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# **Your Technology Partner For All Metal-Cutting Needs**

Since our foundation in 1950 in Spangenberg, and the production of the first band saw tools for metal cutting, we have become a pivotal technology partner for every sawing requirement. Our experienced team have continuously improved the quality and performance of our products through innovation and precision.

The ongoing enhancement of our product and service offerings ensures optimal metal cutting, starting at the very first cut. This results in significant cost savings and critical competitive advantages for our customers.

WESPA remains adaptable to customer needs across a wide range of industries, delivering tailored solutions to meet their unique applications. Our tools are designed to handle a wide range of materials, thanks to carefully engineered edge geometries and surface treatments.

Renowned national and international partners in sectors such as automotive, aerospace, and mechanical engineering place their trust in WESPA's sawing tools.

With a global sales network and specialized trading partners in over 100 countries, and our own companies in North America and Asia, we proudly guarantee fast availability and comprehensive service that you will surely benefit from!











# **Our Locations**









# **Tooth Shapes and Applications**

## **Product Features**



Standard Tooth neutral rake angle



**Hook Tooth** positive rake angle



Reinforced Hook Tooth positive rake angle



Special Tooth positive rake angle



**Reinforced Profile Tooth** positive rake angle



Carbide Tipped positive rake angle



Carbide Tipped neutral rake angle



Carbide Tipped negative rake angle



Carbide Grit multiple rake angle



**Triple Chip Geometry** ground



Multi Chip Geometry ground



Setting heavy



Setting extra heavy

## Areas of Application



Solid Material large



Solid Material small



Tubes and Profiles thick-walled



**Tubes and Profiles** thin-walled



**Beams** 



Bundle solid material



**Bundle** tubes and profiles



**Mineral Materials** 



Wire and Fiber Reinforced Tires



**Metal Cables and Wires** 



Composites



Surface hardened

## Materialgroup

MATERIALGROUP



Non ferrous metals

Aluminum
Structural steel
Cast iron

Alloy steel

Tempered steel
Carbon steel
Work tool steel
High-speed steel

MATERIALGROUP

**Product Advantages** 

**Precision** 

**Surface Finish** 

**Wear Resistance** 

**Performance** 

**Cost Reduction** 

Vibration and

**Noise Reduction** 

**Universally Applicable** 



Stainless steel
Hardened steels
Heat resistant steel

Steel and non-ferrous alloys Titanium and Titanium alloys



## IPC - Individual Performance Cutting®

At your request, we fine-tune band saw blades to perfection with thorough analysis, tailoring them precisely to your specific applications. IPC band saw blades excel in delivering extended tool life and meeting the most demanding cutting requirements, all while achieving exceptional results without the need for machine capacity expansion. This advantage becomes particularly evident on band saw machines where carbide blades aren't suitable.

## **Perfecting Your Sawing Process**

In today's cutting industry, users increasingly seek personalized sawing performance and production-focused service. Experience the superiority of our IPC band saw blades, a testament to the excellence of your sawing processes, proudly brought to you by WESPA.

## **Detailed Analysis of Requirements**

WESPA technical service staff analyzes the customer requirements and present operating conditions of the band saw environment in order to offer an IPC product that is specially designed for the given sawing application.

**C** Coating



## **Hard Coating**

for increased tool life and cutting performance

H Honing



## **Cutting Edge Optimization**

for longer tool life and immediate use without breaking in the blade

X X-Set



## **Special Setting**

protection against tooth breakage and clamping while sawing beams and solid material

## Improvement and Optimization

Blade life Machining performance

Vibrations Straightness of the cut

Surface finish Cost

Noise level Cutting time

The machining process thus achieves a very high level of efficiency. This is made possible by over 70 years of experience of WESPA in the development of customized sawing solutions and services for well-known customers and a wide range of industries.

## Benefits of IPC for your production

- · Higher feed rates and shorter cutting times
- · Longer blade life
- · Higher productivity and lower production costs
- · Cost-effective substitute for carbide band saw blades
- Shorter delivery times due to shorter cutting times
- · Higher manufacturing production quality
- · Increased production reliability
- · Greater adaptability in work scheduling
- Protection of environment and resources





# BITEC ONE ®

The proven blade for small and medium workpieces



Product gr	oup 450							
mm	Inch / tpi	18	14	10	10/14	8/12	6/10	5/8
6 x 0,90	1/4" x 0.035							
10 x 0,90	3/8" x 0.035							
13 x 0,65	1/2" x 0.025							
13 x 0,90	1/2" x 0.035					-		
20 x 0,90	3/4" x 0.035					-		-
27 x 0,90	1" x 0.035					-	-	-
34 x 1,10	1 1/4" x 0.042							
41 x 1,30	1 1/2" x 0.050							
Conta	act lengths in mm	0,1-5	2-25	10-30	5-25	10-40	20-60	40-80

Quality band saw blade with particularly wear-resistant, high cutting accuracy in a wide variation of dimensions and toothings with neutral rake angle.

Distinguishes itself across all materials especially by vibration-reduced sawing of thin to medium workpiece dimensions.

## **Bi-Metal**

## **Product Features**





## Areas of Application







MATERIALGROUP











## **Bi-Metal**

## **Product Features**





# **BITEC ONE** ® The proven blade for medium and large workpieces

Product gr	oup 452											
mm	Inch / tpi		4	4/6	3	3/4	2	2/3	1,4/2	1,25	1,1/1,4	0,75/1,25
6 x 0,90	1/4" x 0.035											
10 x 0,90	3/8" x 0.035	-	-									
13 x 0,65	1/2" x 0.025	-	-									
13 x 0,90	1/2" x 0.035	-	-		-							
20 x 0,90	3/4" x 0.035			-	-							
27 x 0,90	1" x 0.035			-	-	-	-	-				
34 x 1,10	1 1/4" x 0.042			-		-						
41 x 1,30	1 1/2" x 0.050			-				-	-	-		
54 x 1,30	2" x 0.050			-		-						
54 x 1,60	2" x 0.062			-		-		-	-	-	-	-
67 x 1,60	2 5/8" x 0.062			-		=		-	-		-	
80 x 1,60	3 1/8" x 0.062											-
Conta	act lengths in mm	50-80	80-120	50-150	120-200	80-200	200-400	130-400	220-600	300-800	400-800	550-1200

Quality band saw blade with particularly wear-resistant, high cutting accuracy in a wide variation of dimensions and toothings with positive rake angle.

Reliably guarantees high cutting performance and long service life for medium and large workpiece dimensions.

## Areas of Application





MATERIALGROUP

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# XENOTEC ®

The powerful blade for tubes and profiles





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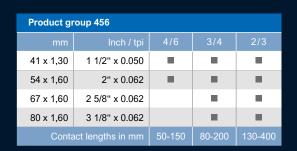
Resistant band saw blade with reinforced tooth cutting geometry and specially coordinated tooth interval.

Designed for sawing tubes and profiles, preventing premature failure due to tooth breakage and ensures economical chip removal with highly variable cutting lengths.

# XTREMA ®

The powerful blade for beams and profiles





Resistant band saw blade with reinforced tooth cutting geometry and special wide set.

Particularly efficient in use on tubes, profiles and beams with large walls and residual stresses, as it counteracts clamping of the saw band in the cutting channel.

# **Bi-Metal**

## **Product Features**







## Areas of Application







MATERIALGROUP



## **Product Advantages**







## **Product Features**







## Areas of Application

































# CROSSTEC ®

The flexible blade for continuously changing workpieces



	455				
Product gi	oup 455				
mm	Inch / tpi	5/7	4/6	3/4	2/3
27 x 0,90	1" x 0.035	=		=	
34 x 1,10	1 1/4" x 0.042	-	-	-	
41 x 1,30	1 1/2" x 0.050				
54 x 1,60	2" x 0.062			-	
Conta	act lengths in mm	40-90	50-150	80-200	130-400

Universally applicable band saw blade for materials with easy machinability and often changing workpiece shapes in single and bundle cutting.

Sets new performance standards for tool life requirements in sawing due to the symbiosis of reinforced tooth back with positive rake angle.

## **Bi-Metal**

## **Product Features**



M42



## Areas of Application











MATERIALGROUP

1











# SUPER SCL®

The effective blade for solid materials



Product gr	oup 453						
mm	Inch / tpi	4/6	3/4	2/3	1,4/2	1,1/1,4	0,7/0,9
27 x 0,90	1" x 0.035		-				
34 x 1,10	1 1/4" x 0.042	-	-	-			
41 x 1,30	1 1/2" x 0.050		-				
54 x 1,30	2" x 0.050		-				
54 x 1,60	2" x 0.062		-				
67 x 1,60	2 5/8" x 0.062				-	-	-
80 x 1,60	3 1/8" x 0.062						
Contact lengths in mm		50-150	80-200	130-400	220-600	400-800	800-2100

High-performance band saw blade with unique tooth geometry and positive rake angle, especially for sawing difficult to machine materials as well as rust and acid resistant steels.

The optimal chip distribution enables very high metal removal rates without cutting progression with good running smoothness.

## **Bi-Metal**

## **Product Features**





## Areas of Application







MATERIALGROUP

2

















# SCL GT®

The optimal blade for solid materials (surface quality)



Product gr	oup 457					
mm	Inch / tpi	3/4	2/3	1,4/2	1,1/1,4	0,7/0,9
34 x 1,10	1 1/4" x 0.042	-				
41 x 1,30	1 1/2" x 0.050	-		-		
54 x 1,60	2" x 0.062					
67 x 1,60	2 5/8" x 0.062			-		
80 x 1,60	3 1/8" x 0.062					
Conta	act lengths in mm	80-200	130-400	220-600	400-800	800-2100

High performance band saw blade with unique tooth geometry and positive rake angle, especially for sawing difficult to cut materials as well as rust and acid resistant steels. The optimal chip distribution allows very high metal removal rates without cutting run with good running smoothness.

The ground teeth minimize chipping at the cutting edge of the teeth and extend tool life. Precise cutting channel provides optimum surface finishes and saves additional costs of re-machining.

## **Bi-Metal**

## **Product Features**





## Areas of Application







MATERIALGROUP

2











# **EVOTEC PLUS**®

The special blade for and difficult to cut materials



Product gr	oup 465						
mm	Inch / tpi	8/12	6/10	5/8	4/6	3/4	2/3
27 x 0,90	1" x 0.035						=
34 x 1,10	1 1/4" x 0.042						-
41 x 1,30	1 1/2" x 0.050						
Conta	act lengths in mm	10-40	20-60	40-80	50-150	80-200	130-400

Extremely durable quality band saw blade for sawing difficult to machine materials as well as highly heat-resistant special alloys.

Specially heat-resistant tooth tips made of powder-metallurgical HSS offer a tool life advantage over conventional M42 band saw blades.

## **Bi-Metal**

## **Product Features**





## Areas of Application



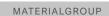
























# EVOTEC SCL ®

The high-performer for high-strength materials



Product gr	oup 466						
mm	Inch / tpi	4/6	3/4	2/3	1,4/2	1,1/1,4	0,7/0,9
27 x 0,90	1" x 0.035	-					
34 x 1,10	1 1/4" x 0.042	-	-	-			
41 x 1,30	1 1/2" x 0.050	-					
54 x 1,60	2" x 0.062						
67 x 1,60	2 5/8" x 0.062						-
80 x 1,60	3 1/8" x 0.062					-	-
Conta	act lengths in mm	50-150	80-200	130-400	220-600	400-800	800-2100

Extremely stressable high-performance band saw blade for sawing difficult to cut materials as well as highly heat-resistant special alloys.

Specially heat-resistant tooth tips of powder-metallurgical HSS offer a tool life advantage over conventional M42 band saw blades.

# **Bi-Metal**

## **Product Features**





## Areas of Application







MATERIALGROUP

## **Product Advantages**







# **EVOTEC SCL GT**®

The high-performer for high-strength materials (surface quality)





## **Product Features**



## Areas of Application







MATERIALGROUP

## **Product Advantages**







## **Product group 467** 41 x 1,30 1 1/2" x 0,050 54 x 1,60 2" x 0,062 2 5/8" x 0,062 67 x 1,60 3 1/8" x 0,062 80 x 1,60

Extremely stressable high-performance band saw blade for sawing difficult to cut materials as well as highly heat-resistant special alloys. The optimum chip distribution enables very high metal removal rates without cutting run with good running smoothness.

The ground teeth minimize chipping at the cutting edge of the teeth and extend tool life. Precise cutting channel provides optimum surface finishes and saves additional costs of re-machining.



# GALAXY HMS ®

The robust allrounder for increased performance



# Product group 471 mm lnch / tpi 3 2/3 20 x 0,90 3/4" x 0.035 ■ 27 x 0,90 1" x 0.035 ■ ■ 34 x 1,10 1 1/4" x 0.042 ■ Contact lengths in mm 120-200 130-400

Carbide-tipped set quality band saw blade for universal use for sawing difficult-to-cut materials, sanded castings and mineral materials. Also on machines which are not designed for carbide usage.

Thanks to its set triple chip geometry it offers the necessary flexibility to reliably guarantee high cutting performance and a long tool life in all workpiece dimensions.

## **GALAXY HMT** ®

The ideal blade for materials with residual stress



## 

Carbide-tipped quality band saw blade for special use with particularly difficult-to-machine and alloyed steels with diffuse material stress.

Its ground and set multi-chip geometry offers the necessary flexibility and optimum chip distribution to reliably guarantee a very high cutting performance and long tool life in all workpiece dimensions.

## Carbide

## **Product Features**







## Areas of Application











## **Product Advantages**







## **Product Features**







## Areas of Application

















# **GALAXY HMD** ®

The powerful bestseller blade



Product gr	oup 473						
mm	Inch / tpi	3	3/4	2/3	1,9/2,1	1,4/1,8	0,7/0,9
20 x 0,90	3/4" x 0.035	-	-				
27 x 0,90	1" x 0.035		-				
34 x 1,10	1 1/4" x 0.042		-				
41 x 1,30	1 1/2" x 0.050		-				
54 x 1,60	2" x 0.062		-				
67 x 1,60 2 5/8" x 0.062				-		-	-
Conta	act lengths in mm	120-200	80-200	130-400	220-600	400-800	1500-2100

Carbide-tipped quality band saw blade for universal use for sawing medium to difficult-to-cut materials.

Reliably guarantees high cutting performance and extend tool life in all workpiece dimensions thanks to its ground triple chip geometry.

# **GALAXY HMX** ®

The optimal blade for more performance



Product gr	oup 475						
mm	Inch / tpi	3/4	2/3	1,9/2,1	1,4/1,8	1,1/1,4	0,9/1,1
27 x 0,90	1" x 0,035	•					
34 x 1,10	1 1/4" x 0,042		-				
41 x 1,30	1 1/2" x 0,050						
54 x 1,30	2" x 0,050	-	-		-		
54 x 1,60	2" x 0,062						
67 x 1,60	2 5/8" x 0,062				-	-	
80 x 1,60	3 1/8" x 0,062						
Conta	act lengths in mm	80-200	130-400	300-500	400-600	600-800	800-1500

Carbide-tipped quality band saw blade for universal use for sawing medium to difficult-to-cut materials.

The specially ground multi-chip geometry ensures optimum chip distribution with reliable, consistently high cutting performance and a long tool life in all workpiece dimensions.

# **Carbide**

## **Product Features**







## Areas of Application





MATERIALGROUP

2

## **Product Advantages**







## **Product Features**







## Areas of Application







## **Product Advantages**









Individual® Performance Cutting.







# GALAXY HMA®

The effective blade for non ferrous materials



## **Product group 477** Inch / tpi 27 x 0,90 1" x 0,035 34 x 1,10 1 1/4" x 0,042 41 x 1,30 1 1/2" x 0,050 54 x 1,30 2" x 0,050 54 x 1,60 2" x 0,062 80 x 1,60 3 1/8" x 0,062 400-600

Carbide-tipped quality band saw blade for universal use for sawing aluminum and non-ferrous materials.

The specially ground multi-chip geometry ensures optimum chip distribution with reliable, consistently high cutting performance and a long service life in all workpiece dimensions.

## **GALAXY HMV** ®

The high-performer for difficult to cut alloys



### **Product group 476** Inch / tpi 27 x 0,90 1" x 0,035 34 x 1,10 1 1/4" x 0,042 41 x 1,30 1 1/2" x 0,050 54 x 1,30 2" x 0,050 2" x 0,062 54 x 1,60 400-600

Carbide-tipped quality band saw blade for special use with particularly difficult-to-machine and alloyed steels.

The ground multi-chip geometry enables optimum chip distribution, which guarantees very high cutting performance and is particularly suited to high degrees of hardness.

## Carbide

## **Product Features**







## Areas of Application





ALUMINUM

## **Product Advantages**







## **Product Features**







## Areas of Application





MATERIALGROUP

2









# GALAXY HMN®

The wear resistant blade for surface hardened materials



# Product group 479 mm lnch / tpi 3/4 2/3 27 x 0,90 1" x 0,035 ■ 34 x 1,10 1 1/4" x 0,042 ■ ■ 41 x 1,30 1 1/2" x 0,050 ■ ■ Contact lengths in mm 80-200 130-400

Carbide-tipped ground band saw blade with negative bevel for cutting materials with particularly hardened and tempered surfaces

The specially ground multi-chip geometry with negative rake angle ensures optimum chip distribution with significantly increased cutting performance and a longer service life in all workpiece dimensions.

# SAPHIR® The carbide grit blade

Product gr	oup 480		
mm	Inch	Gulleted	Continuous
20 x 0,80	3/4" x 0.032		
25 x 0,90	1" x 0.035	-	-
32 x 1,10	1 1/4" x 0.042		

Carbide grit band saw blade for cutting abrasive materials and composites which cannot be cut effectively with standard toothed band saw blades.

Continuously or intermittently coated with carbide particles.

## Carbide

## **Product Features**







## Areas of Application







MATERIALGROUP



## **Product Advantages**





## **Product Features**





## Areas of Application









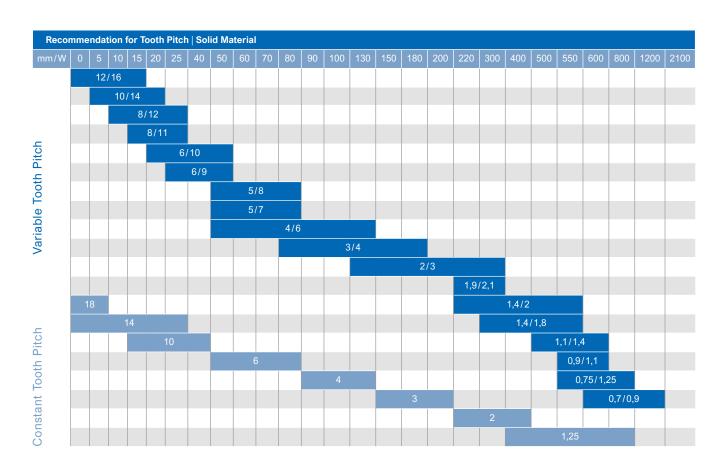


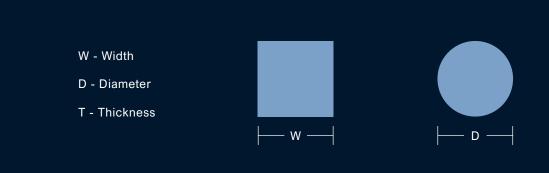






# **Choosing the Right Tooth Pitch**





## **Correct Tooth Pitch**

- · Selecting the correct tooth pitch is important for optimized cutting results
- The tooth pitch results from the engaged length of band saw blade in the material
- If the tooth pitch is too small, (irregular) cutting may result. Chips may clog the cutting length, forcing the band saw blade from its cutting line
- If the tooth pitch is too large, teeth may break out because the cutting pressure acting upon individual teeth becomes too high
- At least 3 teeth are recommended to be engaged to achieve an optimum result



Recommendation for	r Tooth Pit	ch   Tubes	and Profile	es								
Diameter in mm	25	50	75	100	125	150	175	200	250	300	400	500
Thickness in mm						Tod	othing					
2	18	18	18	18	12 / 16	10 / 14	10 / 14	10 / 14	8 / 11	8 / 11	8 / 11	8/11
4	12 / 16	12 / 16	10 / 14	8 / 11	6/9	6/9	6/9	6/9	5/7	5/7	5/7	5/7
6	12 / 16	8 / 11	8 / 11	6/9	5/7	5/7	5/7	5/7	4/6	4/6	4/6	4/6
8	12 / 16	6/9	6/9	5/7	5/7	5/7	4/6	4/6	4/6	4/6	4/6	4/6
10	12/16	5/7	5/7	4/6	4/6	4/6	4/6	4/6	3/4	3/4	3/4	3/4
15		5/7	4/6	4/6	4/6	4/6	3/4	3/4	3/4	3/4	3/4	3/4
25			4/6	4/6	3/4	3/4	3/4	3/4	2/3	2/3	2/3	2/3
35			3/4	3/4	3/4	3/4	2/3	2/3	2/3	2/3	2/3	2/3
50					2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3
65						2/3	2/3	1,4/2	1,4/2	1,4/2	1,4/2	1,4/2
75							2/3	1,4/2	1,4/2	1,4/2	1,4/2	1,4/2
100								2/3	1,4/2	1,4/2	1,4/2	0,75/1,
130									1,4/2	1,4/2	1,4/2	0,75/1,
150										1,4/2	1,4/2	0,75/1,
200												0,75/1,
250												0,75/1,



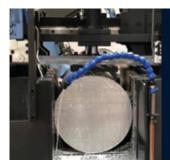
If you have two or more tubes side by side lying to be separated, then you consult the table under consideration of the doublewall thickness.

Factors for the right choice of the tooth pitch:

- Saws of tubes and profiles in bundles
- · Saws of tubes and profiles in the single cut



## **General Advice**



## **Band saw Maschines**

## Check regularly:

- function of the chip brush
- function + concentration of the coolant
- · wear + paralleliam of band saw guide
- blade tension
- blade speed



## **Coolant / Cutting Fluid**

The coolant lubricates, cools and transports the chips out of the cut.

## What is important:

- use a cutting fluid that is recommended for the intended operation
- · use the recommended concentration of cutting fluid
- · check that the coolant is applied at the correct pressure



## Work Piece

## What is important:

- make sure the work piece is clamped securely and can not vibrate or rotate
- do not use work pieces that are damaged, twisted or severely deformed
- the closer the guide of the band saw is to the work piece, the more precise the cut will be



## **Observe Start Up Programs**

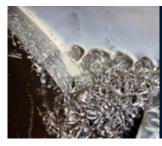
## What is important:

- follow our stat-up advice
- use the recommended cutting parameters to obtain the best service life



## **Optimal Chip Formation**

- very fine and powdery chips indicate insufficient cutting pressure
- thick, highly compressed and blue tarnisch chips indicate overtaxing of the saw band
- loosely rolled chips are a sign of good cutting conditions



## Optimal Chip Formation with Customized Band Saw Blades IPC Option C

- Optimum cutting performance with colored (gold to blue) chips
- Fine chips indicate insufficient cutting pressure. It comes to early worn out of the teeth and high noises. Increase cutting pressure and feed rates



# **Break in Procedure | Blade Tension**







WESPA Standard band saw blades:
Break-In-Process increases the service life of
conventional band saw blades.

Sharp cutting edges with extremely small edge radii are required for high performance blades.

To get the best blade life we recommend that the blade be "broken in".

Determine the proper cutting speed (m/min) and feed (mm/min) based on the material and dimension of the work piece to be cut.

It is important to only operate the new saw blade at about 50% of the determined feed during the break-in cuts. This is done to avoid damaging the extremely sharp blade teeth by micro-cracks due to excessive chip thickness.

Sometimes new saw blades are prone to vibrations or oscillating noises. If this happens you may reduce the cutting speed.

With small work piece dimensions, 300-500 cm² of the work piece cutting material should be cut during break in. When large work piece dimensions are being cut we recommend a break in period of 15 min. After the start-up slowly increase the feed to the previously determined value.

## **Band Saw Blade Tension**

Proper blade tension is required to obtain long life and accurate cutting.

By using the WESPA blade tension gauge you can measure the blade tension applied by your band saw machine and adjust it to the proper level.

For WESPA - band saw blades we recommend a blade tension of 250-300 N/mm<sup>2</sup>.

Blade breakage due to excessive blade tension or cut deviation due to insufficient blade tension can be avoid by using the correct blade tension.

