	●	190612E-MC3	1.2	19.05	19.05	6.35	●	●		
	150408E-MB2	0.8	12.7	15.5	4.76	●	●	190616E-MC3	1.6	19.05	19.05	6.35	●	●		
	150604E-MB2	0.4	12.7	15.5	6.35	●	●		SNMG 120408E-MC4	0.8	12.7	12.7	4.76	●	●	
	150608E-MB2	0.8	12.7	15.5	6.35	●	●		120412E-MC4	1.2	12.7	12.7	4.76	●	●	
	DNMG 150404E-SC3	0.4	12.7	15.5	4.76	●	●		DNMG 150404E-SC3	0.4	12.7	15.5	4.76	●	●	
	150408E-SC3	0.8	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	●	●		150412E-SC3	1.2	12.7	15.5	4.76	●	●	
	150604E-SC3	0.4	12.7	15.5	6.35	●	●		150604E-SC3	0.4	12.7	15.5	6.35	●	●	
	150608E-SC3	0.8	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	●	●		150612E-SC3	1.2	12.7	15.5	6.35	●	●	










● Stocked ○ Non-stocked

● Negative Insert List

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



● Stocked ○ Non-stocked




Positive Insert List

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