



**Pilana**  
METAL

# Bi-Metal Band Saw Blades

*Made in Czech Republic  
since 1934*

# BI-METAL BAND SAW BLADES

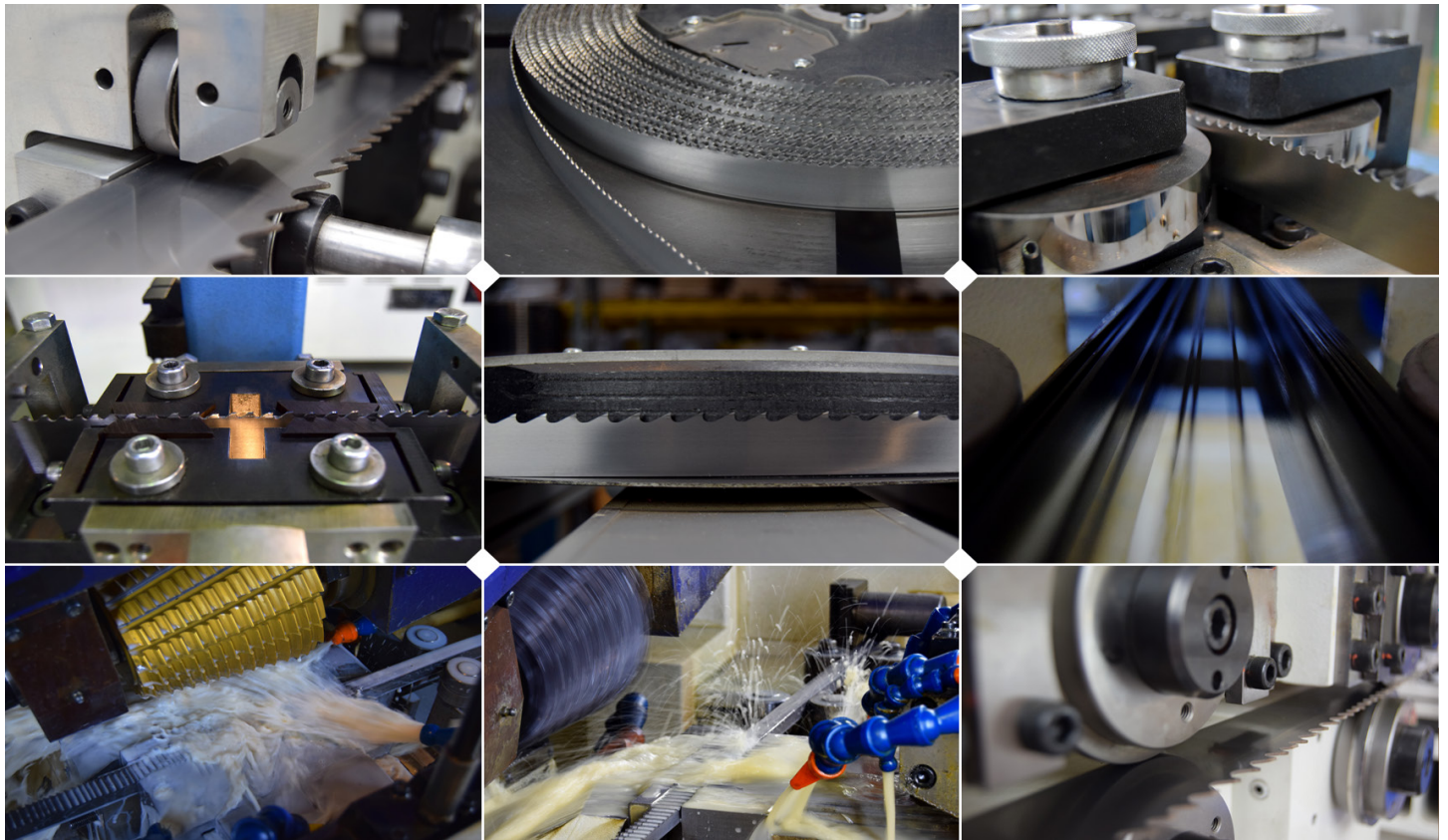
**80 years experience in cutting tools production.** The manufacturing of cutting tools began in Hulin in the year of 1934. Its founder, Josef Studenik, named his company, „The First Moravian Factory For Saws and Tools“. Since then, our company is participating in the development of the cutting tools world.

**The most up-to date production of bimetal bandsaw blades.** In line with global trends, in the year of 2012 PILANA METAL built a very modern plant producing bi-metal band saw blades for metal. The production line is equipped with the best European technologies. Only the bimetal coils produced in Europe are used for the manufacturing of our tools.

**Best quality, quick delivery.** Our technology allows us to guarantee both high quality tools as well as very short delivery times to our customers. Our own welding shop, which is a part of the production plant, produces more than 300 welded loops of band saw blades every day.

**We export to the whole world.** Our tools are used in many European countries. Our band saw blades supplied in coils are exported to more than 50 countries worldwide.

**Try us!** We invite you to try our new tools. Our team is ready to provide our customers with full technical support and service. We firmly believe that you will be very satisfied.



## Recommended tooth pitches

For optimal cutting conditions the choice of appropriate tooth pitch is essential. The material type to be cut is not so decisive but rather the cross-section itself. Especially in case of cutting profiles and tubes, the right choice of TPI is critical. The chart below shows recommended TPIs for particular cross-sections. These values refer to single piece cutting. For bundle cutting of multiple pieces, it is necessary to double the cross-section.

The type of material is more relevant in the choice of teeth profile than the TPI.

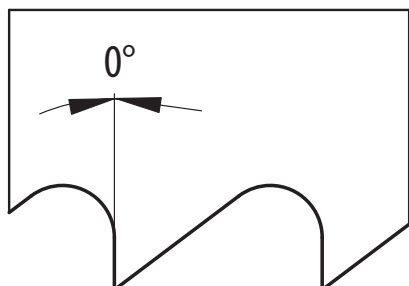
### SOLID MATERIAL

Diameter	Teeth per inch (TPI)
< 10 mm	14 or 10/14 TPI
20-40 mm	8/12 TPI
30-60 mm	6/10 TPI
40-70 mm	5/8 TPI
60-110 mm	4/6 TPI
80-140 mm	3/4 TPI
120-250 mm	2/3 TPI
250-300 mm	1,4/2 TPI
> 300 mm	1,1/1,6 TPI

### PROFILES, TUBES AND BEAMS

Wall thickness	Teeth per inch (TPI)
< 1 mm	18 TPI
2 mm	14 TPI
2-3 mm	10/14 TPI
4-6 mm	8/12 or 8/11 TPI
6-10 mm	6/10 TPI
10-15 mm	5/8 or 5/7 TPI
15-20 mm	4/6 TPI
20 - 30 mm	3/4 TPI
30 - 70 mm	2/3 TPI

## M 42 – 430 UNIVERSAL



**Application:** for cutting common types of steels with a tensile strength up to 1400 N/mm<sup>2</sup>  
suitable also for non ferrous metals  
suitable for cutting both single pieces as well as bundles  
allows cutting profiles with thin walls and also sheets

### UNIVERSAL BAND SAW BLADES SUITABLE FOR SMALL MACHINES

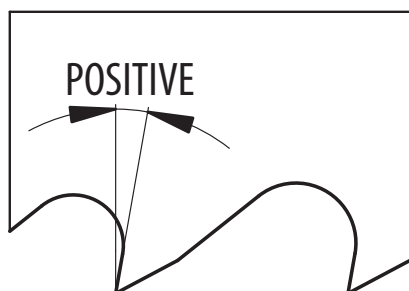
#### Characteristics:

- » teeth tips made of HSS M42, material Nr. 1.3247
- » variable teeth which enables to cut also thin-walled profiles without vibrations
- » standard teeth with 0° or slightly positive rake angle
- » high quality cut and a very good lifetime of blades

Dimensions	TPI - teeth per inch			
mm	5/8	6/10	8/12	10/14
6 x 0,90				V-O
10 x 0,90				V-O
13 x 0,65	V-O	V-O	V-O	V-O
13 x 0,90	V-O	V-O	V-O	V-O
20 x 0,90	V-O	V-O	V-O	V-O
27 x 0,90	V-O	V-O	V-O	V-O
34 x 1,10	V-O	V-O	V-O	V-O
41 x 1,30	V-O	V-O		

V-O = variable teeth with 0° rake angle

## M 42 – 431 MASSIVE



**Application:** for cutting common types of steels with a tensile strength up to 1400 N/mm<sup>2</sup>  
suitable also for non ferrous metals  
excellent for cutting solid rods and blocks  
ideal for cutting thick-walled pipes

### BAND SAW BLADES FOR CUTTING SOLID RODS OF MEDIUM AND LARGE DIMENSIONS

#### Characteristics:

- » teeth tips made of HSS M42, material Nr. 1.3247
- » variable teeth which enables to cut without vibrations
- » teeth with positive rake angle and group set

Dimensions	TPI - teeth per inch					
mm	0,75/1,25	1,1/1,6	1,4/2	2/3	3/4	4/6
20 x 0,90						V-POS
27 x 0,90				V-POS	V-POS	V-POS
34 x 1,10			V-POS	V-POS	V-POS	V-POS
41 x 1,30			V-POS	V-POS	V-POS	V-POS
54 x 1,30		V-POS	V-POS	V-POS	V-POS	V-POS
54 x 1,60	V-POS	V-POS	V-POS	V-POS	V-POS	V-POS
67 x 1,60	V-POS	V-POS	V-POS	V-POS	V-POS	

V-POS = variable teeth with positive rake angle



# BI-METAL BAND SAW BLADES

## M 42 – 436 ALU

Application: for cutting Aluminium and Aluminum alloys  
suitable for all dimensions  
allows also to cut materials with internal tensions  
and tendency to pinching



### BAND SAW BLADES FOR CUTTING ALUMINUM WITHOUT PINCHING

#### Characteristics:

- » teeth tips made of HSS M42, material Nr. 1.3247
- » regular teeth with positive rake angle with extremely wide set
- » variable tooth together with extremely wide set prevents from pinching and vibrations
- » high quality cut and a very good lifetime of blades

Dimensions	TPI - teeth per inch					
mm	2H	3H	4H	6H	2/3	3/4
10 x 0,90			POS	POS		
13 x 0,90		POS	POS	POS		
20 x 0,90		POS				
27 x 0,90	POS	POS	POS		V-POS	V-POS
34 x 1,10	POS	POS			V-POS	V-POS
41 x 1,30	POS	POS			V-POS	V-POS

POS = regular teeth with positive rake angle  
V-POS = variable teeth with positive rake angle

## M 42 – 461 PROFILE

Application: for cutting common types of steels with a tensile strength up to 1400 N/mm<sup>2</sup>  
excellent for cutting open and closed profiles, tubes and beams  
prevents from biting the blade into the material  
prevents from vibrations



### BAND SAW BLADES FOR SMOOTH PROFILES CUTTING (no pinching or vibrations)

#### Characteristics:

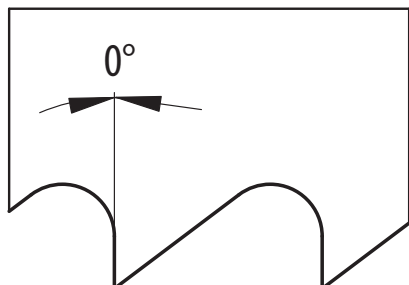
- » teeth tips made of HSS M42, material Nr. 1.3247
- » variable teeth with slightly positive rake angle
- » resistant to teeth breakage and vibrations
- » high quality cut and a very good lifetime of blades

Dimensions	TPI - teeth per inch				
mm	2/3	3/4	4/6	5/7	8/11
20 x 0,90				V-POS	V-POS
27 x 0,90		V-POS	V-POS	V-POS	V-POS
34 x 1,10	V-POS	V-POS	V-POS	V-POS	V-POS
41 x 1,30	V-POS	V-POS	V-POS	V-POS	V-POS
54 x 1,30	V-POS	V-POS			
54 x 1,60	V-POS	V-POS	V-POS		
67 x 1,60	V-POS	V-POS	V-POS		

V-POS = variable teeth with positive rake angle

## M 42 – 420 REGULAR

Application: for cutting common types of steels with a tensile strength up to 1400 N/mm<sup>2</sup>  
suitable also for non ferrous metals  
suitable for cross sections up to 100 mm  
suitable also for shape cuts



### BAND SAW BLADES WITH REGULAR TOOTHING (for small dimensions)

#### Characteristics:

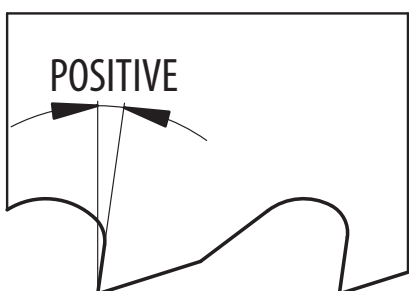
- » teeth tips made of HSS M42, material Nr. 1.3247
- » regular toothing
- » standard teeth with 0° or slightly positive rake angle

Dimensions	TPI - teeth per inch				
mm	4	6	10	14	18
6 x 0,90			N	N	
10 x 0,90			N	N	
13 x 0,65			N		N
13 x 0,90			N	N	N
20 x 0,90	N			N	N
27 x 0,90	N	N		N	N
34 x 1,10					

N = regular teeth with 0° rake angle

## M 42 – 421 REGULAR PLUS

Application: for cutting common types of steels with a tensile strength up to 1400 N/mm<sup>2</sup>  
suitable also for non ferrous metals  
suitable for cross sections above 100 mm



### BAND SAW BLADES WITH REGULAR TOOTHING (for larger dimensions)

#### Characteristics:

- » teeth tips made of HSS M42, material Nr. 1.3247
- » regular toothing
- » standard teeth with a strongly positive rake angle (HOOK)

Dimensions	TPI - teeth per inch				
mm	1,25	2	3	4	6
6 x 0,90					POS
10 x 0,90				POS	POS
13 x 0,65					POS
13 x 0,90			POS	POS	POS
20 x 0,90			POS	POS	
27 x 0,90		POS	POS	POS	POS
34 x 1,10		POS	POS	POS	

POS = regular teeth with positive rake angle

# BI-METAL BAND SAW BLADES

## M 42 – 434 PLUSCUT

Application: for long-chipping steels  
special bronzes and copper alloys  
fireproof and refractory steels  
titanium and nickel-based alloys



### BAND SAW BLADES WITH STRONGLY POSITIVE GEOMETRY FOR CUTTING RESILIENT MATERIALS

#### Characteristics:

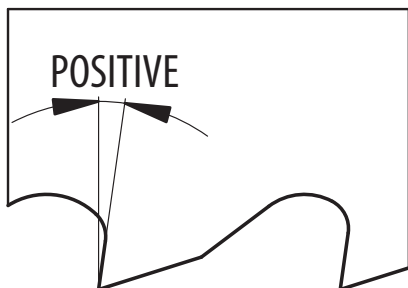
- » teeth tips made of HSS M42, material Nr. 1.3247
- » variable toothing with a strongly positive rake angle
- » band saw blade is quite aggressive when cutting and this enables easier chips creation
- » high quality cut and a very good lifetime of blades

Dimensions			
mm	1,4/2	2/3	3/4
27 x 0,90			V-POS+
34 x 1,10		V-POS+	V-POS+
41 x 1,30		V-POS+	V-POS+
54 x 1,60	V-POS+	V-POS+	V-POS+
67 x 1,60			

V-POS+ = variable teeth with a strongly positive rake angle

## M 51 – 531 MASSIVE Profi M 51

Application: for cutting common types of steels with a tensile strength up to 1700 N/mm<sup>2</sup>  
suitable for stainless steels and steels resistant to acids  
suitable also for titanium and nickel-based alloys and other hard workable materials



### BAND SAW BLADES WITH EXCEPTIONAL ABRASION RESISTANCE

#### Characteristics:

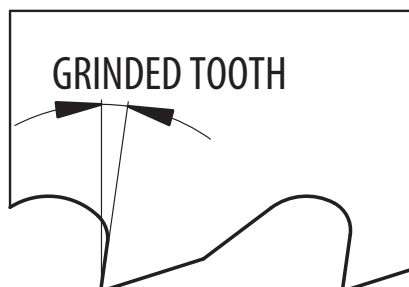
- » tooth tips made of HSS M51 which contains 10% of cobalt and 10% of tungsten
- » exceptional abrasion resistance of band saw blade
- » very high cut quality and lifetime even in demanding applications

Dimensions	TPI - teeth per inch					
mm	0,75/1,25	1,1/1,6	1,4/2	2/3	3/4	4/6
27 x 0,90				V-POS	V-POS	V-POS
34 x 1,10				V-POS	V-POS	V-POS
41 x 1,30			V-POS	V-POS	V-POS	V-POS
54 x 1,60			V-POS	V-POS	V-POS	V-POS
67 x 1,60	V-POS	V-POS	V-POS	V-POS		

V-POS = variable teeth with positive rake angle

## M 51 – 537 GRINDCUT

**Application:** for cutting common types of steels with a tensile strength up to 1700 N/mm<sup>2</sup>  
suitable for stainless steels, steels resistant to acids  
titanium and nickel-based alloys and other hard workable materials



### SHARPENED BAND SAW FOR THE HARDEST WORKABLE MATERIALS

#### Characteristics:

- » teeth tips made of HSS M51 which contains 10% of cobalt and 10% of tungsten
- » teeth tips hardness up to 69 HRC
- » precision-sharpened teeth with CBN technology
- » perfect tips division and excellent band guidance

Dimensions	TPI - teeth per inch				
mm	0,75/1,25	1/1,5	1,4/2	2/3	3/4
34 x 1,10				M	M
41 x 1,30			M	M	M
54 x 1,60	M	M	M	M	M
67 x 1,60	M		M		

M = teeth with a special geometry sharpened with CBN technology

## 544 TEMPEST

**Application:** suitable for large cross-sections  
suitable for strength steels, stainless steels, steels resistant to acids, special bronzes  
titanium and nickel-based alloys and other hard workable materials  
special bronzes



### PREMIUM BAND SAW FOR CUTTING SUPER-ALLOYS

#### Characteristics:

- » precision-made toothing with a strongly positive rake angle
- » teeth tips hardness up to 68-69 HRC
- » smooth and straight cuts, very high cutting speed and lifetime even in demanding applications
- » premium band saw for cutting super-alloys

Dimensions	TPI - teeth per inch			
mm	0,75/1,25	1/1,3	1/1,5	1,4/2
41 x 1,30				V-POS+
54 x 1,60	V-POS+	V-POS+	V-POS+	V-POS+
67 x 1,60	V-POS+	V-POS+		V-POS+

V-POS+ = variable teeth with a strongly positive rake angle

# BI-METAL BAND SAW BLADES

## M 51 – 537 GRINDCUT PLUS TIN COATED



NEW

**Application:** dedicated for the hardest applications  
stainless steels, steels resistant to acids  
titanium and nickel-based alloys and other hard workable materials

### SHARPENED BAND SAW WITH TIN COATING FOR HARDEST WORKABLE MATERIALS

#### Characteristics:

- » teeth and band saw body portion are covered with TIN coating made by PVD technology
- » teeth tips made of HSS M51 which contains 10% of cobalt and 10% of tungsten
- » teeth tips hardness up to 69 HRC
- » precision-made toothing with CBN technology
- » extremely high lifetime of a band saw blade

Dimensions mm	TPI - teeth per inch				
	0,75/1,25	1/1,5	1,4/2	2/3	3/4
34 x 1,10				M	M
41 x 1,30			M	M	
54 x 1,60		M	M	M	
67 x 1,60	M		M		

M = teeth with a special geometry sharpened with CBN technology

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