



DAS SÄGEBAND.

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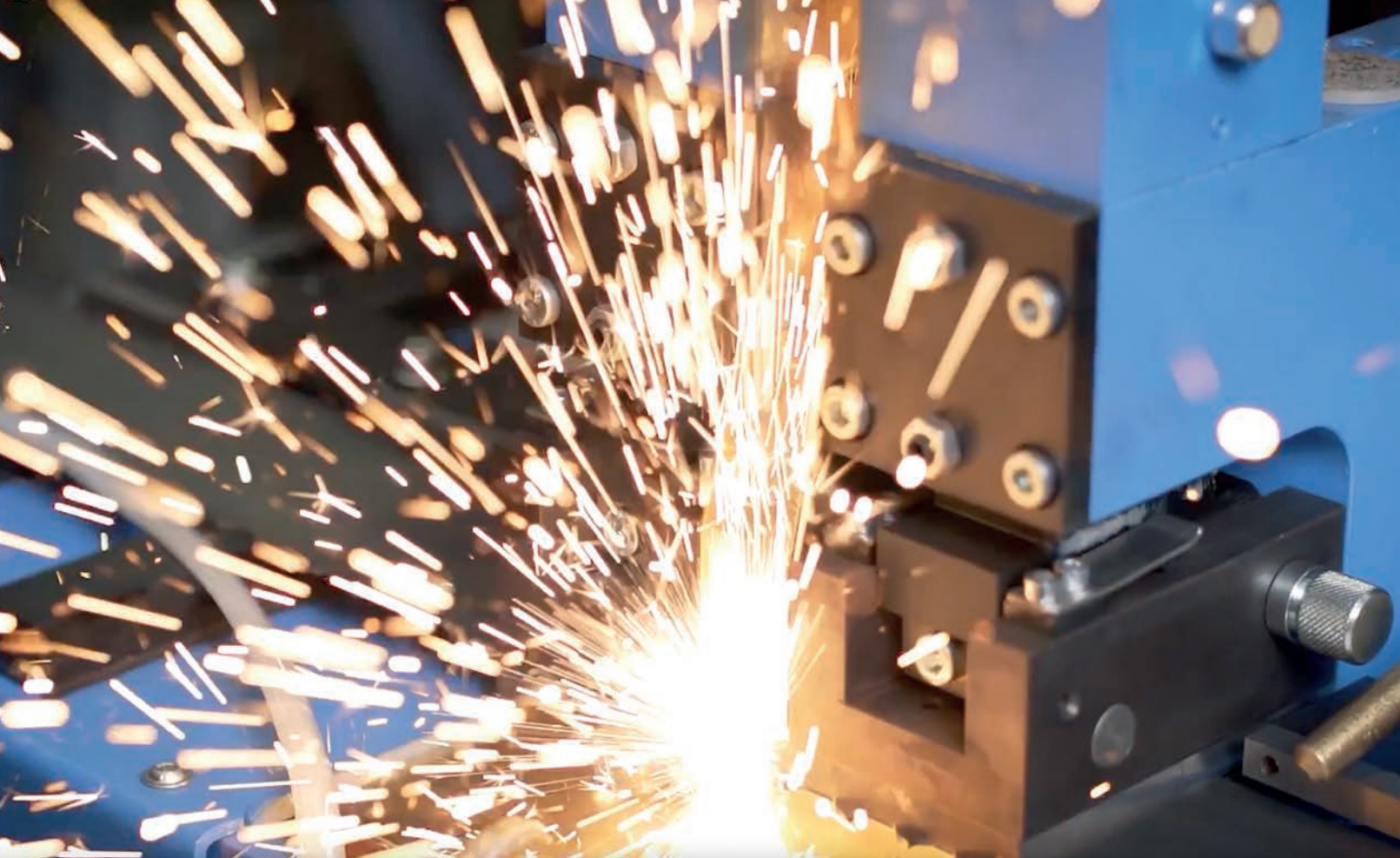
**WESPA**  
WESPA  
WESPA





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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 bandsaw 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



Melsungen, Germany



Louisville, USA













Shanghai, China
















# 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 Grit**  
multiple rake angle
-  **Triple 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**

## Product Advantages

-  **Universally Applicable**
-  **Precision**
-  **Surface Finish**
-  **Wear Resistance**
-  **Performance**
-  **Cost Reduction**
-  **Vibration and**  
**Noise Reduction**

## Materialgroup

MATERIALGROUP

1

Non ferrous metals  
Aluminum  
Structural steel  
Cast iron  
Alloy steel

Tempered steel  
Carbon steel  
Work tool steel  
High-speed steel

MATERIALGROUP

2

Stainless steel  
Hardened steels  
Heat resistant steel  
Steel and non-ferrous alloys  
Titanium and Titanium alloys

# IPC

Individual<sup>®</sup>  
Performance  
Cutting.



## IPC – Individual Performance Cutting<sup>®</sup>





At your request, we fine-tune bandsaw blades to perfection with thorough analysis, tailoring them precisely to your specific applications. IPC bandsaw 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 bandsaw 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 bandsaw 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 bandsaw 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
- S** Wave  **Back Edge Modification**  
for difficult-to-cut materials, increases tool life and decreases cutting times
- 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 bandsaw 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<sup>®</sup>

The proven blade for small and medium workpieces



Product group 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							■
Contact lengths in mm		0,1-5	2-25	10-30	5-25	10-40	20-60	40-80

Quality bandsaw 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



M42

### Areas of Application



MATERIALGROUP

1

### Product Advantages







## Bi-Metal

### Product Features



M42

## BITEC ONE®

The proven blade for medium and large workpieces



Product group 452												
mm	Inch / tpi	6	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											■
Contact 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 bandsaw 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.

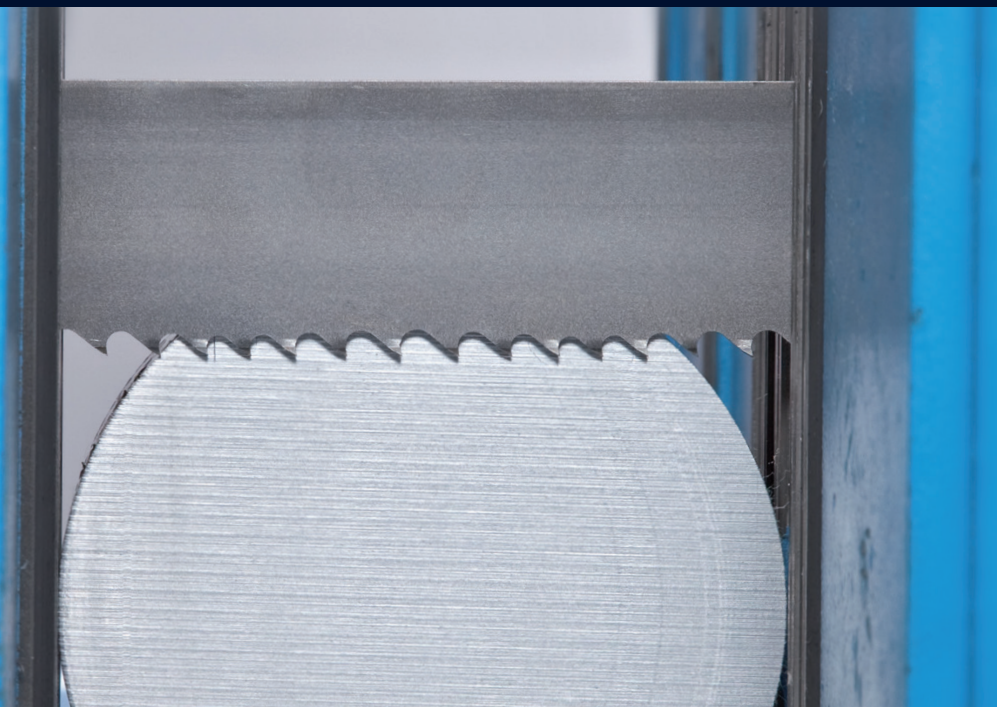
### Areas of Application



MATERIALGROUP

1

### Product Advantages





## XENOTEC®

The powerful blade for tubes and profiles



Product group 454								
mm	Inch / tpi	12/16	8/11	6/9	5/7	4/6	3/4	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		2-20	15-40	20-70	40-90	50-150	80-200	130-400

Resistant bandsaw 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



Product group 456				
mm	Inch / tpi	4/6	3/4	2/3
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		■	■
Contact lengths in mm		50-150	80-200	130-400

Resistant bandsaw blade with reinforced tooth cutting geometry and special special 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 1

### Product Advantages



### Product Features



### Areas of Application



MATERIALGROUP 1

### Product Advantages





# CROSSTEC®

The flexible blade for continuously changing workpieces



## Bi-Metal

### Product Features



M42



### Areas of Application



MATERIALGROUP 1

### Product Advantages



Product group 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			■	■
Contact lengths in mm		40-90	50-150	80-200	130-400

Universally applicable bandsaw 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.





## SUPER SCL<sup>®</sup>

The effective blade for solid materials



Product group 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 bandsaw 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.

## SCL GT<sup>®</sup>

The optimal blade for solid materials (surface quality)



Product group 457 SCL GT						
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				■	■
Contact lengths in mm		80-200	130-400	220-600	400-800	800-2100

High performance bandsaw 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 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

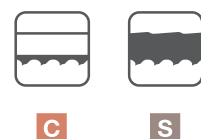
### Product Features



### Areas of Application



### Product Advantages



### Product Features



### Areas of Application



### Product Advantages





## EVOTEC PLUS®

The special blade for and difficult to cut materials



Product group 456				
mm	Inch / tpi	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	■	■	■
Contact lengths in mm		50-150	80-200	130-400

Extremely durable quality bandsaw 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 bandsaw blades.

## EVOTEC SCL®

The high-performer for high-strength materials



Product group 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					■	■
Contact lengths in mm		50-150	80-200	130-400	220-600	400-800	800-2100

Extremely stressable high-performance bandsaw 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.

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

## Bi-Metal

### Product Features



M51

### Areas of Application



MATERIALGROUP 2

### Product Advantages



### Product Features



M51

### Areas of Application



MATERIALGROUP 2

### Product Advantages





## GALAXY HMD<sup>®</sup>

The powerful bestseller blade



Product group 473						
mm	Inch / tpi	3	3/4	2/3	1,9/2,1	1,4/1,8
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			■		■
Contact lengths in mm		120-200	80-200	130-400	220-600	400-800

Carbide-tipped, ground saw blade for universal use for sawing medium to difficult to machine materials.

## GALAXY HMS<sup>®</sup>

The robust allrounder for increased performance



Product group 471			
mm	Inch / 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 saw blade for sawing difficult to machine metallic materials, sanded castings as well as mineral materials.

## Carbide

### Product Features



### Areas of Application



MATERIALGROUP 2

### Product Advantages



### Product Features



### Areas of Application



MATERIALGROUP 1

### Product Advantages





# Carbide



## SAPHIR®

The carbide grit blade



### Product Features



### Areas of Application



### Product Advantages

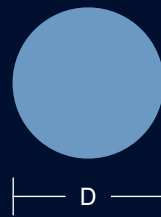
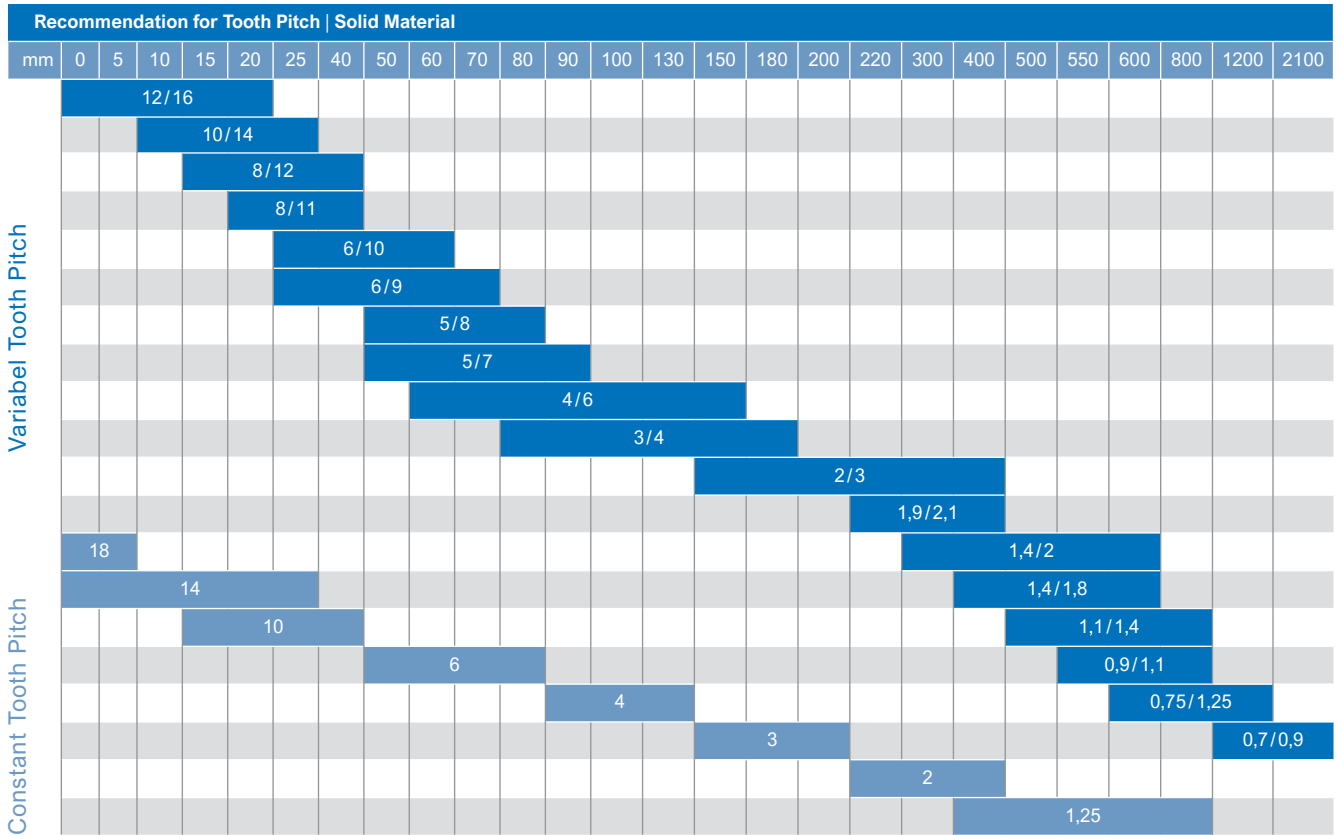


Product group 480			
mm	Inch / tpi	Gulleted	Continuous
20 x 0,80	3/4" x 0.032	■	■
25 x 0,90	1" x 0.035	■	■
32 x 1,10	1 1/4" x 0.042	■	■

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

Continuously or intermittently coated with carbide particles.

## Choosing the Right Tooth Pitch

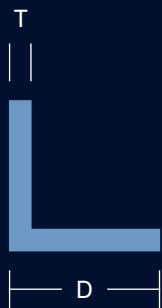


### Correct Tooth Pitch

- Selecting the correct tooth pitch is important for optimized cutting results.
- The tooth pitch results from the engaged length of bandsaw blade in the material.
- If the tooth pitch is too small, (irregular) cutting may result. Chips may clog the cutting length, forcing the bandsaw 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 Tooth Pitch   Tubes and Profiles												
Diameter in mm	25	50	75	100	125	150	175	200	250	300	400	500
Thickness in mm	Verzahnung											
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 / 1,25
130									1,4 / 2	1,4 / 2	1,4 / 2	0,75 / 1,25
150										1,4 / 2	1,4 / 2	0,75 / 1,25
200												0,75 / 1,25
250												0,75 / 1,25

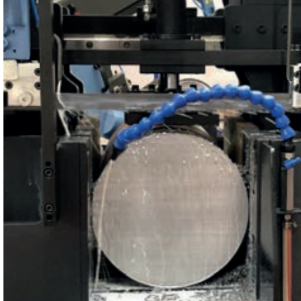


If you have two or more tubes side by side lying to be separated, then you consult the table under consideration of the doublewall thickness.

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



### Bandsaw Machines

Check regularly:

- function of the chip brush
- function + concentration of the coolant
- wear + parallelism of bandsaw guide
- blade tension
- blade speed



### Coolant / Cutting Fluid

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

What is important:

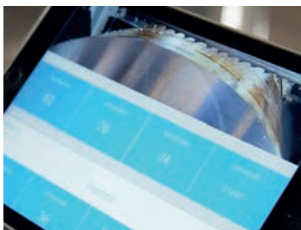
- use a cutting fluid that is recommended for the intended operation
- use the recommended concentration of cutting fluid
- check that the coolant is applied at the correct pressure



### Work Piece

What is important:

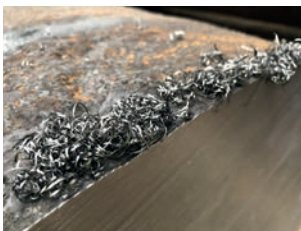
- make sure the work piece is clamped securely and can not vibrate or rotate
- do not use work pieces that are damaged, twisted or severely deformed
- the closer the guide of the bandsaw is to the work piece, the more precise the cut will be



### Observe Start Up Programs

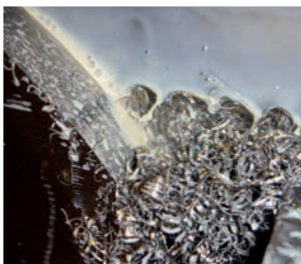
What is important:

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



### Optimal Chip Formation

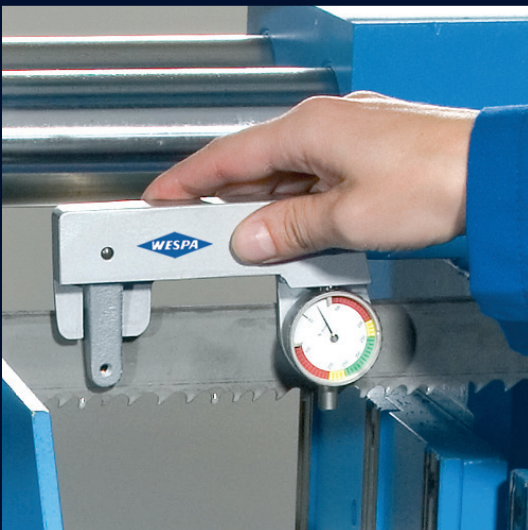
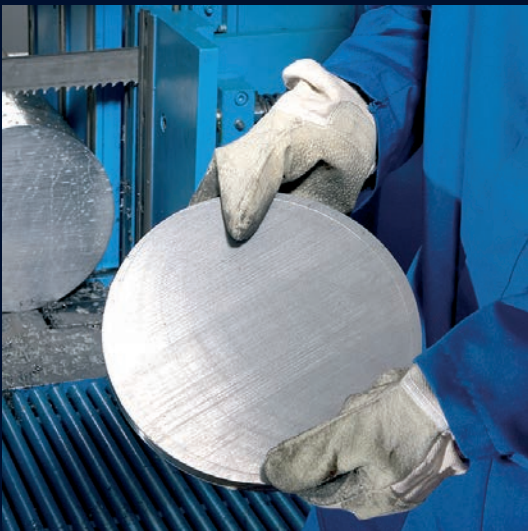
- very fine and powdery chips indicate insufficient cutting pressure
- thick, highly compressed and blue tarnish chips indicate overtaxing of the saw band
- loosely rolled chips are a sign of good cutting conditions



### Optimal Chip Formation with Customized Bandsaw 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 bandsaw blades:**  
**Break-In-Process increases the service life of conventional bandsaw 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 cm<sup>2</sup> 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.

### Bandsaw 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 bandsaw machine and adjust it to the proper level.

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

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



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