



ZHUZHOU CHUANGDE CEMENTED CARBIDE CO., LTD.

# Numerical Control Blade

## 数控刀片



 ZHUZHOU CHUANGDE CEMENTED CARBIDE CO., LTD.

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CHUANGDE CEMENTED , CARBIDE CO., LTD

**QIANGHUI METALS**

让我们更专业，让客户更满意！



## 公司简介

COMPANY PROFILE

株洲创德硬质合金有限公司位于中国湖南株洲。主要生产硬质合金刀片、铣削刀片、硬质合金切削刀片、端面开槽刀片、硬质合金车削刀片、硬质合金螺纹刀片、硬质合金立铣刀、整体硬质合金钻头、硬质合金铰刀等。

我们拥有高素质、积极主动且经验丰富的员工，他们在公司内发挥协同作用，这对于为我们的客户创造和保证高质量和持久的解决方案是必不可少的。

我们提供全球分销网络。作为一家中型公司，我们反应迅速，能够灵活应对客户要求。基于合作伙伴关系，我们为各自的需求提供合适的解决方案。我公司于 2008 年通过 ISO 9001 认证。全面的质量保证体系确保我们产品的高标准。

我们的使命是为客户提供可靠、安全、经济高效的硬质合金工具。

CD 硬质合金工具，让您的业务更上一层楼。

如需了解所有硬质合金切削刀具解决方案，请随时联系我们。

Zhuzhou Chuangde Cemented Carbide Co., Ltd located in Zhuzhou, Hunan, China. It mainly produces carbide inserts,milling inserts,carbide cutting inserts, face grooving inserts, carbide turning inserts,carbide threading inserts, carbide end mills, solid carbide drill, carbide reamer etc .

We have highly qualified, motivated and experienced employees who are providing synergies in our company which are necessary to create and guarantee high-quality and long-lasting solutions for our customers.

We provide a worldwide distribution network. As a medium-sized company we react fast and we are flexible to our customer requirements. Based on partnership, we supply suitable solutions for the respective needs.Our company was certified after ISO in 9001:2008. A comprehensive quality assurance system guarantees high-class standards of our products.

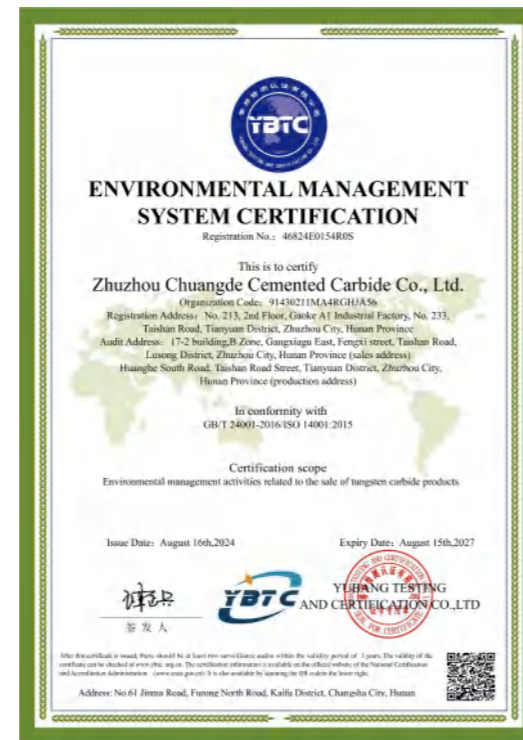
Our mission is to provide Reliable ,secure,cost effective carbide tools to customer.

CD carbide tools,better for you business.

Please feel free to contact us for all cemented carbide cutting tools solutions.

# 资质荣誉

QUALIFICATION HONOR



# 车削刀片

Turning Tools



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## 车削刀片牌号一览表

Recommended Grade Table for Turning Inserts

ISO使用 ISO USE		普通车削 Turning		螺纹 Threading	切断切槽 Parting and Grooving	
工件材料 Workpiece materials	ISO代号 ISO Code	涂层 Coating				
		CVD		PVD		
P 钢件 Steel	P10					
	P20					
	P30	CD1405	CD1405S	CD2110	CD2210	CD2310
	P40					
M 不锈钢 Stainless Steel	M10					
	M20	CD1405	CD1405S	CD1505	CD1505S	CD1605
	M30	CD1405	CD1405S	CD1505	CD1505S	CD1605
	M40					
K 铸铁 Cast Iron	K01					
	K10	CD1405	CD1405S			
	K20	CD1405	CD1405S	CD1405S		CD1405
	K30					
N 有色金属 Non-Ferrous Metal	N10					
	N20					
	N30					
	N40					
S 钛合金 耐热合金 Titanium Alloy Heat Resisting Alloy	S10					
	S20	CD1605				
	S30					
	S40					
H 高硬度 材料 High Strength Material	H10					
	H20					
	H30					
	H40					

牌号	涂层方式	外观颜色	应用推荐	ISO
CD1405	PVD	灰黑色	抗变形能力极好的基体材料搭配通用性很强的PVD涂层,应用于不锈钢普通车削表现突出,同时满足钢件、铸铁的通用加工,具有一定耐磨性的同时兼顾韧性,特别适合于轻断续加工。	P15~P30 M15~M30 K15~K30
CD1405S	PVD	灰黑色	具有高韧性、高硬度的双高升级版基体搭配创新型的高性能涂层工艺,应用于不锈钢车削、切槽切断的首选牌号,在强断续加工方面表现优异,也能满足钢件、铸铁的中低速切槽、切断要求。	P15~P30 M15~M30 K15~K30
CD1505	PVD	古铜色	超细硬质合金基体搭配含Si纳米涂层,具有优异的耐磨性和抗氧化性,应用于钢件硬料、不锈钢连续加工工况有着优秀的表现。	M15~M30
CD1505S	PVD	古铜色	具有高韧性、高硬度的双高升级版基体搭配精准独特的涂层材料配方,涂层细腻光滑无液滴,具有摩擦系数小、硬度高等优点,加工硬度范围达HRC60,在不锈钢稳定连续车削工况具备超强的使用性能。	M15~M30
1605	PVD	金色	细晶粒硬质合金基体材质搭配最新的高性能涂层,涂层致密性极高,表面光滑,能轻松应对M、S类切削场合,性能卓越。	M20~M30 S15~S30
CD2110	CVD	黄色	刃口安全性良好的韧性基体与MT-TiCN、厚Al2O3、TiN涂层的极佳组合,适合于低硬度钢材的半精加工。	P10~P30
CD2210	CVD	黑色	采用厚TiCN和Al2O3涂层,拥有极强的抗塑性变形能力和刃口强度,是硬度较高的钢材从精加工到粗加工的通用首选牌号,在高去除率切削参数下或恶劣的工况下都有稳定表现。	P15~P30
CD2310	CVD	黑黄双色	表面富钴结构的硬质合金基体,粒度均匀,抗弯强度高,特殊的烧结工艺形成梯度合金结构,搭配均匀致密的细晶涂层及独特的后处理技术,不降低耐磨性的情况下进一步提升韧性,广泛用于钢件的通用加工。	P15~P30

# 普通车削刀片型号命名规则

Naming Rules of Turning Inserts

刀片形状/代号 Blade shape/code				
A 85°	B 82°	C 90°	D 55°	E 75°
H 120°	K 85°	L 90°	M 66°	O 135°
P 108°	R 360°	S 90°	T 60°	T 75°
V 35°	W 80°	Z 其他		
形状代号 Blade shape/code				

公制 Metric system							
代号	有无孔	有无断屑槽	刀片剖面	代号	有无孔	有无断屑槽	刀片剖面
B	有	无		N	无	无	
H	有	单面		R	无	单面	
C	有	无		F	无	双面	
J	有	双面		A	有	无	
W	有	无		M	有	单面	
T	有	单面		G	有	双面	
Q	有	无		X	--	--	特殊
U	有	双面					
断屑槽及夹固形式 Chip breaking groove and clamping form							



内切圆直径 (mm)	刀片形状 Shape of blades						
	C	D	R	S	T	V	W
3.97					06		
5.0			05		09		
5.56			06				
6.0					11	11	
6.35	06	07					
8.0			08				
9.525	09	11	09	09	16	16	06
10.0			10				
12.0			12				
12.7	12	15	12	12	22	22	08
15.875	16		15	15	27		
16.0		19	16				
19.05	19		19	19	33		
20.0			20				
25.0	25	25	25				
25.4			25	25			
31.75			31				
32			32				
切削刃长度 Length of cutting edge							



断屑槽型代号

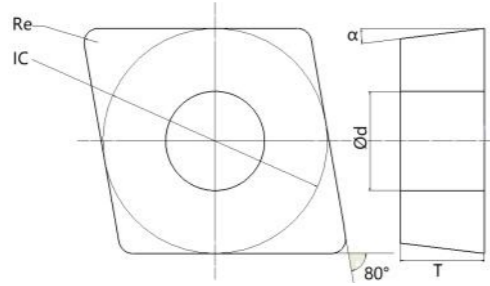
主切削刃后角 Main cutting edge relief angle			
代号	后角 (度)	代号	后角 (度)
A	3°	B	5°
C	7°	D	15°
E	20°	F	25°
G	30°	N	0°
P	11°	O	其他后角

公差 Tolerance											
代号	刀尖高度m公差 (mm)	内切圆R.C公差 (mm)	厚度S, 公差 (mm)	(参考)M级精度详细情况 (按形状、大小分)							
● 刀尖高度公差 (mm)											
代号	内切圆	正三角形	正方形	80°菱形	55°菱形	35°菱形	圆形				
A	±0.005	±0.025	±0.025	6.35	±0.08	±0.08	±0.08	±0.11	±0.16	--	
F	±0.005	±0.013	±0.025	9.525	±0.08	±0.08	±0.08	±0.11	±0.16	--	
C	±0.013	±0.025	±0.025	12.7	±0.13	±0.13	±0.13	±0.15	--	--	
H	±0.013	±0.013	±0.025	15.875	±0.15	±0.15	±0.15	±0.18	--	--	
E	±0.025	±0.025	±0.025	19.05	±0.15	±0.15	±0.15	±0.18	--	--	
G	±0.025	±0.025	±0.13	25.4	--	±0.18	--	--	--	--	
J	±0.005	±0.05-±0.13	±0.025	● 内切圆R.C公差 (mm)							
K	±0.013	±0.05-±0.13	±0.025	内切圆	正三角形	正方形	80°菱形	55°菱形	35°菱形	圆形	
L	±0.025	±0.05-±0.13	±0.025	6.35	±0.05	±0.05	±0.05	±0.05	±0.05	--	
M	±0.08-±0.08	±0.05-±0.13	±0.13	9.525	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	
N	±0.08-±0.08	±0.05-±0.13	±0.025	12.7	±0.08	±0.08	±0.08	±0.08	--	±0.08	
U	±0.08-±0.08	±0.08-±0.25	±0.13	15.875	±0.10	±0.10	±0.10	±0.10	--	±0.10	
				19.05	±0.10	±0.10	±0.10	±0.10	--	±0.10	
				25.4	--	±0.13	--	--	--	±0.13	

代号	刀片厚度 (mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.58
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.56
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70
刀片厚度 Thickness of blades	

刀尖圆弧代号 Arc code of tool tip	
代号	刀尖圆弧半径 (mm)
00	无圆角
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	其他
刀片直径 尺寸Mo (公制)	圆形刀片

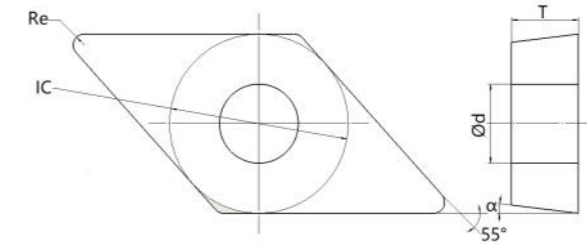
## ● 正刀片 (CCMT)



产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice							
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605
	CCMT060204-MA	6.35	2.38	2.8	0.4				●	▲	▲	●	●
	CCMT060208-MA	6.35	2.38	2.8	0.8				●	▲	▲	●	●
	CCMT09T304-MA	9.525	3.97	4.4	0.4				●	▲	▲	●	●
	CCMT09T308-MA	9.525	3.97	4.4	0.8				●	▲	▲	●	●
	CCMT120404-MA	12.7	4.76	4.76	0.4				●	▲	▲	●	●
	CCMT120408-MA	12.7	4.76	4.76	0.8				●	▲	▲	●	●
	CCMT060204-MT	6.35	2.38	2.38	0.4	▲	▲	▲					
	CCMT060208-MT	6.35	2.38	2.38	0.8	▲	▲	▲					
	CCMT09T304-CTM	9.525	3.97	3.97	0.4	▲	▲	▲					
	CCMT09T304-HQ	9.525	3.97	4.4	0.4				●	▲	▲	●	●
	CCMT09T308-HQ	9.525	3.97	4.4	0.8				●	▲	▲	●	●
	CCMT09T308-HM	9.525	3.97	4.4	0.8	▲	▲	▲	●	●	●	●	
	CCMT09T308-MP	9.525	3.97	4.4	0.8				●	▲	▲	●	●

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

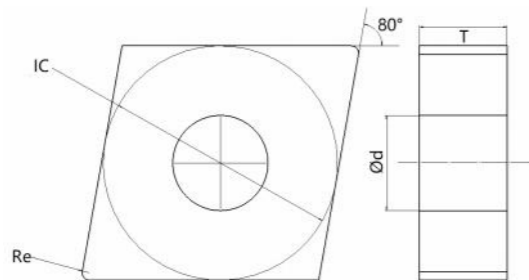
## ■ 正刀片 (DCMT)




产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice							
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605
	DCMT070202-MV	6.35	2.38	2.8	0.2				●	▲	▲	●	●
	DCMT070204-MV	6.35	2.38	2.8	0.4				●	▲	▲	●	●
	DCMT070208-MV	6.35	2.38	2.8	0.8				●	▲	▲	●	●
	DCMT11T304-MA	9.525	3.97	4.4	0.4				●	▲	▲	●	●
	DCMT11T308-MA	9.525	3.97	4.4	0.8				●	▲	▲	●	●
	DCMT11T304-PS	9.525	3.97	4.4	0.4	▲	▲	▲					
	DCMT11T308-PS	9.525	3.97	4.4	0.8	▲	▲	▲					

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

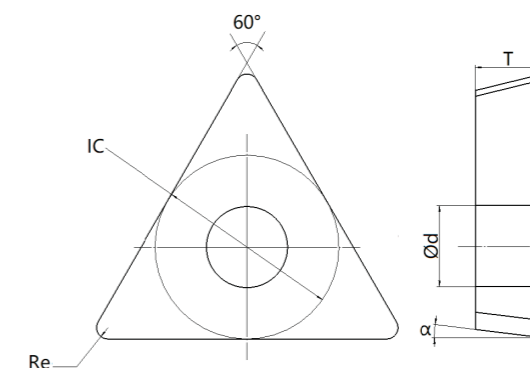
## ● 正刀片 (SCMT)

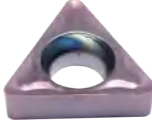
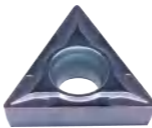



产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice								
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层					
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605	
	SCMT09T308-HM	9.525	3.97	4.4	0.8	▲	▲	▲						

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

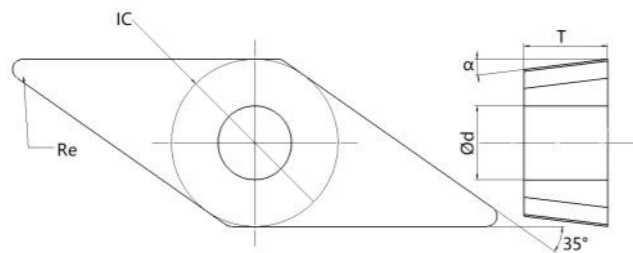
## ● 正刀片 (TBMT/TCMT)




产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice							
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605
	TBMT060104-DP	3.97	1.59	2.3	0.4				●	▲	▲	▲	●
	TCMT110204-MA	6.35	2.38	2.8	0.4				●	▲	▲	▲	●
	TCMT110208-MA	6.35	2.38	2.8	0.8				●	▲	▲	▲	●
	TCMT110204-CTM	6.35	2.38	2.8	0.4	▲	▲	▲					

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

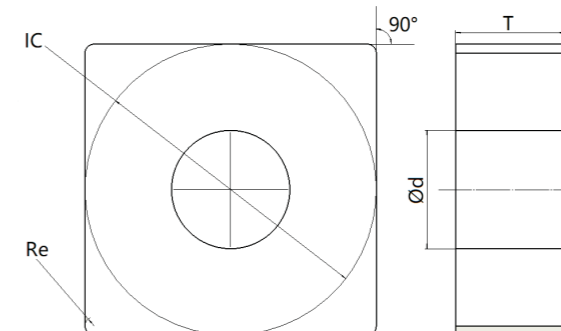
## ● 正刀片 (VBMT)







产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice							
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605
	VBMT160404-MV	9.525	4.76	4.4	0.4				●	▲	▲	●	●

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

## ● 负刀片 (CNMG)

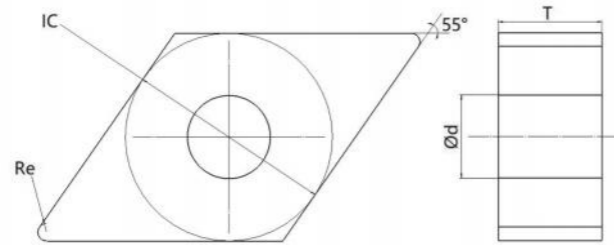



产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice							
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605
	CNMG120408-CM	12.7	4.76	5.16	0.8				●	▲	▲	●	●
	CNMG120404-MA	12.7	4.76	5.16	0.4				●	▲	▲	●	●
	CNMG120408-MA	12.7	4.76	5.16	0.8				●	▲	▲	●	●
	CNMG120408-MS	12.7	4.76	5.16	0.8				●	▲	▲	●	●
	CNMG120408-TM	12.7	4.76	5.16	0.8	▲	▲	▲					

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order



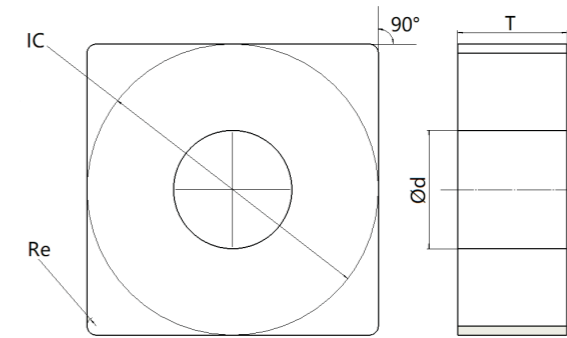
## ● 负刀片 (DNMG)





产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice								
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层					
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605	
	DNMG150408-TM	12.7	4.76	5.16	0.8	▲	▲	▲						
	DNMG150608-TM	12.7	6.35	5.16	0.8	▲	▲	▲						
	DNMG150412-TM	12.7	4.76	5.16	1.2	▲	▲	▲						
	DNMG150612-TM	12.7	6.35	5.16	1.2	▲	▲	▲						

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

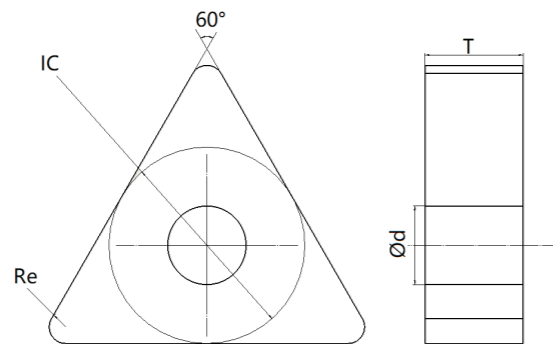
## ● 负刀片 (SNMG)



产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice								
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层					
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605	
	SNMG120404-MA	12.7	4.76	5.16	0.4					●	▲	▲	●	●
	SNMG120408-MA	12.7	4.76	5.16	0.8					●	▲	▲	●	●
	SNMG120404-TM	12.7	4.76	5.16	0.4	▲	▲	▲						
	SNMG120408-TM	12.7	4.76	5.16	0.8	▲	▲	▲						
	SNMG120412-CF	12.7	4.76	5.16	1.2					●	▲	▲	●	●
	SNMG120408L-S	12.7	4.76	5.16	0.8	▲	▲	▲		●	▲	▲	●	●
	SNMG120408R-S	12.7	4.76	5.16	0.8	▲	▲	▲		●	▲	▲	●	●

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

## ● 负刀片 (TNMG)








产品 Inserts Shape	型号 Type	尺寸 Dimensions ( mm )				可选牌号 Grade for Choice							
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605
	TNMG160404-43	9.525	4.76	3.81	0.4	▲	▲	▲					
	TNMG160408-43	9.525	4.76	3.81	0.8	▲	▲	▲					
	TNMG160412-43	9.525	4.76	3.81	1.2	▲	▲	▲					
	TNMG160404-BF	9.525	4.76	3.81	0.4				●	▲	▲	●	●
	TNMG160408-BF	9.525	4.76	3.81	0.8				●	▲	▲	●	●
	TNMG160404-HA	9.525	4.76	3.81	0.4				●	▲	▲	●	●
	TNMG160408-HA	9.525	4.76	3.81	0.8				●	▲	▲	●	●
	TNMG160404-JMS	9.525	4.76	3.81	0.4				●	▲	▲	●	●

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

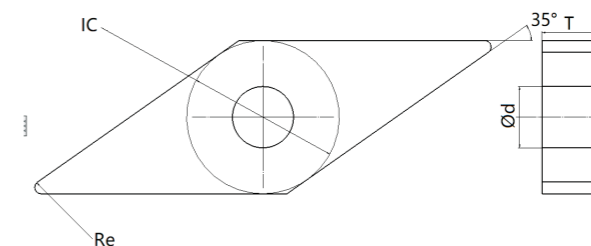
产品 Inserts Shape	型号 Type	尺寸 Dimensions ( mm )				可选牌号 Grade for Choice							
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605
	TNMG160404-MA	9.525	4.76	3.81	0.4				●	▲	▲	●	●
	TNMG160408-MA	9.525	4.76	3.81	0.8				●	▲	▲	●	●
	TNMG160404-MF	9.525	4.76	3.81	0.4				●	▲	▲	●	●
	TNMG160408-MF	9.525	4.76	3.81	0.8				●	▲	▲	●	●
	TNMG160404-MS	9.525	4.76	3.81	0.4				●	▲	▲	●	●
	TNMG160408-MS	9.525	4.76	3.81	0.8				●	▲	▲	●	●
	TNMG160404-TM	9.525	4.76	3.81	0.4	▲	▲	▲					
	TNMG160408-TM	9.525	4.76	3.81	0.8	▲	▲	▲					
	TNMG160412-TM	9.525	4.76	3.81	1.2	▲	▲	▲					

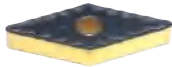


▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

产品 Inserts Shape	型号 Type	尺寸 Dimensions ( mm )				可选牌号 Grade for Choice									
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层						
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605		
	TNMG160408-PF	9.525	4.76	3.81	0.8	▲	▲	▲							
	TNMG160404L-S	9.525	4.76	3.81	0.4	▲	▲	▲	●	▲	▲	●	●		
	TNMG160404R-S	9.525	4.76	3.81	0.4	▲	▲	▲	●	▲	▲	●	●		
	TNMG160404L-VF	9.525	4.76	3.81	0.4	▲	▲	▲	●	▲	▲	●	●		
	TNMG160408L-VF	9.525	4.76	3.81	0.8	▲	▲	▲	●	▲	▲	●	●		
	TNMG160404R-VF	9.525	4.76	3.81	0.4	▲	▲	▲	●	▲	▲	●	●		
	TNMG160408R-VF	9.525	4.76	3.81	0.8	▲	▲	▲	●	▲	▲	●	●		

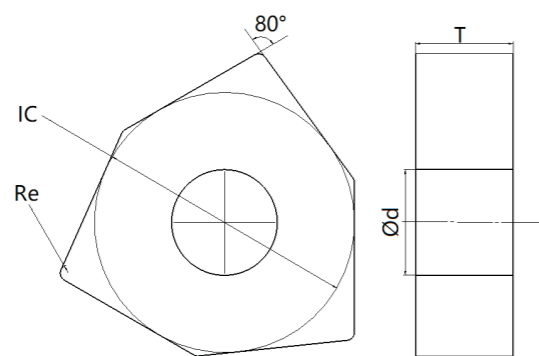
▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

## ● 负刀片 (VNMG)



产品 Inserts Shape	型号 Type	尺寸 Dimensions ( mm )				可选牌号 Grade for Choice									
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层						
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605		
	VNMG160404-43	9.525	4.76	3.81	0.4	▲	▲	▲							
	VNMG160408-43	9.525	4.76	3.81	0.8	▲	▲	▲							
	VNMG160404-MQ	9.525	4.76	3.81	0.4				●	▲	▲	●	●		
	VNMG160404-TM	9.525	4.76	3.81	0.4	▲	▲	▲							
	VNMG160408-TM	9.525	4.76	3.81	0.8	▲	▲	▲							
	VNMG160412-TM	9.525	4.76	3.81	1.2	▲	▲	▲							

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order



产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice								
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层				PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605	
	WNMG080404-43	12.7	4.76	5.16	0.4	▲	▲	▲						
	WNMG080408-43	12.7	4.76	5.16	0.8	▲	▲	▲						
	WNMG080412-43	12.7	4.76	5.16	1.2	▲	▲	▲						
	WNMG080404-BF	12.7	4.76	5.16	0.4				●	▲	▲	●	●	
	WNMG080408-BF	12.7	4.76	5.16	0.8				●	▲	▲	●	●	
	WNMG080404-GM	12.7	4.76	5.16	0.4	▲	▲	▲						
	WNMG080408-GM	12.7	4.76	5.16	0.8	▲	▲	▲						
	WNMG080404-MA	12.7	4.76	5.16	0.4				●	▲	▲	●	●	
	WNMG080408-MA	12.7	4.76	5.16	0.8				●	▲	▲	●	●	
	WNMG080412-MA	12.7	4.76	5.16	1.2				●	▲	▲	●	●	
	WNMG080404-MF	12.7	4.76	5.16	0.8				●	▲	▲	●	●	
	WNMG080408-MF	12.7	4.76	5.16	0.8				●	▲	▲	●	●	

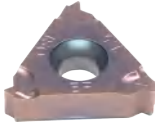

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice							
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605
	WNMG080404-MS	12.7	4.76	5.16	0.4				●	▲	▲	●	●
	WNMG080408-MS	12.7	4.76	5.16	0.8				●	▲	▲	●	●
	WNMG080408-TC	12.7	4.76	5.16	0.8	▲	▲	▲					
	WNMG080404-TM	12.7	4.76	5.16	0.4	▲	▲	▲					
	WNMG080408-TM	12.7	4.76	5.16	0.8	▲	▲	▲					
	WNMG080412-TM	12.7	4.76	5.16	1.2	▲	▲	▲					
	WNMG080404-YF	12.7	4.76	5.16	0.4				●	▲	▲	●	●
	WNMG080408-OPM	12.7	4.76	5.16	0.8	▲	▲	▲					
	WNMG080408-PF	12.7	4.76	5.16	0.8	▲	▲	▲					
	WNMG080404L-S	12.7	4.76	5.16	0.4	▲	▲	▲	●	▲	▲	●	●
	WNMG080408L-S	12.7	4.76	5.16	0.8	▲	▲	▲	●	▲	▲	●	●
	WNMG080404R-S	12.7	4.76	5.16	0.4	▲	▲	▲	●	▲	▲	●	●
	WNMG080408R-S	12.7	4.76	5.16	0.8	▲	▲	▲	●	▲	▲	●	●





▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order



## ● 螺纹刀

产品 Inserts Shape	型号 Type	尺寸 Dimensions ( mm )				可选牌号 Grade for Choice							
		ØI.C	厚度 T	内孔 Φd	刀尖 圆角 Re	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605
	16ER1.5	9.525	3.52	4	1.5				●	▲	▲	●	●
	16IR1.5	9.525	3.52	4	1.5				●	▲	▲	●	●

## ● 槽刀

产品 Inserts Shape	型号 Type	尺寸 Dimensions ( mm )			可选牌号 Grade for Choice							
		L	b	刀尖 圆角 Re	CVD涂层			PVD涂层				
					CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	CD1605
	MGMN300-M	21	3	0.4				●	▲	▲	●	●
	MGMN400-M	21	4	0.4				●	▲	▲	●	●
	MGMN200-G	16	2	0.2				●	▲	▲	●	●
	MGMN250-G	18.5	2.5	0.2				●	▲	▲	●	●
	MGMN200-H	16	2	0.2				●	▲	▲	●	●
	MGMN300-H	21	3	0.4				●	▲	▲	●	●
	MGMN400-H	21	4	0.4				●	▲	▲	●	●
	MGMN500-H	26	5	0.3				●	▲	▲	●	●
	MGMN200-T	16	2	0.2				●	▲	▲	●	●
	MGMN300-T	21	3	0.4				●	▲	▲	●	●
	MGMN400-T	21	4	0.4				●	▲	▲	●	●
	MGGN300-JM	21	3	0.4				●	▲	▲	●	●

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order

## 车削加工常见问题及解决方案

Common Problems and Solutions in Turning

常见问题 Main problem		选择条件 Selection condition	刀具材料选择 Selection of Tool material		切削条件 Cutting Condition		
			硬度更高的材料 Material with higher hardness	韧性好的材料 material with good toughness	切削速度 cutting speed	进给 Feeding	
刀尖磨损过大 Too much wear for the knifepoint	加工中精度超标 Machining accuracy beyond standard	后刀面磨损增大 Flank wear increases	√				
表面精度恶化 Surface accuracy deterioration	表面质量差 Poor surface quality	切削条件不适合 Cutting condition is not suitable			↓		
		刀具磨损增大、刀刃不够锋利 Tool wear increases and the blade is not sharp enough	√		↓		
		切削刃缺损 Cutting edge defect		√		↓	
		切削刃几何形状不合适 Cutting edge geometry is not appropriate					
		切削条件不合适 Cutting condition is not suitable				↑	↓
发热 Fever	切削热的影响 Cutting heat effect	振动、发颤 Vibration and tremble		√	↑↓	↓	
		积屑瘤 built-up edge				↑	
尺寸精度差 Poor dimensional accuracy	加工中尺寸波动 Dimension fluctuation in machining	切削条件不合适 Cutting condition is not suitable			↓		
		切削刃几何形状不合适 Cutting edge geometry is not appropriate	√				
刀具切削刃损伤 Cutting edge damage	后刀面、前刀面磨损增大 Wear increases on the back and front knife surfaces	刀片精度不合适 The blade accuracy is not suitable				↑	
		工件、刀具位置偏移 Work tool offset				↑	
	微崩 Minor Tipping	后刀面磨损 The front edge wears	√		↓		
		前刀面磨损 The back edge wears	√		↓	↓	
	积屑瘤 Built-up edge	热龟裂 Thermal cracking	振动、冲击 Vibration and impact		√		↓
			工件硬度与刀具切削条件不适合 The hardness of the tool material is not suitable for cutting condition				↑
工件材料的硬度与刀具材料和切削条件不适合 The hardness of the tool material is not suitable for cutting condition					↓	↓	
在断续切削大进给时发生 Occurs when intermittent cutting in large feeding			√			↓	↓
刀具寿命 Life time of tools	材料、切削条件不合适 Tool material is not suitable for cutting condition		√			↓	
切屑控制 Cutting control	长切屑缠绕 long cutting chips, widening	切削条件不合适 Cutting condition is not suitable			↓	↑	
		刀刃几何形状不合适 Cutting edge geometry is not appropriate					
毛刺、塌边 Burr, Collapse	切屑太短，导致飞溅 Short cutting chips, causing splash	切削条件不合适 Cutting condition is not suitable				↓	
		刀刃几何形状不合适 Cutting edge geometry is not appropriate					
	钢、铝，产生毛刺 Steel and aluminum, burrs	切削条件不合适 Cutting condition is not suitable			↑	↓	
		刀具磨损、几何形状不合适 Cutting tool wears and Cutting edge geometry is not appropriate	√				
铸铁，塌边 Cast iron, collapse	切削条件不合适 Cutting condition is not suitable			↓	↑		
	刀具磨损、几何形状不合适 Cutting tool wears and Cutting edge geometry is not appropriate	√					
软钢，毛边 Mild steel, burrs	切削条件不合适 Cutting condition is not suitable				↓		
	刀具磨损、几何形状不合适 Cutting tool wears and Cutting edge geometry is not appropriate	√					

切削条件 Cutting Condition		刀具形状 Shape of tool						机床装夹 Machine tool clamping			
切深 cutting depth	切削液 Cutting fluid	改变刀片槽型 change the groove of the blade	前角 front angle	刀尖圆弧半径 corner radius	主偏角 cutting edge angle	切削刃强度 cutting edge strength	提高刀片精度 Improve blade accuracy	提高刀具刚性 improve blade rigidity	工件刀柄装夹 Workpiece holder clamping	刀柄悬伸 Tool holder overhanging	动力、机床间隙 Power machine clearance
				↑			√				
	√		↑	↑		↓			√	√	√
↓		√		↑		↑					
↓	√			↑		↓	√				
↓	√	√	↑	↓	↑	↓			√	√	√
	√	√	↑			↓	√				
		√	↑			↓					
			↑			↓					
		√	↑	↓	↑			√	√	√	√
↑	√										
		√		↓	↑						
↓	√										
	√			↑	↓	↓					
	√					↓					
↓		√	√	↓	↓	↓					
		√	↑	↑		↑		√	√	√	√



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## 铣削刀片牌号一览表

Recommended Grade Table for Milling Inserts

工件材料 Workpiece materials	ISO使用 ISO USE	涂层 Coating	
		PVD	CVD
P 钢件 Steel	P10		
	P20	CD1405	
	P30	CD1405S	
	P40		
M 不锈钢 Stainless Steel	M10		
	M20	CD1405	
	M30	CD1405S	
	M40		
K 铸铁 Cast Iron	K10		
	K20	CD1405	
	K30	CD1405S	
	K40		
N 有色金属 Non-Ferrous Metal	N10		
	N20		
	N30		
	N40		
S 钛合金 耐热合金 Titanium Alloy Heat Resisting Alloy	S10		
	S20		
	S30		
	S40		
H 高硬度 材料 High Strength Material	H10		
	H20		
	H30		
	H40		

牌号	涂层方式	外观颜色	应用推荐	ISO
CD1405	PVD	灰黑色	抗变形能力极好的基体材料搭配通用性很强的PVD涂层,应用于不锈钢普通车削表现突出,同时满足钢件、铸铁的通用加工,具有一定耐磨性的同时兼顾韧性,特别适合于轻断续加工。	P15~P30 M15~M30 K15~K30
CD1405S	PVD	灰黑色	具有高韧性、高硬度的双高升级版基体搭配创新型的高性能涂层工艺,应用于不锈钢车削、切槽切断的首选牌号,在强断续加工方面表现优异,也能满足钢件、铸铁的中低速切槽、切断要求。	P15~P30 M15~M30 K15~K30
CD1505	PVD	古铜色	超细硬质合金基体搭配含Si纳米涂层,具有优异的耐磨性和抗氧化性,应用于钢件硬料、不锈钢连续加工工况有着优秀的表现。	M15~M30
CD1505S	PVD	古铜色	具有高韧性、高硬度的双高升级版基体搭配精准独特的涂层材料配方,涂层细腻光滑无液滴,具有摩擦系数小、硬度高等优点,加工硬度范围达HRC60,在不锈钢稳定连续车削工况具备超强的使用性能。	M15~M30



# 普通铣削刀片型号命名规则

Naming Rules of Milling Inserts

刀片形状/代号 Blade shape/code				
A 85°	B 82°	C 90°	D 55°	E 75°
H 120°	K 85°	L 90°	M 66°	O 135°
P 108°	R 360°	S 90°	T 60°	T 75°
V 35°	W 80°	Z 其他		
形状代号 Blade shape/code				

公制 Metric system							
代号	有无孔	有无断屑槽	刀片剖面	代号	有无孔	有无断屑槽	刀片剖面
B	有	无		N	无	无	
H	有	单面		R	无	单面	
C	有	无		F	无	双面	
J	有	双面		A	有	无	
W	有	无		M	有	单面	
T	有	单面		G	有	双面	
Q	有	无		X	--	--	特殊
U	有	双面					
断屑槽及夹固形式 Chip breaking groove and clamping form							



主切削刃后角 Main cutting edge relief angle			
代号	后角(度)	代号	后角(度)
A	3°	B	5°
C	7°	D	15°
E	20°	F	25°
G	30°	N	0°
P	11°	O	其他后角

公差 Tolerance										
代号	刀尖高度m公差 (mm)	内切圆 $\phi$ .C公差 (mm)	厚度S, 公差 (mm)	(参考)M级精度详细情况 (按形状、大小分)						
				● 刀尖高度公差 (mm)						
				内切圆	正三角形	正方形	80°菱形	55°菱形	35°菱形	圆形
A	±0.005	±0.025	±0.025	6.35	±0.08	±0.08	±0.08	±0.11	±0.16	--
F	±0.005	±0.013	±0.025	9.525	±0.08	±0.08	±0.08	±0.11	±0.16	--
C	±0.013	±0.025	±0.025	12.7	±0.13	±0.13	±0.13	±0.15	--	--
H	±0.013	±0.013	±0.025	15.875	±0.15	±0.15	±0.15	±0.18	--	--
E	±0.025	±0.025	±0.025	19.05	±0.15	±0.15	±0.15	±0.18	--	--
G	±0.025	±0.025	±0.13	25.4	--	±0.18	--	--	--	--
J	±0.005	±0.05-±0.13	±0.025	● 内切圆 $\phi$ .C公差 (mm)						
K	±0.013	±0.05-±0.13	±0.025	内切圆	正三角形	正方形	80°菱形	55°菱形	35°菱形	圆形
L	±0.025	±0.05-±0.13	±0.025	6.35	±0.05	±0.05	±0.05	±0.05	±0.05	--
M	±0.08-±0.08	±0.05-±0.13	±0.13	9.525	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05
N	±0.08-±0.08	±0.05-±0.13	±0.025	12.7	±0.08	±0.08	±0.08	±0.08	--	±0.08
U	±0.08-±0.08	±0.08-±0.25	±0.13	15.875	±0.10	±0.10	±0.10	±0.10	--	±0.10
				19.05	±0.10	±0.10	±0.10	±0.10	--	±0.10
				25.4	--	±0.13	--	--	--	±0.13

刀片形状 Shape of blades							
内切圆直径 (mm)	C	D	R	S	T	V	W
3.97					06		
5.0			05				
5.56					09		
6.0			06				
6.35	06	07			11	11	
8.0			08				
9.525	09	11	09	09	16	16	06
10.0			10				
12.0			12				
12.7	12	15	12	12	22	22	08
15.875	16	19	15	15	27		
16.0			16				
19.05	19		19	19	33		
20.0			20				
25.0	25	25	25				
25.4			25	25			
31.75			31				
32			32				
切削刃长度 Length of cutting edge							

刀片厚度 Thickness of blades	
代号	刀片厚度 (mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.58
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.56
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70




修光刃 Smoothing edge	
代号	后角(度)
A	45°
D	60°
E	75°
F	85°
P	90°
Z	其他

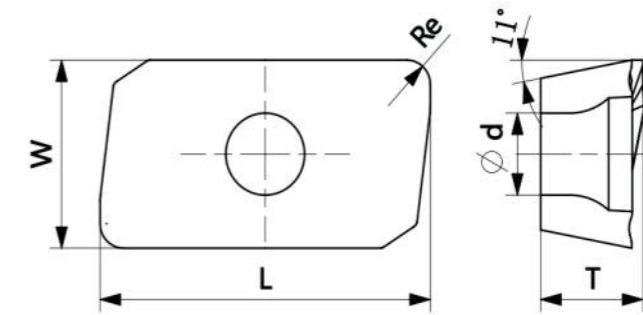
切削刃倒棱 (mm) Chamfering cutting edge	
代号	后角(度)
A	3°
B	5°
C	7°
D	15°
E	20°
G	30°
N	0°
P	11°
Z	其他


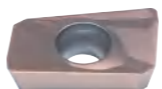

断屑槽型代号	
R	右
L	左
N	双向

断屑槽型代号	
R	右
L	左
N	双向

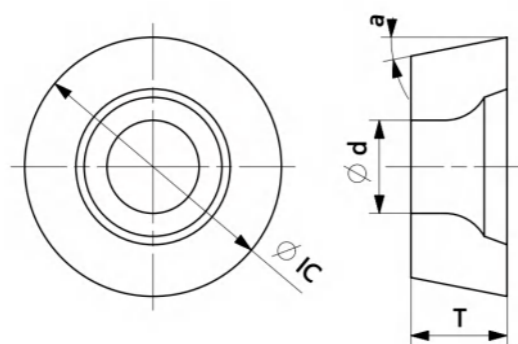
产品 Inserts Shape	型号 Type	尺寸 Dimensions ( mm )				可选牌号 Grade for Choice							
		L	T	Φd	Re	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	
	4NKT060308R-M	6.6	4.61	3.33	0.8					●	▲	▲	●




▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order



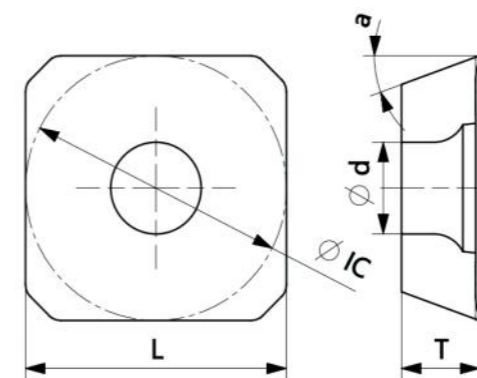
产品 Inserts Shape	型号 Type	尺寸 Dimensions ( mm )					可选牌号 Grade for Choice							
		L	W	T	Φd	Re	CVD涂层			PVD涂层				
							CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	
	APMT1135PDER-DL	11.26	6.2	3.5	2.8	0.8					●	▲	▲	●
	APMT1604PDER-DL	17.35	9.27	5.35	4.4	0.8					●	▲	▲	●
	APMT1135PDER-H2	11.26	6.2	3.5	2.8	0.8					●	▲	▲	●
	APMT1604PDER-H2	17.25	9.27	4.76	4.4	0.8					●	▲	▲	●
	APMT1135PDER-M2	11.32	6.2	3.5	2.8	0.8					●	▲	▲	●
	APMT1604PDER-M2	17.25	9.27	4.76	4.4	0.8					●	▲	▲	●


▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order



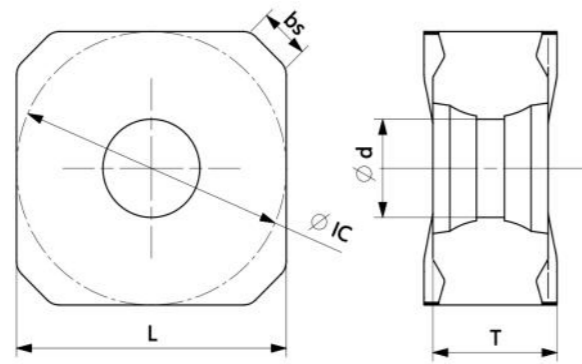
产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice						
		ØI.C	T	Φd	a	CVD涂层			PVD涂层			
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S
	RDMW1204MOT-A57	12	4.76	4.4	15°				●	▲	▲	●
	RPMT1204MO	12	4.76	4.4	14°				●	▲	▲	●
	RPMW1003MO	10	3.18	4.6	12.5°				●	▲	▲	●


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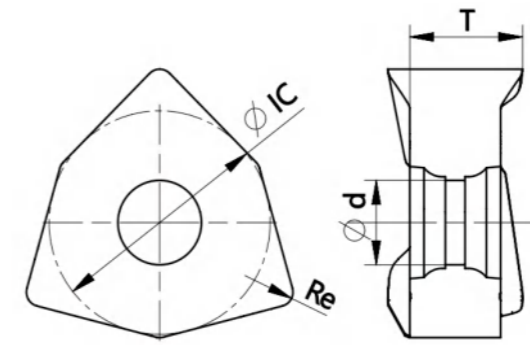
产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)					可选牌号 Grade for Choice						
		L	ØI.C	T	Φd	a	CVD涂层			PVD涂层			
							CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S
	SEKR1203	12.7	12.7	3.3	2.5	20°				●	▲	▲	●


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产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice							
		L	ØI.C	T	Φd	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	
	SNMU1206ANEN-GM	12.7	12.7	5.85	5.85				●	▲	▲	●	

▲为主推荐牌号Recommended grade(Always stock available) ●按订单生产可选牌号Maker-to-order



产品 Inserts Shape	型号 Type	尺寸 Dimensions (mm)				可选牌号 Grade for Choice							
		ØI.C	T	Φd	Re	CVD涂层			PVD涂层				
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S	
	WNMU080608EN-GM	14	6.65	6.2	0.8				●	▲	▲	●	

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## 铣削加工常见问题及解决方案

Common Problems and Solutions in Milling

常见问题 Main problem		选择条件 Selection condition	刀具材料选择 Selection of Tool material		切削条件 Cutting Condition			
			硬度更高的材料 Material with higher hardness	韧性好的材料 Material with good toughness	切削速度 cutting speed	进给 feeding	切深 cutting depth	改变铣刀直径与宽度 Change diameter and width of milling tools
刀尖的损伤 Knifepoint Damage	后刀面磨损 Flank wear	切削条件不合适 Cutting condition is not suitable			↓			
		切削刃几何形状不合适 Cutting edge geometry is not appropriate	✓					
	前刀面磨损大 Front edge wear	切削条件不合适 Cutting condition is not suitable			↓	↓	↓	
		切削刃几何形状不合适 Cutting edge geometry is not appropriate	✓					
	切削刃破损 Cutting edge wear	切削条件不合适 Cutting condition is not suitable				↓	↓	
		切削刃几何形状不合适 Cutting edge geometry is not appropriate		✓				
	热冲击破损 Thermal shock damage	切削条件不合适 Cutting condition is not suitable			↓	↓	↓	
		切削刃几何形状不合适 Cutting edge geometry is not appropriate						
积屑瘤粘结 Built-up Edge Bonding	切削条件不合适 Cutting condition is not suitable			↑	↑			
	切削刃几何形状不合适 Cutting edge geometry is not appropriate							
加工精度 Machining Precision	表面粗糙度大 Surface roughness	刀具磨损铣刀振动大 Tool wear, milling vibration	✓		↑	↓	↓	
	产生毛刺 Burr	切削条件不合适 Cutting condition is not suitable			↓	↓	↓	✓
		切削刃几何形状不合适 Cutting edge geometry is not appropriate						
	产生塌边 Collapse	切削条件不合适 Cutting condition is not suitable				↓	↓	
		切削刃几何形状不合适 Cutting edge geometry is not appropriate						
平面度平行度恶化 Flatness and parallelism deterioration	切削刃几何形状不合适 Cutting edge geometry is not appropriate				↓	↓		
振动大 Vibration	切削条件工艺不合适 Cutting condition is not suitable			↓	↓	↓	✓	
其他 Others	切屑缠绕堵塞 Cutting Wound Blocking	切削条件不合适 Cutting condition is not suitable			↑	↑↓		✓
		切削刃几何形状不合适 Cutting edge geometry is not appropriate						

切削液 Cutting fluid	前角 Front angle	主偏角 cutting edge angle	切削刃强度 cutting edge strength	齿数 number of teeth	增大容屑空间 Increase chip-hold space	刀具形状 Shape of tool			机床装夹 Machine tool clamping			
						检查副刀切削刃几何形状 Check geometry of auxiliary cutting edge	检查端面跳动 Checking end-face runout	提高刀具刚性 Improve blade rigidity	工件刀柄装夹 Workpiece holder clamping	刀柄悬伸 Tool holder overhanging	动力、机床间隙 Power machine clearance	
✓												
	↑		↓									
✓												
	↑	↓	↓									
		↓	↑			✓	✓	✓	✓	✓	✓	✓
✓												
	↑		↓									
✓			↓			✓	✓					
	↑	↑	↓			✓						
	↑	↓	↓	↑		✓		✓				
	↑	↑		↓		✓	✓	✓	✓	✓	✓	✓
	↑	↑	↓				✓	✓	✓	✓	✓	✓
✓				↓								
	↑			↓	✓							

# 钻削刀片

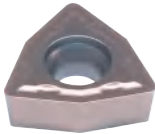
Drilling Tools



孔加工刀片.....40

## 孔加工刀片

Hole drilling Inserts

产品 Inserts Shape	型号 Type	尺寸 Dimensions ( mm )				可选牌号 Grade for Choice						
		ØI.C	T	Φd	Re	CVD涂层			PVD涂层			
						CD2110	CD2210	CD2310	CD1405	CD1405S	CD1405	CD1505S
	WCMX030208FN	5.62	2.38	2.9	0.8				●	▲	▲	●
	WCMX040208FN	6.5	2.38	3.1	0.8				●	▲	▲	●
	WCMX050308FN	7.97	3.2	3.38	0.8				●	▲	▲	●
	WCMX06T308FN	9.525	3.97	3.97	0.8				●	▲	▲	●
	WCMX080412FN	12.7	4.76	4.4	1.2				●	▲	▲	●

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