

Applicable for Midum to Fine Machining on Materials Alloy , Carbon steel..etc materials.
 Advantage: Excellent Performance, Low down cutting resistance a lot, improve quality of processed surface a lot.

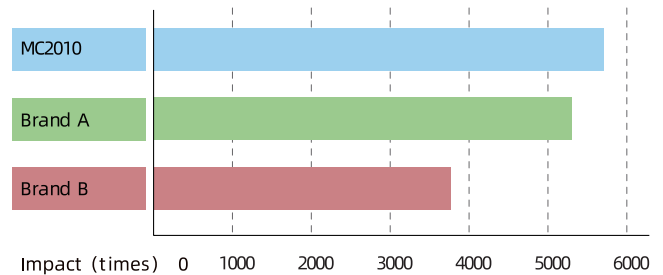
M-Series [Moulded Inserts]

1 Grade description

MC2010			
Applicable Material Carbon steel, Alloy, Stainless steel, Aluminum alloy etc. (Hardness below HRC40)			
Application General grade, Medium to Fine machining on Turning, Milling, Grooving.			
Advantage: Tiny-grain size, High wear resistance, High-finish surface, High cutting efficiency .			
Density (g/cm ³)	6.77	Hardness (HRA)	92.5
Bending (MPa)	≥1800	Toughness (MPa*m ^{1/2})	82

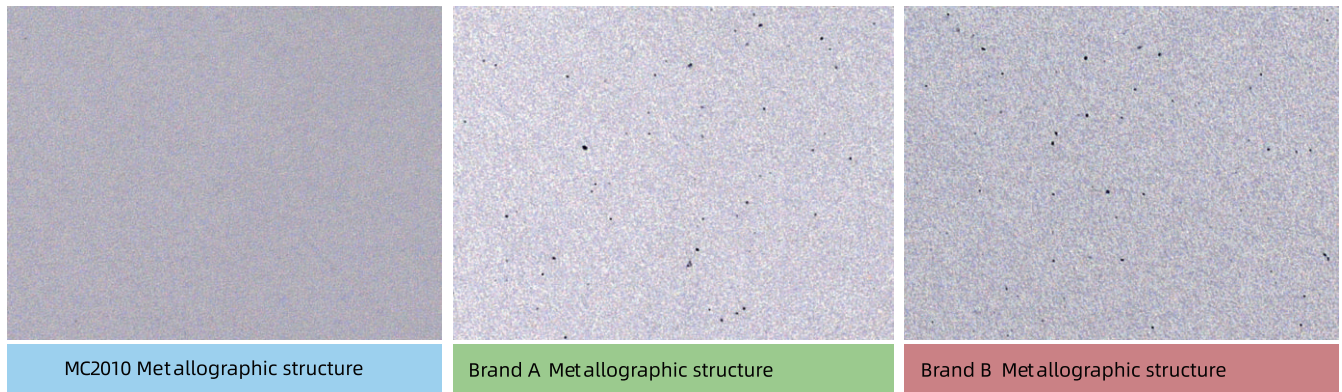
Fantastic Anti collapse performance

Collapse & Damage comparison Average value in 5 times (Internal test)



parameter: Vc=200m/min, ap=1.5mm, Feed=0.2mm/rev

Wet processing, Workpiece: 45#
 (Interrupting cutting, 4 groove)



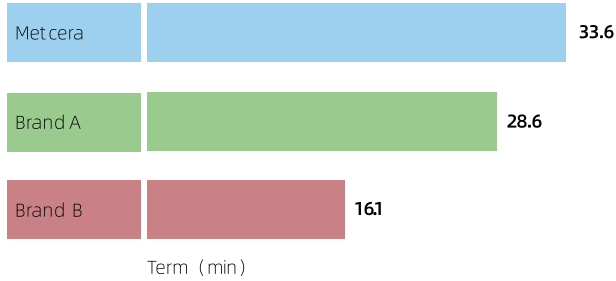
High compactness of base material, internal crack reduced a lot while processing, Strength higher, Better impact resistance. Applicable in Interrupting or larger depth machining

Composite metal cohering metallography(Cobalt, Nickel) to guarantee fantastic bonding strength of coating.

Advantage: high Internal resilience, High collapse resistance, good heat resistance, tool tenacity and wear resistance in high temperature improved .

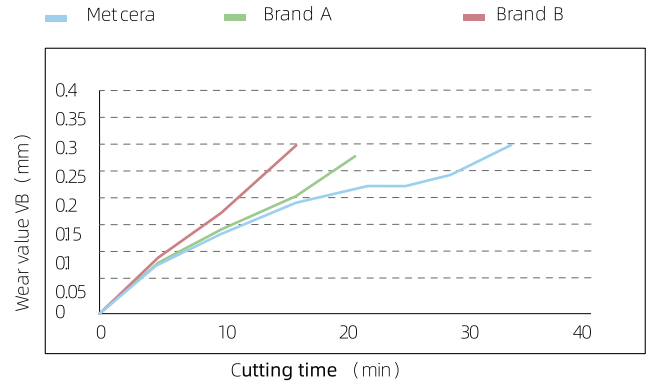
Tool life comparison

Average value of 5 times (Internal test)



Wear resistance comparison

Average value of 5 times (Internal test)



Tool tip wear resistance comparison

Average value of 5 times (Internal test)



PV2110

NANO 涂层

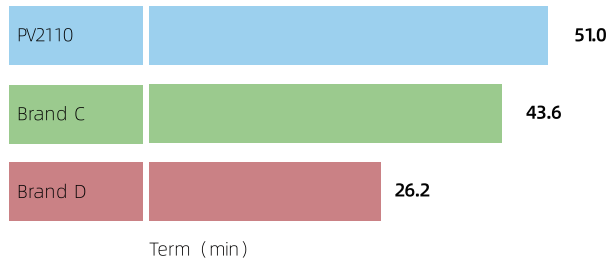
High-performance NANO-Coating, Additional composite coating TiN on surface, Stickingless, Appearance golden, Distinguish used tips easily.

Density (g/cm ³)	6.77	Hardness (HRA)	92.5
Bending (MPa)	≥1800	Breakage (MPa*m ^{1/2})	8.2

Special PVD coating materials fantastically combines with Tool base material, Priority recommendation grade on Steel high speed machining in company internal producing, Matching to be Good wear resistance and high toughness.

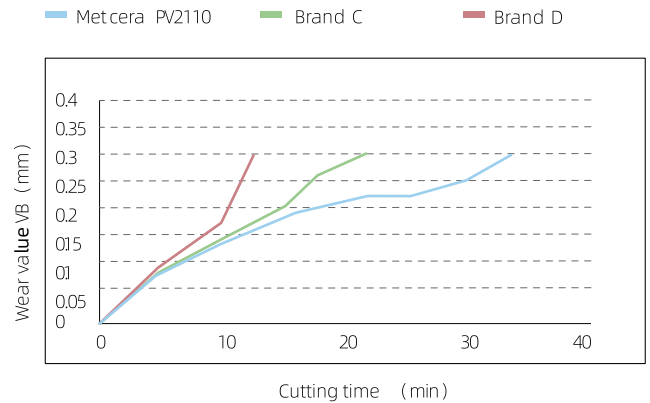
Tool tip wear resistance comparison

Average value of 5 times (Internal test)

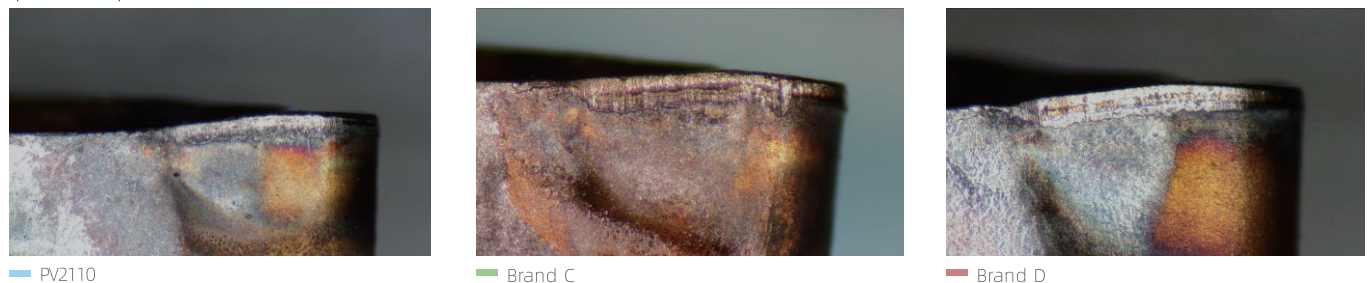


Wear resistance comparison

Average value of 5 times (Internal test)




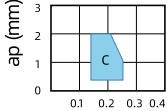
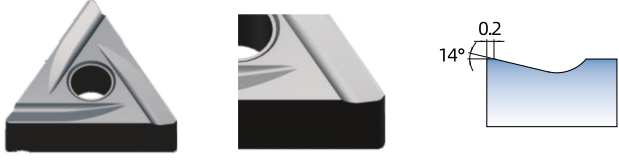
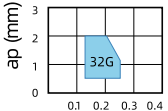

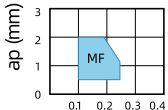
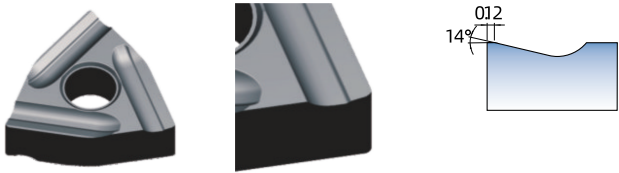
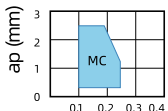
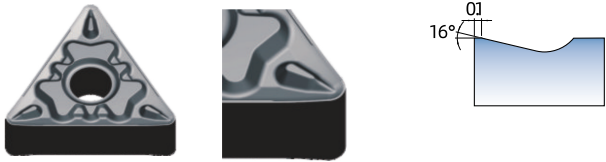
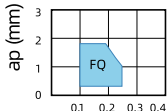
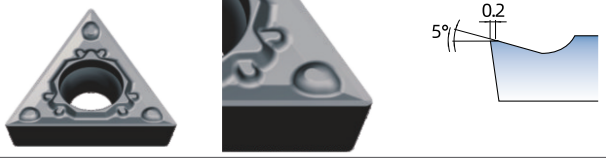
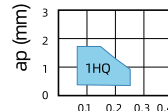
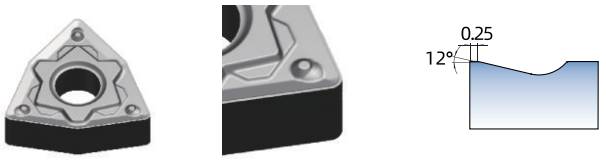
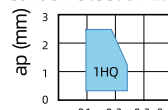
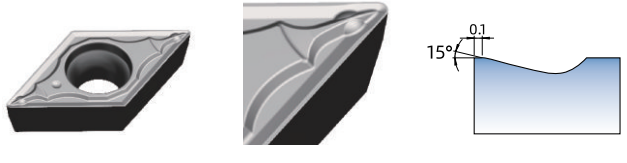
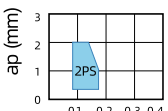
Tool tip wear resistance comparison (Photo show)

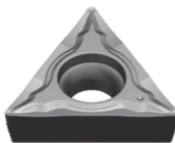

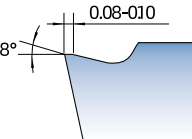
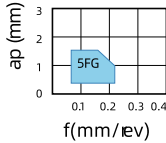


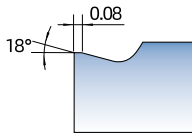
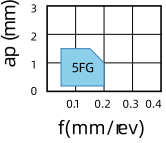


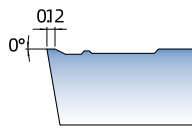
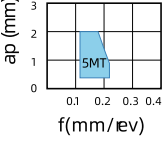
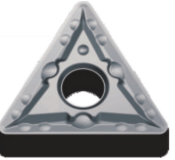

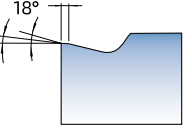
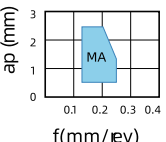
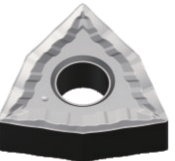
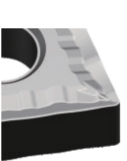
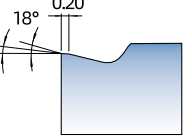
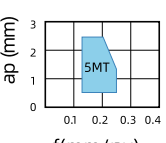


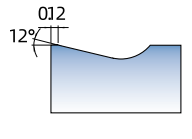
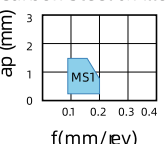
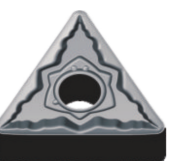

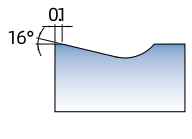
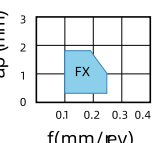


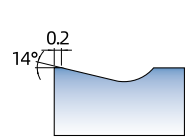
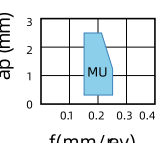
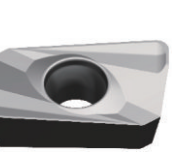

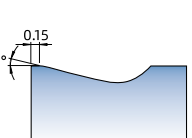
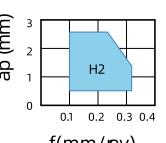


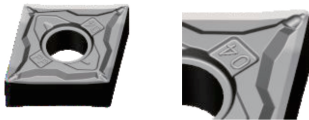
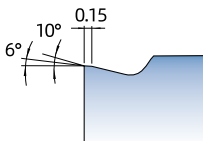
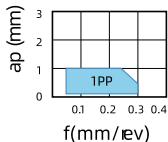

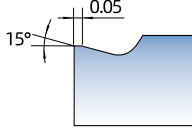
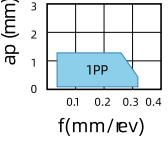

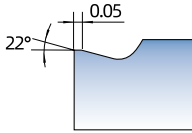
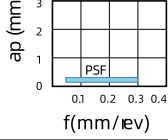

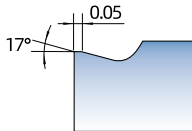
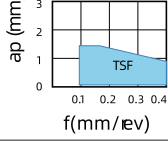

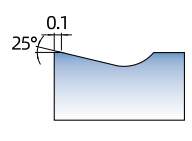
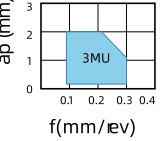

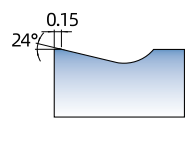
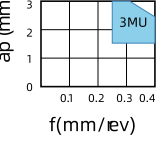

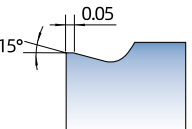
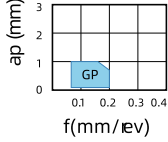
2 Chipbreaker Description

Variety of chipbreaker types for your selection

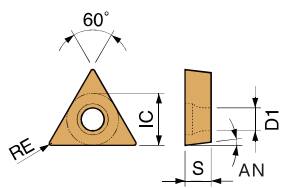
N=negative P=positive

Application	Type	Breaker name	Breaker geometry & Profile	Feature	Recommended parameter
Simi-Fine Fine	N	C		A general chipbreaker applied to ordinary cutting mode.	Carbon Steel & Alloy  f (mm/rev)
Simi-Fine	N	32G		Moulded Double-sided breaker Excellent cutting edge strength and chip evacuation performance. Suitable for semi-finishing applications.	Carbon Steel & Alloy  f (mm/rev)
Simi-Fine Fine	N	MF (5VF)		Suitable for slender workpiece machining, the large rake angle reduces cutting force.	Carbon Steel & Alloy  f (mm/rev)
		MC (5FS)		Suitable for machining carbon steel or alloy steel under HRC40 and oxide scale under HRC30.	Carbon Steel & Alloy  f (mm/rev)
Simi-Fine	N	FQ		Suitable for machining carbon steel or alloy steel under HRC40	Carbon Steel & Alloy  f (mm/rev)
Simi-Fine Fine	P	1HQ		Suitable for low cutting depth applications, workpiece like carbon steel or alloy steel under HRC40.	Carbon Steel & Alloy  f (mm/rev)
Simi-Fine	N	HS		Suitable for machining carbon steel or alloy steel under HRC40 and oxide scale under HRC30.	Carbon Steel & Alloy  f (mm/rev)
Simi-Fine	P	2PS		Excellent chip evacuation performance and low cutting force. Suitable for boring machining.	Carbon Steel & Alloy  f (mm/rev)

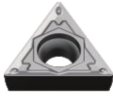
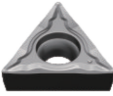



Application	Type	Breaker name	Breaker geometry & Profile	Feature	Recommended parameter
Semi-Fine Fine	P	5FG	  	Excellent chip evacuation performance. Suitable for machining carbon steel or alloy steel under HRC40	Carbon Steel & Alloy 
	N		  	Suitable for machining carbon steel or alloy steel under HRC40. Recommended to use under stable cutting conditions.	Carbon Steel & Alloy 
Semi-Fine	P	5MT	  	For semi-finishing and roughing applications. Like carbon steel or alloy steel under HRC40 and oxide scale under HRC30.	Carbon Steel & Alloy 
	N	MA	  	For semi-finishing and roughing applications. Like carbon steel or alloy steel under HRC40 and oxide scale under HRC30.	Carbon Steel & Alloy 
	N	5MT	  	For semi-finishing and roughing applications. Like carbon steel or alloy steel under HRC40 and oxide scale under HRC30.	Carbon Steel & Alloy 
Semi-Fine Fine	N	MS1 (TS)	  	Moulded Double-sided breaker For finishing and semi-finishing applications. Like carbon steel or alloy steel under HRC40	Carbon Steel & Alloy 
		FX	  	Low cutting force for finishing and semi-finishing applications. Like carbon steel or alloy steel under HRC40	Carbon Steel & Alloy 
Semi-Fine	N	MU	  	Suitable for sheet metal roughing machining and carbon steel or alloy steel under HRC40.	Carbon Steel & Alloy 
Semi-Fine Fine	P	H2	  	Cutting edge strengthened milling inserts, used for side wall machining.	Carbon Steel & Alloy 

Application	Type	Breaker name	Breaker geometry & Profile	Feature	Recommended parameter
Fine	N	1PP	 	First choice for Fine machining. Stable cutting while large feed application. High stability with both fantastic performance under strong strength.	Carbon Steel & Alloy 
	P		 	The 3-stage-bump guarantee stable chip-breaking in a large feed range. The rake of breaker reduce the resistance a lot.	Carbon Steel & Alloy 
Simi-Fine Fine	P	PSF	 	Suitable for low cutting force and high wear resistance. First choice for Fine machining. Prevent chip entanglement while the inner-hole processing by this breaker.	Carbon Steel & Alloy 
Simi-Fine Fine	N	TSF	 	First choice for P-material (Steel) cutting Sharp edge and bump nearby tip leading fantastic chip breaking.	Carbon Steel & Alloy 
Simi-Fine Fine	P	3MU	 	Suitable for sheet metal roughing machining and carbon steel or alloy steel under HRC40.	Carbon Steel & Alloy 
	N		 	First choice for Cast iron Machining Moulded Double-sided breaker. High flat blade band edge strength, General circumference breaker	Carbon Steel & Alloy 
Fine	P	GP	 	New present breaker with fantastic cutting performance	Carbon Steel & Alloy 

3 Products Model

	Example Model	IC	S	D1	AN	Example Model	IC	S	D1	AN
	TC_0902_	5.56	2.38	2.55	7°	TP_1103_	6.35	3.18	3.40	11°
	TC_1102_	6.35	2.38	2.80	7°	TC_16T3_	9.525	3.97	4.40	7°

Positive-Moulded Series

Appearance	Part No.	Re	Cermet Grade					Carbide Grade					
			MC1020	MC2010	MC3015	PV1120	PV2110	PV3115	PV4112	PV4212	PV4312	PV8110	PV8210
	TCMT090202-1HQ	0.2		●	●		●	●	●	●	●	●	●
	TCMT090204-1HQ	0.4		●	●		●	●	●	●	●	●	●
	TCMT110202-1HQ	0.2		●	●		●	●	●	●	●	●	●
	TCMT110204-1HQ	0.4		●	●		●	●	●	●	●	●	●
	TCMT110208-1HQ	0.8		●	●		●	●	●	●	●	●	●
	TPMT110304-1HQ	0.4		●	●		●	●	●	●	●	●	●
	TPMT110308-1HQ	0.8		●	●		●	●	●	●	●	●	●
	TCMT16T304-1HQ	0.4		●	●		●	●	●	●	●	●	●
	TCMT110204-5FG	0.4		●	●		●	●	●	●	●	●	
	TCMT16T304-5FG	0.4		●	●		●	●	●	●	●	●	
	TPMT110304-5FG	0.4		●	●		●	●	●	●	●	●	
	TCMT110204-5MT	0.4		●	●		●	●	●	●	●	●	
	TCMT16T304-5MT	0.4		●	●		●	●	●	●	●	●	
	TCMT16T308-5MT	0.8		●	●		●	●	●	●	●	●	
	TPMT110302-1PP	0.2		●	●		●	●	●	●	●	●	
	TPMT110304-1PP	0.4		●	●		●	●	●	●	●	●	
	TPMT090202-GP	0.2		●	●		●	●	●	●	●	●	
	TPMT090204-GP	0.4		●	●		●	●	●	●	●	●	
	TPMT110302-GP	0.2		●	●		●	●	●	●	●	●	
	TPMT110304-GP	0.4		●	●		●	●	●	●	●	●	

