

# ADLER®

METAL İŞLEME SAN. ve TİC. A.Ş.



Ideal Solutions  
For Professionals..



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Made In Germany

## "We offer ideal solutions for professionals in **band saw** production"

Our company is the representative of Turkey bandsaw ADLER brand produced in Germany and distributes the ball as seamless as originating in each of the desired dimensions. It also manufactures and distributes ADLER oil skimmers, which are used to clean oils (Such as sideways oils) contained in cooling fluids of workbenches.



It continues its activities with the policy of providing better and higher quality services in line with the policy of providing better and higher quality services in line with the wishes and suggestions of the costumers. As a distributor of Mubea company located in Germany, we have developed our activity area by adding disc spring product group and out own band saw measuring instruments products.



**Ideal solutions.  
on welding**

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2	GENERAL STRUCTURE IMPROVEMENT STEELS	1.0050 ST50 E295 1.0060 ST60 E335 1.0501 C35 1.0503 C45							
3	CEMENTATION STEELS	1.7131 16MnCr5 1.7225 42CrMo4 1.8159 51CrV4 1.6582 34CrNiMo6							
4	BEARING STEEL UNALLOYED CARBON STEEL BALL STEEL	1.3505 100Cr6 1.1663 C125W							
5	HIGH SPEED STEEL	1.3343 S6-5-2 1.3247 S2-10-1-8							
6	COLD WORK TOOL STEEL	1.2436 X210CrW12 1.2379 X153CrVMoV12							
7	ALLOY CARBON	1.2311 40CrMnMo7 1.2714 56NiCrMoV7 1.2344 X40CrMnV51 1.8504 34CrAl6							
8	STAINLESS STEEL	1.4301 X10CrNi1810 1.4462 X2CrNiMoN22 1.4571 X6CrNiMoTi17							
9	DURABLE STEEL	1.4841 X15CrNiSi25 2.4816 NiCr15Fe							
10	NICKEL ALLOYS	2.4668 NiCr19NbMo 2.4610 NiMo16Cr16Ti 2.4632 NiCr20Co18Ti							
11	CAST IRON CASTING	0.6020 GG-20 0.6030 GG-30 0.7070 GGG-70							
12	TITANIUM-BRONZE ALUMINIUM-BRONZE AMPCO	3.7065 Ti 3.7115 TiAl5Sn2F79							
13	ALUMINIUM ALLOYS	EN AW-1200 AL 99 EN AW-6082 Al Si1MgMn EN AC-AIMg5Si							
14	BRASS	2.0321 CuZn37 2.0402 CuZn40Pb2 2.0550 Cu Zn 40 Al 2							
S	SPECIAL MATERIALS								
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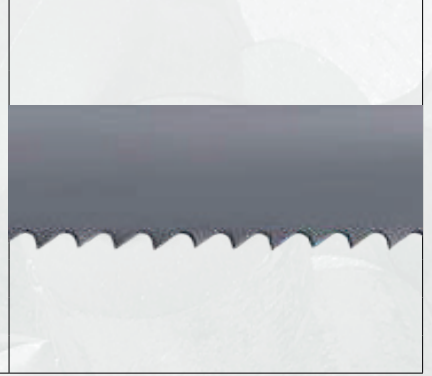
ADL 109	ADL 112	ADL 107	ADL 108	ADL 401	ADL 403	ADL 404	ADL 405	ADL 406
	HUL							
	HUL							

ADLER BiMetal M42 S		ADL 104			
Sizes mm	Teeth				
	4	6	10	14	18
6 x 0,9			S-0	S-0	
10 x 0,9			S-0	S-0	
13 x 0,65				S-0	S-0
20 x 0,9				S-0	S-0
27 x 0,9	S-0	S-0			

S-0 = Standard tooth 0°

**Bi-metal band saw blades made of HSS M42, material no: 1.3247**

- To cut small solid materials of steel and small profiles
- Strenght up to 1400 N/mm<sup>2</sup>



ADLER BiMetal M42 K		ADL 104			
Sizes mm	Teeth				
	2	3	4	6	
6 x 0,9				K-2	
10 x 0,9			K-2	K-2	
13 x 0,65			K-2	K-2	
13 x 0,9		K-2	K-2	K-2	
20 x 0,9		K-2			
27 x 0,9	K-2	K-2			

K-2 = Claw tooth 10° positive

**Bi-metal band saw blades made of HSS M42, material no: 1.3247**

- For several materials and cutting purposes
- Strenght up to 1400 N/mm<sup>2</sup>



ADLER BiMetal M42 V		ADL 104					
Sizes mm	Teeth						
	3/4	4/6	5/8	6/10	8/12	10/14	
6 x 0,9						V-0	
10 x 0,9						V-0	
13 x 0,65			V-0*	V-0	V-0	V-0	
13 x 0,9				V-0	V-0	V-0	
20 x 0,9		V-0	V-0	V-0	V-0	V-0	
27 x 0,9	V-0	V-0	V-0	V-0	V-0	V-0	
34 x 1,1	V-0	V-0	V-0	V-0	V-0		
41 x 1,3	V-0	V-0	V-0	V-0			
54 x 1,6		V-0*	V-0*				

V-0 = Vario tooth 0°      \*on request

**Bi-metal band saw blades made of HSS m42, material no: 1.3247**

- The cut profiles and tubes of steel
- Strenght up to 1400 N/mm<sup>2</sup>



ADLER BiMetal M42 SV		ADL 104				
Sizes mm	Teeth					
	0,75/1,25	1,4/2	2/3	3/4	4/6	
20 x 0,9					V-2	
27 x 0,9			V-2	V-2	V-2	
34 x 1,1		V-2	V-2	V-2	V-2	
41 x 1,3		V-2	V-2	V-2	V-2	
54 x 1,3		V-2	V-2	V-2	V-2	
54 x 1,6	V-2	V-2	V-2	V-2	V-2	
67 x 1,6	V-2	V-2	V-2			
80 x 1,6	V-2	V-2				

V-2 = Vario tooth 10° positive

**Bi-metal band saw blades made of HSS m42, material no: 1.3247**

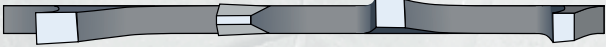
- For cutting medium to large cross sections of various material types
- For aluminium up to stainless steel
- Strenght up to 1400 N/mm<sup>2</sup>



### ADLER BiMetal M42 SV SG ADL 110

Dimensions mm	Toothing			
	0,75/1,25	1,4/2	2/3	3/4
27 x 0,9			V-2	V-2
34 x 1,1		V-2	V-2	V-2
34 x 1,1		V-2	V-2	V-2
54 x 1,3		V-2	V-2	V-2
54 x 1,6	V-2	V-2	V-2	V-2
67 x 1,6	V-2	V-2	V-2	
80 x 1,6	V-2	V-2		

V-2 = Vario tooth 10° positive ground teeth



**Bi-metal bandsaw blades made of HSS M42, Material No: 1.3247, with specially ground vario tooth**

- For production cutting of medium to large cross sections of various material types
- Precise ground tooth pitch for smooth surface finish and long blade life



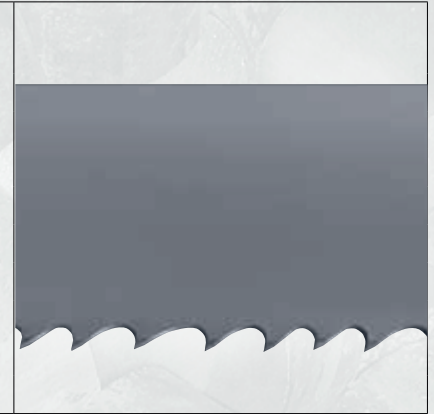
### ADLER BiMetal M51 SV ADL 201

Dimensions mm	Toothing						
	0,75/1,25	1/1,3	1/1,5	1,4/2	2/3	3/4	4/6
27 x 0,9					V-3	V-3	V-3
34 x 1,1					V-3	V-3	V-3
41 x 1,3				V-3	V-3	V-3	
54 x 1,6			V-3	V-3	V-3	V-3	
67 x 1,6	V-3	V-3		V-3	V-3		
80 x 1,6	V-3	V-3		V-3*			

V-3 = Vario tooth approx 15° positive \*on request

**Bi-metal band saw blades made of HSS M51, material No: 1.3207**


- To cut solid steel up to 1700 N/mm<sup>2</sup> strength
- Developed to cut difficult materials



### ADLER BiMetal M51 SV SG ADL 202

Dimensions mm	Toothing					
	0,75/1,25	1/1,3	1/1,5	1,4/2	2/3	3/4
27 x 0,9					V-3	V-3
34 x 1,1					V-3	V-3
41 X 1,3				V-3	V-3	V-3
54 x 1,6			V-3	V-3	V-3	V-3
67 x 1,6	V-3	V-3		V-3	V-3	
80 x 1,6	V-3	V-3		V-3*		

V-3 = Vario tooth approx 15° positive \*on request



**Bi-metal band saw blades made of HSS M51, material No: 1.3207**


- Developed for high-alloy and tough solid materials up to 1700 N/mm<sup>2</sup> strength
- Precise ground tooth
- Extreme positive rake angle



### ADLER BiMetal M42 PS SG ADL 112

Dimensions mm	Toothing	
	2/3	3/4
27 x 0,9		V-1
34 x 1,1	V-1	V-1
41 X 1,3	V-1	V-1
54 x 1,3		V-1
54 x 1,6	V-1	V-1
67 x 1,6		V-1

V-1 = Vario tooth 5° positive



**Bi-metal band saw blades made of HSS M42 material No: 1.3247, with specially ground vario tooth**

- For small and medium scissorarm machines
- For soft and medium hard steel up to 1400 N/mm<sup>2</sup> strength filled material, tubes and profiles
- Smooth surface and high wear resistance thanks to ground




ADLER BiMetal M42 PS1		ADL 106			
Dimensions mm	Toothing				
	2/3	3/4	4/6	5/7	8/11
20 x 0,9					V-1
27 x 0,9		V-1	V-1	V-1	V-1
34 x 1,1	V-1	V-1	V-1	V-1	
41 x 1,3	V-1	V-1	V-1		
54 x 1,3		V-1			
54 x 1,6	V-1	V-1	V-1		
67 x 1,6	V-1	V-1			

V-1 = Vario tooth 5° positive

**Bi-metal band saw blades made of HSS M42, material no: 1.3247**

- For small and medium scissor arm machines
- For soft and medium hard steel up to 1400 N/mm<sup>2</sup> strength
- For small up to medium beams and profiles single and bundle cutting




ADLER BiMetal M42 PS2		ADL 109	
Dimensions mm	Toothing		
	2/3	3/4	
34 x 1,1		V-4	
41 x 1,3	V-4	V-4	
54 x 1,6	V-4	V-4	
67 x 1,6	V-4	V-4	

V-4 = Vario tooth 5° positive with special setting

**Bi-metal band saw blades made of HSS M42, material no: 1.3247**

- For cutting medium and large structural steels, tubes and profiles with clamping
- Special set and tooth profile reduces tooth chipping
- Ideal for interrupted cutting




ADLER BiMetal M42 ALU1		ADL 107	
Dimensions mm	Toothing		
	3	4	6
10 x 0,9		K-2	K-2
13 x 0,65		K-2	K-2
13 x 0,9	K-2	K-2	K-2
20 x 0,9	K-2		
27 x 0,9	K-2		

K-2 = Claw tooth 10° positive

**Bi-metal band saw blades made of HSS M42, material no: 1.3247**

- Special design in combination with extreme sharp cutting edges
- Developed for cutting aluminium
- Standard tooth pitch




ADLER BiMetal M42 ALU2		ADL 108	
Dimensions mm	Toothing		
	2/3	3/4	
27 x 0,9	V-2	V-2	
34 x 1,1	V-2	V-2	

V-2 = Vario tooth 10° positive

**Bi-metal band saw blades made of HSS M42, material no: 1.3247**

- Special design in combination with extreme sharp cutting edges
- Developed for cutting aluminium
- Variable tooth pitch






ADLER TRICARBIDE		ADL401				
Dimensions mm	Toothing					
	0,75/1,25	1/1,5	1,4/2	2/3	3	3/4
27 x 0,9				V	K	V
34 x 1,1				V		V
41 x 1,3			V	V		V
54 x 1,3			V	V		
54 x 1,6	V	V	V	V		
67 x 1,6	V	V	V	V		

V = Vario tooth positive K = Claw tooth positive

**Carbide tipped band saw blades with triple chip geometry and tooth tips made of wear resistant carbide**

- For difficult to cut and abrasive materials such as stainless steel, special alloys, titanium alloys, aluminum bronze and ampco




ADLER ORICARBIDE		ADL403				
Dimensions mm	Toothing					
	0,75/1,25	1/1,5	1,4/2	2/3	3/4	
27 x 0,9				V	V	
34 x 1,1			V	V	V	
41 x 1,3			V	V	V	
54 x 1,3			V	V		
54 x 1,6	V	V	V	V	V	
67 x 1,6	V	V	V	V		
80 x 1,6	V		V			

V = Positive vario tooth

**Carbide tipped premium band saw blades with multi chip geometry fullfilling the highest requirement of tools**

- Designed for high efficiency cutting in solid steel and non-ferrous alloys




ADLER ORISUPERCARBIDE		ADL404	
Dimensions mm	Toothing		
	2/3		3/4
27 x 0,9	V-N		V-N
34 X 1,1	V-N		V-N
41 X 1,3	V-N		V-N
54 X 1,6	V-N		

V-N = Negative vario tooth

**Carbide tipped band saw blades with multi chip geometry and negative rake angle, tooth tips made of wear resistant carbide**

- Perfect for cutting hardchrome piston rods and surface hardened materials




ADLER NEPCARBIDE		ADL405				
Dimensions mm	Toothing					
	0,75/1,25	1,4/2	2/3	3/4	4/6	
20 x 0,9				V-S		
27 x 0,9			V-S	V-S	V-S	
34 x 1,1		V-S	V-S		V-S	
41 x 1,3		V-S	V-S		V-S	
54 x 1,3		V-S	V-S			
54 x 1,6	V-S	V-S	V-S			
67 x 1,6	V-S	V-S				
80 x 1,6	V-S	V-S				

V = Vario tooth positive k = Claw tooth positive

**Carbide tipped band saw blades with special chip geometry and tooth tips made of wear resistant carbide**

- For difficult to cut and abrasive non ferrous materials such as copper alloys, aluminum alloys, graphite, sand cast aluminum and aluminum bronze




ADLER HYDCARBIDE		ADL406				
Dimensions mm	Toothing					
	0,75/1,25	1,4/2	2/3	3	3/4	
20 x 0,9				V-S		
27 x 0,9			V-S	V-S	V-S	
34 x 1,1		V-S	V-S		V-S	
41 x 1,3		V-S	V-S		V-S	
54 x 1,3		V-S	V-S			
54 x 1,6	V-S	V-S	V-S			
67 x 1,6	V-S	V-S	V-S			
80 x 1,6	V-S					

V-S = Vario tooth with special setting

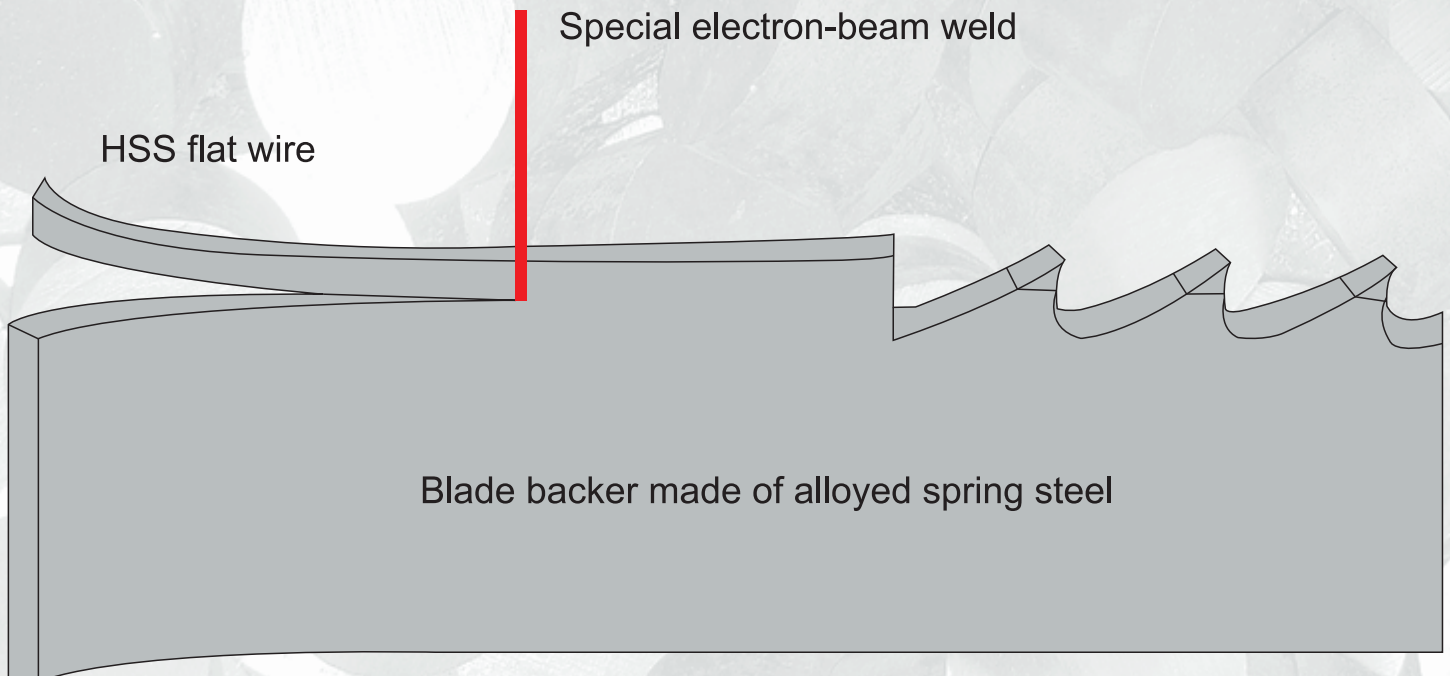
**Carbide tipped band saw blades with setting with special chip geometry and tooth tips made of wear resistant carbide**

- For difficult to cut and abrasive non-ferrous materials such as titanium alloys, stainless steel metals with high residual stress, graphite



## WHAT IS BI-METAL?

The main components of bi-metal band saw blades are two materials that have been permanently bonded. First there is a highly flexible backing material for the band saw blades. This special chromium and molybdenum alloy is hardened in a permanently monitored process to a hardness of 50 HRC. The second material in the bi-metal band saw is a HSS strip in two different qualities-M42(1.3207) or M51 (1.3207) Both of these components the high-quality backing material and the optimally hardened HSS strip are inseparably bonded using an electron-beam welding technique.

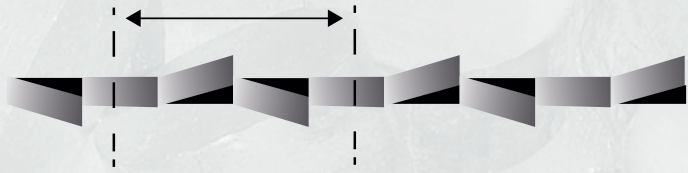
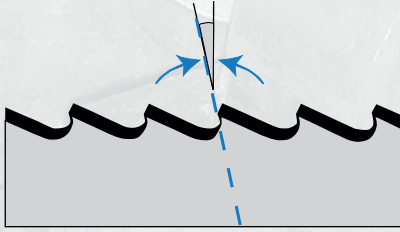


## Tooth Shapes

In order to ensure maximum cutting performance and set life, as well as number of tooth and qualified saw selection, shape of the tooth is significantly important. Very well cutting value is obtained in the provided that geometry of the saw tooth is fit to the material to be cut.

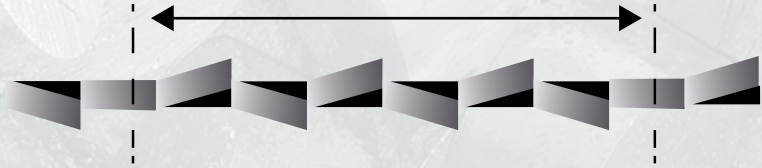
### Standard Tooth

It has two types; with 0° angle (S) and positive angle (K). Tooth with 0° angle (S) is used in cutting of filled material in small and middle section, pipes and slabs on general applications. Tooth with positive angle (K) is used in cutting of non-ferrous metals with steels containing low carbon and leaving long chips.



### Variable Tooth

In this tooth shape, teeth are aligned as different number of tooth in groups. Thanks to variable tooth shape, vibration and noise are diminished during cutting quality of surface cut and set life are increased. It is used in cutting of many different filled materials.



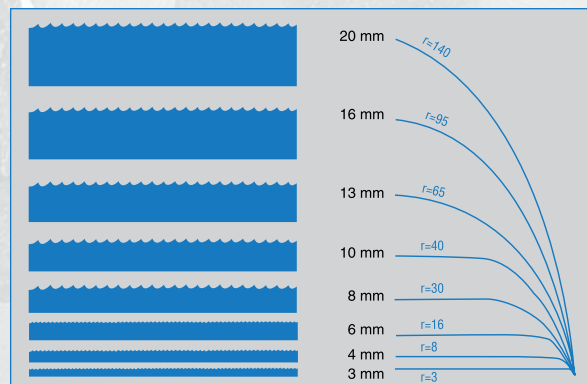
## Recommendation Related To Number and Shape Of Tooth

The correct choice is very important in order to obtain desired result in cutting process and reach values of optimum cost and set life.

- If the number of tooth is smaller than required tooth, an unstable cutting is formed. The chip is stuck through cutting line. Life of the set is decreasing due to the excess friction.
- If the number of tooth is greater than required number, because cutting pressure corresponding to tooth would increase, teeth are cracked and broken, life of the set is decreasing
- To determine the optimum number of teeth, like you can use the following tables prepared in experienced knowledge, you can determine the number of teeth in the condition of ensuring at least 3 teeth on contact during cutting.

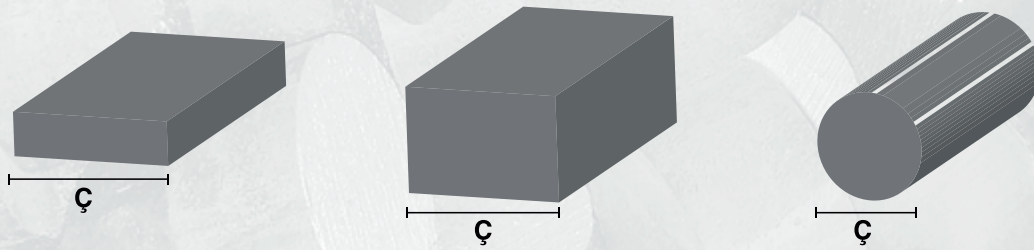
## Selection Of Saw Wideness in Decoupage Cutting

Band wideness to be selected is given sideways as per minimum radius to be formed in the cutting material at the decoupage cutting.



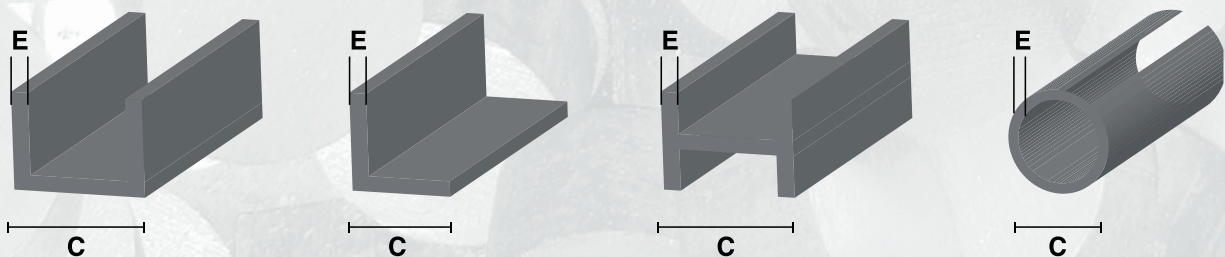
## Cutting of filled materials

Standard Tooth		Vario tooth	
Diameter (mm)	Number of teeth and type	Diameter (mm)	Number of teeth and type
<12	14 S	<25	10 / 14 V
12 - 30	10 S	20 - 40	8 / 12 V
30 - 50	8 S	25 - 70	6 / 10 V
50 - 80	6 S	35 - 90	5 / 8 V
80 - 100	4 K	50 - 100	4 / 6 SV
110 - 200	3 K	80 - 150	3 / 4 SV
200 - 350	2 K	120 - 350	2 / 3 SV
300 - 700	1.25 K	120 - 350	1.33 / 2 SV
>700	0.75 K	>500	0.75 / 1.25 SV



## Pipe material cutting

Thickness (mm)	Diameter (mm)											
	20	40	60	80	100	120	150	200	300	500	750	1000
2	32	24	18	18	14	14	10/14	10/14	8/12	6/10	5/8	5/8
3	24	18	14	14	10/14	10/14	8/12	8/12	6/10	5/8	4/6	4/6
4	18	10/14	10/14	10/14	8/12	8/12	6/10	6/10	5/8	4/6 0°	4/6	4/6
5	18	10/14	10/14	10/14	6/10	6/10	6/10	5/8	4/6°	4/6 0°	4/6	4/6
6	14	8/12	8/12	8/12	6/10	6/10	5/8	5/8	4/6°	4/6 0°	3/4	3/4
8		6/10	6/10	8/12	5/8	5/8	5/8	4/6 0°	4/6°	3/4 0°	3/4	3/4
10		6/10	6/10	6/10	5/8	5/8	4/6 0°	4/6 0°	4/6°	3/4 0°	3/4	3/4
12		5/8	5/8	5/8	4/6 +	4/6 +	4/6 +	4/6 +	3/4 +	3/4 +	2/3	2/3
15			5/8	4/6 +	4/6 +	4/6 +	3/4 +	3/4 +	3/4 +	2/3	2/3	2/3
20			4/6 +	4/6 +	4/6 +	4/6 +	3/4 +	3/4 +	2/3 +	2/3	2/3	2/3
30				3/4 +	3/4 +	3/4 +	2/3 +	2/3 +	2/3 +	2/3	1.33/2	1.33/2
50						3/4 +	2/3 +	2/3 +	2/3 +	1.33/2	1.33/2	1.33/2
75							2/3 +	2/3 +	1.33/2	1.33/2	1.33/2	1.33/2
100									1.33/2	0.75/1.25	0.75/1.25	0.75/1.25
150										0.75/1.25	0.75/1.25	0.75/1.25
200										0.75/1.25	0.75/1.25	0.75/1.25



Get 2 thickness in more than one section

## HSS METAL CIRCULAR SAWS



**Surface:** Metallic bright

Hardened blue, black surface

Coated Surface (TIN COATED)

**Hardness of material :** 63 / 65 HRC

**Material type :** M2 / M35 / M42

**Production standards:** DIN 1836.1838.1840.

**Tooth forms :** HZ BW



## ADLER TCT CIRCULAR SAW

Diameter	Number of teeth	Thickness	Hole diameter
250	54	2.0	32/40
	60		
	72		
	80		
285	60	2.0	32/40
	72		
	80		
315	60	2.25	32/40/50
	80		
360	60	2.6	40/50
	80		
	100		
425	50	2.7	50
	60		
	80		
	100		
460	60	2.7	50
	80		
	10		



## LINE SECTION FOR FILLED MATERIALS

MATERIAL SECTION		STEEL 50 kg mm <sup>2</sup>	STEEL 50-80 kg mm <sup>2</sup>	STEEL 80-100 kg mm <sup>2</sup>	STAINLESS STEEL	COPPER AND ALUMINUM	BRONZE	BRASS AND ZINC ALLOYS
	10 - 15 mm	43		2.52	.5	65		5
	15 - 20 mm	5433				65		5
	20 - 35 mm	8644				88		8
	35 - 55 mm	10	86		61	21	01	0
	55 - 80 mm	12	10	88		14	12	12
	80 - 105 mm	14	14	12	12	16	14	16
	105 - 125 mm	16	16	14	14	18	16	18
	125 - 145 mm	16	16	14	14	20	18	18

## LINE SECTION FOR PIPE AND PROFILE

PIPE AND PROFILE										
	Pipe and Profile	10 - 25	20 - 35	35 - 55	55 - 80	80 - 105	105 - 125	125 - 145	145 - 145	
$D = \frac{\text{Wall thickness}}{\text{Diameter}}$	Distance between 2 teeth									
	D=0.1	3 mm	5 mm	6 mm	8 mm	8 mm	10 mm	12 mm	14 mm	
	D=0.05	5 mm	4 mm	5 mm	6 mm	6 mm	8 mm	10 mm	12 mm	
	D=0.25	2 mm	3 mm	4 mm	5 mm	5 mm	6 mm	8 mm	10 mm	

### The number of teeth that correspond to the lines according to the saw diameter

DIAMETER	175	200	225	250	275	300	315	325	350	370	400	425	450	500
THICKNESS	1.75-2	1.75-2	2-2.5	2-2.5	2-2.5	2.5-3	2.5-3	2.5-3	2.5-3	3-3.5	3.5-4	3.5-4	3.5-4	3.5-4
HOLE	32	32	32/40	32/40	32/40	32/40	32/40	32/40	32/40	40/50	40/50	40/50	40/50	40/50
HAT														
2.5	220 Diş	250 Diş	280 Diş	320 Diş	336 Diş	360 Diş	390 Diş							
3	180 Diş	200 Diş	220 Diş	240 Diş	280 Diş	300 Diş	320 Diş	336 Diş	338 Diş					
4	140 Diş	160 Diş	180 Diş	200 Diş	220 Diş	240 Diş	250 Diş	260 Diş	280 Diş	280 Diş	310 Diş			
5	110 Diş	128 Diş	150 Diş	160 Diş	180 Diş	200 Diş	200 Diş	220 Diş	220 Diş	220 Diş	250 Diş			
6	90 Diş	100 Diş	120 Diş	128 Diş	144 Diş	160 Diş	140 Diş	180 Diş	180 Diş	200 Diş	200 Diş	220 Diş	240 Diş	260 Diş
7	80 Diş	90 Diş	100 Diş	112 Diş	120 Diş	128 Diş	128 Diş	160 Diş	160 Diş	160 Diş	180 Diş			
8	64 Diş	72 Diş	90 Diş	100 Diş	110 Diş	120 Diş	120 Diş	140 Diş	140 Diş	140 Diş	160 Diş	160 Diş	180 Diş	200 Diş
9	-	-	80 Diş	84 Diş	96 Diş	110 Diş	110 Diş	120 Diş	120 Diş	120 Diş	140 Diş			
10	-	-	72 Diş	80 Diş	84 Diş	100 Diş	100 Diş	110 Diş	110 Diş	110 Diş	128 Diş	128 Diş	140 Diş	160 Diş
11	-	-	-	72 Diş	80 Diş	80 Diş	90 Diş	100 Diş	100 Diş	100 Diş	114 Diş			
12	-	-	-	-	72 Diş	80 Diş	80 Diş	90 Diş	90 Diş	96 Diş	100 Diş	110 Diş	120 Diş	128 Diş
14	-	-	-	-	-	-	72 Diş	80 Diş	80 Diş	80 Diş	90 Diş			
16	-	-	-	-	-	-	-	-	-	-	80 Diş	90 Diş	80 Diş	100 Diş

## CIRCULAR SAWS CHART

HSS Circular saw (HSS-TiN-TiALN)								
Diameter Thickness	Hole Diameter	Head	Number of teeth					
			T 3 Bw	T 4 Bw	T 5 Bw	T 6 C	T 7 C	T 8 C
175x1.2	32	75	180	140	110	90		70
175x1.5	32	75	180	140	110	90		70
175x2.0	32	75	180	140	110	90		70
200x1.0	32	100	200	160	130	100		80
200x1.2	32	100	200	160	130	100		80
200x1.5/1.6	32	90	200	160	130	100		80
200x1.8	32	90	200	160	130	100		80
200x2.0	25.4/32	90	200	160	130	100		80
200x2.5	32	90	200	160	130	100		80
210x2.0	32	90	210	160	130	110		80
225x1.2	32	100	220	180	140	120		90
225x1.5/1.6	32	90	220	180	140	120		90
225x1.8	32/40	90	220	180	140	120		90
225x1.9/2.0	32/40	90	220	180	140	120		90
225x2.5	32	90	220	180	140	120		90
250x1.0	32	100	250	200	160	128	110	100
250x1.2	32	100	250	200	160	128	110	100
250x1.2/1.6	32	100	250	200	160	128	110	100
250x2.0	25.4/32/40	100	250	200	160	128	110	100
250x2.5	25.4/32/40	100	250	200	160	128	110	100
250x3.0	32	100	250	200	160	128	110	100
275x1.6	32	100	280	220	180	140	120	110
275x2.0	32/40	100	280	220	180	140	120	110
275x2.5	25.4/32/40	100	280	220	180	140	120	110
275x3.0	32/40	100	280	220	180	140	120	110
300x1.6	32/40	100	300	220	180	160	140	120
300x2.0	32/40	100	300	220	180	160	140	120
300x2.5	32/38/40	100	300	220	180	160	140	120
300x3.0	32/40	100	300	220	180	160	140	120
315x1.6	32/40	100	300	240	200	160	140	120
315x2.0	32/40	100	300	240	200	160	140	120
315x2.5	32/40	100	300	240	200	160	140	120
315x3.0	32/40	100	300	240	200	160	140	120
315x3.5	32/40	100	300	240	200	160	140	120
325x2.0	32/40	120	320	250	200	170		128
325x2.5	32/40	120	320	250	200	170		128
325x3.0	40	120	320	250	200	170		128
350x1.8	32/40/50	120	350	280	220	180	160	140
350x2.0	32/40/50	120	350	280	220	180	160	140
350x2.5	32/40/50	120	350	280	220	180	160	140
350x3.0	32/40/50	120	350	280	220	180	160	140
350x3.5	32/40/50	120	350	280	220	180	160	140
370x2.5	40/50	120		280	220	190	160	140
370x3.0	32/40/50	120		280	220	190	160	140
370x3.5	40	120		280	220	190	160	140
400x2.5	40/50	120		310	250	200		160
400x3.0	40/50	120		310	250	200		160
400x3.5	40/50	120		310	250	200		160
400x4.0	50	120		310	250	200		160
425x2.5	40/50	120		320	260	220		160
425x3.0	40/50	120		320	260	220		160
425x3.5	50	120		320	260	220		160
425x4.0	50	120		320	260	220		160
450x2.5	40/50	140		350	280	230		180
450x3.0	40/50	130		350	280	230		180
450x3.5	40/50	130		350	280	230		180
450x4.0	40/50	130		350	280	230		180
500x3.0	40/50	130			310	260		200
500x3.5	40/50	130			310	260		200
500x4.0	40/50	130			310	260		200
500x5.0	40/50	130			310	260		200
525x3.5	50	140		410	330	270		210
525x4.0	50	140		410	330	270		210
550x4.0	90	140		440	340	280		220
550x5.0	50	140		440	340	280		220

## Recommended Cutting Speed Values

Group of material	DIN No	Material No	Bi Metal	Adler Redline & Adler Blackline	Coolant (Boron oil)	Cutting Oil (Pure Oil)
			Speed of cutting			
			m / minute			
Structural steels	S 235 JR (ST37-2)	1.0037	60 - 80	80 - 105	01:10	var
	S 235 JR (ST44-2)	1.0044	60 - 80	80 - 105	01:10	var
	E 295 (ST 50-2)	1.0050	50 - 70	65 - 90	01:20	var
	E 360 (ST 70-2)	1.0070	50 - 70	65 - 90	01:20	var
	C 10 - C 15	1.0301 - 0401	60 - 90	78 - 120	01:10	var
	14NiCr14	1.5752	40 - 50	78 - 120	01:10	var
	21NiCrMo2	1.6523	45 - 55	60 - 70	01:10	var
	20CrMo5	1.7246	55 - 60	70 - 78	01:10	var
16MnCr5	1.7131	50 - 65	65 - 85	01:10	var	
Free-Cutting steels	9S20	1.0711	70 - 120	91 - 156	01:10	var
Nitration steels	34CrAl6	1.8504	20 - 35	26 - 45	01:20	yok
	34CrAlNi7	1.8550	20 - 35	26 - 45	01:20	yok
Tempered steels	C 35 - C 45	1.0501 - 0503	55 - 75	70 - 100	01:20	yok
	41Cr4	1.7035	40 - 60	52 - 78	01:20	yok
	40Mn4	1.5038	50 - 65	65 - 85	01:20	yok
	42CrMo4	1.7225	35 - 50	45 - 65	01:20	yok
	36NiCr6	1.5710	50 - 60	65 - 78	01:20	yok
	24NiCr14	1.5754	40 - 60	52 - 78	01:20	yok
	34CrNiMo6	1.6582	35 - 50	45 - 65	01:20	yok
Bearing steels	100Cr6	1.3505	50 - 65	65 - 85	01:30	yok
	105Cr4	1.3503	50 - 65	65 - 85	01:30	yok
	100CrMn6	1.3520	40 - 50	52 - 65	01:30	yok
	100CrMo6	1.3536	25 - 35	33 - 45	01:30	yok
Spring steels	65Si7	1.0906	40 - 60	52 - 78	01:30	yok
	50CrV4	1.8159	40 - 60	52 - 78	01:30	yok
Non-alloyed carbon steel	C80W1	1.1525	40 - 55	52 - 72	01:30	yok
	C125W1	1.1560	35 - 45	46 - 60	01:30	yok
	C105W2	1.1645	40 - 50	52 - 65	01:30	yok
Alloyed carbon steels	105Cr5	1.2060	50 - 60	65 - 78	01:30	yok
	X210Cr12	1.2080	25 - 35	26 - 46	-	yok
	X40CrMoV51	1.2344	30 - 40	39 - 52	01:30	yok
	X210Cr12	1.2436	20 - 30	26 - 39	-	yok
	X160CrMoV12	1.2601	20 - 35	26 - 46	01:30	yok
	56NiCrMoV	1.2714	20 - 40	26 - 52	01:30	yok
	100CrMo5	1.2303	35 - 45	46 - 60	01:30	yok
	X32CrMoV33	1.2365	30 - 45	39 - 60	01:30	yok
	X155CrMoV12 1	1.2379	30 - 35	39 - 45	01:30	yok
	90MnCrV8	1.2842	35 - 45	46 - 60	01:30	yok
	40CrMnMo4	1.2311	20 - 30	26 - 39	01:30	yok
40CrMnNiMo8-6-4v	1.2738	20 - 30	26 - 39	01:30	yok	

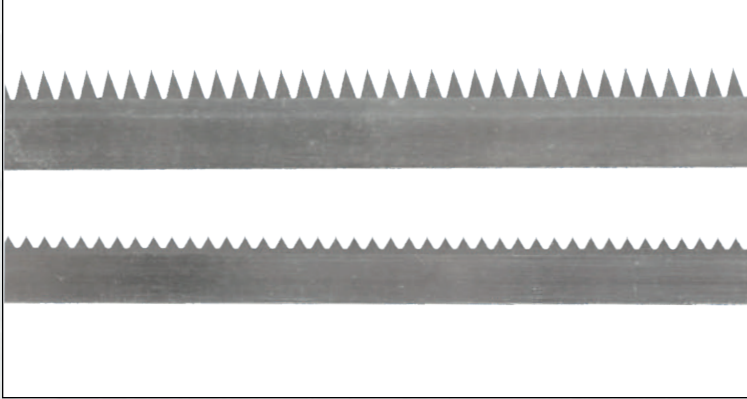


## Recommended Cutting Speed Values

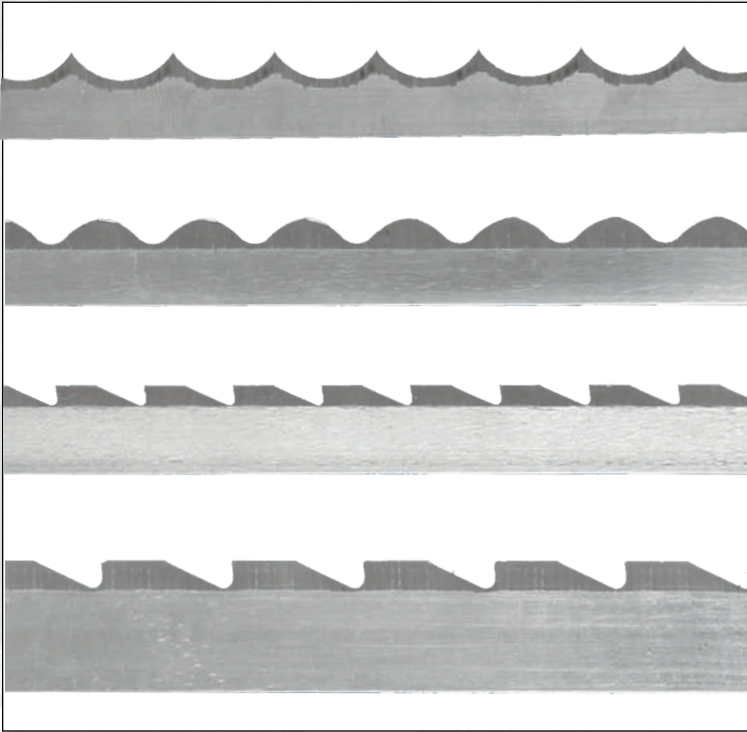
Group of material	DIN No	Material No	Bi Metal	Adler Redline & Adler Blackline	Coolant (Boron oil)	Cutting Oil (Pure Oil)
			Speed of cutting			
			m / minute			
HSS (high speed steel)	S 6-5-2	1.3343	25 - 40	33 - 52	01:30	yok
	S 6-5-2-5	1.3243	25 - 40	33 - 52	01:30	yok
	S 18-0-1	1.3355	25 - 40	33 - 52	01:30	yok
	S 18-1-2-10	1.3265	25 - 40	33 - 52	01:30	yok
	S 3-3-2	1.3333	40 - 50	52 - 65	01:30	yok
	S 2-10-1-8	1.3247	30 - 40	39 - 52	01:30	yok
	S 10-4-3-10	1.3207	30 - 40	39 - 52	01:30	yok
Valve steels	X45CrSi 9 3	1.4718	30 - 40	39 - 52	01:20	var
	X45CrNiW18 9	1.4873	30 - 40	39 - 52	01:20	var
High speed steels	CrNi2520	1.4843	25 - 40	33 - 52	01:10	var
	X20CrMoV12 1	1.4922	25 - 40	33 - 52	01:10	var
	X5NiCrTi2615	1.4980	25 - 40	33 - 52	01:10	var
	X12CrCoNi21 20	1.4971	20 - 30	26 - 39	01:10	var
	X20CrMoVW12 1	1.4935	30 - 35	39 - 46	01:10	var
Heat-resisting steels	X10CrAl7	1.4713	20 - 30	26 - 39	01:10	var
	X15CrNiSi2520	1.4841	20 - 30	26 - 39	01:10	var
	X10CrSi6	1.4712	20 - 30	26 - 39	01:10	var
	X12NiCrSi3616	1.4864	15 - 25	20 - 33	01:10	var
Stainless steels	X5CrNi189	1.4301	25 - 35	33 - 45	01:10	var
	X10CrNiMoTi18 10	1.4571	25 - 35	33 - 45	01:10	var
	10	1.4006	25 - 35	33 - 45	01:10	var
	X10Cr13	1.4401	25 - 35	33 - 45	01:10	var
	X5CrNiMo1810	1.4021	25 - 35	33 - 45	01:10	var
	X20Cr13	-	-	-	-	var
Tempered steels (aspertension value)	1000 - 1200Nm 2	-	20 - 35	33 - 46	01:10	var
	1200 - 1400Nm 2	-	25 - 30	33 - 39	01:10	var
	1400 - 1600Nm 2	-	20 - 25	26 - 33	01:10	var
Steel casting	GS 38	-	50 - 60	26 - 33	01:50	yok
	GS 60	-	50 - 60	65 - 78	01:50	yok
Cast irons	GG 15	-	40 - 50	52 - 65	-	yok
	GG 30	-	40 - 50	52 - 65	-	yok
	GTW 40	-	40 - 50	52 - 65	-	yok
	GTS 65	-	40 - 50	52 - 65	-	yok
	GGG 50	-	40 - 50	52 - 65	-	yok
Nickel-based alloys	NiCr20TiAl	2.4631	15 - 20	20 - 33	01:10	var
	NiCr22FeMo	2.4972	15 - 25	20 - 33	01:10	var
Heat-resisting Nickel alloys	Hastalloy C4	2.4611	-	20 - 30	01:10	var
	NiCr15Fe	2.4640	15 - 25	20 - 33	01:10	var
	Monel 400	2.4360	20 - 25	26 - 33	01:10	var
	Waspaloy	2.4645	15 - 20	20 - 26	01:10	var
Aluminum alloys	Al 99.5	3.0255	100 - 700	130 - 910	01:10	yok
	Al Mg 3	3.3535	100 - 700	130 - 910	01:10	yok
	AlMg3, 5 Mn	3.3547	150 - 800	195 - 1040	01:10	yok
Bronze titanium alloys	CuSn6	2.1020	70 - 100	91 - 130	01:50	yok
	GCuSn10	2.1050	70 - 100	91 - 130	01:50	yok
Aluminum bronze alloys	CuAl8	2.0920	50 - 70	65 - 91	01:30	yok
	CuAl8Fe38	2.0920.60	40 - 50	52 - 65	01:20	var
Red	G-CuSn10Zn	2.1086.01	70 - 100	91 - 130	01:50	yok
	G-CuSn5ZnPb	2.1096.01	70 - 100	91 - 130	01:50	yok
Brass	CuZn10	2.0230	80 - 300	104 - 390	01:50	yok
	CuZn31Si	2.0490	80 - 300	104 - 390	01:50	yok



**Meat and bone cutting saws**



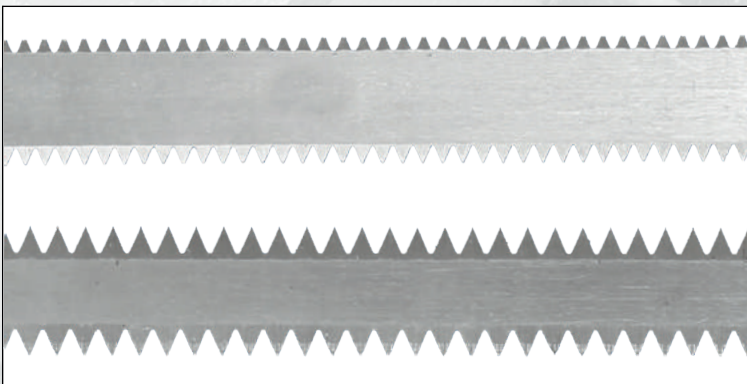
**Plastic cutting saws**



**Bread and cake cutting saws**



**Paper and textile cutting saws**



**Foam cutting saws**

### Boneless fresh meat or bread

13 x 0,41	SCA	E - 3251222
13 X 0,51	SCA	E - 3241422
13 X 0,56	SCA	E - 3231522
16 X 0,46	SCA	E - 3222322
16 X 0,51	SCA	E - 3212422
16 X 0,56	SCA	E - 3202522
16 X 0,64	SCA	E - 3192622

### Fresh meat containing bones

19 x 0,56	3TPI	E - 3183537
19 X 0,56	CT	E - 3193517
16 X 0,46	6TPI	E - 3182361
16 X 0,56	CT	E - 3172511
16 X 0,56	6TPI	E - 3162561
16 X 0,41	4TPI	E - 3152241
16 X 0,51	4TPI	E - 3142241
16 X 0,56	4TPI	E - 3132541
16 X 0,64	4TPI	E - 3122641

### Boneless fresh meat sausage or cheese

13 X 0,46	STR	E - 4251399
13 X 0,56	STR	E - 4241499
16 X 0,46	STR	E - 4232399

### Poultry

13 X 0,51	COX	E - 2251488
16 X 0,46	COX	E - 2242388
16 X 0,51	COX	E - 2232488
16 X 0,56	COX	E - 2222588

### Various applications

16 X 0,41	VP	E - 1252271
16 X 0,56	VP	E - 1242571
16 X 0,64	VP	E - 1232671

### Bread and cake cutting

10 X 0,45	W - 1204
12 X 0,45	W - 1205
15 X 0,45	W - 1206
20 X 0,45	W - 1207
25 X 0,45	W - 1208

### Foam cutting

10 X 0,45	W - 1209
12 X 0,45	W - 1210
15 X 0,45	W - 1211
20 X 0,45	W - 1212
25 X 0,45	W - 1213

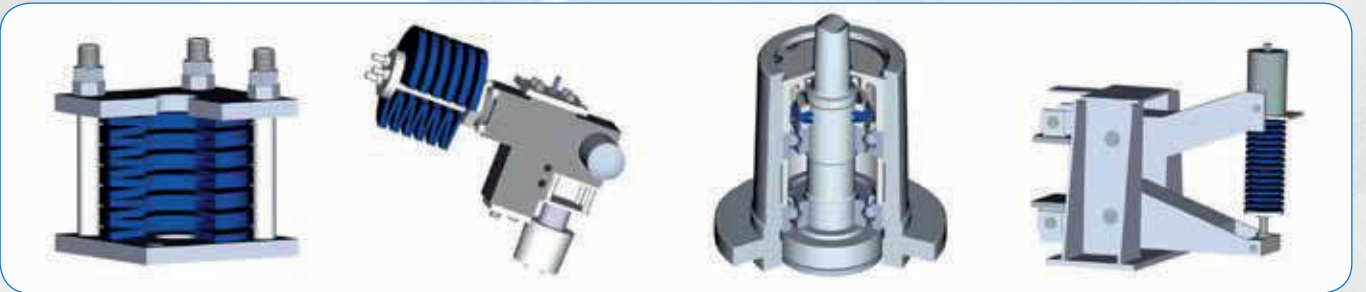
### Plastic cutting

10 X 0,45	W - 1214
12 X 0,45	W - 1215
15 X 0,45	W - 1216
20 X 0,45	W - 1217
25 X 0,45	W - 1218

### Paper and textile cutting

10 X 0,45	W - 1219
12 x 0,45	W - 1220
15 x 0,45	W - 1221
20 x 0,45	W - 1222
25 x 0,45	W - 1223
30 x 0,45	W - 1224

## MUBEA DISC SPRINGS



Disc springs are manufactured according to DIN2093 and Mubea production standards. Our company is the authorized dealer of mubea brand German disc springs.

## MUBEA DISC SPRINGS PRODUCTION

Mubea is an international term for high standard arc technology. Our disc springs conform to the highest World quality standards. Our products; modern quality control and dozens of years of experience combined with intense knowledge and power from technology are produced in Germany. Mubea specializes in producing quality disc springs for over 40 years. Disc springs, thanks to versatility 3000m sea level. It is used in industrial applications with a great variety of safety valve systems underneath, to the satellites in space. The disc springs in our stocks are compatible with DIN 2093 norm, along with our own internal standards. Mubea also produces disc springs with internal and external grooved disc springs and wave springs as well as 800mm external diameter. Thanks to the hair bending cylinder, processing of raw materials is done in our factory. In addition, all molds are designed manufactured and maintained on site. In addition to Mubea, 51 CrV4(SAE 6150), it keeps a variety of anti-magnetic, corrosion and heat resistant materials for special applications. This gives Mubea the flexibility to respond quickly to customer needs during production.

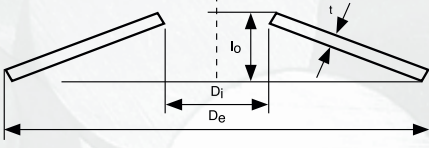
### Quality is priceless.

Mubea is care about employees, processes, services and sales people. Therefore has received the following certifications:

DIN EN ISO 9001, QS-9000, VDA 6.1, AVSQ 94 and ISO/TS 16949 and ISO 140001. Our compliance with these standards is audited annually by our auditors.

## BALL BEARING SPRINGS

KOD	De	Di	t	lo	KOD	De	Di	t	lo	KOD	De	Di	t	lo
200 001	9.8	6.2	0.2	0.4	200 020	61.5	40.5	0.7	1.8	200 039	129	85.5	1.25	3.2
200 002	12.8	7.2	0.25	0.5	200 021	67.5	50.5	0.7	1.7	200 040	129	95.5	1.25	3.2
200 003	15.8	8.2	0.25	0.55	200 022	71.5	45.5	0.7	2.1	200 041	139	90.5	1.25	3.25
200 004	18.8	9.2	0.3	0.65	200 023	71.5	50.5	0.7	2.1	200 042	139	101	1.25	3.25
200 005	18.8	10.2	0.35	0.7	200 024	74.5	55.5	0.8	1.9	200 043	149	95.5	1.5	3.2
200 006	21.8	12.3	0.35	0.75	200 025	79.5	60.5	0.8	2.3	200 044	149	106	1.5	3.2
200 007	23.7	14.3	0.4	0.9	200 026	79.5	55.5	0.8	2.3	200 045	159	101	1.5	3.5
200 008	25.7	14.3	0.4	0.9	200 027	84.5	60.5	0.9	2.5	200 046	159	111	1.5	3.5
200 009	27.7	17.3	0.4	1.0	200 028	89.5	60.5	0.9	2.5	200 047	169	111	1.5	3.8
200 010	29.7	17.4	0.4	1.1	200 029	89.5	65.5	0.9	2.5	200 048	169	121	1.5	3.8
200 011	31.7	20.4	0.4	1.1	200 030	94.5	75.5	1.0	2.2	200 049	179	121	2.0	4.2
200 012	34.6	20.4	0.4	1.1	200 031	99	65.5	1.0	2.6	200 050	179	126	2.0	4.2
200 013	34.6	22.4	0.5	1.2	200 032	99	70.5	1.0	2.6	200 051	189	121	2.0	4.3
200 014	36.6	20.4	0.5	1.3	200 033	109	70.5	1.25	2.7	200 052	189	131	2.0	4.3
200 015	39.6	25.5	0.5	1.3	200 034	109	75.5	1.25	2.7	200 053	198	131	2.0	4.5
200 016	41.6	25.5	0.5	1.4	200 035	114	90.5	1.25	2.45	200 054	198	141	2.0	4.5
200 017	46.5	30.5	0.6	1.5	200 036	119	75.5	1.25	2.8	200 055	213	151	2.25	4.5
200 018	51.5	35.5	0.6	1.5	200 037	119	85.5	1.25	2.8					
200 019	54.5	40.5	0.6	1.5	200 038	124	90.5	1.25	3.0					



CODE	De	Di	t	lo
17 0001	8.00	3.20	0.30	0.55
17 0002	8.00	3.20	0.40	0.60
17 0003	8.00	3.20	0.50	0.70
17 0004	8.00	4.20	0.20	0.45
17 0005	8.00	4.20	0.30	0.55
17 0006	8.00	4.20	0.40	0.60
17 0007	10.00	3.20	0.30	0.65
17 0008	10.00	3.20	0.40	0.70
17 0009	10.00	3.20	0.50	0.85
17 0010	10.00	4.20	0.40	0.70
17 0011	10.00	4.20	0.50	0.75
17 0012	10.00	4.20	0.60	0.85
17 0013	10.00	5.20	0.25	0.55
17 0014	10.00	5.20	0.40	0.70
17 0015	10.00	5.20	0.50	0.75
17 0016	12.00	4.20	0.40	0.80
17 0017	12.00	4.20	0.50	0.90
17 0018	12.00	4.20	0.60	1.00
17 0019	12.00	5.20	0.50	0.90
17 0020	12.00	5.20	0.60	0.95
17 0021	12.00	6.20	0.50	0.85
17 0022	12.00	6.20	0.60	0.95
17 0023	12.50	6.20	0.35	0.80
17 0024	12.50	6.20	0.50	0.85
17 0025	12.50	6.20	0.70	1.00
17 0026	14.00	7.20	0.35	0.80
17 0027	14.00	7.20	0.50	0.90
17 0028	14.00	7.20	0.80	1.10
17 0029	15.00	5.20	0.40	0.95
17 0030	15.00	5.20	0.50	1.00
17 0031	15.00	5.20	0.60	1.05
17 0032	15.00	5.20	0.70	1.25
17 0033	15.00	6.20	0.50	1.00
17 0034	15.00	6.20	0.60	1.05
01 0035	15.00	6.20	0.70	1.10
17 0036	15.00	8.20	0.70	1.10
17 0037	15.00	8.20	0.80	1.20
17 0038	16.00	8.20	0.40	0.90
17 0039	16.00	8.20	0.60	1.05
17 0040	16.00	8.20	0.90	1.25
17 0041	18.00	6.20	0.40	1.00
17 0042	18.00	6.20	0.50	1.10
17 0043	18.00	6.20	0.60	1.20
17 0044	18.00	6.20	0.70	1.40
17 0045	18.00	6.20	0.80	1.50
17 0046	18.00	8.20	0.70	1.25
17 0047	18.00	8.20	0.80	1.30
17 0048	18.00	8.20	1.00	1.50
17 0049	18.00	9.20	0.45	1.05
17 0050	18.00	9.20	0.70	1.20
17 0051	18.00	9.20	1.00	1.40
17 0052	20.00	8.20	0.50	1.15
17 0053	20.00	8.20	0.60	1.30
17 0054	20.00	8.20	0.70	1.35
17 0055	20.00	8.20	0.80	1.40
17 0056	20.00	8.20	0.90	1.50
17 0057	20.00	8.20	1.00	1.60
17 0058	20.00	10.20	0.40	0.90

CODE	De	Di	t	lo
17 0059	20.00	10.20	0.50	1.15
17 0060	20.00	10.20	0.80	1.35
17 0061	20.00	10.20	0.90	1.45
17 0062	20.00	10.20	1.00	1.55
17 0063	20.00	10.20	1.10	1.55
17 0064	22.50	11.20	0.60	1.40
17 0065	22.50	11.20	0.80	1.45
18 0001	22.50	11.20	1.25	1.75
17 0066	23.00	8.20	0.70	1.50
17 0067	23.00	8.20	0.80	1.55
17 0068	23.00	8.20	0.90	1.70
17 0069	23.00	10.20	0.90	1.65
17 0070	23.00	10.20	1.00	1.70
17 0071	23.00	12.20	1.00	1.60
18 0002	23.00	12.20	1.25	1.85
18 0003	23.00	12.20	1.50	2.10
17 0072	25.00	12.20	0.70	1.60
17 0073	25.00	12.20	0.90	1.60
18 0004	25.00	12.20	1.50	2.05
17 0074	28.00	10.20	0.80	1.75
17 0075	28.00	10.20	1.00	2.00
18 0005	28.00	10.20	1.25	2.25
18 006	28.00	10.20	1.50	2.20
17 0076	28.00	12.20	1.00	1.95
18 0007	28.00	12.20	1.25	2.10
18 0008	28.00	12.20	1.50	2.25
17 0077	28.00	14.20	0.80	1.80
17 0078	28.00	14.20	1.00	1.80
18 0009	28.00	14.20	1.25	2.10
18 0010	28.00	14.20	1.50	2.15
17 0079	31.50	16.30	0.80	1.85
18 0011	31.50	16.30	1.25	2.15
18 0012	31.50	16.30	1.50	2.40
18 0013	31.50	16.30	1.75	2.45
18 0014	31.50	16.30	2.00	2.75
17 0080	34.00	12.30	1.00	2.20
18 0015	34.00	12.30	1.25	2.45
18 0016	34.00	12.30	1.50	2.70
18 0017	34.00	14.30	1.25	2.40
18 0018	34.00	14.30	1.50	2.55
18 0019	34.00	16.30	1.50	2.55
18 0020	34.00	16.30	2.00	2.85
17 0081	35.50	18.30	0.90	2.05
18 0021	35.50	18.30	1.25	2.25
18 0022	35.50	18.30	2.00	2.80
18 0023	40.00	14.30	1.25	2.65
18 0024	40.00	14.30	1.50	2.80
18 0025	40.00	14.30	1.75	3.05
18 0026	40.00	14.30	2.00	3.05
18 0027	40.00	16.30	1.50	2.80
18 0028	40.00	16.30	1.75	3.10
18 0029	40.00	16.30	2.00	3.10
18 0030	40.00	18.30	2.00	3.15
17 0082	40.00	20.40	1.00	2.30
18 0031	40.00	20.40	1.50	2.65
18 0032	40.00	20.40	2.00	3.10
18 0033	40.00	20.40	2.25	3.15
18 0034	40.00	20.40	2.50	3.45

CODE	De	Di	t	lo
18 0035	45.00	22.40	1.25	2.85
18 0036	45.00	22.40	1.75	3.05
18 0037	45.00	22.40	2.50	3.50
18 0038	48.00	16.30	1.50	3.00
18 0039	50.00	18.40	1.25	2.85
18 0040	50.00	18.40	1.50	3.15
18 0041	50.00	18.40	2.00	3.65
18 0042	50.00	18.40	2.50	4.15
18 0043	50.00	18.40	3.00	4.20
18 0044	50.00	20.40	2.00	3.50
18 0045	50.00	20.40	2.50	3.85
18 0046	50.00	22.40	2.00	3.60
18 0047	50.00	22.40	2.50	3.90
18 0048	50.00	25.40	1.25	2.85
18 0049	50.00	25.40	1.50	3.10
18 0050	50.00	25.40	2.00	3.40
18 0051	50.00	25.40	2.25	3.75
18 0052	50.00	25.40	2.50	3.90
18 0053	50.00	25.40	3.00	4.10
18 0054	56.00	28.50	1.50	3.45
18 0055	56.00	28.50	2.00	3.60
18 0056	56.00	28.50	2.50	4.20
18 0057	56.00	28.50	3.00	4.30
18 0058	60.00	20.50	2.00	4.20
18 0059	60.00	20.50	2.50	4.70
18 0060	60.00	20.50	3.00	5.20
18 0061	60.00	25.50	2.50	4.40
18 0062	60.00	25.50	3.00	4.65
18 0063	60.00	30.50	2.50	4.50
18 0064	60.00	30.50	2.75	4.75
18 0065	60.00	30.50	3.00	4.70
18 0066	60.00	30.50	3.50	5.00
18 0067	63.00	31.00	1.80	4.15
18 0068	63.00	31.00	2.50	4.25
18 0069	63.00	31.00	3.00	4.70
18 0070	63.00	31.00	3.50	4.90
18 0071	70.00	24.50	3.00	5.30
18 0072	70.00	24.50	3.50	6.00
18 0073	70.00	25.50	2.00	4.50
18 0074	70.00	30.50	2.50	4.90
18 0075	70.00	30.50	3.00	5.10
18 0076	70.00	35.50	3.00	5.10
18 0077	70.00	35.50	3.50	5.30
18 0078	70.00	35.50	4.00	5.80
18 0079	70.00	35.50	4.00	5.80
18 0080	70.00	40.50	4.00	5.70
18 0081	70.00	40.50	4.00	5.70
18 0082	70.00	40.50	5.00	6.40
18 0083	70.00	40.50	5.00	6.40
18 0084	71.00	36.00	2.00	4.60
18 0085	71.00	36.00	2.50	4.50
18 0086	71.00	36.00	4.00	5.60
18 0087	71.00	36.00	4.00	5.60
18 0088	80.00	30.50	2.50	5.30
18 0089	80.00	31.00	3.00	5.50
18 0090	80.00	31.00	4.00	6.10
18 0091	80.00	31.00	4.00	6.10
18 0092	80.00	35.50	4.00	6.20

CODE	De	Di	t	lo
18 0093	80.00	35.50	4.00	6.20
18 0094	80.00	36.00	3.00	5.70
18 0095	80.00	41.00	2.25	5.20
18 0096	80.00	41.00	3.00	5.30
18 0097	80.00	41.00	4.00	6.20
18 0098	80.00	41.00	4.00	6.20
18 0099	80.00	41.00	5.00	6.70
18 0100	80.00	41.00	5.00	6.70
18 0101	90.00	46.00	2.50	5.70
18 0102	90.00	46.00	3.50	6.00
18 0103	90.00	46.00	5.00	7.00
18 0104	90.00	46.00	5.00	7.00
18 0105	100.00	41.00	4.00	7.20
18 0106	100.00	41.00	4.00	7.20
18 0107	100.00	41.00	5.00	7.75
18 0108	100.00	41.00	5.00	7.75
18 0109	100.00	51.00	2.70	6.20
18 0110	100.00	51.00	3.50	6.30
18 0111	100.00	51.00	4.00	7.00
18 0112	100.00	51.00	4.00	7.00
18 0113	100.00	51.00	5.00	7.80
18 0114	100.00	51.00	5.00	7.80
18 0115	100.00	51.00	6.00	8.20
18 0116	100.00	51.00	6.00	8.20
19 0001	100.00	57.00	7.00	9.20
18 0117	112.00	57.00	3.00	6.90
18 0118	112.00	57.00	4.00	7.20
18 0119	112.00	57.00	4.00	7.20
18 0120	112.00	57.00	6.00	8.50
18 0121	112.00	51.00	6.00	8.50
18 0122	125.00	51.00	4.00	8.50
18 0123	112.00	51.00	4.00	8.50
18 0124	112.00	51.00	5.00	8.90
18 0125	112.00	51.00	5.00	8.90
18 0126	112.00	61.00	6.00	9.40
18 0127	112.00	61.00	6.00	9.40
18 0128	112.00	61.00	5.00	9.00
18 0129	112.00	61.00	5.00	9.00
18 0130	112.00	61.00	6.00	9.60
18 0131	112.00	64.00	6.00	9.60
19 0002	112.00	64.00	8.00	10.90
18 0132	112.00	64.00	3.50	8.00
18 0133	112.00	64.00	5.00	8.50
18 0134	112.00	64.00	5.00	8.50
18 0135	112.00	64.00	6.00	9.60
18 0136	112.00	64.00	6.00	9.60
19 0003	112.00	71.00	7.00	10.00
19 0004	112.00	71.00	8.00	10.60
18 0137	112.00	71.00	6.00	9.30
18 0138	112.00	71.00	6.00	9.30
19 0005	112.00	72.00	8.00	10.90
19 0006	112.00	72.00	10.00	11.80
18 0139	140.00	72.00	3.80	8.70
18 0140	140.00	72.00	5.00	9.00
18 0141	140.00	72.00	5.00	9.00
19 0007	140.00	72.00	8.00	11.20
18 0142	150.00	61.00	5.00	10.30
18 0143	150.00	61.00	5.00	10.30

CODE	De	Di	t	lo
18 0144	150.00	61.00	6.300	10.80
18 0145	150.00	61.00	6.00	10.80
19 0008	150.00	61.00	7.00	11.80
18 0146	150.00	71.00	6.00	10.85
18 0147	150.00	71.00	6.00	10.85
19 0009	150.00	71.00	8.00	12.05
19 0010	150.00	81.00	8.00	12.00
19 0011	150.00	81.00	10.00	13.40
18 0148	160.00	82.00	4.30	9.90
18 0149	160.00	82.00	4.30	9.90
18 0050	160.00	82.00	6.00	10.50
18 0551	160.00	82.00	6.00	10.50
19 0012	160.00	82.00	10.00	13.50
19 0013	160.00	82.00	11.00	14.50
18 0152	180.00	92.00	4.80	11.00
18 0153	180.00	92.00	4.80	11.00
18 0154	180.00	92.00	6.00	11.00
18 0155	180.00	92.00	6.00	11.00
19 0014	180.00	92.00	10.00	14.00
19 0015	180.00	92.00	13.00	16.540
18 0173	200.00	82.00	5.00	10.50
18 0174	200.00	82.00	6.00	13.00
19 0016	200.00	82.00	8.00	14.20
19 0041	200.00	82.00	8.50	14.50
19 0017	200.00	82.00	1.00	15.50
19 0018	200.00	82.00	12.00	16.60
19 0042	200.00	82.00	13.00	16.50
19 0019	200.00	92.00	10.00	15.60
19 0020	200.00	92.00	12.00	16.80
19 0021	200.00	92.00	14.00	18.10
18 0156	200.00	102.00	5.50	12.50
18 0157	200.00	102.00	5.50	15.50
19 0022	200.00	102.00	8.00	13.60
19 0043	200.00	102.00	8.30	14.30
19 0044	200.00	102.00	9.00	14.60
19 0023	200.00	102.00	10.00	15.60
19 0045	200.00	102.00	11.00	15.00
19 0024	200.00	102.00	12.00	16.20
19 0025	200.00	102.00	14.00	18.20
18 0175	200.00	112.00	6.00	12.00
19 0026	200.00	112.00	12.00	16.20
19 0027	200.00	112.00	14.00	17.50
19 0046	200.00	112.00	15.00	18.00
19 0028	200.00	112.00	16.00	19.80
19 0029	225.00	112.00	6.50	13.60
19 0030	225.00	112.00	8.00	14.50
19 0047	225.00	112.00	9.00	15.50
19 0048	225.00	112.00	10.00	16.20
19 0049	225.00	112.00	10.80	16.50
19 0031	225.00	112.00	12.00	17.00
19 0032	225.00	112.00	16.00	20.50
19 0033	250.00	127.00	10.00	18.00
19 0034	250.00	127.00	12.00	19.00
19 0035	250.00	127.00	7.00	14.80
19 0050	250.00	127.00	7.50	16.50
19 0036	250.00	127.00	8.00	16.00
19 0051	250.00	127.00	9.00	16.60
19 0052	250.00	127.00	9.20	17.40

CODE	De	Di	t	lo
19 0037	250.00	127.00	10.00	17.00
19 0053	250.00	127.00	10.50	18.00
19 0054	250.00	127.00	11.00	18.80
19 0038	250.00	127.00	12.00	19.30
19 0055	250.00	127.00	13.00	19.60
19 0056	250.00	127.00	13.50	19.60
19 0039	250.00	127.00	14.00	19.60
19 0057	250.00	127.00	14.50	20.00
19 0058	250.00	127.00	15.00	21.00
19 0040	250.00	127.00	16.00	21.80
19 0059	250.00	127.00	16.80	22.00
19 0060	250.00	127.00	17.50	22.00
19 0061	250.00	127.00	18.50	23.00
19 0062	270.00	127.00	10.65	18.00
19 0063	270.00	142.00	22.00	26.90
19 0064	280.00	127.00	12.00	21.40
19 0065	280.00	127.00	19.00	25.00
19 0066	280.00	142.00	12.00	21.00
19 0067	280.00	142.00	15.00	21.40
19 0068	280.00	142.00	16.60	23.25
19 0069	280.00	142.00	17.45	23.90
19 0070	280.00	142.00	18.00	24.00
19 0071	280.00	142.00	19.90	24.40
19 0072	280.00	142.00	20.30	25.40
19 0073	280.00	142.00	22.00	26.35
19 0074	280.00	152.00	12.80	19.80
19 0075	280.00	152.00	15.00	21.40
19 0076	280.00	152.00	18.50	23.60
19 0077	300.00	127.00	12.00	21.00
19 0078	300.00	127.00	13.00	20.50
19 0079	300.00	127.00	14.00	21.00
19 0080	300.00	127.00	15.30	22.80
19 0081	300.00	127.00	16.00	24.30
19 0082	300.00	127.00	17.00	23.80
19 0083	300.00	127.00	17.40	22.65
19 0084	300.00	152.00	8.502	16.80
19 0085	300.00	152.00	10.00	20.00
19 0086	300.00	152.00	12.00	21.00
19 0087	300.00	152.00	13.00	22.00
19 0088	300.00	152.00	14.00	22.00
19 0089	300.00	152.00	14.50	22.00
19 0090	300.00	152.00	15.00	23.00
19 0091	300.00	152.00	15.50	23.50
19 0092	300.00	152.00	16.10	23.70
19 0093	300.00	152.00	16.50	23.00
19 0094	300.00	152.00	17.00	24.40
19 0095	300.00	152.00	18.00	25.00
19 0096	300.00	152.00	18.50	25.00
19 0097	300.00	152.00	19.50	26.20
19 0098	300.00	152.00	20.00	25.50
19 0099	300.00	152.00	20.50	26.50
19 0100	300.00	182.00	12.00	18.00
19 0101	320.00	172.00	8.10	16.30
19 0102	320.00	172.00	9.00	19.00
19 0103	320.00	172.00	13.00	20.00
19 0104	320.00	172.00	15.00	21.00
19 0105	340.00	172.00	9.20	19.40
19 0106	340.00	172.00	9.50	20.80



## Tension Measurement Device

It is necessary to provide the tape tension at an appropriate level to provide cutting accuracy and a long saw life. Using the Adler strip tension meter, you can measure the tension applied to the saw strip by the machine and adjust it to bring it to the proper level. For ADLER band saws, 250-300 N/M2 tension is recommended.



## RECOMMENDATION RELATED TO CUTTING

Before cutting by means of Adler saws, you should take care some criteria. Thanks to these criteria, both your cutting process will be at desired level and you shall decrease the costs by increasing the life of the set.



Chip is burn, slight curved and wide in this situation, increase cutting speed and/or proceeding



Chip is exfoliated as dust. It's color is normal. In this situation, you shall increase the proceeding.



Chips curved as picture and color is normal. This shows your cutting speed and proceeding value as correct.

- Before opening saw and mounting it on the machine, you should wear certainly safety glass and gloves.
- Do not never open the saw purchased by clashing or dropping.
- After installing it on the machine, take off the coating over tooth.
- After installing it on the machine, you should use as 50% of recommended proceeding value.
- You can find the cutting speed values, appropriate for the material to be cut on the below table. You shall maximum set life and minimum cost on the condition of following cutting speed and coolant emulation values given on below tables.
- As per formation the chip left during cutting process, you can increase or decrease cutting speed given on the table
- If there is various vibrations and abnormal, stop the machine and check the tooth
- If there is no problem with tooth, accordingly you can increase or decrease cutting speed
- At the end of the work or if the saw would not used for a long time, you should leave the saw loose

## Band saw machine

*Check regularly:*

- \*Function of sawdust brush
- \*the concentration and the functionality of the cooling liquid
- \*Smoothness of the strip bed
- \*Tape tensioning pressure
- \*Tape speed

## Cooling Fluid/Boron Oil:

*What is important?*

- \*Use the recommended cutting fluid for the purpose.
- \*Try to maintain the recommended concentration.
- \*Make sure that the cooling fluid is applied with the correct pressure.

## Cut Piece

*What is important?*

- \*Make sure that the cut piece is properly connected to the clamp.
- \*Damaged, deformed parts should not be used
- \*It is more important than the proximity of the cut piece to the strip bed.

## Initial segment

*What is important?*

- \*Initial advice should be followed.
- \*The cutting parameters recommended for long life of the strip should be used.

## Correct tooth gap

- \*Fine and powdered chips show inadequate cutting pressure
- \*Thick, compacted and blackened chips indicate the heavy load on the tape saw
- \*Loosely, rolled chips show the optimum cut

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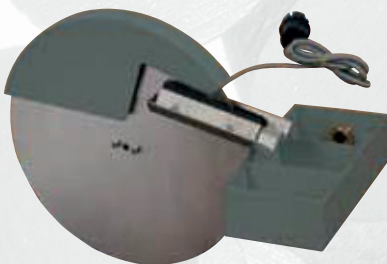
## BAND SYSTEM



## BAND SYSTEM OIL SKIMMERS



## DISC OIL SKIMMERS



The skid oils or various oils that leach into the cooling fluid reservoirs of work benches accumulate on the surface of the cooling fluid due to the density difference, thereby interrupting the contact of the fluid with the air, thus accelerating the formation of bacteria in the cooling fluid. This leads to a reduction in the normal life of the cooling fluid.

These oils must be taken over the cooling fluid and the surface of the liquid must be cleaned. This process is carried out by the operator as an empty bag or by using sponge or absorbent papers. This process which causes time loss negatively affects the costs, of course.

If these operations are not done, the cooling liquid we bought by spending big currencies will be short-lived. Even changing these liquids is taking a long time. The resulting bacteria are only cleaned using special chemicals.

Degraded cooling fluid containing bacteria is becoming an extremely harmful chemical for the environment. Since most of the enterprises do not have treatment facilities, they are cleaning these chemicals at a certain fee. This shows that if the cooling fluid is not purified from the oil, it causes great financial damage to the operation.

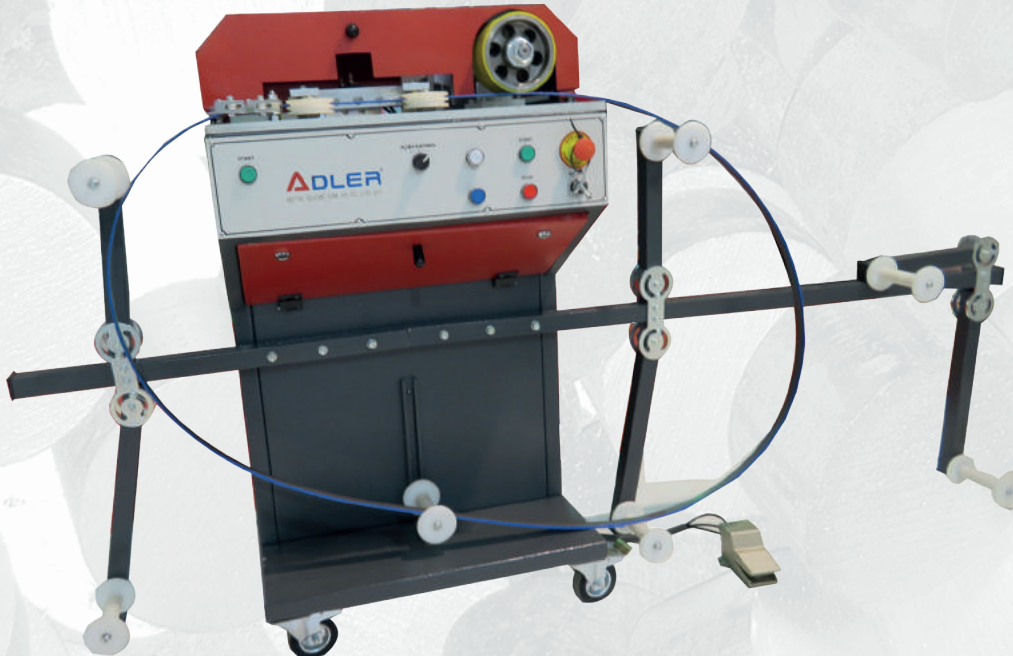
With Adler's oil skimmer, all of the above problems arise with a device that consumes very little energy. This tool, which you can simply mount to the tank where cooling fluid of your countertop is located, will accumulate the oil in a small tank. These oils can be regarded as waste oil in various units of the industry. In addition, these oils are sold for a certain fee.

## SAR - İŞ BENCH MANGENESS



## PROFESSIONAL TYPE SAW CASE

For saws with a width of min.13mm, max.67mm



**ADLER**<sup>®</sup>

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