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## BI-METAL BAND SAW BLADES

Made in Czech Republic Since 1934

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". More than 80 years is a long period during which the world of cutting tools has changed completely. This applies both for the tools as well as for customer requirements for their properties and quality.

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. This operation is equipped with the best European technologies and is a leader in this field. Only the bimetal coils produced in Europe are used for the manufacture of these tools. This allows us to guarantee both high quality tools as well as very short delivery times to our customers. Own welding shop, which is a part of the production plant, produces more than 300 welded loops of band saw blades every day. These are intended not only for the Czech market but are also exported to many European countries. Our band saw blades supplied in coils are exported to more than 50 countries worldwide. At present, investment in the manufacturing operation continues, not only to increase production capacity but also to continue improving the quality of our products. This year we introduce several new products, including coated band saw blades.

We invite you to try our new tools. We firmly believe that you will be very satisfied with them and their properties, as well as our technical support and service.



## **Recommended Toothing of Band saw blades for metal**

For a trouble-free operation with saw blades the selection of the suitable toothing for the cut material is crucial. The material type to be cut is not so decisive but rather the cross-section itself. Especially when cutting profiles and tubes, the right choice of teeth is absolutely necessary. The table below shows suitable toothing for particular cross-sections. This applies for cutting a single piece of material. When cutting multiple pieces side by side, it is necessary to consider doubling the cross-section of the material.

#### 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 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
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#### UNIVERSAL BAND SAW BLADES SUITABLE FOR SMALL MACHINES

#### Characteristics:

- » tooth tips made of HSS M42, material Nr. 1.3247
- » variable tooth 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  $0^0$  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

## POSITIVE

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

#### Characteristics:

- » tooth tips made of HSS M42, material Nr. 1.3247
- » variable tooth 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



M 42 – 436 **ALU** 



Application: for cutting Alumium 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:

- » tooth tips made of HSS M42, material Nr. 1.3247
- » regular tooth with positive rake angle with extremely wide set
- » variable toot 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	ЗH	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:

- » tooth tips made of HSS M42, material Nr. 1.3247
- » variable toothing with slightly positive rake angle
- » resistant to tooth 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



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## 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:

» tooth 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	8	10	14	18
6 x 0,65				Ν		
6 x 0,90				Ν	Ν	
10 x 0,90			Ν	Ν	Ν	
13 x 0,65				Ν	Ν	Ν
13 x 0,90			Ν	Ν	Ν	Ν
20 x 0,90	Ν	Ν		Ν	Ν	Ν
27 x 0,90	Ν	Ν	Ν		Ν	Ν
34 x 1,10	Ν	Ν	Ν	Ν	Ν	

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:

- » tooth 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 0,65					POS			
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	POS			
27 x 0,90		POS	POS	POS	POS			
34 x 1,10	POS	POS	POS	POS				

POS = regular teeth with positive rake angle





Application: for long-chipping steels

## M 42 – 434 PLUSCUT



## BAND SAW BLADES WITH STRONGLY POSITIVE GEOMETRY

special bronzes and copper alloys

fireproof and refractory steels titanium and nickel-based alloys

### Characteristics:

- » tooth tips made of HSS M42, material Nr. 1.3247
- » variable toothing with a strongly positive rake angle

FOR CUTTING RESILIENT MATERIALS

- » band saw blade is quite agreesive when cutting and this enables easier chips creation
- » high quality cut and a very good lifetime of blades

Dimensions	TPI - teeth per inch							
mm	0,75/1,25	1,1/1,6	1,5/2	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+	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 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



#### SHARPENED BAND SAW FOR THE HARDEST WORKABLE MATERIALS

suitable for stainless steels, steels resistant to acids

for cutting common types of steels with a tensile strength up to 1700 N/mm<sup>2</sup>

titanium and nickel-based alloys and other hard workable materials

#### Characteristics:

Application:

- » tooth tips made of HSS M51 which contains 10% of cobalt and 10% of tungsten
- » tooth 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	1,1/1,6	1,5/2	2/3	3/4	
34 x 1,10				М	М	
41 x 1,30			Μ	М	М	
54 x 1,60	Μ	М	Μ	М	М	
67 x 1.60	М	М	М			

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

# VERY POSITIVE

#### PREMIUM BAND SAW FOR CUTTING SUPER-ALLOYS

#### Characteristics:

- » precision-made toothing with a strongly positive rake angle
- » tooth 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	1,1/1,5	1,4/2	2/3		
41 x 1,30			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 a strongly positive rake angle



M 51 – 537 **GRINDCUT PLUS TIN COATED** 

**GRINDED TOOTH + TIN** 

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
- » tooth tips made of HSS M51 which contains 10% of cobalt and 10% of tungsten
- » tooth tips hardness up to 69 HRC
- » precision-made toothing with CBN technology
- » extremely high lifetime of a band saw blade

Dimensions	TPI - teeth per inch						
mm	0,75/1,25	1,1/1,6	1,5/2	2/3	3/4		
34 x 1,10				М	М		
41 x 1,30			М	М			
54 x 1,60		М	М	М			
67 x 1,60	М	М	М				

M = teeth with a special geometry sharpened with CBN technology

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