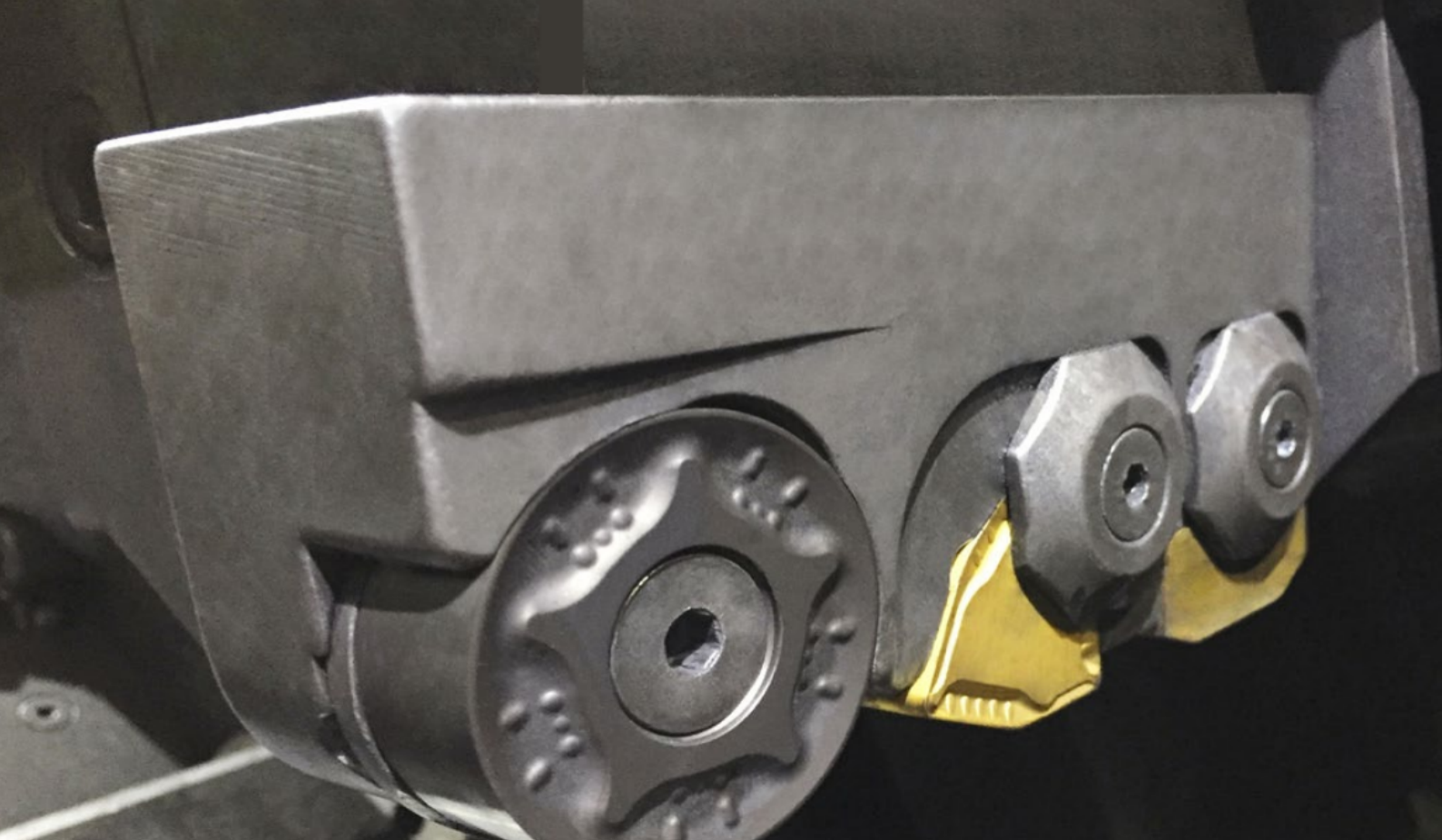




旋转钢棒剥皮刀片

Rotating peeling Steel bar peeling off



奥凯彤新材料有限公司

Aokai Tong New Material Co., Ltd.

可转位刀片 用于剥皮

棒材剥皮用可转位刀片体系

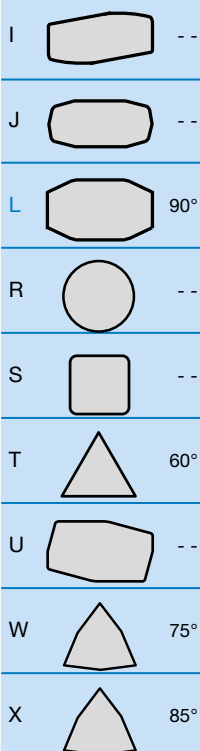
Adjustable blade for peeling

Adjustable blade system for bar stripping

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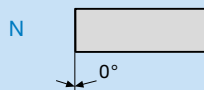
L

基本型状
Grundform



N

间隙角度
Clearance angle

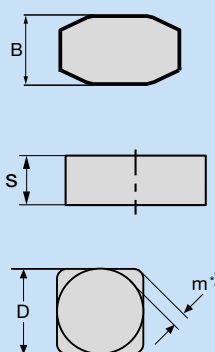


G

公差等级
Tolerance grade

公差 Tolerances

	m	s	d
A	±0,005 ¹⁾	±0,025	±0,025
C	±0,013	±0,025	±0,025
E	±0,025	±0,025	±0,025
F	±0,005 ¹⁾	±0,025	±0,013
G	±0,025	±0,13	±0,025
H	±0,013	±0,025	±0,013
J	±0,005 ¹⁾	±0,025	±0,05 - ±0,15
K	±0,013 ¹⁾	±0,025	±0,05 - ±0,15
L	±0,025	±0,025	±0,05 - ±0,15
M	±0,08 - ±0,20	±0,13	±0,05 - ±0,15
U	±0,13 - ±0,38	±0,13	±0,08 - ±0,25
D	m	d	
M	6,35	±0,08	±0,05
	9,52	±0,08	±0,05
	12,7	±0,13	±0,08
	15,88	±0,15	±0,10
	19,05	±0,15	±0,10
U	25,4	±0,18	±0,13
	6,35	±0,13	±0,08
	9,52	±0,13	±0,08
	12,7	±0,20	±0,13
	15,88	±0,27	±0,18
	19,05	±0,27	±0,18
	25,4	±0,38	±0,25



相等边的可转位刀片
Indexable insert with equal number of sides

通常用于磨削可转位刀片。“m”测量的计算以英寸为单位的精确半径为基础。
generally used for ground indexable inserts. The calculation for the “m” measurement is based on the precise radius in inches.

F

刀片类型
Insert type

C 在没有切削槽的情况下，双面是锥形孔
Without chip breaker, with cone hole double-sided

F 设计采用双面切削槽
With chip breaker double-sided,

H 带锥形孔90°单侧和切削槽
With cone hole 90° one-sided and chip breaker

J 锥孔70°-90° 双面破壳器
Cone hole 70° - 90° and chip breaker double-sided

N 无切削槽，无锥孔
Without chip breaker, without cone hole

R 带切削槽，无锥孔
With chip breaker, without cone hole

U 锥孔40° - 60° 有双面切屑槽
Cone hole 40° - 60° and chip breaker double-sided

X 具有图纸所示的特殊功能
With special features according drawing.

20

切削刃长度
Length of cutting edge

切削刃长度为副切削刃的长度以 mm 为单位给出，其中小数点后的位数不包括在内。用于圆形可转位切削板的直径以毫米为单位
The cutting edge length is the length of thesecondarycutting edgegivenin mm, with the decimal places not included.
For round indexable cutting plates the diameter is given in mm.

$l_n = 09 \text{ mm}$
 $l_n = 10 \text{ mm}$
 $l_n = 13 \text{ mm}$
 $l_n = 14 \text{ mm}$
 $l_n = 15 \text{ mm}$
 $l_n = 17 \text{ mm}$
 $l_n = 20 \text{ mm}$
 $l_n = 28 \text{ mm}$
 $l_n = 38 \text{ mm}$
 $l_n = 50 \text{ mm}$

10

厚度
Thickness

可转位刀片的尺寸（以毫米为单位）。不考虑小数点后的数字提格。如果结果是一位数代码，则在其前面放置 0（零）
The thickness of the indexable insert in mm is given as the identification code. Figures after the comma are not included. If a single-figure identification code is calculated, a zero is placed in front.

05 s = 05,94 mm
06 s = 06,35 mm
07 s = 07,14 mm
07 s = 07,45 mm
07 s = 07,54 mm
07 s = 07,94 mm
08 s = 08,00 mm
09 s = 09,52 mm
10 s = 10,00 mm
10 s = 10,20 mm
10 s = 10,54 mm
11 s = 11,25 mm
12 s = 12,00 mm
12 s = 12,20 mm
12 s = 12,70 mm
13 s = 13,00 mm
14 s = 14,00 mm
17 s = 17,96 mm
18 s = 18,00 mm

AML

切屑槽
Chip groove

切屑槽命名
Chip groove naming

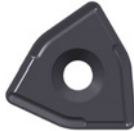
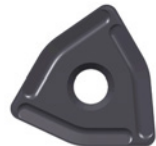
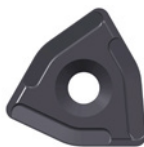
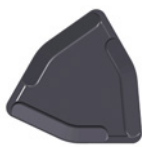
AS = 特别Special
ASF = 小型精加工Small Finishing
AF = 精加工Finishing
AFM = 半精加工Finishing Medium
AM = 中型加工的Medium
AML = 大中型加工Medium Large
AL = 大型材加工Large
AU = 普遍加工Universal
AX = 特殊加工 Extra
AMS = 中小型加工Medium Small

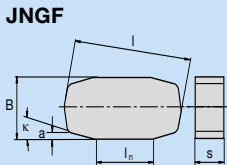
H10/M10/W10

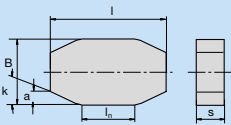
刃口和边缘加工处理
Cutting edge and edge processing

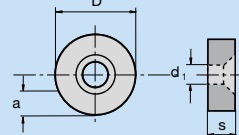
根据 Aokai Tong 标准进行刃口和边缘加工处理
According to Aokai Tong standards, perform cutting edge and edge processing treatment

H10 = 硬钢/ hard
M10 = 半硬钢/ medium
W10 = 软钢/ soft

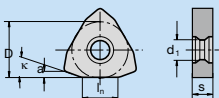
形状 Geometry AF	JNGF-....-AF 	LNGF-....-AF 	UNGF-....-AF 
形状 Geometry AF	TNGJ-....-AF 	XNGJ-....-AF 	XNMF-....-AF 
形状 Geometry AFM	JNGF-....-AFM 	形状 Geometry -AMS	JNGF-....-AMS 
形状 Geometry AM	TNGJ-....-AM 	WNGU-....-AM 	XNMU-....-AM 
形状 Geometry AM	XNMF-....-AM 		
形状 Geometry AML	JNGF-....-AML 	LNGF-....-AML 	RNMH-....-AML 
形状 Geometry AML	TNGJ-....-AML 	XNMF-....-AML 	XNMU-....AML 
形状 Geometry AL	RNMH-....-AL 	XNGJ-....-AL 	XNGF-....-AL 

JNGF		规格尺寸 Dimensions [mm]						牌号 Grades						
		编 号 Ordering code	l	l _n	B	s	a	κ	AC21	AC22	ACP15	AR35	TOM25P	TOM30P
 有切削刃 cutting edges	JNGF-2008AF-H20	20	30,12	12	7,54	1,8	20°	●		●				
	JNGF-2008-AF-M20	20	30,12	12	7,54	1,8	20°	●	●	●				
	JNGF-2008-AF-W30	20	30,12	12	7,54	1,8	20°				●			
 有切削刃 cutting edges	JNGF-2008-AFM-H10	20	30,12	12	7,54	1,5	20°	●		●				
	JNGF-2008-AFM-H20	20	30,12	12	7,54	1,5	20°	●	●					
	JNGF-2008-AFM-M20	20	30,12	12	7,54	1,5	20°	●	●					
	JNGF-2008-AFM-W20	20	30,12	12	7,54	1,5	20°		●	●				
 有切削刃 cutting edges	JNGF-2008-AMS-9S-H20	20	30,12	12	7,54	1,5	20°	●	●					
	JNGF-2008-AMS-9S-M20	20	30,12	12	7,54	1,5	20°	●	●			●		
	JNGF-2008-AMS-9S-W20	20	301,12	12	7,54	1,5	20°		●		●			
 有切削刃 cutting edges	JNGF-2012-AML-H10	20	36,5	18	12	2	20°	●						
	JNGF-2012-AML-H20	20	36,5	18	12	2	20°	●		●				
	JNGF-2012-AML-M20	20	36,5	18	12	2	20°		●	●		●		
	JNGF-2012-AML-W30	20	36,5	18	12	2	20°			●	●			●
	JNGF-2012-AML-W50	20	36,5	18	12	2	20°		●					

LNGF	规格尺寸 Dimensions [mm]	牌 号 Grades											
		编 号 Ordering Code						AC21	AC22	ACP15P	AR35	TOM25P	TOM30P
	ln	l	B	s	a	k							
 有切削刃 cutting edges	LNGF-2010-AML-H20	20	40	20	10,2	3	25°	●		●			
	LNGF-2010-AML-M20	20	40	20	10,2	3	25°		●	●		●	
	LNGF-2010-AML-W20	20	40	20	10,2	3	25°				●		●
	LNGF-2012-AML-H20	20	40	20	10,2	3	25°	●					
	LNGF-2012-AML-M20	20	40	20	10,2	3	25°		●				
	LNGF-2812-AML-M20	28	46	20	12,7	3	25°	●					
	LNGF-2812-AML-W30	28	46	20	12,7	3	25°						●
 有切削刃 cutting edges	LNGF-2010-AF-H20	20	40	20	10,2	3	25°			●			
	LNGF-2010-AF-M20	20	40	20	10,2	3	25°	●		●			
	LNGF-2012-AF-M20	20	40	20	12,7	3	25°		●				
	LNGF-2012-AF-W30	20	40	20	12,7	3	25°					●	●

RN..		编 号 Ordering Code	规格尺寸 Dimensions [mm]					牌号 Grades							
			D	s	d ₁	a	-	-	LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
	RNMH-5018-AL	50	18	12,7	9	-	-								●
	RNMJ 250900-2H	2.54	9.5	9.12	3										
	RNMH-2008-AML	20	8	7	3	-	-	●	●						
	RNMH-2810-AML	28,57	10,54	8,8	5			●	●						
	RNMH-3812-AML	38,1	12,7	12,7	7				●			●	●	●	
	RNMH-5013-AML	50	13	12,7	9										●
	RNMH-5018-AML	50	18	12,7	9			●				●	●	●	

棒材,管材剥皮可转位刀片
Stripping of bars and tubes, indexable
insertion

TNGJ 	编 号 Ordering code	规格尺寸 Dimensions [mm]						牌号 Grades						
		In	D	d1	s	a	k	AC21	AC22	ACP35	AR35	TOM25P	TOM30P	TOM35P
 有切削刃 cutting edges	TNGJ-1407-AF-H20	14	21,96	7	7,94	1,8	20°	●		●				
 有切削刃 cutting edges	TNGJ-1407-AML-H20	14	21,96	7	7,94	1,8	20°	●						
	TNGJ-1407-AML-M20	14	21,96	7	7,94	1,8	20°		●	●	●			
	TNGJ-1407-AML-W30	14	21,96	7	7,94	1,8	20°				●	●		
	TNGJ-1407-AML-W60										●	●		
 有切削刃 cutting edges	TNGJ-2010-AM-H20	20	28,5	7	10	2,5	20°					●		
	TNGJ-2010-AM-M20	20	28,5	7	10	2,5	20°		●			●		
 有切削刃 cutting edges	TNGJ-2010-AML-H20	20	28,5	7	10	2,5	20°	●		●				
	TNGJ-2010-AML-M20	20	28,5	7	10	2,5	20°	●	●	●		●		
	TNGJ-2010-AML-W30	20	28,5	7	10	2,5	20°	●						●
 有切削刃 cutting edges	TNGJ-2208-AML-H10	22,8	19,05	6,5	7,95	1,3	15°	●						
	TNGJ-2208-AML-M10	22,8	19,05	6,5	7,95	1,3	15°		●		●			

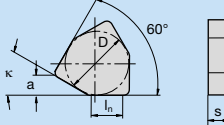
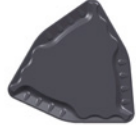
棒材,管材剥皮可转位刀片
Stripping of bars and tubes, indexable
insertion

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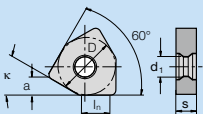
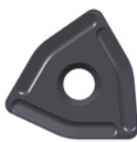
UNGF-	规格尺寸 Dimensions [mm]	牌号 Grades						
		AC21	AC22	ACP15P	AR35	TOM25P	TOM30P	TOM35P
UNGF-1712-AF-H10	17 36,5 18 12 4 15°	●						
UNGF-1712-AF-H20	17 36,5 18 12 4 15°	●				●		
UNGF-1712-AF-M20	17 36,5 18 12 4 15°		●			●		
UNGF-1712-AF-W30	17 36,5 18 12 4 15°!		●					●

WNGU-	规格尺寸 Dimensions [mm]	牌号 Grades						
		LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
WNGU-0906-AM-W10	9 15,88 5,5 6,4 2,5 15°	●				●		
WNGU-1309-AX-M10	13 22,23 7,93 9,52 3,0 15°	●	●	●		●		

XNGJ-	规格尺寸 Dimensions [mm]	牌号 Grades						
		LC218E	LC228E	LCP15P	R635	BCM25P	BCM30P	LCM35P
XNGJ-1010-AF-M10	10 22,23 6 10 4 25°	●	●	●		●		
XNGJ-1010-AL-M20	10 22,23 6 10 4 25°		●					
XNGJ-1010-AF-M20	10 22,23 - 10 4 25°					●		

XN.F- 	编 号 Ordering code	规格尺寸 Dimensions [mm]						牌号 Grades						
		l _n	D	d ₁	s	a	k	AC21	AC22	ACP15P	AR35	TOM25P	TOM30P	TOM35P
 有切削刃 cutting edges	XNGF-1010-AL-M20	10	22,23	-	10	4	25°	●	●			●		
 有切削刃 cutting edges	XNMF-1513-AF-H40	15	31,75	-	13	8	25°	●	●			●		
	XNMF-1513-AF-M20	15	31,75	-	13	8	25°							●
 有切削刃 cutting edges	XNMF-1513-AML-H40	15	31,75	-	13	8	25°	●	●			●		
	XNMF-1513-AML-W20	15	31,75	-	13	8	25°						●	●
 有切削刃 cutting edges	XNMF-1513-AM-H40	15	31,75	-	13	8	25°	●	●	●		●		
	XNMF-1513-AM-W30	15	31,75	-	13	8	25°						●	●
 有切削刃 cutting edges	XNMF-1609-AML-W20	15	28,58	-	9,5	6	30°	●	●	●		●		●

棒材,管材剥皮可转位刀片
Stripping of bars and tubes, indexable
insertion

XNMU- 	编 号 Ordering code	规格尺寸 Dimensions [mm]						牌号 Grades						
		l _n	D	d ₁	s	a	κ	AC21	AC22	ACP15P	AR35	TOM25P	TOM30P	TOM35P
 有切削刃 cutting edges	XNMU-1513-AM-H40	15	31,75	9	13	8	25°		●			●		
	XNMU-1513-AM-W30	15	31,75	9	13	8	25°							●
 有切削刃 cutting edges	XNMU-1513-AML-H40	15	31,75	9	13	8	25°	●	●			●		
	XNMU-1513-AML-W20	15	31,75	9	13	8	25°							●
 有切削刃 cutting edges	XNMU-1514-AML-H40	15	31,75	9	14	8	25°		●					

公式：棒材,管材剥皮切割

Formula: Stripping and cutting of bar and pipe materials

切削速度

[m/min]Cutting
speed

$$V_c = \frac{d_1 * \pi * n}{1000}$$

主轴转速

Revolutions of spindle
[rev/min]

$$n = \frac{v_c * 1000}{d_1 * \pi}$$

进给量

Feed [mm/rev]

$$f = \frac{V_f}{n}$$

进料速度Feed rate vf [m/min]

$$v_f = f * n$$

切屑去除率

Chip removal rate [cm³/min]

$$Q = a_p * f * v_c$$

推荐槽型选择描述

Recommended slot type selection description

选择切屑槽

在选择断屑器时，重要的是要考虑化学成分和热量因为它们会影响切屑槽的行为。一般来说，低合金和非合金处理过的钢更容易控制切屑。随着材料硬度的增加，通常与在250至300HB的范围内切屑控制有所改善，随后是更高的硬度值。

增强材料弹性行为的合金元素，如Ni和Ti，通常使切屑更加困难。这是因为切屑倾向于以“超弹性”的方式表现，不会因塑性变形而破裂，而是会自行卷曲形成“弹簧”。高磨蚀性元素，如Cr、W和Si，对切屑管理具有次要影响，因为它们往往会迅速磨损断屑器的活动部件，降低其有效性，非常软的材料，如含有铅或硫的材料，通常具有更多的切割和粘附性问题多于切屑问题。在这种情况下，与其说是切屑槽的作用，不如说是创新的切削槽具有高性能，可最大限度地缩短切屑长度，在具有非常稳定的机器和良好的冷却液流量，具有高性能的创新切屑槽使切屑长度最小化。需要非常稳定的冷却液流动良好切削刃的锋利度对成品表面的质量起着至关重要的作用。

Choosing the chip-breaker

When choosing the chip-breaker, it is important to consider the chemical composition and heat treatments undergone by the bar, as they influence chip behavior. Generally, low-alloy and not treated steels are easier to control the chip. As material hardness increases, often associated with heat treatments, there is an improvement in chip control in the range between 250 and 300HB, followed by higher hardness values. Alloying elements that enhance the elastic behavior of the material, such as Ni and Ti, usually make chip management more difficult. This is because the chip tends to behave in a “super-elastic” manner, not reaching rupture due to plastic deformation but curling up on itself to form a “spring”. Highly abrasive elements, such as Cr, W, and Si, have a secondary effect on the chip management, as they tend to quickly wear out the active parts of the chip-breaker, reducing its effectiveness. Very soft materials, such as those containing Pb or S, usually have more cutting and sticking problems than chip problems. In this case, it is not so much the role of the chip-breaker, but the innovative chipbreaker with high performance in minimizing chip length. Requires very stable machine and a good coolant flow sharpness of the cutting edge that plays a crucial role in the quality of the finished surface.

槽型TYPE	切屑槽CHIPBREAKER	图型GEOMETRY	槽型描述SLOTDESCRIPTION
2H			经典通用切削槽 Classical general purpose chipbreaker
3F			新一代通用剥皮切削槽。能更好的剥皮排屑和控制更低的能耗，这是在2H型切削槽的演变，使切削时大大的降低产生的热量。 New generation universal peeling cutting groove. It can better peel and control lower energy consumption, which is in the 2H type. The evolution of cutting grooves greatly reduces the heat generated during cutting.
2F			通过设计2H实现最佳排屑切屑槽质量，不同的型号可实现最佳加工不同类型的钢材质量。 By designing 2H to achieve optimal chip removal and chip groove quality, different models can achieve the best results. Processing different types of steel quality.

在选择切屑槽时，一个不容忽视的因素是平均排屑量实现。切屑槽通常设置为在建议的清除范围内刀片工作一半。如果在特征范围的极限下连续进行清除工作，必须做出准确的选择，考虑切屑截面和切削力必须生成它。

Another element not to be overlooked in choosing the chip-breaker is the average stock removal achieved. Chip-breakers are usually set to work halfway through the suggested removal range for the specific insert. If working continuously with removals at the limits of the characteristic range, an accurate choice has to be made, taking into account the chip section and the cutting force necessary to generate it.

侧支撑阶段也取决于待剥离材料的硬度。该阶段的角度（取决于刀具的倾斜角度）和尺寸可以变化，用于创建一个相对于棒材具有中性倾斜的区域，该区域能够增加施加在棒材本身的压力（使其稳定），并改善二次切削刃的“刮削”作用，从而提高表面质量。可以说相位的大小与钢的硬度成反比，虽然这不是一个确切的规则，因为一些特殊情况可能需要在另一侧或另一侧极其夸张的支撑来改善剥离过程的其他方面。

The side support phase is also dependent on the hardness of the material to be peeled. This phase can vary in angle (depending on the angle of the inclination of the tool) and in size and serves to create a zone with neutral inclination with respect to the bar capable of increasing the pressure applied to the bar itself (stabilizing it) and improving the “shaving” action of the secondary cutting edge, thus increasing the surface quality. It can be said that the size of the phase is inversely proportional to the hardness of the steel, although it is not an exact rule as some special situations may require extremely exaggerated support phases on one side or the other to improve other aspects of the peeling process.

牌号概述
Grade overview

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牌 号 Grade	ISO	应用范围 Application range	对应材料切削 Material group						涂层 Coating			
			P	M	K	N	S	H				
		01 05 10 15 20 25 30 35 40 45 50	钢 Stahl	不锈钢 Stainless	灰铸铁 Grey cast iron	有色金属 Non-ferrous	高温材料 high temperature materials	硬质材料 Hard materials	纳米黑 Nano black	Al203黄色 Al203 yellow	锡 - CVD黄色 TiN-CVD yellow	
AC21	P10		■						●			
	M10			■					●			
	S10						□		●			
AC22	P25		■						●			
	M25			■					●			
	S25						□		●			
ACP15P	P15		■							●		
	M15			■						●		
TOM25P	M25			■					●			
	P25		□						●			
TOM30P	M35			■					●			
	P35		□						●			
TOM35P	M35			■					●			
	P35		□						●			
	S35						□		●			
AR635	P30		■								●	
	M30			■							●	



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