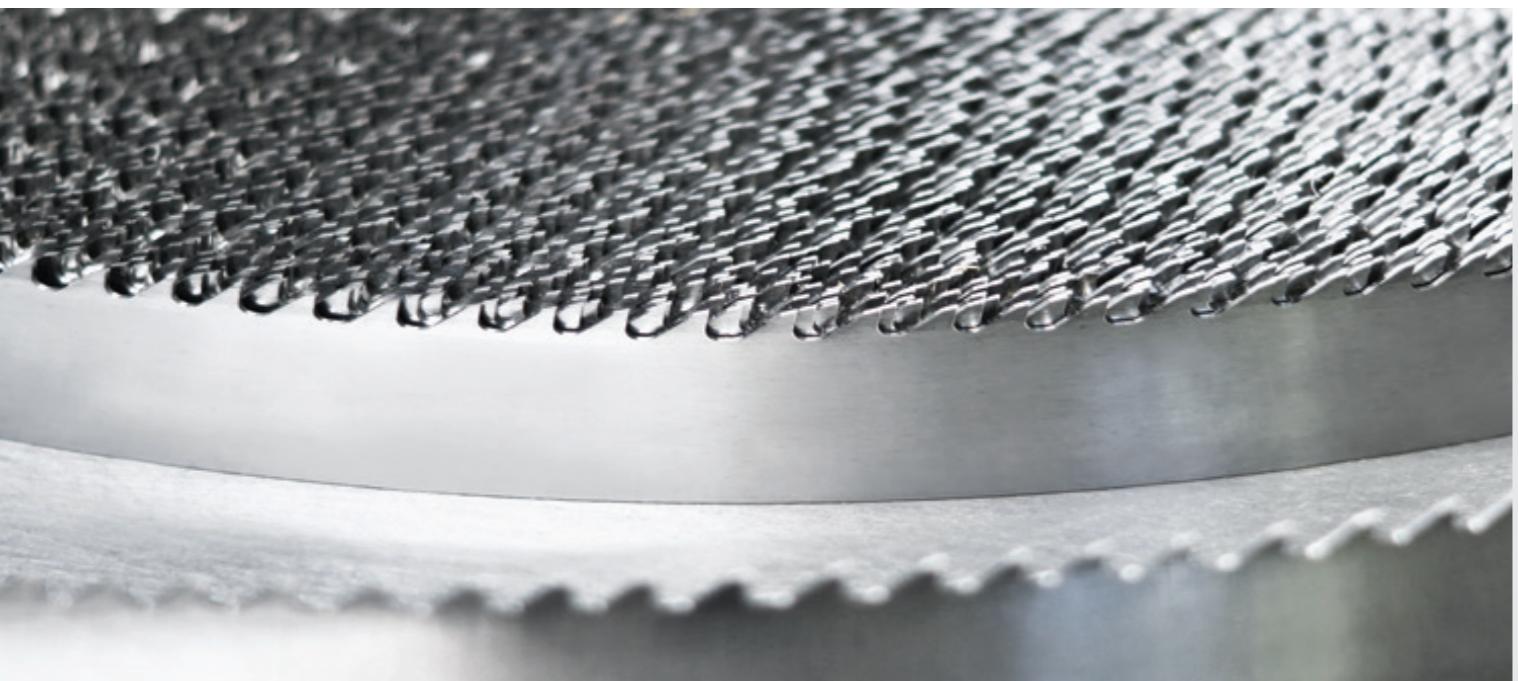




BAND SAW BLADES

Valid from 01/2025



Your partner for high-performance band saw blades for demanding sawing tasks in metalworking. With an extensive range of Bi-Metal and Carbide Tipped Band Saw Blades, BUSATEC convinces worldwide.

Two components – inseparably connected

Our Bi-Metal Band Saw Blades consist of two essential materials. A flexible chrome-alloyed blade backer with about 50 HRC and the particularly wear-resistant HSS wire in the qualities M42 and M51. By using a special heat treatment process, it is ensured that the HSS tooth tips of the Band Saw Blades reach a hardness of about 68 HRC.

Particularly powerful – Carbide Tipped Band Saw Blades

Carbide Tipped Band Saw Blades consist of particularly wear-resistant carbide grades, which are welded onto the blade backer in a special process. Cutting geometries developed according to the sawing tasks achieve maximum cutting performance with low-vibration cuts and particularly smooth material surfaces. Carbide Tipped Band Saw Blades can only be used on sawing machines suitable for this purpose.

The choice is yours

BUSATEC Band Saw Blades are available as coilware or precisely fitting for your sawing machine as endless welded loops.

	Article	Article No.	Page
Bi-Metal Band Saw Blades	MARS EXTRA	M42	1104
	APOLLO EXTRA	M51	1204
	MARS UNIVERSAL	M42	1120
	MARS PROFIL	M42	1109
	MARS UNIVERSAL	M51	1220
	MARS PROFIL	M51	1209
	GENIUS	M42	1140
	GENIUS	M51	1240
	COSMO EXTRA	M42	1001
	COSMO UNIVERSAL	M42	1002
ATLAS	M42	1105	9
Carbide Tipped Band Saw Blades	TRITON-GP	1411	10
	HYDRA	1406	10
	ORION	1403	10
	LOTUS	1412	11
	ORION SUPER	1404	11
	NEPTUN	1408	11
Accessories	Tension measuring device, Refractometer, Application case		13

BREAK-IN PROCEDURE FOR LONG BLADE LIFE

Guarantee for extended blade life

Breaking in a Band Saw Blade is essential to ensure its optimal performance and longevity. This process involves gradually acclimating the blade to tension, temperature, running the machine at slower cutting rates to ensure proper functionality before full operation.

Why is Break-In important ?

- New teeth are very sharp and fragile
- Prevents premature tooth edge fracturing
- Break-in improves overall blade life and cut finish



BG – NEXT-GEN RAMPING TECHNOLOGY FOR PRECISION IN EVERY CUT!

Advanced ramping technology engineered for superior performance in demanding applications

Benefits

- Custom-designed software ensures maximum flexibility in ramping design
- Adapts to a wider range of material dimensions
- Newly developed system integrates coolant and filtration for higher efficiency and lower operating costs
- Optimized edge geometry reduces stress on the backer, extending blade durability
- Enhances tooth engagement without requiring additional feed pressure

Instructions

- Reduce band speed by 20% (if you have vibration continue to reduce)
- Reduce feed rate by 20% to 50% depending on material machinability (Harder material requires a higher feed rate reduction)
- Small adjustments to blade speed or feed rate may be necessary if noise or vibration occurs
- Gradually increase feed rate until normal cutting rate are achieved

TECHNICAL SPECIFICATIONS

Toothing recommendation for thin-walled profiles

Wall thickness in mm	Profile outer diameter in mm							
	20	40	60	80	100	120	150	
2	14	14	14	14	14	14	10/14	
3	14	14	14	14	14	10/14	10/14	8/11 8/12
4	14	14	10/14	10/14	8/11 8/12	8/11 8/12	8/11 8/12	6/10
5	14	10/14	10/14	8/11 8/12	8/11 8/12	8/11 8/12	6/10	6/10
6	14	10/14	8/11 8/12	8/11 8/12	6/10	6/10	6/10	5/7 5/8
8	14	8/11 8/12	6/10	6/10	5/7 5/8	5/7 5/8	5/7 5/8	5/7 5/8
10	-	6/10	6/10	5/7 5/8	5/7 5/8	5/7 5/8	-	-

Toothing recommendation for thick-walled profiles

Wall thickness in mm	Profile outer diameter in mm							
	80	100	120	150	200	300	500	750
10	-	-	-	4/6	4/6	4/6	3/4	2/3
15	4/6	4/6	4/6	4/6	4/6	3/4	2/3	2/3
20	4/6	4/6	4/6	4/6	4/6	3/4	2/3	2/3
30	4/6	4/6	4/6	3/4	3/4	2/3	2/3	2/3
50	-	-	3/4	3/4	2/3	2/3	2/3	1,4/2
80	-	-	-	-	2/3	2/3	1,4/2	1,4/2
100	-	-	-	-	-	2/3	1,4/2	1,4/2

Toothing recommendation for solid material

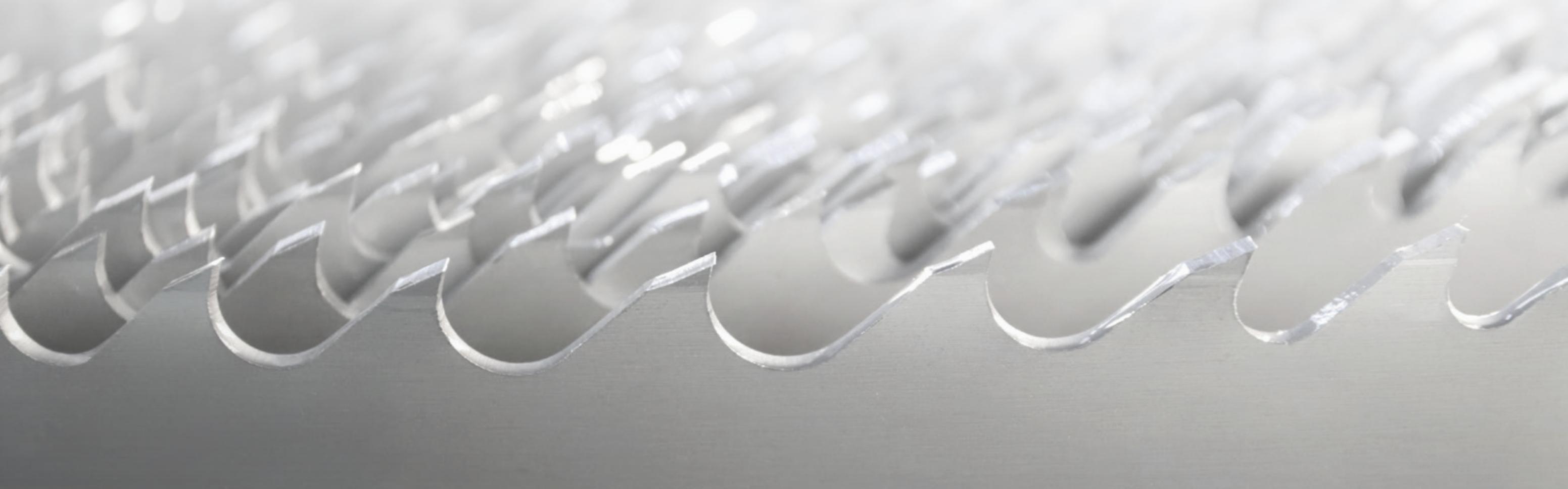
Cross section mm	Teeth per inch (tpi)
above 550	0,75/1,25
380 - 750	1/1,3
250 - 550	1,4/2
120 - 350	2/3
80 - 140	3/4
60 - 110	4/6
40 - 70	5/7 5/8
30 - 60	6/10
20 - 40	8/11 8/12
up to 25	10/14

Quick Tips

- The required tooth pitch depends on the wall thickness and diameter of the profiles to be cut. The tables apply to single cuts. If two or more profiles are cut next to each other, the tables apply taking into account twice the wall thickness with a single profile outer diameter
- Always ensure at least 3 teeth are in contact with the material for clean cuts and to avoid blade binding
- For wider material, use lower TPI to reduce strain and improve chip clearance
- For smaller materials, use higher TPI to prevent tearing or jagged edges

BI-METAL BAND SAW BLADES

BI-METAL BAND SAW BLADES



1104 MARS EXTRA	<ul style="list-style-type: none"> Classic tooth geometry to suit all your general purpose needs Variable tooth design for a wider range of material sizes M42 HSS tooth tip for long and reliable performance
M42	 BG OPTIONAL

1204 MARS EXTRA	<ul style="list-style-type: none"> Classic tooth geometry to suit all your general purpose needs Variable tooth design for a wider range of material sizes M51 HSS tooth tip for improved wear resistance
M51	 BG OPTIONAL

Dimensions mm	Toothing										
	0,75/1,25	1,4/2	2/3	3/4	4/6	5/8	6/10	8/12	10/14	14	18
20 x 0,90					●	●	●	●	●	●	●
27 x 0,90			●	●	●	●	●	●	●	●	●
34 x 1,10	●	●	●	●	●	●	●	●	●	●	●
41 x 1,30	●	●	●	●	●	●					
54 x 1,30	●	●	●								
54 x 1,60	●	●	●								
67 x 1,60		●									
80 x 1,60	●	●									

Dimensions mm	Toothing					
	0,75/1,25	1,4/2	2/3	3/4	4/6	5/8
27 x 0,90			●	●	●	●
34 x 1,10		●	●	●	●	●
41 x 1,30		●	●	●	●	●
54 x 1,60	●	●	●			
67 x 1,60		●				
80 x 1,60	●	●				

1120 MARS UNIVERSAL	
M42	

Dimensions mm	Toothing					
	2/3	3/4	4/6	5/7	8/11	
20 x 0,90				●	●	●
27 x 0,90			●	●	●	●
34 x 1,10	●		●	●	●	●
41 x 1,30	●		●	●	●	●
54 x 1,30	●		●	●	●	●
54 x 1,60	●		●	●	●	●
67 x 1,60	●	●	●			

1109 MARS PROFIL	
M42	

Dimensions mm	Toothing	
	2/3	3/4
54 x 1,60	●	●
67 x 1,90	●	●



BI-METAL BAND SAW BLADES



1220 MARS UNIVERSAL

M51

- Enhanced Wear Resistance due the M51 edge creates exceptional hardness and wear resistance
- The M51 used in MARS UNIVERSAL maintains its hardness even at higher cutting temperatures to prevent premature tip dulling
- Improved Edge Retention allows for consistent, high-quality cuts over extended periods

Dimensions mm	Toothing	
	2/3	3/4
41 x 1,30	●	●
54 x 1,30	●	●
54 x 1,60	●	●
67 x 1,60	●	●

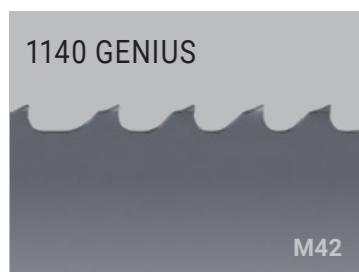


1209 MARS PROFIL

M51

- The extra-heavy set design, combined with M51's hardness, enhances the blade's ability to withstand higher stresses and resist wear
- Superior Heat Resistance for Heavy-Duty Cuts due to the M51 steel's high-temperature performance
- The MARS PROFIL extra-heavy set allows for a more aggressive cutting action, providing better chip removal and reducing the risk of pinching

Dimensions mm	Toothing	
	2/3	3/4
54 x 1,60	●	●
67 x 1,60	●	●

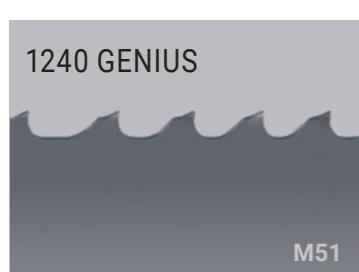


1140 GENIUS

M42

- Aggressive tooth geometry to improve penetration in work-hardening applications
- Variable set and high-low tooth pattern for added penetration while reducing vibration
- High Chrome premium backer for a long blade life

Dimensions mm	Toothing				
	0,75/1,25	1/1,3	1,4/2	2/3	3/4
34 x 1,10				●	●
41 x 1,30			●	●	●
54 x 1,30	●	●	●	●	●
54 x 1,60	●	●	●	●	●
67 x 1,60	●	●	●		
80 x 1,60	●	●	●		



1240 GENIUS

M51

- Aggressive tooth geometry to improve penetration in work-hardening applications
- Variable set and high-low tooth pattern for added penetration while reducing vibration
- M51 HSS tooth tip for improved wear resistance

Dimensions mm	Toothing				
	0,75/1,25	1/1,3	1,4/2	2/3	3/4
41 x 1,30			●	●	●
54 x 1,30		●	●	●	●
54 x 1,60		●	●	●	●
67 x 1,60	●	●	●		
80 x 1,60	●	●	●		

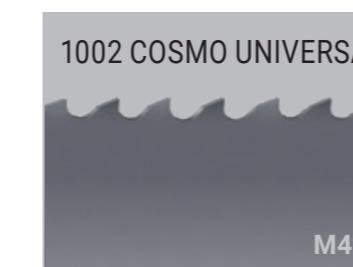


1001 COSMO EXTRA

M42

- The budget-friendly choice with a wide range of tooth profiles
- Versatile application for thin-walled profiles up to large solid material work-pieces

Dimensions mm	Toothing							
	1,4/2	2/3	3/4	4/6	5/8	6/10	8/12	10/14
6 x 0,90								●
10 x 0,90								●
13 x 0,65					●	●	●	●
13 x 0,90					●	●	●	●
20 x 0,90					●	●	●	●
27 x 0,90	●	●	●	●	●	●	●	●
34 x 1,10	●	●	●	●	●	●	●	●
41 x 1,30	●	●	●	●	●	●	●	●
54 x 1,30					●	●		
54 x 1,60	●	●	●	●	●	●	●	●
67 x 1,60	●	●	●					

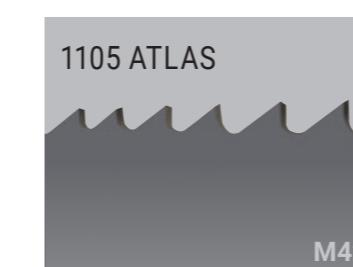


1002 COSMO UNIVERSAL

M42

- The budget-friendly multi-tooth with a robust tooth design for varying cutting tasks
- Saves inventory costs with extended tool life in mixed operations
- Reduced blade change

Dimensions mm	Toothing					
	2/3	3/4	4/6	5/7	8/11	12/16
20 x 0,90					●	●
27 x 0,90		●	●	●	●	●
34 x 1,10		●	●	●		
41 x 1,30		●	●			
54 x 1,60	●	●				
67 x 1,60	●	●				



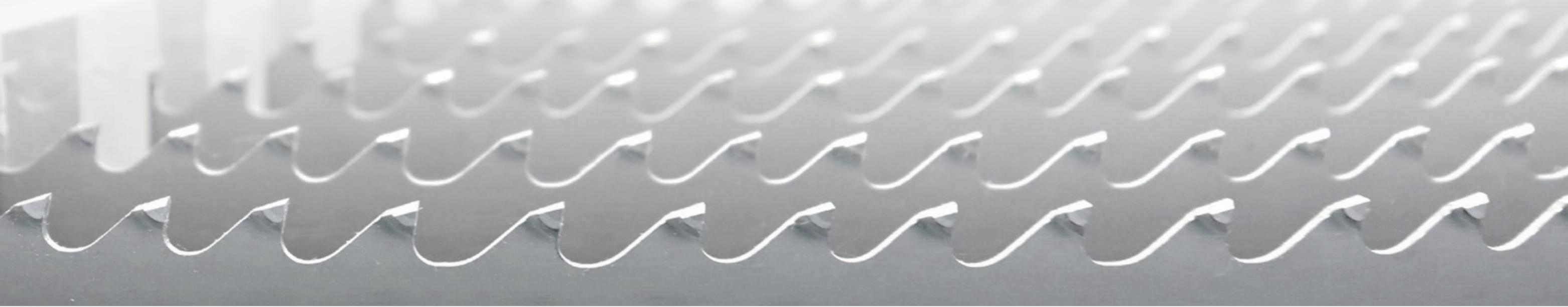
1105 ATLAS

M42

- The rustic for repair and dismantling of wooden pallets
- Special tooth geometry guarantees constant performance while sawing through nails and staples

Dimensions mm	Toothing	
	5/8	
34 x 1,10	●	

CARBIDE TIPPED BAND SAW BLADES



1411 TRITON-GP

- Robust Triple chip geometry for consistent performance
- Positive tooth angle with high-low tooth design for increased penetration
- Carbide grade with high resistance

Dimensions mm	Toothing				
	0,75/1,25	1/1,3	1,4/2	2/3	3/4
27 x 0,90				●	●
34 x 1,10				●	●
41 x 1,30			●	●	
54 x 1,30			●	●	●
54 x 1,60		●	●	●	●
67 x 1,60	●	●			
80 x 1,60	●	●			

1406 HYDRA

- Modified triple chip geometry combined with set teeth
- Wide kerf to create excellent cut stability
- Robust performance in all machine types

Dimensions mm	Toothing			
	1,4/2	2/3	3	3/4
20 x 0,90			●	
27 x 0,90		●	●	●
34 x 1,10		●		●
41 x 1,30	●	●		
54 x 1,60	●	●		
67 x 1,60	●	●		

1403 ORION

- Multi-chip design
- Developed for fast band speeds
- High positive rake angle to increase penetration

Dimensions mm	Toothing			
	1/1,3	1,4/2	2/3	3/4
34 x 1,10			●	●
41 x 1,30		●	●	●
54 x 1,30			●	●
54 x 1,60		●	●	●
67 x 1,60	●	●		
80 x 1,60		●		

CARBIDE TIPPED BAND SAW BLADES

1412 LOTUS

- High performance chrome backer with enhanced carbide grade for maximum performance
- Multi-chip geometry to provide faster cutting times
- High positive rake angle to increase penetration

Dimensions mm	Toothing			
	0,75/1,25	1/1,3	1,4/2	2/3
41 x 1,30				●
54 x 1,60			●	●
67 x 1,60		●	●	●
80 x 1,60	●	●	●	

1404 ORION SUPER

- The expert for surface hardened workpieces
- Special blade with negative rake angle
- Multi chip geometry for highest cutting performance

Dimensions mm	Toothing	
	2/3	3/4
27 x 0,90		●
34 x 1,10		●
41 x 1,30	●	●

1408 NEPTUN

- Triple chip design
- Carbide grade designed for high abrasion
- Developed for high-speed nonferrous applications

Dimensions mm	Toothing					
	0,65/0,95	0,75/1,25	1,4/2	2/3	3	3/4
20 x 0,90						●
27 x 0,90					●	●
34 x 1,10			●	●		
41 x 1,30			●	●		
54 x 1,30			●	●		
54 x 1,60			●	●		
67 x 1,60			●	●		
80 x 1,60	●	●	●			



Tension measuring device

The wrong tension of a Band Saw Blade can be the reason for crooked cuts and cause blade breakage. Therefore, the tension should be checked at regular intervals. Detailed instructions explain how to select and control the right band tension.



Refractometer

The correct concentration of cooling liquid is important for optimum service life time of Band Saw Blades. To check the right concentration of liquid while operating it is recommended to use the BUSATEC-Refractometer.



Application case

Making sure your blade runs under perfect conditions. Featuring: Tension measuring device, refractometer, tachometer and more accessories.



TECHNICAL RECOMMENDATIONS

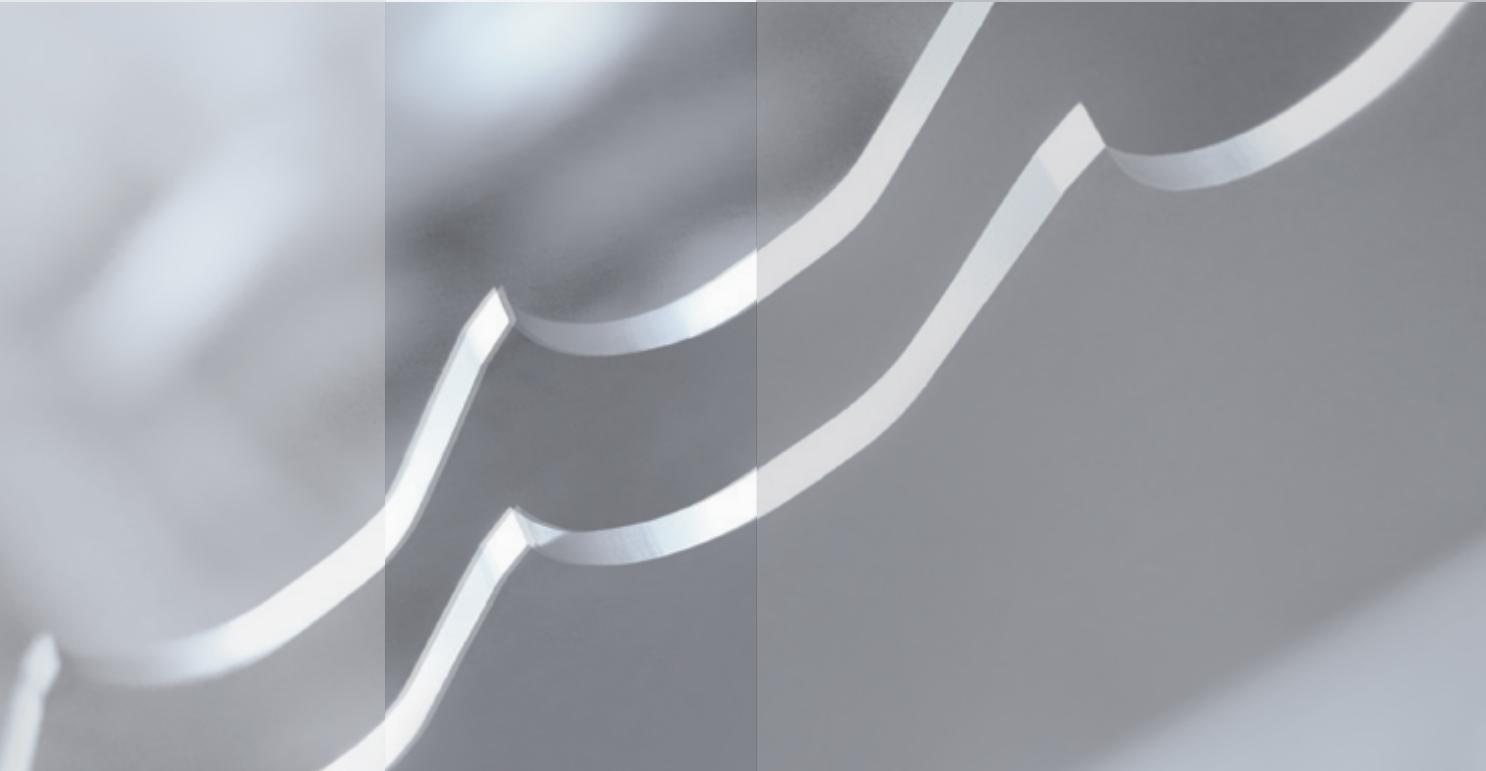
for Bi-Metal Band Saw Blades

Material groups	Material specification DIN	Material no.	Cutting speed V_c (m/min)	Cooling fluids		
				Bi-Metal	Cutting oil	Emulsion
Structural steels	St 37 - 2	1.0037	80-100		x	
	St 50 - 2	1.0050	60-85		x	
	St 60 - 2	1.0060	50-70		x	
Case-hardening steels	C 10	1.0301	80-100	x		
	14 NiCr 14	1.5752	40-55	x		
	21 NiCrMo 2	1.6523	50-60	x		
	16 MnCr 5	1.7131	40-60	x		
Free machining steels	9 S 20	1.0711	80-120		x	
	45 S 20	1.0727	80-120		x	
Heat treatable steels	C 45	1.0503	60-70		x	
	40 Mn 4	1.1157	60-70		x	
	36 NiCr 6	1.5710	60-70		x	
	34 CrNiMo 6	1.6582	50-65		x	
	42 CrMo 4	1.7225	50-65		x	
Ball bearing steels	100 Cr 6	1.3505	35-50		x	
	100 CrMn 6	1.3520	35-50		x	
Spring steels	65 Si 7	1.5028	45-60		x	
	50 CrV 4	1.8159	45-60		x	
Unalloyed tool steels	C 125 W	1.1663	40-60		x	
	C 75 W	1.1750	40-60		x	
Cold-work tool steels	125 Cr 1	1.2002	40-50	x	x	
	X 210 Cr 12	1.2080	30-40	x	x	
	X 155 CrVMo 12 1	1.2379	30-40	dry		
	X 42 Cr 13	1.2083	35-45	x	x	
	X 165 CrV 12	1.2201	30-45	x	x	
	100 CrMo 5	1.2303	30-50	x	x	
	X 32 CrMoV 3 3	1.2365	45-60	x	x	
	45 WCrV 7	1.2542	40-50	x	x	
	56 NiCrMoV 7	1.2714	40-50	x	x	
	S 6-5-2 (EMo5 Co5)	1.3243	35-45		x	
High speed steels	S 2-10-1-8 (M 42)	1.3247	35-45		x	
	S 6-5-2 (DMo5)	1.3343	35-45		x	
	Valve steels	1.4718	30-45	x	x	
High temperature steels	X 45 CrSi 9 3	1.4718	30-45	x	x	
	X 45 CrNiW 18 9	1.4873	30-40	x	x	
	X 20 CrMoV 12 1	1.4922	10-30	x	x	
Heat-resistant steels	X 5 NiCrTi 26 15	1.4980	10-30	x	x	
	X 10 CrSi 6	1.4712	15-25	x	x	
	X 10 CrAl 18	1.4742	15-25	x	x	
Stainless steels	X 15 CrNiSi 25 20	1.4841	15-25	x	x	
	X 5 CrNi 18 10 (V2A)	1.4301	30-40	x	x	
	X 6 CrNiMoTi 17 12 2 (V4A)	1.4571	30-40	x	x	
Steel castings	GS-38	1.0420	40-60		x	
	GS-60	1.0558	40-60		x	
Cast irons	GG-15	0.6015	30-60	dry		
	GG-30	0.6030	30-60	dry		
	GGG-50	0.7050	30-60	dry		
	GTW-40	0.8040	30-60	dry		
	GTS-65	0.8165	30-60	dry		
Copper	KE-Cu Elektrolyt-Copper	2.0050	100-400	x	x	
Brass (copper-zinc alloys)	CuZn 10	2.0230	100-400		x	
	CuZn 31 Si 1	2.0490	100-400		x	
Aluminium bronze (copper-aluminium alloys)	CuAl 8	2.0920	35-50		x	
	CuAl 10 Fe 3 Mn 2	2.0936	35-50		x	
Bronze (copper-tin alloys)	CuSn 6	2.1020	80-150		x	
	CuSn 6 Zn 6	2.1080	80-150		x	
Red brass (copper-cast alloys)	CuSn 10 Zn	2.1086	50-100		x	
	CuSn 5 ZnPb	2.1096	50-100		x	
Nickel base alloys	NiCr 20 TiAl	2.4631	10-25	x	x	
	NiCr 22 FeMo	2.4972	10-25	x	x	
Aluminium and aluminium alloys	AI 99.5	3.0255	80-800		x	
	AlMgSiPb	3.0615	80-800		x	
	G-AlSi 5 Mg	3.2341	80-800		x	
Titanium and titanium alloys	Ti Grade 1	3.7025	10-20	x	x	
	TiAl 6 V 4	3.7164	10-20	x	x	
Thermoplastic plastics	PVC Teflon, Hostalen		100-400	dry		
			100-400	dry		
Plastics with fibre inlays	Resitex Novotex		50-300	dry		
			50-300	dry		

TECHNICAL RECOMMENDATIONS

For Carbide Band Saw Blades (for cutting steel)

Material group	Material specifications DIN	Material no.	Cutting speed V_c (m/min)	Recommended tooth pitch Material dimensions			
				V_c (m/min)	75 - 140 mm	100 - 350 mm	300 - 550 mm
Structural steels	St 37/42	1.0037/1.0042	100-130	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	St 52/60	1.0050/1.0060	90-120	3/4	3 tpi 2/3	1,4/2	0,75/1,25
Case-hardening steels	C10/C15	1.0301/1.0401	110-140	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	16 MnCr 5	1.7131	80-100	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	20 CrMo 5	1.7264	80-100	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	21 NiCrMo 2	1.6523	70-90	3/4	3 tpi 2/3	1,4/2	0,75/1,25
Nitride steels	34 CrAlNi 7	1.8550	45-60	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	34 CrAlMo 5	1.8507	45-60	3/4	3 tpi 2/3	1,4/2	0,75/1,25
Free machining steels	9 S 20	1.0711	100-160	3/4	3 tpi 2/3	1,4/2	0,75/1,25
Heat treatable steels	C 35/45	1.0501/1.0503	90-120	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	42 CrMo 4	1.7225	70-90	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	34 CrNiMo 6	1.6582	70-90	3/4	3 tpi 2/3	1,4/2	0,75/1,25
Ball bearing steels	100 Cr 6	1.3505	70-90	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	100 CrMo 7 3	1.3536	65-85	3/4	3 tpi 2/3	1,4/2	0,75/1,25
Spring steels	65 Si 7	1.5028	65-85	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	50 CrV 4	1.8159	65-85	3/4	3 tpi 2/3	1,4/2	0,75/1,25
Unalloyed tool steels	C 125 W	1.1663	65-80	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	C 80 W 1	1.1525	70-85	3/4	3 tpi 2/3	1,4/2	0,75/1,25
Cold-work tool steels	125 Cr 1	1.2002	65-80	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	X 210 Cr 12	1.2080	40-50	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	X 155 CrVMo 12 1	1.2379	40-50	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	90 MnCrV 8	1.2842	45-55	3/4	3 tpi 2/3	1,4/2	0,75/1,25
Hot-work tool steels	40 CrMnMo 7	1.2311	70-90	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	X 40 CrMoV 5 1	1.2344	60-80	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	56 NiCrMoV 7	1.2714	50-70	3/4	3 tpi 2/3	1,4/2	0,75/1,25
	40 CrMnNiMo 8 6 4	1.2738	3				



BUSATEC
A brand of ARNTZ GmbH + Co. KG
Lenneper Straße 35
42855 Remscheid
GERMANY
info@busatec.com
www.busatec.com

