



SGARIA.

Trustable for life



Metal Band Saw Blade



COMPANY PROFILE



The Sgaria

In addition to the best products, we work objectively and efficiently, with integrity and a sense of urgency to generate the best services.

Check out some of the pillars of our company:

Customer Focus: Our customers are the reason for our existence. We are committed to meeting your demands on site and time required;

Safety: We are strict in meeting our standards, valuing the safety of our customers and contributors;

Quality Results: We seek to maximize results by valuing quality in every detail of our operation;

Teamwork: Together we achieve our goals, acting in a shared way will more easily achieve achievements and good results, sharing achievements and results.

Certificates

By bringing together technical force with design and experience, Sgaria has all the documentation necessary to deliver a certified quality product.





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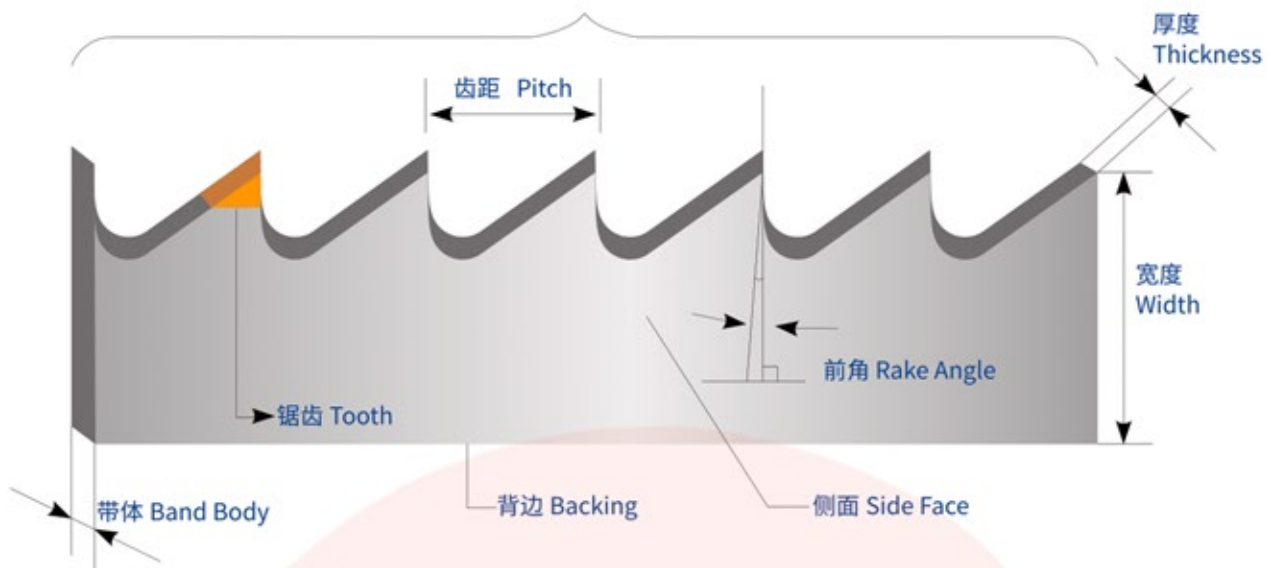


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带体 带锯条上介于齿槽底部与背边之间的部分。

Band body: which simply means the backing.

锯齿 横跨带锯条厚度，以形成切削刃的齿。

Tooth: the top part which is made of high speed steel.

开齿边 带锯条上开有锯齿的一条纵向边。

Teeth side: the side welded with high speed which full of sharp tooth.

背边 与开齿边相对的一条纵向边。

Backing: made of spring steel to resist the tension.

侧面 开齿边与背边之间的平面。

Side: two flat sides of band.

宽度 齿尖与背边之间的距离。

Width: from teeth top to the bottom.

厚度 带体内侧面之间的距离。

Thickness: which simply means how thick of the backing.

齿距 相邻两齿尖之间的距离。习惯上以 1 英寸长度内的完整齿数表示。

Pitch: Distance between two close teeth.

前角 前面和基面之间的夹角。一般在 $0^{\circ} \sim 10^{\circ}$ 之间设置。

Rake Angle: there always a little angle which differ the teeth types.

齿距 Tooth Pitch

在表示锯齿时，齿距是指 1 英寸内的锯齿数（单位：TPI）。

Tooth pitch is defined as the number of teeth per inch (TPI).

等齿锯 Constant Pitch

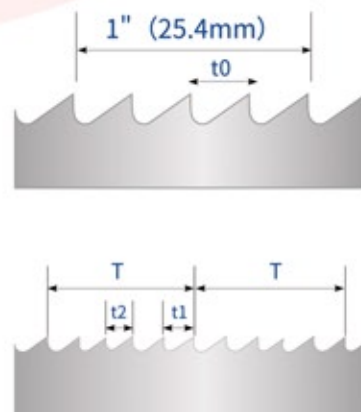
齿距相等，齿形相同的带锯条称为等齿距带锯条。

The tooth distance is equally spaced, the number of teeth per inch (25.4mm) denotes the tooth of the saw blade.

变齿距 VL Variable Pitch (VL)

齿距呈周期性变化，周期内各个齿距一般均不相同，但都在最大齿距（分子）和最小齿距（分母）间变化。变齿周期内的齿数随齿距的加大而减少，一般为奇数。

The tooth distances vary within a group of teeth. The smallest and the largest tooth pitch denote the variable tooth of saw blade.



齿形 Teeth Type	说明 Introduction	图示 Illustration
标准齿 (正常齿) Standard	由前面、后面和齿底圆弧构成齿槽的齿形。 Straight faced tooth with deep gullets to rake out chips.This style is used for general metal cutting.	
跳齿 Skip Tooth	锯齿的形状基本是标准齿,但切除了每一个相向齿。 Very similar to the hook tooth but characterized by a straight 90 degree tooth and a sharp angle at the junction of the tooth and gullet.	
钩齿 Hook Tooth	除锯齿的前脚为正值外,齿形类似于跳齿,但齿深与齿距之比相对较小。 Widely spaced teeth and deep gullets with teeth that have a ten degree undercut face which helps to dig in and take a good cut while the gullets tend to curl the chips.	
龟背齿 (强力齿、弧背齿) Rounder Back Tooth	后角较小,后面由一平面和凸起的弧面构成,以提高齿部强度。 A rounder back pattern is generally used for wide band saw blades.The curved back gives a small clearance angle resulting in greater strength at the tooth point.	
双后角齿 Hooked Rip Tooth	由两个后角构成后面的齿形,齿部强度较高。 Hooked rip blades have a lengthened gullet and positive tooth shape used for sawing large sections of high density materials.	
抗拉齿 (鹰嘴齿) Eagle Hook Tooth	近似于标准齿和龟背齿的组合,具有锋利的齿尖和高强度的齿背。 Consists of standard tooth point and round tooth back,extremely sharpen tooth tip and lengthened tooth back.	

TEETH PITCH INTERVAL: BI-METAL BAND SAW BLADE

双金属带锯条的主要规格

规格 (mm) Demension	齿形 Teeth Type	齿距 (齿数 / 寸) Tooth Pitch
13x0.65	正常齿 Standard Tooth	6 8 10 12 5/8 6/10 8/12 10/14 14/18
16x0.9	正常齿 Standard Tooth	4 6 8 10 4/6 5/8 6/10 8/12 10/14
19x0.9	正常齿 Standard Tooth	4 6 8 10 4/6 5/8 6/10 8/12 10/14
27x0.9	正常齿 Standard Tooth	2/3 3/4 4/6
	双后角齿 Hooked Rip Tooth	2/3 3/4 4/6
	抗拉齿 Eagle Hook Tooth	3/4 4/6
34x1.1	正常齿 Standard Tooth	2/3 3/4 4/6
	双后角齿 Hooked Rip Tooth	2/3 3/4 4/6
	抗拉齿 Eagle Hook Tooth	3/4 4/6
41x1.3	正常齿 Standard Tooth	2/3 3/4 4/6
	龟背齿 Rounder Back Tooth	2/3 3/4 4/6
	双后角齿 Hooked Rip Tooth	1.4/1.8 2/3 3/4
	抗拉齿 Eagle Hook Tooth	3/4 4/6
54x1.6	正常齿 Standard Tooth	2/3
	双后角齿 Hooked Rip Tooth	0.85/1.3 1.4/1.8 2/3
	跳齿 Skip Tooth	1.0/1.5
67x1.6	双后角齿 Hooked Rip Tooth	0.75/1.0 0.85/1.3 1.4/1.8
	跳齿 Skip Tooth	1.0/1.5
80x1.6	双后角齿 Hooked Rip Tooth	0.75/1.0 0.85/1.3
	跳齿 Skip Tooth	1.0/1.5

▼ TEETH PITCH INTERVAL: CARBIDE BAND SAW BLADE

硬质合金带锯条的主要规格

规格 (mm) Demension	3/4	2/3	1.4/1.8	1/1.5	0.75/1
27×0.9	▲	▲			
34×1.1	▲	▲			
41×1.3	▲	▲	▲		
54×1.6		▲	▲	▲	
67×1.6			▲	▲	▲
80×1.6				▲	▲

▼ SELECTION OF TEETH PITCH INTERVAL

双金属带锯条齿距的选择

锯切长度范围 Work Length Range (mm)	齿距 TPI/1 Inch (25.4mm)																					
	等齿距 Constant Pitch											变齿距 (VL) Pitch										
	14	12	10	8	6	4	3	2	1.25	1	0.75	12/16	10/14	8/12	6/10	5/8	4/6	3/4	2/3	1.4/2.0	1.0/1.5	0.75/1.0
~10	■	■	■								■	■	■									
10~30		■	■	■	■								■	■	■	■	■					
30~50			■	■	■	■								■	■	■	■	■				
50~80				■	■	■	■								■	■	■	■	■			
80~120					■	■	■	■								■	■	■	■	■		
120~200						■	■	■	■								■	■	■	■	■	
200~400							■	■	■	■								■	■	■	■	■
400~								■	■	■									■	■	■	■

▼ SELECTION OF CUTTING PARAMETERS

双金属带锯条切削参数选择表

被切割材料 Work Material Class	切削速度 Cutting Speed (m/min)	切削效率 cutting Rate (cm ² /min)						
		~Φ25	Φ25~Φ50	Φ50~Φ75	Φ75~Φ110	Φ110~Φ150	Φ150~Φ200	Φ200~
易切削钢 Free-cutting Steel 结构钢 Structural Steel	80~90	25~35	40~50	50~60	55~70	70~90	75~85	85~95
表面硬化钢 Case-hardened Steel 调制钢 Hardened and Tempered Steel	45~75			30~40	35~50	40~60	40~50	
碳素工具钢 Tool Steel Unalloyed 轴承钢 Bearing Steel	40~60	20~25	25~35	30~35	30~40	40~50	30~35	35~45
合金工具钢 Tool Steel Alloyed 高速钢 High Speed Steel	30~40	15~20	20~25	25~30		30~35		
不锈钢 Stainless Steel	20~35	10~15			15~20			
耐热钢 Heat-resistant Steel 高温合金钢 High-temp alloyed	15~25		5~10	7~13		5~15		

常见故障 Common Faults	原因分析 Reason Analysis	解决办法 Solution
振动 Shaken	<ul style="list-style-type: none"> ➢ 进给速度不当 Improper feed speed ➢ 选齿不当 Incorrect teeth type ➢ 工件未夹紧 Clamped loose ➢ 张力不当 Improper tension 	<ul style="list-style-type: none"> ➢ 调整进给速度 Adjust the speed ➢ 根据工件大小、形状选齿 Choose the right teeth type by object's size and shape ➢ 夹紧工件 Clamp the object ➢ 调整张力 Adjust tension
断面粗糙不平 Rough sawing surface	<ul style="list-style-type: none"> ➢ 齿部钝化, 齿尖受损 Teeth passivation or damaged ➢ 进给速度不当 Improper feed speed ➢ 选齿不当 Incorrect teeth type ➢ 张力不当 Improper tension ➢ 冷却不充分 Not cooling enough ➢ 导向臂、工作位置不当 Improper the oriented arms or object 	<ul style="list-style-type: none"> ➢ 更换新带锯 Replace new saw blade ➢ 调节进给速度 Adjust the feed speed ➢ 根据工件大小、形状选齿 Choose the right teeth type by object's size and shape ➢ 调整张力 Adjust tension ➢ 加冷却液 Add more cooling fluid ➢ 调节导向臂、工件 Adjust the oriented arms or object
齿尖粘切屑 Scraps stick on the teeth needle	<ul style="list-style-type: none"> ➢ 切削液不当 Incorrect cooling fluid ➢ 速度太快、进给过大 Speed too fast ➢ 清屑刷磨损 Brush damaged ➢ 选齿不当 Incorrect teeth type 	<ul style="list-style-type: none"> ➢ 选择正确的切削液 Choose the right cooling fluid ➢ 调节速度、进刀量、进给量 Adjust the speed ➢ 更换刷子 Change brush ➢ 根据工件大小、形状选齿 Choose the right teeth type by object's size and shape
背部出现 T 状 (背部弯曲, 弹性变形) T shape on the back(curve, deformed)	<ul style="list-style-type: none"> ➢ 进给过大 Feed speed fast ➢ 导向臂分开太宽 Long distance between two oriented arms ➢ 锯齿太小不适合下料工作 Saw teeth too small ➢ 导向部分磨损或卡死 Alloy orientator damaged or blocked ➢ 张力不够 Tension too small 	<ul style="list-style-type: none"> ➢ 调整进给量 Adjust the feed speed ➢ 调整导向臂位置 Adjust the distance of the oriented arms ➢ 选择正确的齿形、齿数 Choose the right teeth shape and TPI ➢ 调节张力, 更换导向块 Adjust tension or change the alloy orientator ➢ 调节张力 Adjust tension
切斜 Slanting sawing	<ul style="list-style-type: none"> ➢ 锯齿钝化 Teeth passivation or abrasion ➢ 进给过大 Feed speed too fast ➢ 选齿不当 Incorrect teeth type ➢ 导向磨损、松动 Alloy orientator damaged or loose ➢ 工件比锯齿硬度高 Object is harder than saw teeth ➢ 部分齿受损 Some teeth damaged ➢ 导向臂分开太宽 Long distance between two oriented arms 	<ul style="list-style-type: none"> ➢ 更新新锯条 Reload new saw blade ➢ 调节进给量 Adjust the feed speed ➢ 根据工件大小、形状选齿 Choose the right teeth type by object's size and shape ➢ 更换调整导向块 Change or adjust the alloy orientator ➢ 选择齿部硬度高的锯条 Choose the hader teeth ➢ 更换新锯条 Reload new saw blade ➢ 调节导向臂距离 Adjust the distance of the oriented arms

常见故障 Common Faults	原因分析 Reason Analysis	解决办法 Solution
切斜 Slanting sawing	<ul style="list-style-type: none"> 齿尖粘结切屑 Scraps stick on the teeth needle 锯带装斜 Slanting saw blade 	<ul style="list-style-type: none"> 检查刷子或切削液 Check the brush and cooling fluid 重新调整锯带 Readjust the saw blade
打齿、断齿 Teeth broken	<ul style="list-style-type: none"> 工件和锯齿不匹配 Object and teeth type unmatched 进给太猛 Feed speed too fast 锯带卡壳、工件松动 Saw blade blocked、object loose 锯齿按错方向 Wrong way 工件有硬块或起皮 Sand buckle 张力太小 Tension too small 	<ul style="list-style-type: none"> 根据工件大小、形状选齿 Choose the right teeth type by object's size and shape 调整速度 Adjust the feed speed 检查液压系统、保证虎钳工件正常 Check the hydraulic system and clamp 重新安装 Reload saw blade 检查工件硬度、加工条件或用旧带切 Check the rigidity of object、conditions of process or use the used blade 调节张力 Adjust the tension
锯齿过早钝化 Teeth passivation or abrasion too fast	<ul style="list-style-type: none"> 齿尖未正常磨合 Insufficient running-in 工件比锯齿硬度高 Objust is harder than saw teeth 速度太快，进给过大 feed speed too fast 工件夹杂硬块 Some hardness pieces 选齿不当 Incorrect teeth type 锯带齿向安反 Wrong way 新带切旧口 Sawing the former cut by new saw blade 张力太小 Tension too small 	<ul style="list-style-type: none"> 新带跑合适当减小进给 Small feed speed when new blade is running-in at first 检查工件加工条件，选择正确的锯带 Choose the right saw blade by conditions of process 调节进给量 Adjust the feed speed 更换工件或避开旧切口 Change the object or sawing at new cut 根据工件大小、形状选齿 Choose the right teeth type by object's size and shape 重新安装 Reload saw blade 避开旧切口 Keep away from the former cut 调节张力 Adjust the tension
锯带呈直线断裂 Faultage as a line	<ul style="list-style-type: none"> 张力太小 Tension too small 速度太快 Speed too fast 导向损坏 Alloy orientator damaged 锯带与法兰严重磨损 Fearful abrasion between flange and saw blade 选齿不当 Incorrect teeth type 进给太大 Feed too fast 冷却不当 Improper cooling 开机时锯带直接与工件接触 Saw band touched object when sawing starts 导向块夹不紧 Alloy orientator clamp too close 	<ul style="list-style-type: none"> 调节张力 Adjust the tension 调节速度减小锯带负载 Adjust the speed 检查导向块及时更换 Check or change the alloy orientator 调整锯轮 Adjust the flange 根据工件大小、形状选齿 Choose the right teeth type by object's size and shape 调节进给量 Adjust the feed speed 检查切削液 Check the cooling fluid 锯带与工件在开机前至少保持适当距离 Keep distance between saw blade and object before sawing 调整导向块 Adjust the alloy orientator
锯带呈不规则断裂 Anomaly broken	<ul style="list-style-type: none"> 锯带安装时扭曲过大 Saw blade is warping when loaded 工件松动 Clamped loose 	<ul style="list-style-type: none"> 调整锯床 Adjust saw machine 调整虎钳夹紧工件 Adjust clamp to close the object



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