



矢志不渝 追求完美

中机融耀切削刀具

ZHONGJI RONGYAO CATALOG



2026-03



矢志不渝 追求完美

Passionate pursuit of perfection

设计理念：应用为大 效率至上

Design Concept: Application comes and Efficiency first

从应用出发，注重用户体验，提高用户生产效率，坚持原创设计，为客户量身定制解决方案及提供整包加工方案。

Starting from application, pay great attention to user experience, focus on improving productivity, persist in originality, design appropriate product for users, provide customized and comprehensive cutting solution for customers.

品质定位：高品质和稳定性

Quality Orientation: High quality

精益求精，制造性能及质量稳定性上媲美欧美日韩的产品，为客户取得更大的经济效益。

Perfecting constantly, provide product with performance and stability comparable to the standard of Europe, America, Japan or South Korea for customers.

制造精神：精品

Manufacturing Spirit: Boutique

坚持工匠精神，精雕细琢，采用现代化管理手段，注重产品的每一个细节，保证每件作品质量及稳定性。

Persist in craftsman spirit, work with meticulousness and precision, pay great attention on details, adopt modern methods of management to guarantee the quality of each product.

销售策略：互利互惠

Sales Strategy: Mutual benefit

互利互惠，提高用户生产效率，降低生产成本，帮助用户提高市场竞争力和产品质量，为经销商提供富有竞争力的产品，取代进口产品。

Based on mutual benefit, minimize production cost and improve productivity, help user improve product quality and competitiveness.

服务原则：量身定制 持续改进 技术服务 合作共赢

Service principles: Tailored customization, continuous improvement, technical service

走技术服务路线，提供完整刀具设计及应用方案，提高生产效率及产品质量，降低成本。

Persist in technology-as-a-service, help customer select appropriate product, provide cutting solution and parameters, improve productivity and product quality, and lower production cost.





矢志不渝 追求完美



材质命名法则

Grades naming conventions

被加工材料 Machined material

- 1 : 钢件 Steel
- 2 : 不锈钢 Stainless steel
- 3 : 铸铁 Iron casting
- 6 : 钛合金及高温合金
Titanium alloy and Super alloy
- 7 : 有色金属及铝合金
Aluminum alloys

C: CRM 品牌
brand



C



P

2

6

母材 ISO 代码
Base material ISO code



3

0

XX-XX



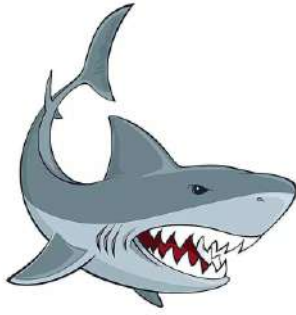
P: PVD
 C: CVD
 W: 硬质合金
 T: 金属陶瓷



涂层内部代码
 Factory Coating
 Internal Code



行业定制
 Customization



银鲨系列材质介绍 Silver Shark Grades

抗冲击强，耐磨性好

通用性极强，高温合金，不锈钢，钛合金，钢通用加工

Impact-resistant and wear-resistant.

Universal applicability, Superalloys, Stainless steel,

Titanium alloys, Steel processing

CP26xxTN ★★



替代:

三菱 Mitsubishi VP15TF

特固克 Taegutec TT9080,8080

山高 SECO MS2050, CP500, MP3000

伊斯卡 Iscar IC908, IC3028



-Nb 超级抗粘层

-Nb Super anti adhesive layer

AlTi+X 超级耐磨层 Hmax 4.0um

AlTi+X Super wear-resistant layer

Hmax 4.0mm



涂层硬度等级分成五种

The coating hardness is divided into five levels.

★ - ★★, ★★ ★★



被加工材料的代码及颜色标识:

Code and color identification of processed materials:

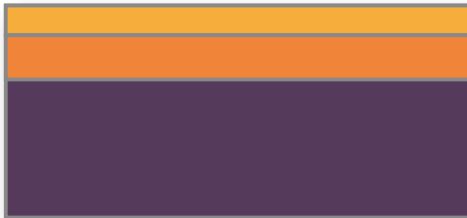
不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N
●	●	○	○			

赤金系列材质介绍 Bronze Grades

耐磨性极好，高温合金，不锈钢，钛合金精加工及半精加工首选
 Excellent wear resistance, preferred for
 finishing and Semi-finishing
 Superalloys, Stainless steel, and Titanium alloys



CP61xxMS
 CP62xxMS



超级耐磨层 TiSi+X
 TiSi+X Super wear-resistant layer
 AlTi 耐磨层
 wear-resistant layer

替代：
 山高 SECO MP2050

涂层硬度等级分成五种

The coating hardness is divided into five levels.



被加工材料的代码及颜色标识：
 Code and color identification of processed materials:

不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N
●	●	●	●	●		



玄煌系列材质介绍 Profound King Grades

耐磨性极好，高温合金，不锈钢，钢，铸铁 **粗加工之王**

Excellent wear resistance, preferred for Rough processing

Superalloys, stainless steel, Steel, Cast iron

替代 Replace :

CC26XXTM



瓦尔特 Warter: 金虎 WPPXXG

三菱 Mitsubishi : MC70XX

CC32XXGT

球铁专用 Ductile iron



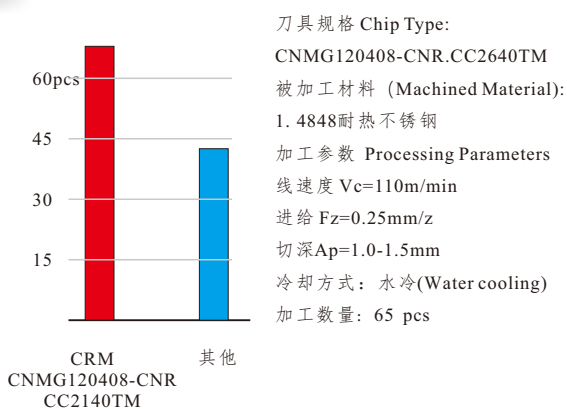
住友 Sumitomo: XCU2500

XCK2000

山高 SECO T60M



超级耐磨层 ALTIN
ALTIN Super wear-resistant layer



被加工材料的代码及颜色标识:
Code and color identification of processed materials:

涂层硬度等级分成五种
The coating hardness is divided into five levels.



不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N
●		●	●		●	

钛克系列材质介绍 Tec Grades



耐磨性极好，钛合金加工首选

Excellent wear resistance, preferred for Rough processing

Titanium alloys

让钛合金加工如此容易

Titanium Processing So Easy

CC61xxFSU

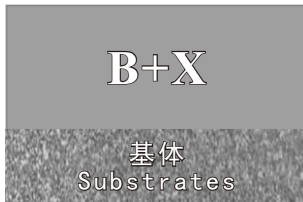
S1



替代 Replace :

森拉天时CERATIZIT

CTC5240

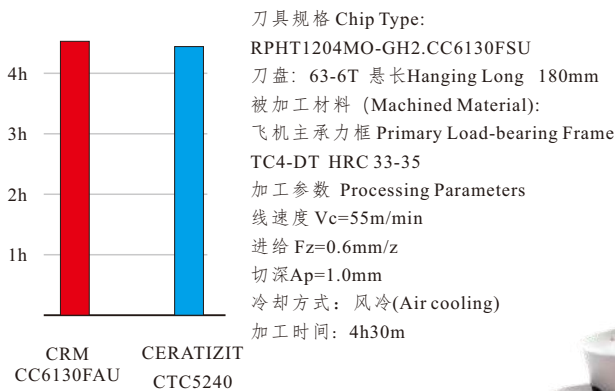


超级耐磨层 B+X

B+X Super wear-resistant layer

针对钛合金加工专用基体

For special substrates machined from titanium alloys



被加工材料的代码及颜色标识:

Code and color identification of processed materials:

涂层硬度等级分成五种

The coating hardness is divided into five levels.



不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N
	●					

格拉默系列材质介绍 Gram Grades

耐磨性极好，钢件及球墨铸铁 **铣削**通用加工 首选

Excellent wear resistance,

The preferred choice for general machining of

Steel parts and ductile iron milling



CP15xxGT

铣削 Milling

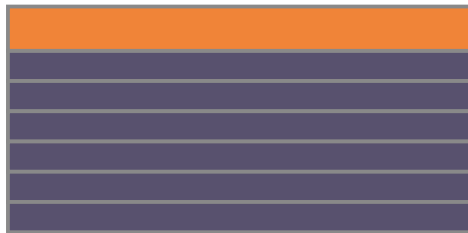


替代 Replace :

Kyocera: PR17xx, PR15xx



灰口铸铁除外
Except for gray cast iron

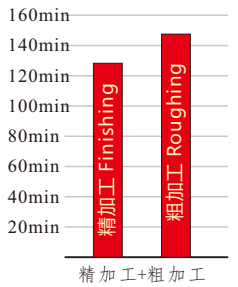


超级耐磨层 TiSi+X

TiSi+X Super wear-resistant layer

AlCr+X 复合纳米耐磨层

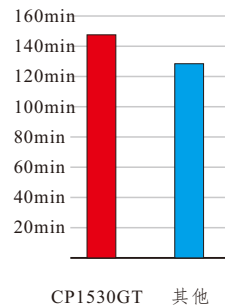
AlCr+X wear-resistant layer



CP1530GT 其他
Number of processed pieces



刀具规格 Chip Type:
XNHU080608TR-W.CP1530GT
刀盘 63-5T
被加工材料 (Machined Material):
Q235 ASTMA36 精加工使用后再做粗加工
Perform rough machining after fine machining
精加工加工参数 Finishing
线速度 Vc=316m/min
进给 F=600mm/min
切深Ap=0.2mm
切宽Ae=40mm
粗加工加工参数 Roughing
线速度 Vc=277m/min
进给 F=2100mm/min
切深Ap=3.0mm
切宽Ae=40mm
冷却方式: 风冷(Air cooling)



CP1530GT 其他

刀具规格 Chip Type:
APMT1135PDER-H2, 刀杆 D17
被加工材料 (Machined Material):
h13 (HRC48~)
加工参数
线速度 Vc=117m/min
进给 Fz=0.23mm/z
切深Ap=0.15mm
切宽Ae=12.75mm
冷却方式: 风冷(Air cooling)



CP15XXGT

被加工材料的代码及颜色标识:

Code and color identification of processed materials:

不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N
		●	●	●	●	

涂层硬度等级分成五种

The coating hardness is divided into five levels.



刀具选择要点 Key points for selecting cutting tools

一. 了解的客户加工需求 Understand the customer's processing requirements:

被加工材料 Processed material	对被加工的金属材料的力学性能必须了解， 主要参数：强度，韧性，硬度及塑性，含碳量C。 The mechanical properties of the processed metal materials must be understood, Main parameters: strength, toughness, hardness, and plasticity, carbon content C.
加工类别及状况 Processing category	加工类别见下附表，加工状况是指连续加工，不规则加工，断续加工。 The processing categories are shown in the table below. The processing conditions refer to continuous processing, irregular processing, and intermittent processing.
加工参数 Machining Parameter	加工三要素：1. 线速度Vc m/min 2. 切深 Ap mm 3. 每齿进给f mm/t 另外铣削还有一个参数切宽Ae mm Processing three essential elements: 1. Cutting speed Vc m/min 2. Depth of cut Ap mm 3. Feed per tooth f mm/t Additionally, milling has another parameter: width of cut Ae mm
产品图纸 Product drawings	通过加工了解加工类别及特性 Understanding the categories and characteristics of processing through processing.
目前使用刀片型号及照片 Currently used blade model and photo	了解客户目前使用的刀片型号规格， 使用状况，如寿命，失效模式 Understand the current blade model specifications used by the customer, usage conditions, such as lifespan and failure modes.

二. 根据图纸及客户要求选择加工类别:

1. 铣削加工: 平面  方肩  仿形  其他 

plane Square shoulder Profiling Other

2. 车削加工: 外圆  端面  内孔  槽  螺纹  钻孔 

Excircle Processing Facing Processing Inner-hole Processing Slot Processing Thread Processing Drilling

3. 镗孔: 粗镗 -- 精镗
Rough boring cutter machining Fine boring cutter machining



★ 三. 首先选择槽型，刃口的锋利程度对应被加工材料:

First, select the Chip breaker. The sharpness of the cutting edge corresponds to the material being processed.

 刃口非常锋利 Very Sharp	 刃口锋利 Sharp	 刃口较强壮 Stronger	 刃口强壮 very Stronger
1. 钛合金 Titanium alloy; 2. 兼容高温合金及不锈钢; Compatible with Super alloys and Stainless Steel 3. 铝合金 Aluminum alloy	1. 高温合金 Super alloys ; 2. 加工不锈钢 Stainless Steel	1. 钢 Stainless Steel; 2. 兼容加工球墨铸铁; Compatible with Nodular cast iron;	1. 铸铁 Cast Iron; 2. 兼容加工钢; Compatible with Steel

车削加工根据切深选择

被加工材料的代码及颜色标识:

Code and color identification of processed materials:

不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N
		●	●	●	●	

★ 四.然后选择材质:

Then select the Grades:

适合 Suitable :

1. 机床及夹具刚性差, 断续加工;
The machine tool and fixture have poor rigidity, leading to intermittent machining.
2. 大切深, 大进给的粗加工;
Deep cutting, high feed rough machining;
3. 钢制刀杆伸出较短 $L/D \geq 3$
Steel tool holder with a short extension $L/D \geq 3$

刀片槽型标注: 锋利等级四种

Blade Slot Labeling: Four Sharpness Levels

涂层硬度等级分成五种

The coating hardness is divided into five levels. ★ - ★★★★★

母材硬度等级: 从硬到软 ISOK05-K50

Base material hardness levels: from hard to soft ISOK05-K50

关于切削加工中的被加工材料:

金属材料是大家加工比较困惑的问题, 我们需要关心哪些重要信息呢?

了解材料牌号成分解读出以下参数:

最重要的两个: 1.含碳量 C% 2.金属中除铁 (Fe) 外合金含量比例。

其他还需要关心材料的强度, 韧性, 硬度及塑性等力学性能。

难加工材料的共性:

1. 含碳量C: 越低越难加工, 特别是低于0.1%C;高于0.2%C建议使用CVD涂层的刀片高速 $V_c > 150\text{m/min}$ 加工;
2. 合金含量: 添加的合金含量越高, 越难加工;
3. 硬度高难加工, 韧性高难加工, 最难加工就是硬度高韧性好的材料;
4. 特别需要关注含有钛Ti, 镍Ni, 铬Cr, 钼Mo, 铌Nb, 钨W, 钒V, 锰Mn, 硅Si这些金属材料都容易加工硬化, 硬化程度取决于变形量、加工温度和材料成分含量。

具体避免加工硬化的方法:

1. 降低加工中的线速度 V_c , 适当的增加进给量 F ;
2. 选择更加锋利的刀片, 降低切削阻力及热量产生;
3. 采用风冷或者油冷, 粗加工避免使用水冷。

About the workpiece materials in machining:

Metal materials are a common source of confusion in machining. What important information do we need to pay attention to?

Understanding the material grade composition to interpret the following parameters:

The two most important ones: 1. Carbon content C% 2. Alloy content ratio of metals other than Alloy (Except for Fe)

Additionally, we need to consider the mechanical properties of the material such as strength, toughness, hardness, and plasticity.

Common characteristics of difficult-to-machine materials:

1. Carbon content C: The lower the content, the more difficult it is to machine, especially below 0.1% C; for carbon content above 0.2% C, it is recommended to use CVD-coated tools for high-speed $V_c > 150\text{m/min}$ machining.
2. Alloy content: The higher the added alloy content, the more difficult it is to machine.
3. High hardness makes machining difficult, and high toughness also complicates machining.
The most difficult materials to machine are those that are both high in hardness and have good toughness.
4. Special attention should be paid to metals containing Ti, Ni, Cr, Mo, Nb, W, V, Mn, Si, as these materials are prone to work hardening.

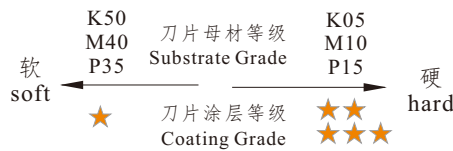
The degree of hardening depends on the amount of deformation, machining temperature, and material composition.

Specific methods to avoid work hardening:

1. Reduce the cutting speed V_c during machining and appropriately increase the feed rate F ;
2. Choose sharper tools to reduce cutting resistance and heat generation;
3. Use air cooling or oil cooling, and avoid using water cooling during rough machining.

适合 Suitable :

1. 机床及夹具刚性好, 工况比较好;
The machine tool and fixture have good rigidity and working conditions.
2. 小切深, 中小进给的半精及精加工;
Small depth of cut, medium to small feed rate for semi-finishing and finishing operations.
3. 钢制刀杆伸出较短 $L/D < 3$
Steel tool holder with a short extension $L/D < 3$



普通车削材质选用表 Grades for Turning



涂层性质 Coating	重点 推荐 proposed	涂层牌号 Coating grade	刀片 颜色 Colour	材质 特性 Material Properties	加工 特性 Processing characteristics	耐磨性 Wear Resistance	水 冷却 water cooling	不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steels	淬火钢 Quenched steel	铜、铝合金 Cu&Al- alloy	球墨铸铁 Nodular cast iron	灰口铸铁 Grey cast iron	
PVD Coating	※	CP2630TN CP2640TN CP2650TN		M S1 S2	粗加工 半精加工 Roughing Semi-Finishing	★★★		●	●	●						
	※	CP6105MS CP6110MS CP6130MS		M S1 S2 P H	精加工 Finishing	★★★★ ★★★★		●	●	●	●	●				
	※	CP6210MS CP6230MS		M S1 S2 P	半精加工 精加工 Semi-Finishing Finishing	★★★ ★★★		●	●	●	●	●				
		CP1110FH CP1130FH		M S1 S2 P H	精加工 Finishing	★★★★ ★★★★		●	●	●	●	●				
		CP1105TM CP1110TM 小零件加工 Small Parts Machining		M P	精加工 Finishing	★★★ ★★★		⊕	⊕		●		⊕			
		CP6210FAN 小零件加工 Small Parts Machining		M S1 N	超精加工 Super Finishing	★★★★ ★★★★		●	●				●			
硬质 合金 Carbide		CW05 CW10		N	粗加工 半精加工 Roughing Semi-Finishing	★★★ ★★★							●			
金属 陶瓷 Cement		CT20		P	精加工 Finishing	★★★ ★★★					●					
CVD Coating		CC2130TS CC2140TS		M S2 P	粗加工 半精加工 Roughing Semi-Finishing	★★★ ★★★		●		●	⊕					
	※	CC2630TM CC2640TM		M S2 P	粗加工 Roughing	★★★ ★★★		●		●	●			●		
		CC1125G1 CC1125G2 CC1135G1 CC1135G2		P K	粗加工 半精加工 Roughing Semi-Finishing	★★★★ ★★★★					●			●		
		CC3110G CC3210GT		K	粗加工 半精加工 Roughing Semi-Finishing	★★★★ ★★★★								●	●	

● : 工况好加工 Good working condition ⊖ : 工况较差加工 under poor working conditions ⊕ : 工况很差加工 Poor working condition

★ 软 soft Insert coating grade ★★★★★ 硬 hard 母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft

被加工材料的代码及颜色标识:
Code and color identification of processed materials:

不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N

铣削材质选用表 Grades for Milling



涂层性质 Coating	重点 推荐 proposed	涂层牌号 Coating grade	刀片 颜色 Colour	材质 特性 Material Properties	耐磨性 Wear Resistance	加工 特性 Processing characteristics	水 冷却 water cooling	不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steels	淬火钢 Quenched steel	铜, 铝合金 Cu&Al-alloy	球墨铸铁 Nodular cast iron	灰口铸铁 Grey cast iron	
PVD Coating	※	CP1530GT CP1540GT CP1550GT			★★★	半精加工 精加工 Roughing Semi-Finishing										
	※	CP2630TN CP2640TN CP2650TN			★★★	粗加工 半精加工 Roughing Semi-Finishing										
	※	CP6110MS CP6130MS CP6140MS CP6150MS			★★★★ ★★★★	精加工 Finishing										
	※	CP6230MS CP6240MS CP6250MS			★★★★ ★★★	半精加工 精加工 Roughing Semi-Finishing										
		CP1110FH CP1130FH			★★★★ ★★★★	精加工 Finishing										
		CP3130HT			★★★★ ★★★★	粗加工 半精加工 Roughing Semi-Finishing										
硬质 合金 Carbide		CW10 CW20			★★★★ ★★★	粗加工 半精加工 Roughing Semi-Finishing										
CVD Coating		CC2140TS CC2150TS			★★★★ ★★★★	粗加工 半精加工 Roughing Semi-Finishing										
	※	CC2630TM CC2640TM CC2650TM CC3230GT			★★★★ ★★★★	粗加工 Roughing										

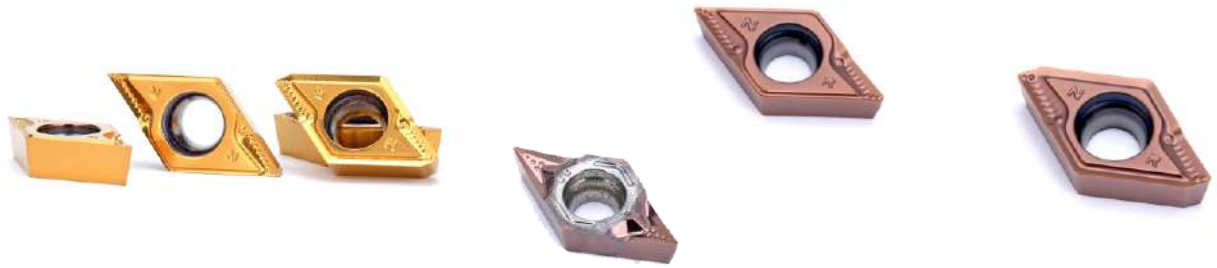
● : 工况好加工 Good working condition ◐ : 工况较差加工 under poor working conditions ⊕ : 工况很差加工 Poor working condition

★ 软 soft Insert coating grade ★★★★★ 硬 hard 母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft

被加工材料的代码及颜色标识:
Code and color identification of processed materials:

不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N

小零件车削材质选用表 Grades for small part turning



涂层性质 Coating	涂层牌号 Coating grade	刀片颜色 Colour	材质特性 Material Properties	加工特性 Processing characteristics	耐磨性 Wear Resistance	水冷却 water cooling	不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steels	淬火钢 Quenched steel	铜, 铝合金 Cu&Al alloy	对应其他品牌材质
PVD Coating	CP1110TM		M P	易车铁 1215 Quickly cut Steel	★★★								Kyocera: PR930 NTK: TM4,QM3,VM1 ANRO:PVD1,AP6510 Applitec:HTIN
	CP1130TM		M P	易车铁 1215 Quickly cut Steel 1215	★★★								Kyocera: PR930 NTK: TM4,ZM3,QM3,VM1 ANRO:PVD2,AC90C Applitec:TIN
	CP2610TN		M S1 S2 P	钢件 不锈钢 Steel Martensitic stainless steel	★★★								Kyocera: PR1705,
	CP2630TN		M S1 S2 P	钢件 不锈钢 Steel Martensitic stainless steel	★★★								Kyocera: PR1115, 1225 PR1535 NTK: ST4,DT4
	CP6110MS		M S1 S2	不锈钢 钛合金 高温合金 Stainless steel Titanium alloy Super alloy	★★★								Kyocera: NTK: DM4 ANRO:AT10 Applitec:HTAC
	CP6210MS CP6230MS		M S1 S2	不锈钢 钛合金 高温合金 Stainless steel Titanium alloy Super alloy	★★★								Kyocera: NTK: DM4 ANRO:AT20 Applitec:TAC
	CP6210FAN		M S1 N P	超精加工 Super Finishing	★★★★								Applitec:HTAX
	CP6230FAN		M S1 N P	超精加工 Super Finishing	★★★★								Applitec:TAX
硬质合金 Carbide	CW05 CW10 CW20		N	铝合金 红铜 纯金属 Aluminum alloy Pure copper Pure metal	★★★								Kyocera: KW10 NTK: KM1 ANRO:AK10,AK20 Applitec:K10.K20

● : 工况好加工 Good working condition ◐ : 工况较差加工 under poor working conditions ◑ : 工况很差加工 Poor working condition

★ 软 soft 刀片涂层等级 Insert coating grade ★★★★★ 硬 hard 母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft

被加工材料的代码及颜色标识:
Code and color identification of processed materials:

不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N

螺纹车削材质选用表 Grades for Thread Turning



涂层性质 Coating	涂层牌号 Coating grade	刀片颜色 Colour	材质特性 Material Properties	耐磨性 Wear Resistance	加工特性 Processing characteristics	水冷却 water cooling	不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steels	淬火钢 Quenched steel	铜, 铝合金 Cu&Al alloy	球墨铸铁 Nodular cast iron	灰口铸铁 Grey cast iron
PVD Coating	CP2630TN 通用 General		M S1 S2 P	★★★	⊕		⊕	⊕	⊕	⊕			⊕	⊕
	CP2430FS 外螺纹专用 External threads		M S1 P K	★★★	⊖		⊖	⊖	⊖	⊖	⊖		⊖	⊖
	CP1125 内螺纹专用 Internal thread		M S1 S2 P	★★★	⊖		⊖	⊖	⊖	⊖				
	CW20		N	★★★	⊕									⊕

● : 工况好加工 Good working condition ⊖ : 工况较差加工 under poor working conditions ⊕ : 工况很差加工 Poor working condition
 ★ 软 刀片涂层等级 ★★ ★★ 硬 母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft
 soft Insert coating grade hard

被加工材料的代码及颜色标识:
 Code and color identification of processed materials:

不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N

钻孔材质选用表 Grades for Drilling



涂层性质 Coating	涂层牌号 Coating grade	刀片颜色 Colour	材质特性 Material Properties	耐磨性 Wear Resistance	加工特性 Processing characteristics	水冷却 water cooling	不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steels	淬硬钢 Quenched steel	铜, 铝合金 Cu&Al-alloy	球墨铸铁 Nodular cast iron	灰口铸铁 Grey cast iron
PVD Coating	CP2630TN		M S S2 P	★★★	⊕		⊕	⊕	⊕	⊕			⊕	⊕
	CP2430FS		M S P K	★★★ ★	⊖		⊖	⊖	⊖	⊖	⊖		⊖	⊖
	CP8130 导条专用 guide bar		M S P	★★★ ★★★	⊖		⊖	⊖	⊖	⊖				

● : 工况好加工 Good working condition ⊖ : 工况较差加工 under poor working conditions ⊕ : 工况很差加工 Poor working condition

★ 软 刀片涂层等级 soft Insert coating grade ★★★★★ 硬 hard

母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft

中机融耀CRM与世界常用材质对照表
Zhongji RongYao CRM and World Common Material Comparison Table

一. 车削刀片材质对照表

Carbide Insert Grades Table for Turning

类别	中机牌号 CRM	特固克 Taegutec	克洛伊 Korloy	三菱 Mitsubishi	京瓷 kyocera	住友 Sumitomo	泰珂洛 Tungaloy	普拉米特 Pramet	山高 Seco	瓦尔特 Warter	肯纳 Kennametal	伊斯卡 Iscar	山特维克 Sandvik	
PVD涂层	P05	CP2605TN	TT4410	PC8105	MP9005		ACM100	AH8005	T8310	TH1000	WSM10S	KC5010	IC907	GC1105 9605
	M10	CP2610TN	TT3010	PC8110	MP9010		ACP100	AH6115						
	S10	CP6205MS CP6210MS												
	P25	CP2630TN	TT9080	PC8115	VP15TF	PR1225	AC530U	AH8115	T8330	CP500	WSM20S	KC5010	IC908	GC1125
	M30	CP6230MS	TT9020	PC5300	MP9015	PR1725	ACM200	AH725		TS2000		KC5025		
	S20		TT5080	PC9030	MT9015	PR1535	ACM300	AH6225		TS2050				
CVD涂层	P35	CP2640TN	TT9080	PC5400				AH645	T8345	CP600	WSM30S		IC328	GC2145
	M40	CP6240MS						AH6235		TS2500			IC3028	
	S30													
	P25	CC2130TS	TT9225		MC7025		XCU2500			T60M	WPP20G			
	M30	CC2630TM			MV2000		AC6030M							
	S20						AC630M							
CVD涂层	P35	CC2140TS	TT9235		MC7035		AC6040M				WPP30G			
	M40	CC2640TM												
	S30													
	P25	CC1125G1	TT8115B	NC3020	MC6015	CA5115	AC8015P	TT9115	T9315	TP1501	WPP10S	KCP10	IC8150	Gc4315
	K25	CC1125G2						TT9215			WPP10G			
	P35	CC1135G1	TT8125B	NC3030	MC6025	CA5125	AC8025P	TT9125	T9325	TP2501	WPP30S	KCP20	IC8250	GC4325
K40	CC1135G2				CR9025		TT9225			WPP30G				
CVD涂层	K10	CC3225GT			MV2000		XCK2000							
	K10	CC3110G	TT7005 TT7015	NC6010	UC5010	CA4010 CA4115		T5105 T5115	T5315	TK1501	KCK15B	KC9115 TN5015	IC5010	GC3015

小零件加工材质对照表请参见A013.

The material comparison table for small parts processing can be found in A012.

被加工材料的代码及颜色标识:

Code and color identification of processed materials:

不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N

二. 铣削刀片材质对照表

Carbide Insert Grades Table for Milling

类别	中机牌号 CRM	特固克 Taegutec	克洛伊 Korloy	三菱 Mitsubishi	京瓷 kyocera	住友 Sumitomo	泰珂洛 Tungaloy	普拉米特 Pramet	山高 Seco	瓦尔特 Warter	肯纳 Kennametal	伊斯卡 Iscar	山特维克 Sandvik	
PVD涂层	P25 M30 S25	CP2630TN CP6230MS	TT9080 TT8080	PC5300 PC3700	VP15TF MP9015 MT9015		ACM200 ACM300	AH725 SH725 AH8015	M8230	CP500 MP3000 F30M	WSM20S	KC5010 KC5025	IC908	GC1125
	P35 M40 S30	CP2640TN CP6240MS CP2650TN CP6250MS	TT9080	PC5335 PC5400 PC9540				AH3225 AH130	M8340	F40M MS2050 MP2050	WSM30S		IC328 IC3028	GC2145
	P25 M30 S25	CP1530GT				PR1535 PR1825								
	P25 M30 S25	CP1540GT CP1550GT				PR1535								
	H10 K10	CP1110FH	TT2510	PC2010 PC210F				AH710	M8310	MH1000				
	H25 K25	CP1130FH	TT6080	PC2010 PC210F				AH3225 AH130		F15K MK2050				
	P25 M30 S20	CC2130TS CC2630TM		NCM535	MC7025 MV1000 MV2000		XCU2500		M9325	MP2501 MS2500	WPP20G			
	P35 M40 S30	CC2140TS CC2640TM CC2650TM	TT3520 TT8525B		MC7035 MV3000				M9340	MP3501 MM4500 T60M				
	K30	CC3130G	CC7515	NC5330	UC5010	CA4010 CA4115		AH8015 AH120	M5325 M9315	TX100 MH1000		KC9115 TN5015	IC418	GC3015

中机融耀CRM与世界槽型材质对照表 Zhongji RongYao CRM and World Groove Material Comparison Table

一. 负角车削刀片槽型对照表

Negative Angle Turning Insert Chip breaker Table

类别	中机牌号 CRM	特固克 Taegutec	克洛伊 Korloy	三菱 Mitsubishi	京瓷 kyocera	住友 Sumitomo	泰珂洛 Tungaloy	普拉米特 Pramet	山高 Seco	瓦尔特 Warter	肯纳 Kennametal	伊斯卡 Iscar	山特维克 Sandvik
P	AU	FS	VL,VF	FJ	MQ,GU	SU,EF	HRF	NF	MF1	NF4	FP,FF	TF	QF
M		FG	VB	MS,FS	GP,DP		SF			MF5	FV	PF	PF
S1,S2		FT	VP2	LS	HQ		TSF				UF	SF	XF
P	CM	EA	MP	MA	HU	GU	SM	NM	MF2	NM4	MP	TF	MM
M		MK			MS		HRM		MF3	NR4	UP	PP	XM
S2		EM									MS	M3M	QM
P	CF	ML	TK	MJ	TK	SU	TSF		MF1				
M			VP2	MS					MF2				
S1,S2													
P	CNR	EA	MM	RS	MU		SDM	NMR	MF4	NM5	RP	MR	
M			RM				SH		M1	NRS	P	R3M	
S1,S2													
P	MR	MP	VM	MA	GP,DP	GU	TM	FM	M3,M5	NP5	MP	PP	PM
K		MT	HM	MH		GE	PM	M	MF5	MPS	MN	M3P	
		PC	MP	MP		FX							
P	RR	RT	GR	GM,GH	PT,HT	MU	TH	RM	R4,R5,R7	RP7	RH	GN	PR
K			VH	RP,HZ	GT	ME		NR	R8,R9	NRR	RM	R3P	
			GH,PX	HX,HV	PH	MX		DR	PR9		MM		

一. 正角及走心机精密车削刀片槽型对照表

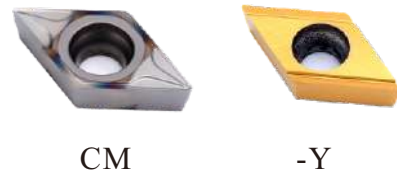
Chip breaker for Precision Turning Inserts in Swiss-Type Lathes

类别	中机牌号 CRM	京瓷 kyocera	NTK	安诺 Anno	阿比特 Applitec
M	CM	GF	AM3	EN-PM1	FN-X8
S2		GQ			ENP-X8
P		GK			
M	CF	HQ	YL	FN-ACB	FN-X17
S1,S2		VF			ENP-X17
P					EN-XF3
M	AL	CK	CL	FN-ALU	FN-X25
S1,S2		AH	1L		ENP-X25
P					
M	CNR		TML		
S1,S2					
P					
M	FR/L-S	F	KHG		
S1		P	K		
P					
M	FR/L-Y	Y	AT	-Y	-Y
S1				FR/L	FR/L
P					
M	FR/L-U	U	U	-U	-U
S1			UHG		
P					

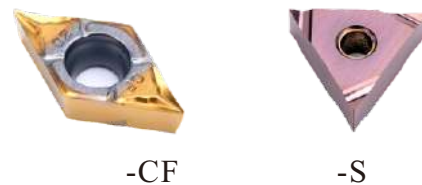
粗加工槽型 Roughing



半精加工槽型 Semi-Finishing



精加工槽型 Finishing



小零件加工材质对照表请参见A013.

The material comparison table for small parts processing can be found in A012.

刀具磨损的判断方法

- 看加工过程：如果加工过程中，冒连续的规则火花，说明刀具已经磨损，可根据刀具平均寿命及时换刀。
- 看铁屑颜色：铁屑颜色改变，说明加工温度已经改变，这个时候表示刀具开始磨损了。
- 看铁屑形状：铁屑两侧出现锯齿状，铁屑不正常卷曲，铁屑变得更细碎，
这些现象都是刀具磨损的判断依据。
- 看工件表面光亮变化：光亮度连续发生降低刀具已经磨损。
- 加工震动听声音变化：刀具磨损会切削产生阻力过大。要留意避免“扎刀”，造成工件报废。
- 观察机床负载数据变化：如有明显增量变化，说明刀具已经磨损。
- 观察工件边缘的毛刺变化：刀具切出时工件产生毛边严重，粗糙度下降。
- 观察工件尺寸变化：工件尺寸变化等等明显现象也是刀具磨损的判定标准。
- 刀具寿命表（以加工工件数量为依据）：一些高端装备制造业或者单品批量生产企业用它来指导生产，此方法适合加工工件昂贵的航空航天，汽轮机，汽车关键部件如发动机等生产企业。

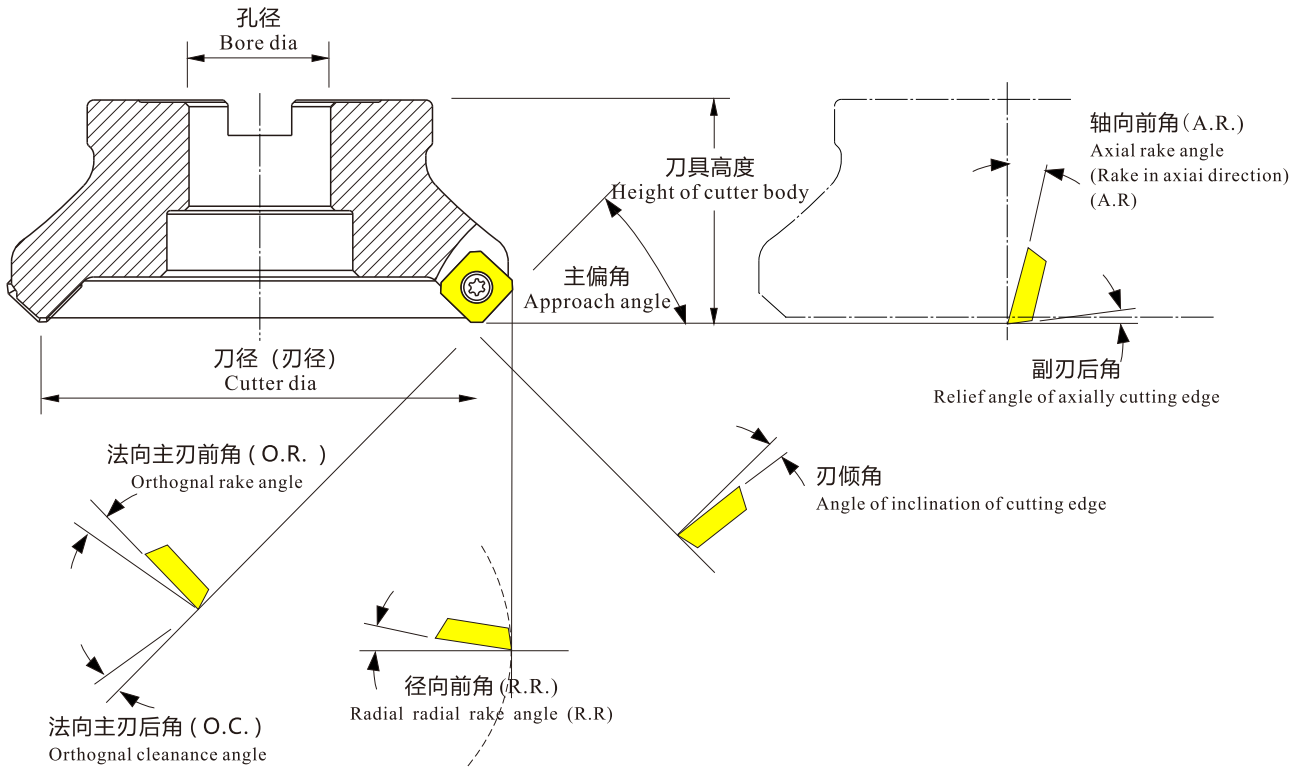
刀片的损坏形式及对策

<p>刀片崩刃</p> 	<ul style="list-style-type: none"> ☆ 降低进给量f_z; ☆ 减少切削深度; ☆ 选择韧性更好的材质等级; ☆ 选择更强壮的断屑槽; ☆ 选择一个较厚的刀片。 	<p>塑性变形</p> 	<ul style="list-style-type: none"> ☆ 使用冷却液; ☆ 减少切削深度A_p; ☆ 降低进给量f_z; ☆ 选择硬度更高的材质等级; ☆ 降低切削速度V_c;
<p>切削刃崩刃</p> 	<ul style="list-style-type: none"> ☆ 降低进给量f_z; ☆ 选择韧性更好的材质等级; ☆ 选择更强壮的断屑槽; ☆ 适当提高切削速度; ☆ 提高刀杆的刚性。 	<p>积屑瘤</p> 	<ul style="list-style-type: none"> ☆ 更改刀片涂层; ☆ 适当增加切削深度A_p; ☆ 增加进给量f_z; ☆ 改为油性冷却液; ☆ 选择切削更加轻快的断屑槽。
<p>后刀面磨损</p> 	<ul style="list-style-type: none"> ☆ 降低切削速度V_c; ☆ 适当增加进给量f_z; ☆ 选择耐磨性更好的材质等级; ☆ 检查刀杆的中心高,外圆刀杆中心高偏高,内孔刀杆偏低。 	<p>前刀片磨损 (月牙洼磨损)</p> 	<ul style="list-style-type: none"> ☆ 使用冷却液或增强冷却效果; ☆ 降低进给量f_z; ☆ 降低切削速度V_c; ☆ 选择耐磨性更好的材质等级; ☆ 改变断屑槽。
<p>震刀现象</p>	<ul style="list-style-type: none"> ☆ 增加刀具和工件及机床夹具的刚性; ☆ 减低切削速度V_c, 改变进给量f_z; ☆ 减少切削深度A_p; ☆ 选择一种切削更轻快的断屑槽; ☆ 选择更小的刀尖圆角; ☆ 使用油性冷却液。 	<p>加工小提示:</p> <ol style="list-style-type: none"> 1. 选择正确的加工刀片槽型及材质，没有最好的刀片只有最合适的; 2. 选用优质刀杆提高产品质量和生产效率，延长刀片寿命。 	

铣削刀具各部分的名称和刃尖角度的作用

Names of parts and roles for milling tools

铣削刀具各部分的名称 Name of parts of milling tool body



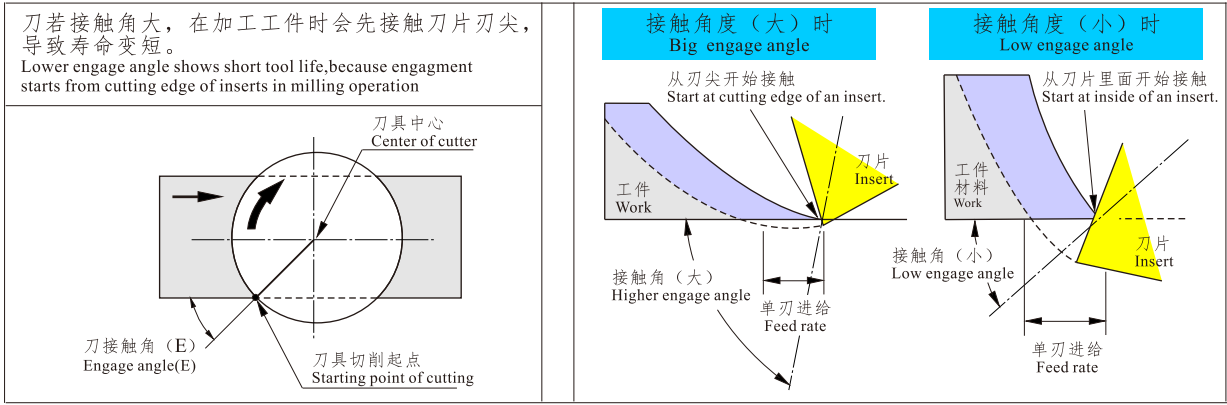
实际前角和切削性能 Relation between Orthogonal Rake and Performance

实际前角 True rake	锋利度 Sharpness	切削动力 Cutting power	刃尖强度 Toughness of cutting edge	发热 Heating	切屑排出性能 Chips ejectability	耐熔着性 Welding resistance
正(大) Positive(large)	好 Good	小 Small	弱 Weak	少 Low	差.有卷入刀具内的倾向. Bad.May be caught by cutter.	好 Good
负(小) Negative(small)	差 Bad	大 Large	强 Strong	多 High	好.切屑排出刀具外. Good.Ejected outside the cutter.	差 Bad

实际前角基本上由装在刀具上的刀片的后角决定，刀片的后角越大，实际前角也越大。

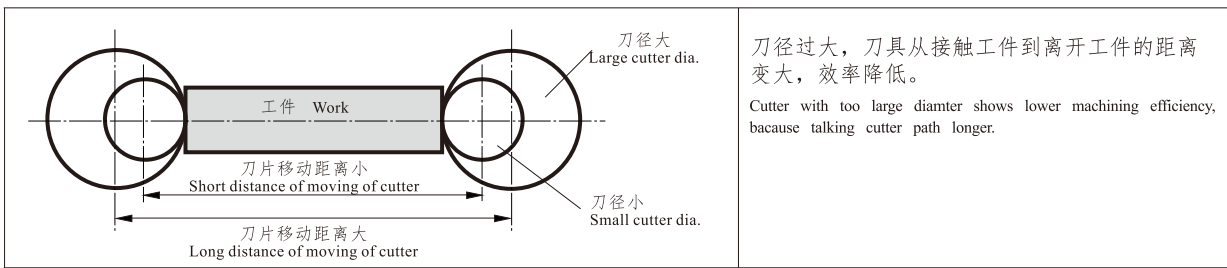
Effective rake angle is generally designed according to tolerance. If inserts are used, the larger the clearance of an insert is, the larger effective rake angle may be designed.

刀径和接触角 Cutter dia.and engage angle



*刀径比工件的宽度大30~50%左右可获得好的结果。
Cutter bodies are recommend with diameter 30-50% bigger than width of work pieces.

	(小) Small	← 小接触角(E) Engage angle(E) →	(大)* Large
	← 长 Long	寿命 Tool	→ 短 Short
刀径和接触角 Cutter diameter and engage angle.	刀径大 Large cutter dia.		刀径小 Small cutter dia.
刀具位置和接触角 Cutter position and engage angle.			

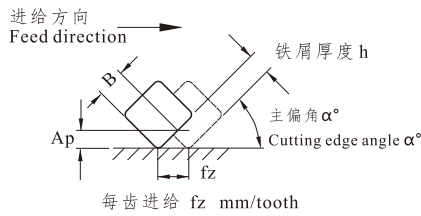


铣削刀具各部分的名称和刃尖角度的作用

Names of parts and roles for milling tools

主偏角 α° 与铁屑厚度 h 的关系(这就是快进给的原理)

The relationship between cutting edge angle and the thickness of iron filings (This is the principle of high feed)



$$\text{铁屑厚度 } h = f * \sin \alpha^\circ$$

$$\text{铁屑宽度 } B = \frac{A_p \text{ mm}}{\sin \alpha^\circ}$$

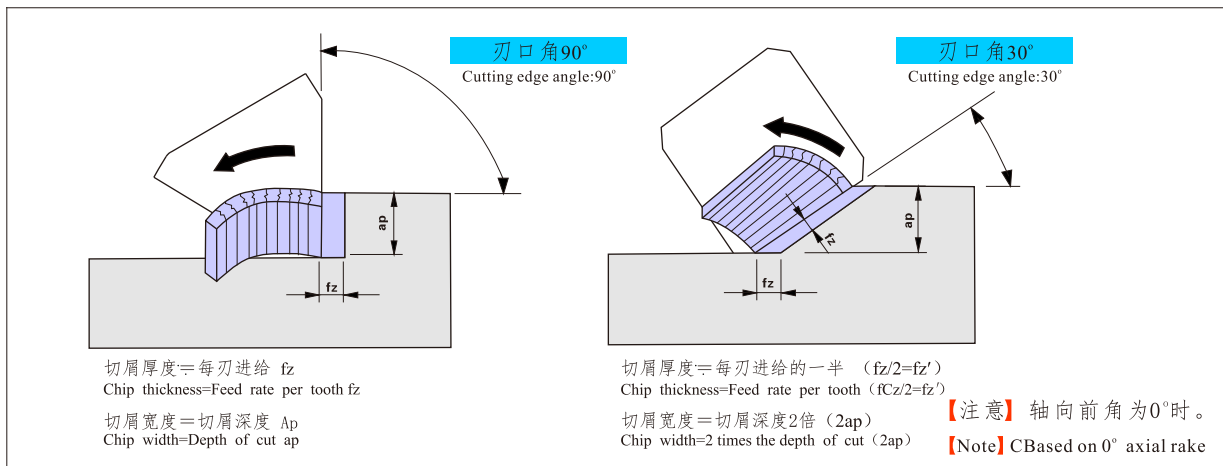
小贴士：快进给让铁屑变薄和变宽。

Tip: Fast forward to make the iron filings thinner and wider.

表中数据为铁屑厚度 h mm
The data in the table represents the thickness h of iron filings

主偏角 α° Cutting edge angle α°	每齿进给 f mm/tooth / h mm					
	0.3mm	0.5mm	0.8mm	1.0mm	1.5mm	2.0mm
10	0.05	0.09	0.14	0.18	0.27	0.28
13	0.07	0.11	0.18	0.22	0.34	0.44
15	0.08	0.13	0.21	0.26	0.39	0.52
30	0.15	0.25	0.4	0.50	0.75	1.00
45	0.21	0.36	0.57	0.72		
67	0.28	0.46	0.74			
90	0.30	0.50	0.80			

刃口角和切削性能 Relationship between cutting edge angle and performance.



刃口角和切削性能的变化 Relationship between cutting edge angle and performance.

切削性能因素 Cutting performance factor	大 Large ← Cutting edge angle → Small				
	90°	75°	65°	45°	30°
切削形状 Chips shape	厚而窄 Thick and narrow ← → Thin and broad				
切削厚度比较 Comparison of chips thickness	1	0.97	0.91	0.71	0.5
切削动力 Cutting power	小 Small ← (取决于接触工件的刃口长度) → Large Depends on the cutting edge length that contacts.				
刀片摩擦程度 Inserts abrasion	高 High ← (取决于刃口单位长度的切削厚度) → Low Depends on chips thickness per unit length of cutting edge				
颤动 Vibration	不易产生 Not likely ← (取决于由刃口长度决定的吃刀量的差异) → Likely Depends on bite per unit length of cutting edge.				
有效切削深度 Effective depth of cut	大 Large ← (刀片塌陷的差异) → Small Inserts falling difference				
振动 Vibration	易产生 Likely ← (作用在主轴上的侧向载荷的差异) → Not likely Difference in the load that is applied transversely against the spindle.				
工件上的向下压力 Work pressurizing force	小 Small ← (加工薄板时,若刃口角小则会导致工件颤动) → Large For thin plate, small cut-in angle causes work to chatter				
切屑排出 Chips flow	差 No good ← (侧向卷入) → 好 good Caught horizontally (向上排出) Ejected upward				

普通车削材质选用表 Material selection table for Turning

涂层性质 Coating	propos- ed	涂层牌号 Coating grade	刀片 颜色 Colour	材质 特性 Material Properties	耐磨性 Wear Resistance	加工 特性 Process ing charac- teris- tics	水 冷却 water cooling	不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steels	淬火钢 Quenched steel	铜, 铝合金 Cu&Al- alloy	球墨铸铁 Nodular cast iron	灰口铸铁 Grey cast iron
PVD Coating	※	CP2605TN CP2610TN CP2630TN CP2640TN		M S1 S2	★★★	☉		☉	☉	☉	☉				
	※	CP6105MS CP6110MS CP6130MS		M S1 S2 H	★★★ ★	☉		☉	☉	☉		☉			
	※	CP6210MS CP6230MS CP6240MS		M S1 S2 H	★★★ ★	☉		☉	☉	☉		☉			
硬质 合金 Carbide		CW05 CW10		N	★★★ ★	☉							☉		
金属 陶瓷 Cement		CT20		P	★★★ ★	☉					☉				
CVD Coating		CC2130TS CC2140TS		M S2	★★★ ★★★	☉		☉		☉	☉				
	※	CC2630TM CC2640TM		M S2 P	★★★ ★★★ ★★★	☉		☉		☉	☉				
	※	CC1125G1 CC1135G1		P	★★★ ★★★ ★★★	☉					☉		☉		
		CC1125G2 CC1135G2		P K	★★★ ★★★ ★★★	☉					☉		☉		
		CC3110 CC3110D		K	★★★ ★★★ ★★★	☉								☉	☉

☉ : 工况好加工 Good working condition ☉ : 工况较差加工 under poor working conditions ☉ : 工况很差加工 Poor working condition
 ★ 软 刀片涂层等级 ★★★★★ 硬 Hardness grade of substrate ★★★★★ hard
 ★ soft Insert coating grade ★★★★★ hard

被加工材料的代码及颜色标识:
 Code and color identification of processed materials:

不锈钢 Stainless steel	钛合金 Titanium alloy	高温合金 Superalloy	钢 Steel	淬火钢 Quenched steel	铸铁 Cast iron	有色金属 Nonferrous metals
M	S1	S2	P	H	K	N

-AU Turning insert

-半精加工及精加工车削刀片

Semi-finishing&Finishing

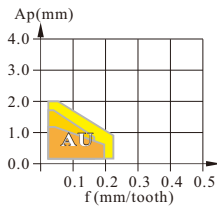
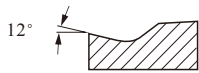
自主研发专利槽型

Patented



Features:

The performance of chip control is excellent for auto-operation requirements.



		PVD						CVD				加工参数 parameters	
		CP2610TN	CP2630TN	CP6105MS	CP6110MS	CP6210MS	CP6230MS	CC1125G1	CC1125G2	CC2610TM	CC2630TM	Vc (mm/min)	
		★★★	★★	★★★★	★★★	★★★★★	★★★	★★★	★★★	★★★			
工件材质	P 低碳钢加工 Steel C<0.3%	●						●	●	●	●	120-160-250	
	P 高碳合金钢加工 Steel C>0.3%	●						●	●	●	●	100-130-160	
	H 淬火钢加工 HRC40-55 Steel	●		●	●	●	●					50-80-120	
	H 淬火钢加工 HRC55-63 Steel			●		●						30-80	
	M 不锈钢 Stainless steel	●	✖	●	●	●	●			●	●	60-110-150	
	K 铸铁 Cast iron									●	●	80-180-220	
	S1 钛合金 Titanium alloy	●		●	●	●	●					50-60-70	
	S2 耐热合金 Superalloy	●	✖	●	●	●	●			●	●	25-35-70	
型号规格	用途										Ap(mm)	f (mm/ t)	
CNMG120404-AU	不锈钢 钛合金 高温合金 钢 镍基铸铁 Stainless steel Titanium alloy Superalloy Steel Ni-based -Cast iron										0.2-1.2	0.06-0.1	
CNMG120408-AU		0.8-2.0	0.1-0.2										
CNMG120412-AU		1.2-2.5	0.1-0.25										
DNMG150404-AU		0.2-1.0	0.05-0.08										
DNMG150408-AU		0.8-1.5	0.1-0.15										
DNMG150604-AU		0.2-1.0	0.05-0.08										
DNMG150608-AU		0.8-1.5	0.1-0.15										
TNMG160404-AU		0.2-1.0	0.05-0.08										
TNMG160408-AU		0.8-1.2	0.1-0.15										
TNMG160412-AU		1.2-1.5	0.1-0.2										
VNMG160404-AU		0.2-0.6	0.05-0.08										
VNMG160408-AU		0.2-0.8	0.05-0.12										
WNMG060404-AU		0.2-0.8	0.06-0.1										
WNMG060408-AU		0.8-1.2	0.1-0.15										
WNMG080404-AU		0.2-1.2	0.06-0.1										
WNMG080408-AU		0.8-1.5	0.1-0.2										
WNMG080412-AU		1.2-2.0	0.1-0.2										

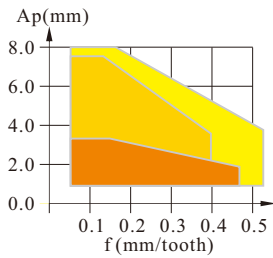
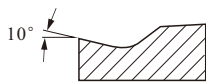
● : 工况好加工 Good working condition ● : 工况较差加工 under poor working conditions ✖ : 工况很差加工 Poor working condition

★ 软 soft 刀片涂层等级 Insert coating grade ★★★★★ 硬 hard 母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft

CNR Turning insert

-粗加工车削刀片 Roughing

自主研发专利槽型 Patented



		PVD				CVD				加工参数 parameters					
		CP2630TN	CP2640TN	CP6230MS	CP6240MS					CC2130TS	CC2140TS	CC2630TM	CC2640TM	Vc (mm/min)	
		★★	★★	★★★★	★★★★					★★★	★★★	★★★	★★★		
工件材料	P 低碳 Steel C<0.3%											✳	✳	180-220-250	
	P 高碳合金钢加工 Steel C>0.3%											✳	✳	120-160-220	
	H 淬火钢加工 HRC40-55 Steel													50-80-120	
	H 淬火钢加工 HRC55-63 Steel													30-80	
	M 不锈钢 Stainless steel	✳	✳	●	●					✳	✳	✳	✳	60-110-150	
	K 镍基铸铁 Nickel-based cast iron											✳		80-180-220	
	S1 钛合金 Titanium alloy	✳	✳	●	●					✳	✳	✳	✳	30-60-70	
	S2 耐热合金 Superalloy	✳	✳	●	●					✳	✳	✳	✳	35-70-100	
型号规格	用途													Ap(mm)	f (mm/t)
◆ TNGG160402-CNR	不锈钢 钛合金 高温合金 Stainless steel Titanium alloy Superalloy													0.5-1.0	0.1-0.2
TNMG160404-CNR														1.0-2.0	0.1-0.25
TNMG160408-CNR														1.0-2.5	0.2-0.3
TNMG160412-CNR														1.0-3.0	0.2-0.3
◆ CNMG120408-CNR			✳	✳	✳	●				●	●	✳	✳	1.2-4.0	0.2-0.4
CNMG120412-CNR														1.5-4.0	0.2-0.4
CNMG160608-CNR														1.2-5.0	0.2-0.5
CNMG160612-CNR														1.5-5.0	0.2-0.5
CNMG190608-CNR														1.2-7.0	0.2-0.6
CNMG190612-CNR														1.5-7.0	0.2-0.6
WNMG080408-CNR													1.2-3.5	0.2-0.4	
WNMG080412-CNR													1.5-3.5	0.2-0.4	

● : 工况好加工 Good working condition ● : 工况较差加工 under poor working conditions ✳ : 工况很差加工 Poor working condition
 ★ 软 soft 刀片涂层等级 Insert coating grade ★★★★★ 硬 hard 母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft

案例应用分享

▪ **零件:** 轴类
Workpiece Type of axle

▪ **材料:** #35钢
Materials #35 Steel

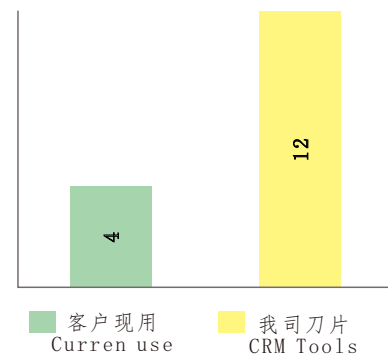
▪ **刀杆规格:** BCLNR3232P16
Holder

▪ **刀片型号:** CNMG160612-CNR. CC2640TM
Insert

▪ **切削条件**
Cutting condition
Vc=97 m/min
Fn=1.0 mm/rev
Ap=4.0 mm (D225-D195,加工4刀, Process with 4 times)
外圆粗加工
Roughing the Cylindrical
切削液外冷
External Fluid Cooling
卧式车床,连续加工
Horizontal Lathe, Continous Machining



单位: 件



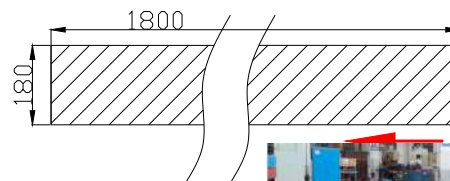
▪ **零件:** 轴类
Workpiece Type of axle

▪ **材料:** 1.4462 (双相不锈钢)
Materials Duplex stainless steel

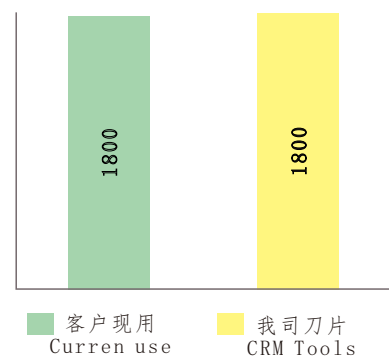
▪ **刀杆规格:** BCLNR3232P16
Holder

▪ **刀片型号:** CNMG160612-CNR. CC2640TM
Insert

▪ **切削条件**
Cutting condition
Vc=85 m/min
Fn=0.40 mm/rev
Ap=2.0 mm
外圆粗加工
Roughing the Cylindrical
切削液外冷
External Fluid Cooling
卧式数控车床,连续加工
Horizontal CNC lathe, Continous Machining



单位: 毫米



精密小零件加工

行业：3C行业，无人机及汽车零部件，航空航天，通信，医疗行业等

被加工材料：易车铁，不锈钢，高温合金，钛合金

加工类别：外圆及内孔加工，切槽及切断加工，螺纹及锯片铣刀应用



走心机机床特点：

精密走心机是微米级复杂零件的终极解决方案：

技术内核：导套刚性支撑 + 主轴箱移动架构实现
“以车代磨”精度。

效率革命：复合加工能力使原本 5道工序 的零件
在1次装夹中完成。

发展前沿：车铣磨复合+在线测量+数字孪生
正成为新一代机型标配。

走心机刀片选择关键词

切深 A_p 是刀片槽型选择的第一要素

根据工件形状确定刀片型号

根据加工类别及被加工材料选择匹配材质



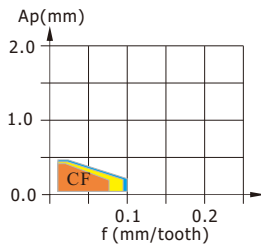
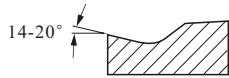
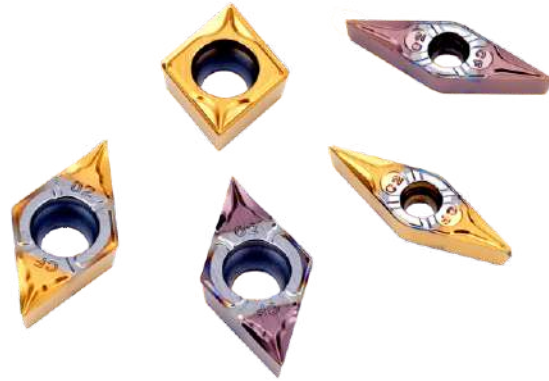
坚持工匠精神，精雕细琢，采用现代化管理手段，
注重产品的每一个细节，保证每件作品质量及稳定性。

Persist in craftsman spirit, work with meticulousness and precision, pay great attention on details,
Adopt modern methods of management to guarantee the quality of each product.

CF Turning insert

-超精加工车削刀片

自主研发专利槽型 Patented



工件材质	型号规格	用途	PVD							加工参数 parameters			
			CP1110TM	CP2610TN	CP2630TN	CP6110MS	CP6210MS	CP6230MS	CP6210FAN	Vc (mm/min)	f (mm/t)		
			★★	★★	★★	★★★★	★★★★	★★★★	★★★★				
P 低碳 Steel C<0.3% 1215			✱	✱	✱							120-160-250	
P 高碳合金钢加工 Steel C>0.3%				✱	✱	●	●	●				100-130-160	
H 淬火钢加工 HRC40-55 Steel						●	●					50-80-120	
M 不锈钢 Stainless steel			✱	✱	✱	●	●	●	●			60-110-150	
S1 钛合金 Titanium alloy			✱	✱	✱	●	●	●	●			50-60-70	
S2 耐热合金 Superalloy				✱	✱	●	●	●	○			25-35-70	
	型号规格	用途										Ap(mm)	f (mm/t)
	CCGT0602005-CF	钢 不锈钢 钛合金 高温合金										0.03-0.1	0.02-0.05
	CCGT060201-CF		0.03-0.15	0.03-0.06									
	CCGT060202-CF		0.03-0.3	0.03-0.07									
	CCGT060204-CF		0.05-0.5	0.04-0.1									
	CCGT09T301-CF		0.03-0.2	0.03-0.07									
	CCGT09T302-CF		0.03-0.4	0.03-0.08									
	CCGT09T304-CF		0.05-0.6	0.06-0.10									
	DCGT0702005-CF		0.03-0.1	0.02-0.05									
	DCGT070201-CF		0.03-0.15	0.03-0.06									
	DCGT070202-CF		0.03-0.3	0.03-0.07									
	DCGT070204-CF		0.05-0.5	0.04-0.1									
	DCGT11T3005-CF		0.03-0.1	0.02-0.05									
	DCGT11T301-CF		0.03-0.2	0.03-0.06									
	DCGT11T302-CF		0.03-0.4	0.03-0.08									
	DCGT11T304-CF		0.05-0.5	0.03-0.12									
▲ 非常利	TNGG1604005-CF		✱	✱	✱	●	●	●	●	0.03-0.15	0.03-0.06		
	TNGG160401-CF		Steel	0.03-0.25	0.03-0.08								
	TNGG160402-CF		Stainless steel	0.03-0.5	0.03-0.1								
	TNGG160404-CF		Titanium alloy	0.05-0.5	0.04-0.12								
	VBGT1103005-CF		Superalloy	0.03-0.1	0.02-0.05								
	VBGT110301-CF		0.03-0.2	0.03-0.06									
	VBGT110302-CF		0.03-0.4	0.03-0.07									
	VBGT110304-CF		0.05-0.5	0.04-0.1									
	VCGT1103005-CF		0.03-0.1	0.02-0.05									
	VCGT110301-CF		0.03-0.2	0.03-0.06									
	VCGT110302-CF		0.03-0.4	0.03-0.07									
	VCGT110304-CF		0.05-0.5	0.04-0.1									
	VPGT1103005-CF		0.03-0.1	0.02-0.05									
	VPGT110301-CF		0.03-0.2	0.03-0.06									
	VPGT110302-CF		0.03-0.4	0.03-0.07									
	VPGT110304-CF	0.05-0.5	0.04-0.1										

P-CF Turning insert

-超精加工车削刀片 自主研发专利槽型 Patented

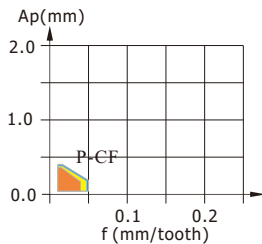
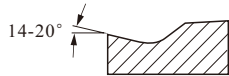
备注:

用于对粗糙度及精度要求高,
表面纹路清晰!

Text to be Translated

Remarks:

Used for high requirements on
roughness and precision,
with clear surface texture!

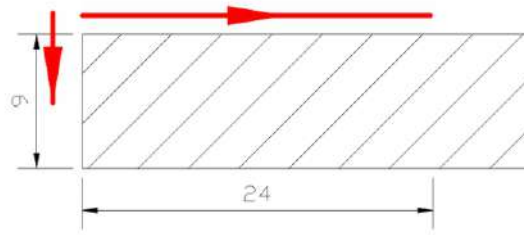


		PVD						加工参数 parameters	
		CPI110TM	CP2610TN	CP6110MS	CP6210MS	CP6230MS	CP6210FAN	Vc (mm/min)	
		★★	★★	★★★★	★★★★	★★★★	★★★★		
工件材料	P 低碳钢加工 Steel C<0.3% 1215,A3,20Mn	✖	⊗				●	120-160-250	
	P 高碳合金钢加工 Steel C>0.3%	✖	✖	●	●	●		100-130-160	
	H 淬火钢加工 HRC40-55 Steel							50-80-120	
	M 不锈钢 Stainless steel	✖	✖	●	●	●	●	60-110-150	
	S1 钛合金 Titanium alloy	⊗	✖	●	●	●	●	50-60-70	
	S2 耐热合金 Superalloy	✖	✖	●	●	●	○	25-35-70	
型号规格	用途							Ap(mm)	f (mm/t)
DCGT0702005P-CF	钢 不锈钢 钛合金 高温合金 Steel Stainless steel Titanium alloy Superalloy							0.03-0.1	0.02-0.05
DCGT070201P-CF								0.03-0.15	0.03-0.06
DCGT070202P-CF								0.03-0.1	0.02-0.05
DCGT11T3005P-CF								0.03-0.2	0.03-0.06
DCGT11T301P-CF								0.03-0.15	0.03-0.06
DCGT11T302P-CF								0.03-0.25	0.03-0.08
TNGG1604005P-CF								0.03-0.1	0.03-0.06
TNGG160401P-CF								0.03-0.2	0.03-0.07
TNGG160402P-CF								0.03-0.3	0.04-0.1
▲ 非常锋利 VBGT1103005P-CF								0.03-0.1	0.02-0.05
VBGT110301P-CF								0.03-0.2	0.03-0.06
VBGT110302P-CF								0.03-0.3	0.03-0.07
VCGT1103005P-CF								0.03-0.1	0.02-0.05
VCGT110301P-CF								0.03-0.2	0.03-0.06
VCGT110302P-CF								0.03-0.3	0.03-0.07
VPGT1103005P-CF								0.03-0.1	0.02-0.05
VPGT110301P-CF								0.03-0.2	0.03-0.06
VPGT110302P-CF								0.03-0.3	0.03-0.07

● : 工况好加工 Good working condition ⊗ : 工况较差加工 under poor working conditions ✖ : 工况很差加工 Poor working condition
★ 软 soft 刀片涂层等级 Insert coating grade ★★★★★ 硬 hard 母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft

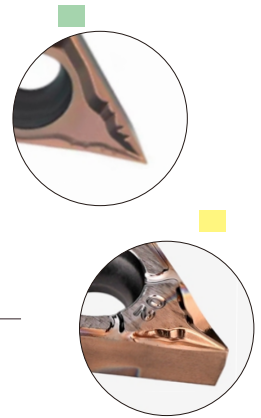
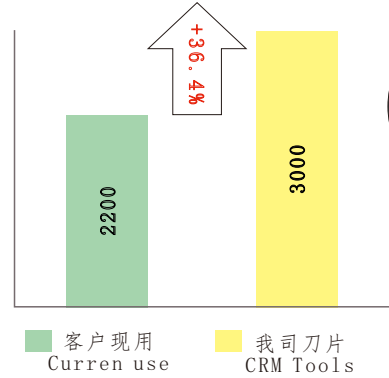
案例应用分享

- **零件:** 轴类
Workpiece Type of axle
- **材料:** SUS420 J2
Materials
- **刀杆规格:** SDJCR1212M11F
Holder
- **刀片型号:** DCGT11T302-CF. CP6230MS
Insert

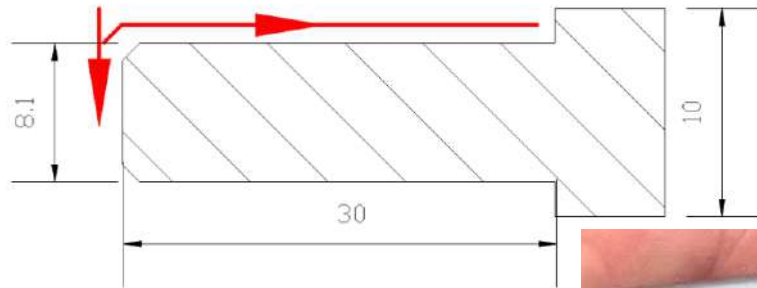


- **切削条件**
Cutting condition
- Vc=85 m/min
- Fn=0.05 mm/rev
- Ap=0.05 mm
- 端面+外圆精加工
Finishing the end face and Cylindrical
- 切削油外冷
External Oil Cooling
- 走芯机(Star), 连续加工
STAR Lathe, Continuous Machining

单位: 件 (pieces)

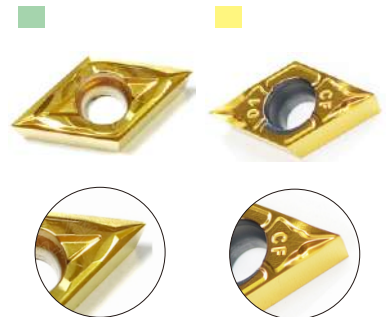
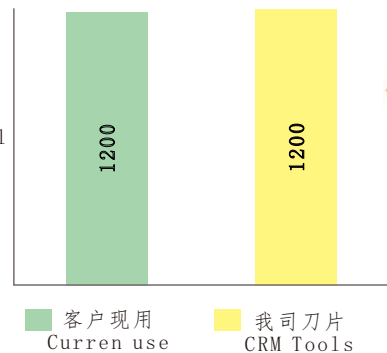


- **零件:** 轴类
Workpiece Type of axle
- **材料:** 1215易车铁
Materials AISI 1215
- **刀杆规格:** SDJCR1212M11F
Holder
- **刀片型号:** DCGT11T301P-CF. CP1110TM
Insert



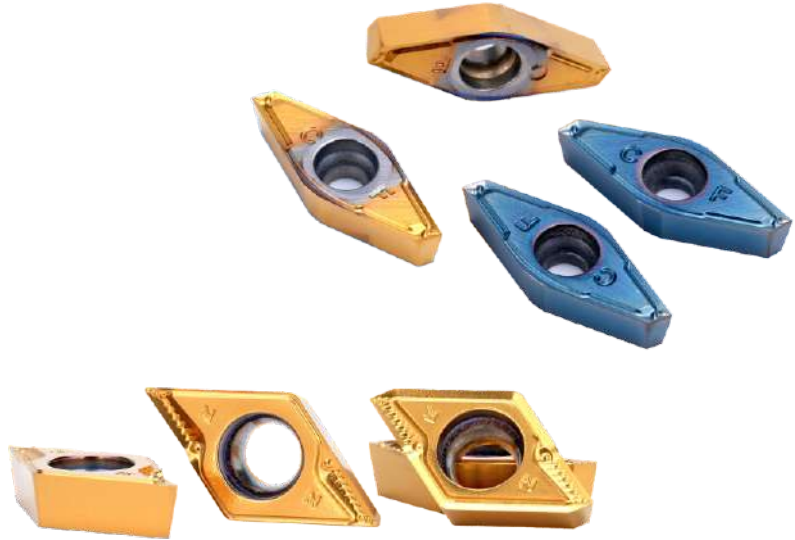
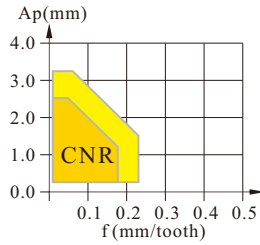
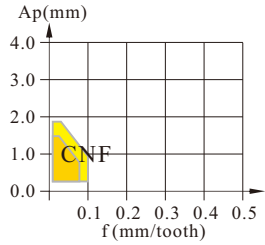
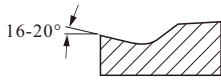
- **切削条件**
Cutting condition
- Vc=110 m/min
- Fn=0.035 mm/rev
- Ap=0.95 mm
- 端面+外圆精加工
Finishing the end face and Cylindrical
- 切削油外冷
External Oil Cooling
- (Tsugami),
Tsugami Lathe, Continuous Machining

单位: 件 (pieces)



CNR
CNF Turning insert

-精密级粗加工刀片 自主研发专利槽型 Patented

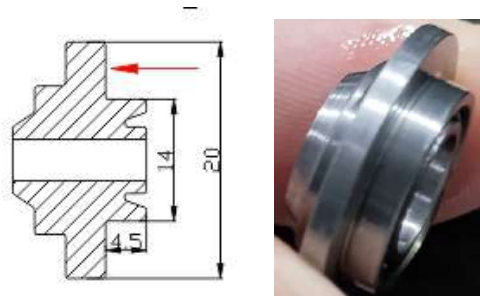


工件材质	P 低碳钢加工 Steel C<0.3% 1215,A3,20Mn P 高碳合金钢加工 Steel C>0.35% H 淬火钢加工 HRC40-55 Steel M 不锈钢 Stainless steel S1 钛合金 Titanium alloy S2 耐热合金 Superalloy	PVD						加工参数 parameters	
		CP1110TM	CP1130TM	CP2610TN	CP2630TN	CP6110MS	CP6230MS	Vc (mm/min)	
		★★	★★	★★	★★	★★★★	★★★		
外圆加工 Outer Diameter Machining	钢 不锈钢 钛合金 高温合金								
DCMT11T302-CNR							0.6-1.5	0.05-0.1	
★ DCMT11T304-CNR							0.8-2.0	0.05-0.15	
★ DCMT11T308-CNR							0.8-2.5	0.05-0.2	
XCMT11T302-CNR							0.8-1.5	0.05-0.1	
XCMT11T304-CNR							0.8-2.0	0.05-0.15	
★ DCGT11T302-CNR							0.6-1.5	0.05-0.1	
★ DCGT11T304-CNR							0.8-2.0	0.05-0.15	
★ DCGT11T308-CNR							0.8-2.5	0.05-0.2	
▲ XCGT11T302-CNR	Steel	★	★	★	●	●	0.8-1.5	0.05-0.1	
XCGT11T304-CNR	Stainless steel						0.8-2.0	0.05-0.15	
XCGT1103005R-CNF	Titanium alloy						0.02-0.3	0.03-0.08	
★ XCGT110301R-CNF	Superalloy	★					0.04-0.4	0.03-0.10	
XCGT1103015R-CNF							0.05-0.5	0.03-0.12	
内孔加工 Inner Hole Machining									
▲ XPGT1103005R-CNF							0.2-0.8	0.02-0.06	
▲ XPGT110301R-CNF							0.2-1.0	0.03-0.08	
XPGT1103015R-CNF							0.2-1.2	0.03-0.1	

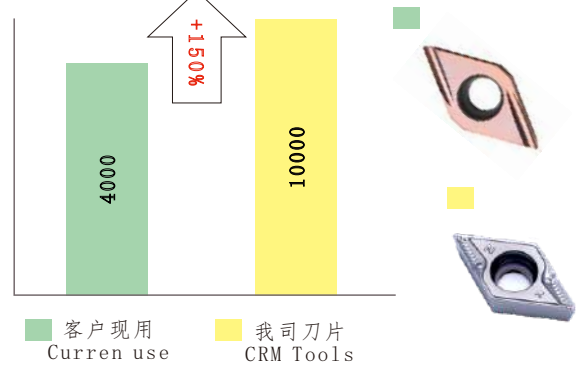
● : 工况好加工 Good working condition ● : 工况较差加工 under poor working conditions ⊕ : 工况很差加工 Poor working condition
★ 软 soft 刀片涂层等级 Insert coating grade ★★★★★ 硬 hard 母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft

案例应用分享

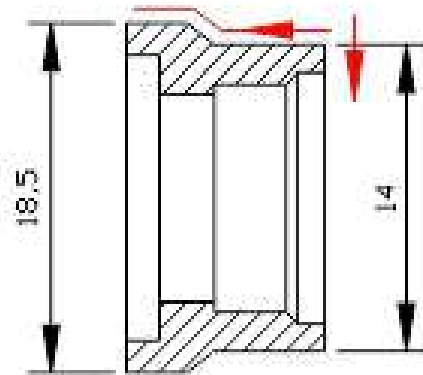
- **零件:** 汽车零部件
Workpiece Auto parts
- **材料:** 1215易车铁
Materials AISI 1215
- **刀杆规格:** SDJCR1212M11F
Holder
- **刀片型号:** DCMT11T302-CNR. CP2630TN
Insert
- **切削条件**
Cutting condition
Vc=138 m/min
Fn=0.08 mm/rev
Ap=3.0 mm 【客户The Curren use AP=1.0】
外圆粗加工
Roughing the Cylindrical
切削液外冷
External Fluid Cooling
走芯机(硕方), 连续加工
Lathe (SOWIN), Continuous Machining



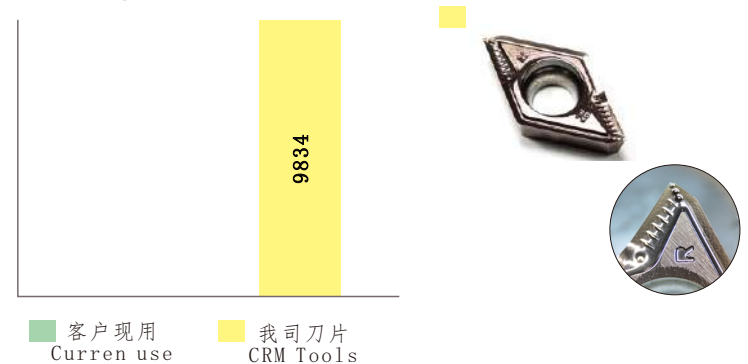
单位: 件 (pieces)



- **零件:** 管件类
Workpiece Pipe fittings
- **材料:** 06Cr19Ni10(sus304)
Materials
- **刀杆规格:** SDJCR1212M11F
Holder
- **刀片型号:** XCGT11T302-CNR. CP6230MS
Insert
- **切削条件**
Cutting condition
Vc=167 m/min
Fn=0.05 mm/rev
Ap=2.5 mm
端面+外圆精加工
Semi-Finishing the End face and Cylindrical
切削油外冷
External Oil Cooling
走芯机(津上B0205), 连续加工
Lathe (TSUGAMI B0205), Continuous Machining



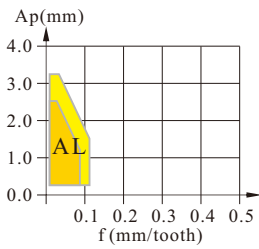
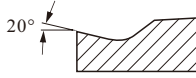
单位: 件 (pieces)



AL Turning insert

-精加工及半精加工车削刀片

Finishing & Semi-finishing



PVD							加工参数 parameters
CP1110TM	CP1130TM	CP2610TN	CP2630TN	CP6110MS	CP6230MS	CP6210FAN	
★★	★★	★★	★★	★★★★	★★★★	★★★★	Vc (mm/min)
							★★★

工件材质	描述	CP1110TM	CP1130TM	CP2610TN	CP2630TN	CP6110MS	CP6230MS	CP6210FAN	加工参数
P	低碳钢加工 Steel C<0.3%	✱	✱	✱	✱			●	120-160-250
P	高碳合金钢加工 Steel C>0.3%			✱	✱	●	●		100-130-160
M	不锈钢 Stainless steel	✱	✱	✱	✱	●	●	●	60-110-150
S1	钛合金 Titanium alloy	✱		✱		●	●	●	50-60-70
S2	耐热合金 Superalloy			✱	✱	●	●		25-35-70
N	有色金属 Nonferrous metal			✱				●	150-250-350

型号规格	用途	PVD							加工参数	
		CP1110TM	CP1130TM	CP2610TN	CP2630TN	CP6110MS	CP6230MS	CP6210FAN	Ap(mm) f (mm/t)	
CCGT0602005-AL	钢 不锈钢 钛合金 高温合金								0.03-0.1 0.02-0.10	
CCGT060201-AL									0.03-0.5 0.03-0.12	
CCGT060202-AL									0.03-0.8 0.03-0.15	
CCGT060204-AL									0.05-1.0 0.04-0.2	
CCGT09T301-AL									0.03-1.2 0.03-0.12	
CCGT09T302-AL									0.03-1.5 0.03-0.15	
CCGT09T304-AL									0.05-2.0 0.06-0.2	
DCGT0702005-AL									0.03-0.1 0.02-0.1	
DCGT070201-AL									0.03-0.5 0.03-0.12	
DCGT070202-AL									0.03-0.8 0.03-0.15	
DCGT070204-AL									0.05-1.0 0.04-0.2	
DCGT11T3005-AL									0.03-0.1 0.02-0.1	
DCGT11T301-AL									0.03-1.0 0.03-0.12	
DCGT11T302-AL									0.03-1.5 0.03-0.15	
DCGT11T304-AL									0.05-2.0 0.03-0.2	
TNGG1604005-AL			✱	✱	✱	✱	●	●	●	0.03-0.1 0.02-0.1
TNGG160401-AL		Steel								0.03-1.0 0.03-0.12
TNGG160402-AL		Stainless steel								0.03-1.5 0.03-0.15
TNGG160404-AL		Titanium alloy								0.05-2.0 0.03-0.2
VBGT1103005-AL		Superalloy								0.03-0.1 0.02-0.06
VBGT110301-AL									0.03-0.5 0.03-0.08	
VBGT110302-AL									0.03-0.8 0.03-0.10	
VBGT110304-AL									0.05-1.0 0.03-0.12	
VCGT1103005-AL									0.03-0.1 0.02-0.06	
VCGT110301-AL									0.03-0.5 0.03-0.08	
VCGT110302-AL									0.03-0.8 0.03-0.10	
VCGT110304-AL									0.05-1.0 0.03-0.12	
VPGT1103005-AL									0.03-0.1 0.02-0.06	
VPGT110301-AL									0.03-0.5 0.03-0.08	
VPGT110302-AL									0.03-0.8 0.03-0.10	
VPGT110304-AL									0.05-1.0 0.03-0.12	

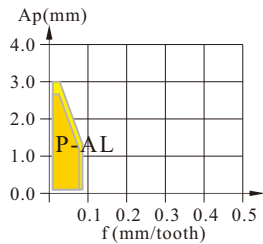
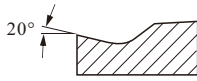
▲ 非常利

P-AL Turning insert

-超精加工车削刀片 自主研发专利槽型 Patented

备注:

用于对粗糙度及尺寸精度要求高,
表面纹路清晰!



PVD						加工参数 parameters
CP1110TM	CP1130TM	CP2610TN	CP2630TN	CP6110MS	CP6210FAN	
★★	★★	★★	★★	★★★★	★★★★	Vc (mm/min)

工件材质	描述	CP1110TM	CP1130TM	CP2610TN	CP2630TN	CP6110MS	CP6210FAN	Vc (mm/min)
P	低碳钢加工 Steel C<0.3% 1215,A3,20Mn	✱	✱	✱	✱		●	120-160-250
P	高碳合金钢加工 Steel C>0.35%	✱	✱	✱	✱	✱		100-130-160
H	淬火钢加工 HRC40-55 Steel					✱		50-80-120
M	不锈钢 Stainless steel	✱	✱	✱	✱	✱	●	60-110-150
S1	钛合金 Titanium alloy	✱	✱	✱	✱	✱	●	50-60-70
S2	耐热合金 Superalloy					✱	●	25-35-70

型号规格	用途	PVD						Ap(mm)	f (mm/t)
DCGT0702005P-AL	钢 不锈钢 钛合金 高温合金							0.03-0.1	0.02-0.1
DCGT070201P-AL		0.03-0.5	0.03-0.12						
DCGT070202P-AL		0.03-0.8	0.03-0.15						
DCGT11T3005P-AL		0.03-0.1	0.02-0.1						
DCGT11T301P-AL		0.03-1.0	0.03-0.12						
DCGT11T302P-AL		0.03-1.5	0.03-0.15						
TNGG1604005P-AL		0.03-0.1	0.02-0.1						
TNGG160401P-AL		0.03-1.0	0.03-0.12						
TNGG160402P-AL		✱	✱	✱	✱	✱	●	0.03-1.5	0.03-0.15
VBGT1103005P-AL		Steel						0.03-0.1	0.02-0.06
VBGT110301P-AL		Stainless steel						0.03-0.5	0.03-0.08
VBGT110302P-AL		Titanium alloy						0.03-0.8	0.03-0.10
VCGT1103005P-AL		Superalloy						0.03-0.1	0.02-0.06
VCGT110301P-AL								0.03-0.5	0.03-0.08
VCGT110302P-AL								0.03-0.8	0.03-0.10
VPGT1103005P-AL								0.03-0.1	0.02-0.06
VPGT110301P-AL							0.03-0.5	0.03-0.08	
VPGT110302P-AL							0.03-0.8	0.03-0.10	

● : 工况好加工 Good working condition ◐ : 工况较差加工 under poor working conditions ✱ : 工况很差加工 Poor working condition
 ★ 软 soft 刀片涂层等级 Insert coating grade ★★★★★ 硬 hard 母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft



矢志不渝 追求完美

高效平面加工

Efficient Surface Processing

“粗精加工”一次完成

F=1.5-2.5mm / rev
Ap max=4.0mm
Ra max=0.8um



01
精加工刀片
ONHU0605ANTN-W



02
CP5130
CC1035
刃口强壮



03
稳定性高



粗铣 (16个刃口)
数量根据机床功率安装
每转进给F=1.5-2.5mm

精铣 (8个刃口)
只需装夹一片

高效铸铁及钢平面加工

双面16刃口铣削刀片
ONHU0605ANTN-W(精加工)
ONMU0605ANTN(粗加工)



中机融施微信小程序

High efficiency and high finish plane processing

The rough finishing is finished at one time

Feed per revolution: 1.0-2.5mm

Stainless steel and superalloy: Ap=0.2-0.4mm

Cast iron: Ap=0.5-0.8mm

ONMU06 双面铣削刀片

ONMU06 milling insert

ONMU06 双面铣削刀片

H

ONMU06 milling insert



平面加工

创新精加工方式：

高效高光洁度平面加工

- 粗精采用一种刀盘
- 每转进给1.0-2.5mm
- 对称装2-3片精加工刀片+粗加工刀片；
- 不锈钢和高温合金：Ap=0.2-0.4mm
- 铸铁：Ap=0.5-0.8mm

High efficiency and high finish plane processing
 The rough finishing is finished at one time
Feed per revolution: 1.0-2.5mm
Stainless steel and superalloy: Ap=0.2-0.4mm
Cast iron: Ap=0.5-0.8mm



特点：

- 刃口强壮，耐磨性好，稳定性高，
- 切深Ap最大3.5mm，加工效率极高，粗糙度Ra min0.6；
- 性能超越进口同类顶级产品。

被加工对象：

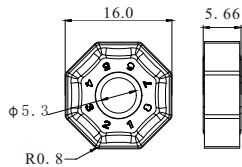
精加工首选，特别是汽车的铸铁缸体缸盖加工。

Feature:

- Strong blade, good wear resistance,
- high stability, Amax3.5mm, Roughness Ra min0.6；
- Performance exceed famous brand.

Application:

Preferred finish machining. Especially the cast iron cylinder block Cylinder head processing.



		PVD						CVD			加工参数 parameters		
		CP2630TN	CP2640TN	CP1530GT	CP1540GT	CP6230MS	CP6240MS	CP6130MS	CC2630TM	CC2640TM	CC2650TM	Vc (mm/min)	
		★★	★★	★★★★	★★★★	★★★★	★★★	★★★	★★★	★★★	★★★		
工件材质	P 钢件加工 Steel	✱	✱	✱	✱			☉	✱	✱		120-160-250	
	P 模具钢P20,718,SKD11,S136H	✱	✱	✱	✱			☉		✱		100-130-160	
	H 淬火钢加工 HRC40-55 Steel			✱	✱	☉		☉				50-80-120	
	H 淬火钢加工 HRC55-63 Steel							☉				30-80	
	M 不锈钢 Stainless steel	✱	✱			☉	☉	☉		✱	✱	60-110-150	
	K 铸铁 Cast iron			✱				☉	✱	✱		80-180-220	
	S1 钛合金 Titanium alloy	✱				☉	☉	☉				50-60-70	
	S2 耐热合金 Superalloy	✱	✱	☉	☉		☉	☉		✱	✱	25-35-70	
型号规格	用途										Ap(mm)	fz (mm/z)	
ONMU060508ANTN 强壮 strong	铸铁及钢件 Cast iron, Steel	✱	✱	✱	✱				✱	✱		0.3-3.5	0.1-0.8
ONMU060504ANFN 锋利 sharp	钛合金，不锈钢 Ti-steel, Titanium alloy	✱	✱			☉	☉					0.3-3.5	0.05-0.4
ONMU060508ANMN 锋利 sharp	不锈钢，高温合金 低碳钢 St-steel, Superalloy steel	✱	✱	✱	✱	☉	☉		✱	✱		0.3-3.5	0.05-0.4
ONHU0605ANTN-W-RA 带修光刃锋利 sharp	通用精加工 Finishing					☉	☉	☉	✱			0.1-0.8	1.0-2.5


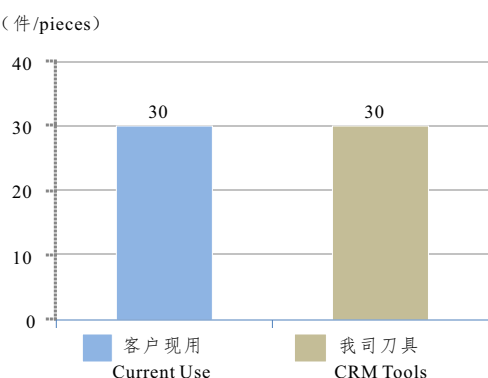
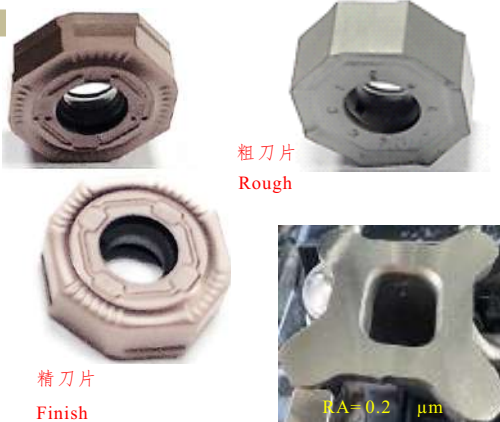
☉：工况好加工 Good working condition ☹：工况较差加工 under poor working conditions ✱：工况很差加工 Poor working condition

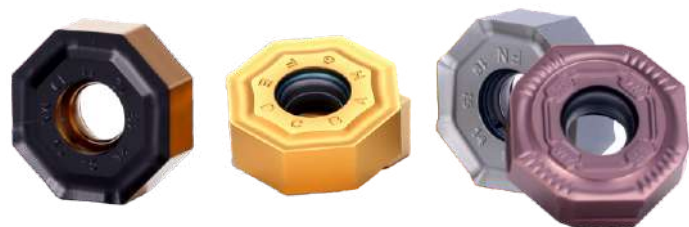
★软 soft 刀片涂层等级 Insert coating grade ★★★★★硬 hard 母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft

案例应用分享

ONMU06+ONHU06系列粗精一体方案，在工件余量适中的情况下，把粗铣和精铣合二为一，节约一次走刀，通过ONMU060504ANFN刀片完成粗加工去余量，ONHU0605ANTN-W-RA修光刃刀片保证表面加工质量。

粗精一体方案，能够大幅度提高加工效率的同时还能节约刀位，在精密浇铸工艺广泛应用的 market 环境下体现出了极高的性价比。

<p>■ 被加工件 Workpiece</p>	<p>1. 4848, 平面粗精一体加工 1. 4848, Combined Roughing and Finishing</p>
<p>■ 切削条件 Cutting Condition</p>	<p>$V_c=137$ $F_z=0.10$ $A_p=1.0$ $A_e=80$, 切削液外冷 External Fluid Cooling</p>
<p>■ 机床信息 Machine Information</p>	<p>加工中心 (4轴, BBT50) CNC Machining Center (4-Axis, BBT50)</p>
<p>■ 刀具信息 Tool Information</p>	<p>刀片/Insert (Rough): ONMU060504ANFN. CP2650TN (粗*10) 刀片/Insert (Finish): ONHU0605ANTN-W-RA. CP1130FH (精*1) 刀盘/Cutter: 125A11R-S44W-ON06 (D125*T11)</p>
<p>■ 加工简图 Machining Sketch</p>	
<p>(件/pieces)</p>  <p>■ 客户现用 Current Use</p> <p>■ 我司刀具 CRM Tools</p>	 <p>粗刀片 Rough</p> <p>精刀片 Finish</p> <p>$R_a=0.2 \mu m$</p>



▲◆ EDHT 快进给铣削刀片
High feed milling insert

特点:

刃口非常**锋利**，耐磨性好，稳定性高，加工效率极高；
性能超越进口同类顶级产品。

被加工对象:

不锈钢，高温合金，低碳钢。

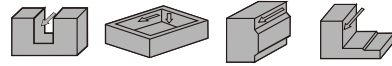
Feature:

Sharp edged, perfect abrasive resistance,
high stability and efficiency.
Performance exceed famous brand.

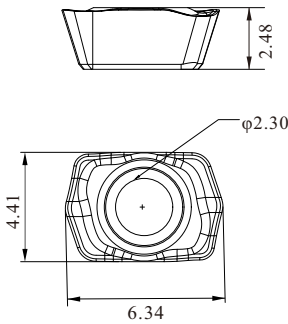
Application:

Stainless steel, Superalloy, low-carbon steel .

与众不同 自主研发



槽加工 开框加工 方肩铣



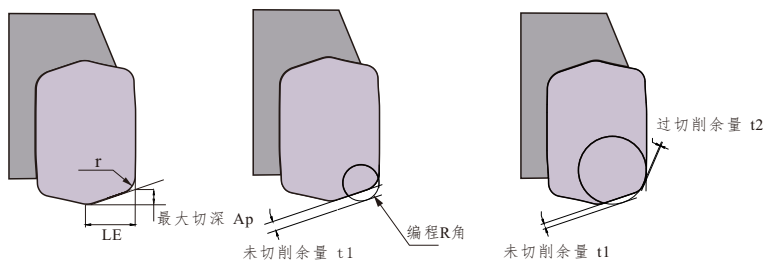
EDHT0402编程R角为R=1.2mm

		PVD										加工参数 parameters		
		CP2630TN	CP1530GT	CP6230MS									Vc (mm/min)	
工件材质	P 钢件加工 Steel	★★	★★★	★★★									120-160-220	
	P 模具钢 P20,718,SKD11,H13,S136H	✘	●	●									100-130-160	
	H 淬火钢加工 HRC40-55 Steel H13			●	●								50-80-120	
	H 淬火钢加工 HRC55-63 Steel												30-80	
	M 不锈钢 Stainless steel 304,316	✘		●									60-110-150	
	K 铸铁 Cast iron HT250 QT450												80-180-220	
	S1 钛合金 Titanium alloy TC4,TC6	✘		●									50-60-70	
	S2 耐热合金 Superalloy Inconel 718,625	✘		●									25-35-70	
型号规格 Model	用途 Usage											Ap(mm)	fz (mm/z)	
◆ EDHT0402ER-CM 刃口锋利 Sharp	不锈钢 Stainless steel 钛合金, 高温合金 Ti-alloy, Superalloy 钢 Steel	✘	●	●									0.15-0.35	0.2-0.6

● : 工况好加工 Good working condition ● : 工况较差加工 under poor working conditions ✘ : 工况很差加工 Poor working condition
★软 soft 刀片涂层等级 Insert coating grade ★★★★★硬 hard 母材硬度等级 Hardness grade of substrate: 硬 hard ISOK05-K50 软 soft

EDHT快进给铣削刀片

切削加工参数



最大切深 Ap	刀尖圆角 r	LE	编程 R	未过切余量 t1	过切余量 t2
1.12	0.79	2.04	0.8	0.42	0
1.12	0.79	2.04	1.0	0.32	0
1.12	0.79	2.04	1.2	0.28	0
1.12	0.79	2.04	1.5	0.21	0.07

主偏角为16°
编程R角R1.2



编制程序上的刀具形状

使用CAM编制程序时，
应将刀具视为半径铣刀，
一般情况下，应将刀尖半径设为R1.2mm，
若设置更大的半径，会出现过切现象，
上表显示了切削余量(t1)及过切余量(t2)。

The tool shape in programming

When programming using CAM,
the tool should be considered as a
radius cutter.

Generally, the tool tip radius
should be set to R1.2mm.

If a larger radius is set,
overcutting may occur.

in the above table the cutting
allowance (t1) and overcutting depth (t2).

工件材料 Workpiece Material	材料硬度 Material Hardness	材质选择 Material Selection	线速度Vc m/min	每齿进给量 fz (mm/z) / Ap mm
				EDHT0402
碳钢 S45C, S50C	~220HB	CP1530GT CP2630TN CP6230MS	100-250	fz=0.15-0.5 Ap=0.2-0.35
合金钢 20CrMoTi, 42CrMo	~200HB	CP1530GT CP2630TN CP6230MS	100-200	fz=0.15-0.5 Ap=0.2-0.3
五金模具钢 SKD61 (H13), SKD11	350HB	CP1530GT CP2630TN CP6230MS	100-150	fz=0.15-0.5 Ap=0.2-0.3
模具钢 P20, 718, 738	HRC28-32	CP1530GT CP2630TN CP6230MS	100-180	fz=0.15-0.5 Ap=0.2-0.3
塑胶模具钢及不锈钢 S136H, NAK80, 4Cr13	HRC30-40	CP1530GT CP2630TN CP6230MS	100-150	fz=0.1-0.4 Ap=0.15-0.3
淬火钢 SKD61 (H13)	HRC40-55	CP1530GT CP6230MS	80-120	fz=0.15-0.35 Ap=0.2-0.3
淬火钢 SKD11 (Cr12MoV)				
不锈钢 304, 316	200HB	CP2630TN CP6230MS	100-150	fz=0.2-0.45 Ap=0.2-0.3
镍基高温合金 Inconel 718, 625 GH4169	HRC38-45	CP2630TN CP6230MS	25-70	fz=0.1-0.4 Ap=0.2-0.3
钛合金 Ti-6Al-4V (Ti64)		CP2630TN CP6230MS	50-70	fz=0.2-0.5 Ap=0.2-0.3
灰口铸铁 FC250, HT250	~200HB	CP1530GT	100-220	fz=0.2-0.6 Ap=0.2-0.35
球墨铸铁 FCD400, QT300, 450, 500, 600	~200HB	CP1530GT	100-200	fz=0.3-0.6 Ap=0.2-0.35

LSR 刀杆, 锁牙头, 刀盘

LDR Tool Holder, Locking Tooth Head, Cutter Head



本刀体材料均采用SKD61材料, 热处理后加工, 刚性好, 抗震性能强, 精度高, 跳动在0.03mm内。
Cutter Tool: SKD61 material, processed after heat treatment, good rigidity, strong seismic performance, high precision <0.03mm

	型号	刃数	样式	尺寸 mm					螺钉	扳手	刀片型号
				D	d	L	L1 W	M			
刀杆 Tool Holder	XOHT0602	LSR 10X10X90- XO06 -2T	2	1	10	10	90	20	MS1840	T6	XOHT0602
		LSR 12X12X100-XO06-2T	2	1	12	12	100	25			
		LSR 14X12X100-XO06-3T	3	1	14	12	100	-			
		LSR 16X16X100-XO06-4T	4	1	16	16	100	30			
	XOH(M)T10T3	LSR 16X16X100- XO10 -2T	2	1	16	16	100	30	MS2560	T8	XOMT10T3 XOHT10T3
		LSR 17X16X100-XO10-2T	2	1	17	16	100	-			
		LSR 18X16X100-XO10-2T	2	1	18	16	100	-			
		LSR 20X20X110-XO10-3T	3	1	20	20	110	40			
		LSR 22X20X110-XO10-3T	3	1	22	20	110	-			
		LSR 25X25X120-XO10-4T	4	1	25	25	120	50			
		LSR 25X25X160-XO10-3T	4	1	25	25	160	90			
		LSR 26X25X120-XO10-4T	4	1	26	25	120	-			
		LSR 32X32X130-XO10-5T	5	1	32	32	130	60			
		LSR 32X32X150-XO10-4T	4	1	32	32	150	75			
		LSR 32X32X180-XO10-3T	3	1	32	32	180	90			
		LSR 35X32X130-XO10-5T	5	1	35	32	130	-			
		LSR 35X32X150-XO10-5T	4	1	35	32	150	-			
	LSR 35X32X180-XO10-3T	3	1	35	32	180	-				
	XOH(M)T1204	LSR 25X25X120- XO12 -3T	3	1	25	25	120	50	MS3060	T10	XOMT1204 XOHT1204
		LSR 25X25X150-XO12-3T	3	1	25	25	150	75			
		LSR 26X25X120-XO12-3T	3	1	26	25	120	-			
		LSR 32X32X130-XO12-4T	4	1	32	32	130	60			
		LSR 32X32X150-XO12-4T	4	1	32	32	150	75			
		LSR 32X32X180-XO12-3T	3	1	32	32	180	90			
		LSR 35X32X130-XO12-4T	4	1	35	32	130	-			
		LSR 35X32X150-XO12-4T	4	1	35	32	150	-			
	LSR 35X32X180-XO12-3T	3	1	35	32	180	-				
	XOMT1605	LSR 32X32X130- XO16 -3T	3	1	32	32	130	60	MS4080	T15	XOMT1605
		LSR 32X32X150-XO16-3T	3	1	32	32	160	75			
		LSR 32X32X180-XO16-3T	3	1	32	32	180	90			
		LSR 35X32X130-XO16-3T	3	1	35	32	130	-			
		LSR 35X32X150-XO16-3T	3	1	35	32	150	-			
	LSR 35X32X180-XO16-3T	3	1	35	32	180	-				



矢志不渝 追求完美
Passionate pursuit of perfection

古人云：
Ancient Saying

豫樟生深山，七年而后知。养材三十年，方成栋梁姿。
Seven years in mountain initiate the evergreen life of camphor. It takes three decades for timber to become lumber.

匠人之技，在巧夺天工。
The skill of a craftsman is to master the art.

匠人之德，在孜孜不倦。
The ethic of a craftsman is to persist without doubt.

匠人之心，在百折不挠。
The core of a craftsman is to never yield up the skill and ethic.





2026中机融耀全品类电子样册

东莞市凤岗中机融耀数控工具厂

东莞市中机融耀金属切削刀具有限公司

广东省东莞市凤岗镇竹塘抽水站路57号