Honsberg®

Quality, Tradition and Progress

Qualität, Tradition und Fortschritt

www.honsberg.de

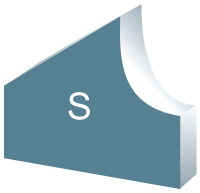
Quality, tradition and progress for over 200 years

Quality, tradition and progress merge at Honsberg. Already in 1798 the Honsberg brothers started to produce metal and wood cutting saw blades in Remscheid, the German centre for tool industry. Since 1987 Honsberg Metallsägen GmbH - as an independent company - is specialised in the development, production, distribution and service of metal bandsaw blades world-wide.

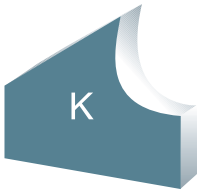
Research and development by Honsberg has always been ongoing and we have been foremost in producing and refining bimetal and tungsten carbide products to meet the increasing customer demands for high quality cutting tools at competitive pricing.

Today we supply 1st class cutting solutions for all possible metal cutting tasks. Our customers rely on our permanent high quality level confident that saw blades produced under the Honsberg brand meet even highest demands regarding precision, reliability and permanent product control. All items are therefore produced to ISO 9001 standards.

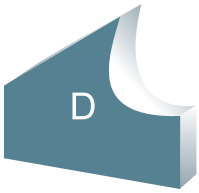
Based on this, today Honsberg Metallsägen as a global player is one of the biggest suppliers for metal cutting saw blades. Leading companies rely on the productivity of the Honsberg products and the service of the Honsberg team. Permanent research and development will guarantee to reach top quality results in bandsaw blade technique together with our customers also in the future.



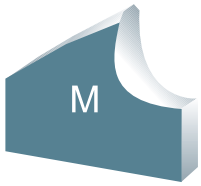
Tooth style S has a rake angle of **0°**. Is is designed for cutting short chipping, low alloyed materials, solids in small and medium cross sections as well as tubes and profiles.



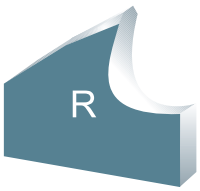
The hook tooth has a positive rake angle of **10°**. It is especially suitable for cutting bigger cross sections.



The Delta tooth has a highly aggressive rake angle of **16°** positive. It is recommended for cutting solids and thick walled tubes and profiles, especially the ones made of higher alloyed materials.



The Master tooth is the long time proven solution for cutting high alloyed materials. Its **Triple Tooth Concept** with grinded tooth flanks improves cutting of high alloyed steels on various kinds of machinery. The Master Tooth has a **10°** positive rake angle.



The Radial tooth is the latest development to cut high and highest alloyed materials like super alloys and others especially the ones, based on Cr-Ni-Ti as well as exotic steel grades on modern 2-column machinery. The Radial tooth also has the proven **Triple Tooth Concept** as special feature which is manufactured with a **16°** rake angle combined with a special set.

Vario Toothings

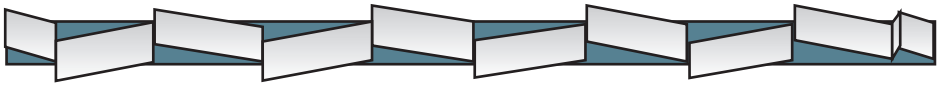
Different tooth pitches allow low vibration cutting in a large cross section. It is very suitable for universal cutting of tubes and profiles, changing diameters and all forms with changing zones of contact as well as mixed cutting.

Single Toothings

A permanent tooth pitch is significant for this type of blade. It is very suitable for consistent, unvarying cutting cross sections especially in production cutting. The permanent tooth pitch is the predecessor of the innovative vario toothings.

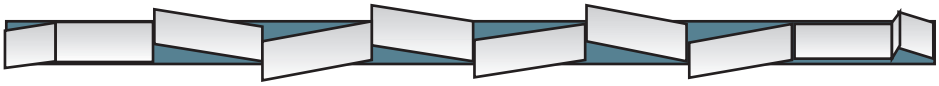
Right-Left / RL-Set

This set is developed for cutting non-ferrous alloys, wood and various plastics. There are ~ 33% more cutting teeth in the work piece due to the missing non-set teeth. Offered at HONSBERG exclusively as 3 tpi ALU.



Vario set

After several set teeth the vario set sequence right-left is interrupted by a straight, non-set tooth. The structure of the sequence is different depending on the toothing.



Raker Set

For most single tooth pitches we use the raker set with the sequence right-left-straight. As the raker set improves the chip formation of tough and long chipping materials due to less cutting but more chip removal teeth we also selected it for our qualities Delta, Master and Radial.

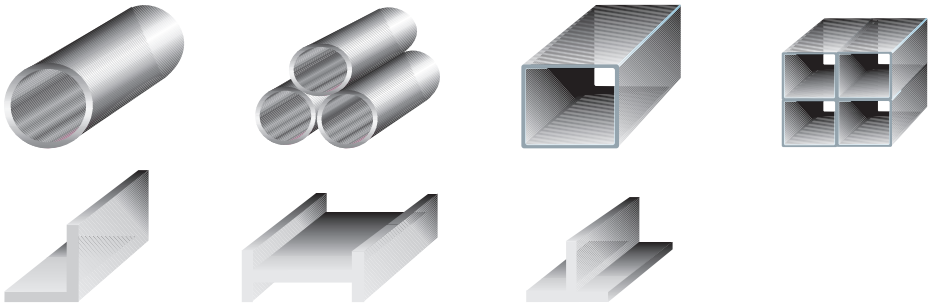
Technical improvements are subject to change without notice.

Extra / Flexback

No. 061 / Carbon Steel Bandsaw Blades

Flexible bandsaw blade made out of one piece of chrome alloyed carbon steel with a pin point carbide structure and a teeth hardness of approx. 64 HRc. The areas of application are the cutting of non-alloyed low strength steels on light-weight bandsaw machines or verticals.

Area of application



For cutting of non alloyed low strength steels

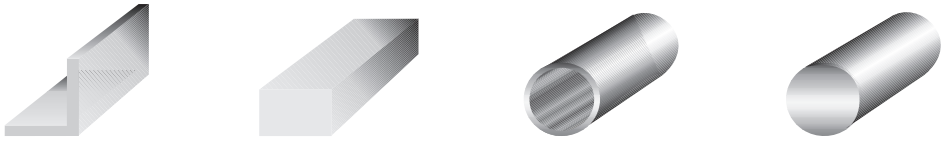
Specification Honsberg Extra										
Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi								
mm	Inches	2	3	4	6	8	10	14	18	24
6 x 0,65	1/4 x .025			K	S/K	S	S	S	S	S
8 x 0,65	5/16 x .025			K	S/K	S	S	S	S	S
10 x 0,65	3/8 x .025		K	K	S/K	S	S	S	S	S
13 x 0,65	1/2 x .025		K	K	S/K	S	S	S	S	S
16 x 0,80	5/8 x .032		K	S/K	S	S	S	S	S	S
20 x 0,80	3/4 x .032		K	K	S	S	S	S	S	S
25 x 0,90	1 x .035	K	K	S/K	S	S	S	S		S

Super / Hardback

Carbon Steel Bandsaw Blades / No. 062

Bandsaw blade made out of one piece of alloyed and tempered carbon steel with a pin point structure and a teeth hardness of approx. 66 HRc. Higher wear resistance and higher cutting parameters are a result of the tempered backing material with a hardness of approx. 43 HRc.

Area of application



For cutting low alloyed steels up to a tensile strength of approx. 22 HRc

Specification Honsberg Super

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi							
mm	Inches	3	4	6	8	10	14	18	24
6 x 0,65	1/4 x .025		K	S/K	S	S	S	S	S
8 x 0,65	5/16 x .025			S/K	S	S	S	S	S
10 x 0,65	3/8 x .025		K	S/K	S	S	S	S	S
13 x 0,65	1/2 x .025	K	K	S/K	S	S	S	S	S
16 x 0,80	5/8 x .032	K	S/K	S	S	S	S		S
20 x 0,80	3/4 x .032		K	S	S	S	S	S	S
25 x 0,90	1 x .035	K	S/K	S/K	S	S	S		

Vision / Bimetal M42

No. 072 V / Bimetal Bandsaw Blades

Bimetal bandsaw blade made of ~4% high chrome alloyed backing material and a HSS cutting edge made of HSS M42 / material No. 1.3247 with a cobalt content of 8%. The teeth hardness of approx. 68 HRc combined with a tenacious backing material with highbending fatigue strength is ideal for the cutting of all common steels grades up to a hardness of approx. 45 HRc.

Area of application

For universal usage for mixed materials (solids and structurals) and diameters for all types of steel and machinery

Specification Standard Teeth - Honsberg Vision

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi					
mm	Inches	3	4	6	8	10	14
6 x 0,65	1/4 x .025			K			
6 x 0,90	1/4 x .035			K		S	S
10 x 0,65	3/8 x .025			K			
10 x 0,90	3/8 x .035		K	K	S	S	S
13 x 0,65	1/2 x .025			K		S	S
13 x 0,90	1/2 x .035	K	K	K	S	S	S
20 x 0,90	3/4 x .035	K	K				S

Specification Vario Teeth - Honsberg Vision

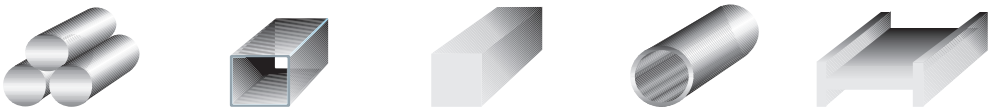
Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi				
mm	Inches	4/6	5/8	6/10	8/12	10/14
6 x 0,65	1/4 x .025					S
6 x 0,90	1/4 x .035					S
10 x 0,65	3/8 x .025					S
10 x 0,90	3/8 x .035					S
13 x 0,65	1/2 x .025			S	S	S
13 x 0,90	1/2 x .035					S
20 x 0,90	3/4 x .035	K	S	S	S	S

Spectra / Bimetal M42

Bimetal Bandsaw Blades / No. 072 S

Bimetal bandsaw blade made of ~4% high chrome alloyed backing material and a HSS cutting edge made of HSS M42 / material No. 1.3247 with a cobalt content of 8%. The teeth hardness of approx. 68 HRc combined with a tenacious backing material with highbending fatigue strength is ideal for the cutting of all common steels grades up to a hardness of approx. 45 HRc in all diameters. Honsberg Spectra is the cutting solution for universal usage of bimetal bandsaw blades with mixed materials and diameters for all types of steel and machinery.

Area of application



For universal usage for mixed materials (solids and structurals) and diameters for all types of steel and machinery

Specification Standard Teeth - Honsberg Spectra

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi								
mm	Inches	0,75	1,25	2	3	4	6	8	10	14
27 x 0,90	1 1/16 x .035			K	K/S	K/S	K/S	S	S	S
34 x 1,10	1 3/8 x .042		K	K	K/S	K/S	S	S	S	
41 x 1,30	1 5/8 x .050		K	K	K	K				
54 x 1,30	2 1/8 x .050		K							
54 x 1,60	2 1/8 x .063		K	K	K					
67 x 1,60	2 5/8 x .063		K	K						
80 x 1,60	3 1/8 x .063	K	K							

Specification Vario Teeth - Honsberg Spectra

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi										
mm	Inches	0,75/ 1,25	1,1/ 1,6	1,5/ 2	2/3	3/4	4/5	4/6	5/6	5/8	6/10	8/12	10/14
27 x 0,90	1 1/16 x .035				K	K/S	K	K/S	K	S	S	S	S
34 x 1,10	1 3/8 x .042				K	K/S	K	K/S	K	S	S	S	
41 x 1,30	1 5/8 x .050			K	K	K/S	K	K/S		S	S	S	
54 x 1,30	2 1/8 x .050		K	K	K	K	K	K					
54 x 1,60	2 1/8 x .063	K	K	K	K	K	K	K	K				
67 x 1,60	2 5/8 x .063	K	K	K	K	K							
80 x 1,60	3 1/8 x .063	K	K	K	K								

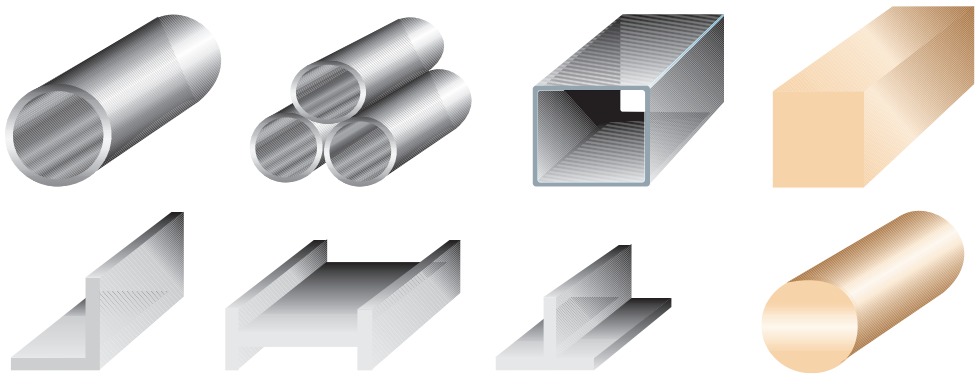
Secura / Bimetal M42

No. 072X / Bimetal Bandsaw Blades

Bimetal Bandsaw blade made of ~ 4% high chrome alloyed tenacious backing material and a HSS cutting edge made of HSS M42 / material No. 1.3247 with a cobalt content of 8% and a hardness of approx. 68 HRc.

The special Secura tooth and set geometry prevents the blade from binding in the cutting channel, f.e. heavy I beams and structurals. The ultimate service life is reached by its shock resistant tooth style which absorbs vibration typical for structural cutting best.

Area of application



Heavy structurals or non ferrous metals

Specification Honsberg Secura

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi								
		FOR NON FERROUS METALS				*FOR HEAVY BEAMS & STRUCTURALS*				
mm	Inches	1,25	2	3	4	2/3	3/4	4/6	5/7	8/11
13 x 0,90	1/2 x .035			X	X					
20 x 0,90	3/4 x .035			X						
27 x 0,90	1 1/16 x .035		X	X	X		X	X	X	X
27 x 1,10	1 1/16 x .042		X							
34 x 1,10	1 3/8 x .042	X	X	X		X	X	X	X	
41 x 1,30	1 5/8 x .050					X[1)]	X[1)]	X	X	
54 x 1,60	2 1/8 x .063					X	X	X		
67 x 1,60	2 5/8 x .063					X	X	X		

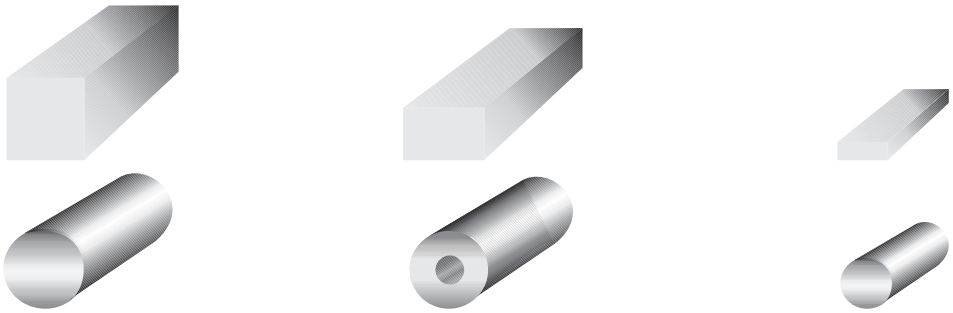
[1)] also available with extra heavy set

Delta / Bimetal M42

Bimetal Bandsaw Blades / No. 073

Bimetal bandsaw blade made of ~4% high chrome alloyed tenacious backing material and a HSS cutting edge made of HSS M42 / material No. 1.3247 with a cobalt content of 8% and a hardness of approx. 68 HRc. This blade with an aggressive cutting angle of 16° positive (see also page 3) is designed to cut solids and thick walled tubes and structurals on 2-column and swing type machinery with low vibrations. The advantages of this blade are an easy cutting behavior with good chip formation and smooth cutting. All in all, this leads to an increase in life time compared to standard bimetal bandsaw blades.

Area of application



Designed to cut solids and thick walled tubes and structurals on 2-column and swing type machinery with low vibrations. Also most recommendable to cut non-ferrous materials.

Specification Honsberg Delta

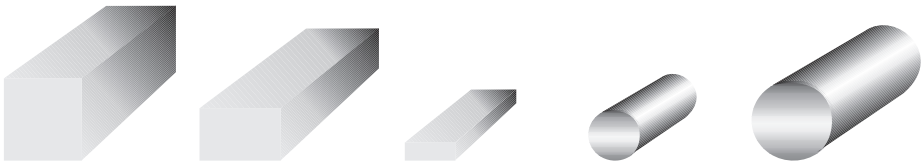
Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi				
mm	Inches	0,75/1,25	1,1/1,6	1,5/2	2/3	3/4
27 x 0,90	1 1/16 x .035					D
34 x 1,10	1 3/8 x .042			D	D	D
41 x 1,30	1 5/8 x .050			D	D	D
54 x 1,60	2 1/8 x .063		D	D	D	D
67 x 1,60	2 5/8 x .063	D	D	D	D	
80 x 1,60	3 1/8 x .063	D	D			

Master / Bimetal M42

No. 074 / Bimetal Bandsaw Blades

Bimetal bandsaw blade made of ~4% high chrome alloyed tenacious backing material and a HSS cutting edge made of HSS M42 / material No. 1.3247 with a cobalt content of 8% and a hardness of approx. 68 HRc. The cutting angle of 10° positive combined with a borazon ground Triple Tooth Concept with pre- and finishing cutters (see also page 3) leads to an aggressive cut which is recommended for higher alloyed materials.

Area of application



Suitable for cutting stainless steels, heat resistant alloys and titanium as solids on 2-column and block bandsaw machinery.

Specification Honsberg Master

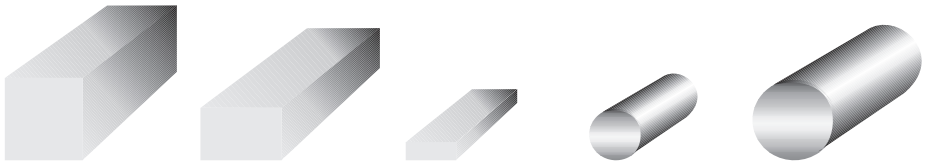
Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi								
mm	Inches	1,25	2	3	4	0,75/ 1,25	1,1/ 1,6	1,5/ 2	2/3	3/4
27 x 0,90	1 1/16 x .035			M	M					M
34 x 1,10	1 3/8 x .042		M	M	M				M	M
41 x 1,30	1 5/8 x .050	M		M				M	M	M
54 x 1,30	2 1/8 x .050							M		
54 x 1,60	2 1/8 x .063	M				M	M	M	M	M
67 x 1,60	2 5/8 x .063	M				M	M	M		
80 x 1,60	3 1/8 x .063					M				

Radial / Bimetal M42

Bimetal Bandsaw Blades / No. 075

Bimetal bandsaw blade made of ~4% high chrome alloyed tenacious backing material and a HSS cutting edge made of HSS M42 / material No. 1.3247 with a cobalt content of 8% and a hardness of approx. 68 HRc. Honsberg Radial is the world-wide leading solution for cutting high- and highest alloyed solids on low vibration 2-column bandsaw and block bandsaw machinery for production cutting. Honsberg engineers managed to merge the 16° positive cutting angle (see also page 3) with the reliable Triple Tooth Concept and a special set. The result is a highly aggressive cut behavior with excellent finish and highest cutting rates.

Area of application



New development for cutting high- and highest alloyed steels and alloys, nickel base superalloys on 2 column and block bandsaw machinery.

Specification Honsberg Radial

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi				
mm	Inches	0,75/1,25	1,1/1,6	1,5/2	2/3	3/4
34 x 1,10	1 3/8 x .042			R	R	R
41 x 1,30	1 5/8 x .050			R	R	R
54 x 1,60	2 1/8 x .063		R	R	R	R
67 x 1,60	2 5/8 x .063	R	R	R		
80 x 1,60	3 1/8 x .063	R	R			

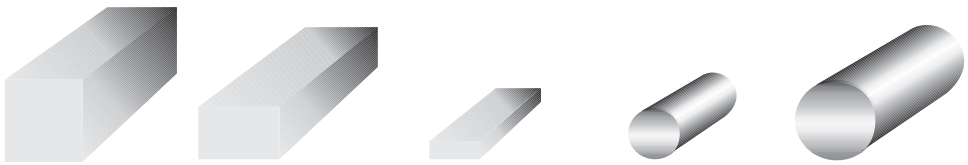
Duratec / Bimetal M51

No. 070 / Bimetal Bandsaw Blades

Bimetal bandsaw blade made of ~ 4% high chrome alloyed tenacious backing material and a HSS cutting edge made of HSS M51 / material No. 1.3207 with a cobalt and tungsten content of 10% each reaching a hardness of ~ 69 HRc.

The higher alloyed cutting edge is designed to cut high strength steel grades. Higher resistance against thermal and abrasive wear increases the service life especially cutting long cross sections.

Area of application



Designed to cut higher alloyed solids and tick walled tubes on low vibration machinery.

Specification Honsberg Duratec

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi						
mm	Inches	0,75/ 1,25	1,1/1,6	1,5/2	2/3	3/4	4/5	4/6
27 x 0,90	1 1/16 x .035				K	K	K	K
34 x 1,10	1 3/8 x .042				K	K		K
41 x 1,30	1 5/8 x .050			K	K	K		K
54 x 1,60	2 1/8 x .063			K	K	K		K
67 x 1,60	2 5/8 x .063	K	K	K	K			
80 x 1,60	3 1/8 x .063	K						

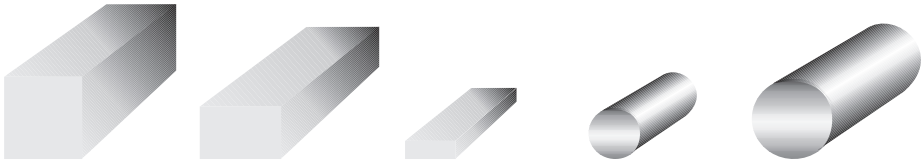
Aurum / Bimetal M51

Bimetal Bandsaw Blades / No. 078

Bimetal Bandsaw Blade made of ~ 4% high chrome alloyed tenacious backing material and a HSS cutting edge made of HSS M51 / material No. 1.3207 with a cobalt and tungsten content of 10% each reaching a hardness of ~ 69 HRc. Honsberg technicians merged the 16° positive cutting angle with a special setting and blade geometry to generate this high end blade in bimetal technique.

The higher alloyed cutting edge is designed to cut high strength steels grades. Higher resistance against thermal and abrasive wear increases the service life especially cutting long cross sections.

Area of application



Designed for cutting of high and highest steels and alloys, nickel base and super alloys up to 50 HRc on 2 column machinery. The product is 100% manufactured in the new HONSBERG NT DESIGN which guarantees lowest production tolerances to generate highest cutting rates and longest service life for professional endusers.

Specification Honsberg Aurum

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi				
mm	Inches	0,75/1,25	1,1/1,6	1,5/2	2/3	3/4
34 x 1,10	1 1/3 x .042				•	•
41 x 1,30	1 5/8 x .050			•	•	
54 x 1,60	2 1/8 x .063		•	•	•	
67 x 1,60	2 5/8 x .063	•	•	•		
80 x 1,60	3 1/8 x .063	•	•	•		

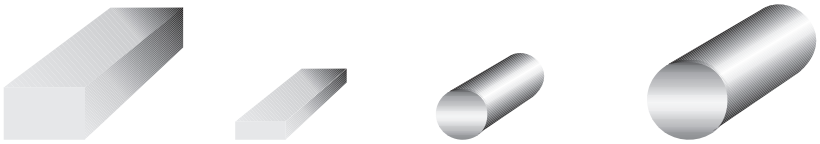
Sinus III TAP / TCT

No. 076-37 / Tungsten Carbide Bandsaw Blades

TCT bandsaw blade with the proven ~4% high chrome alloyed tenacious backing material and a carbide tipped, diamond ground tooth edge.

The special Sinus III grind creates a tooth design with multi chipping sections for production cutting with lowest vibrations. Hallmarks of this high tech blade are best finish, highest cutting rates, heat resistancy and long service life

Area of application



Designed for universal High Performance Cutting specially for tool, stainless and high speed steels.

Specification Honsberg Sinus III TAP

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi				
mm	Inches	0,85/1,15	1,1/1,6	1,5/2	2/3	3/4
27 x 0,90	1 1/16 x .035				•	•
34 x 1,10	1 1/3 x .042			•	•	•
41 x 1,30	1 5/8 x .050			•	•	•
54 x 1,30	2 1/8 x .050	•		•	•	
54 x 1,60	2 1/8 x .063	•	•	•	•	
67 x 1,60	2 5/8 x .063	•	•	•		
80 x 1,60	3 1/8 x .063	•	•			

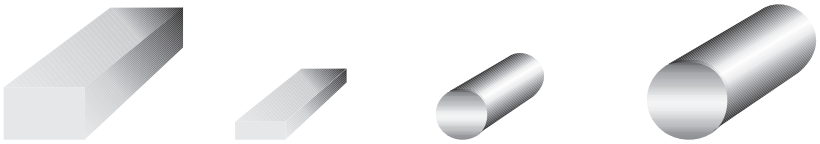
Sinus III TSA / TCT

Tungsten Carbide Bandsaw Blades / No. 076-33

TCT bandsaw blade with the proven ~4% high chrome alloyed tenacious backing material and a carbide tipped, diamond ground tooth edge.

The special Sinus III grind creates a tooth design with multi chipping sections for production cutting with lowest vibrations. Hallmarks of this high tech blade are best finish, highest cutting rates, heat resistancy and long service life.

Area of application



Designed for high speed cutting specially of large diameters of highest alloyed Cr, Ni, Ti steels grades and super alloys on High Speed Cutting machinery designed for TCT blades.

Specification Honsberg Sinus III TSA

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi			
mm	Inches	0,85/1,15	1,1/1,6	1,5/2	2/3
34 x 1,10	1 1/3 x .042			•	•
41 x 1,30	1 5/8 x .050			•	•
54 x 1,30	2 1/8 x .050			•	
54 x 1,60	2 1/8 x .063	•	•	•	•
67 x 1,60	2 5/8 x .063	•	•	•	
80 x 1,60	3 1/8 x .063	•	•		

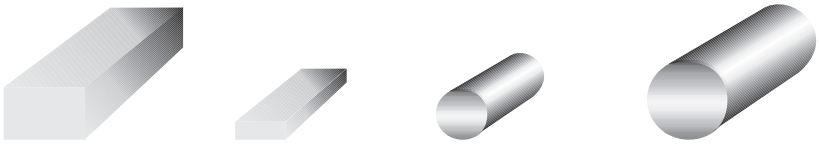
Sinus III TSN / TCT

No. 076-38 / Tungsten Carbide Bandsaw Blades

TCT bandsaw blade with the proven ~4% high chrome alloyed tenacious backing material and a carbide tipped, diamond ground tooth edge.

The special Sinus III grind creates a tooth design with multi chipping sections for production cutting with lowest vibrations. Hallmarks of this high tech blade are best finish, highest cutting rates, heat resistancy and long service life.

Area of application



Designed for hardened and tempered materials with hardness between 50-65 HRc.

Specification Honsberg Sinus III TSN

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi	
mm	Inches	2/3	3/4
27 x 0,90	1 1/16 x .035		•
34 x 1,10	1 1/3 x .042	•	•
41 x 1,30	1 5/8 x .050	•	•

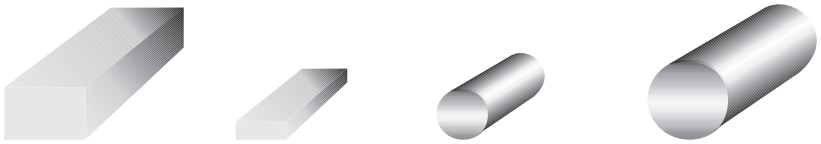
Sinus III TNF ALU / TCT

Tungsten Carbide Bandsaw Blades / No. 076-55

TCT bandsaw blade with the proven ~4% high chrome alloyed tenacious backing material and a carbide tipped, diamond ground tooth edge.

The special Sinus III grind creates a tooth design with multi chipping sections for production cutting with lowest vibrations. Hallmarks of this high tech blade are best finish, highest cutting rates, heat resistancy and long service life.

Area of application



Designed for non ferrous castings and foundry applications on vertical machinery and all kind of Aluminium cutting.

Specification Honsberg Sinus III TAP

Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi				
mm	Inches	2	3	0,85/1,15	1,1/1,6	1,5/2
20 x 0,90	3/4 x .035		•			
27 x 0,90	1 1/16 x .035		•			
34 x 1,10	1 1/3 x .042	•	•			•
41 x 1,30	1 5/8 x .050					•
54 x 1,30	2 1/8 x .050			•		•
54 x 1,60	2 1/8 x .063			•	•	•

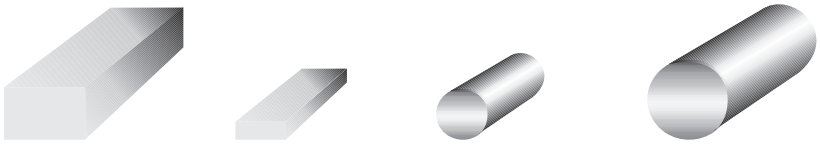
Sinus Black / TCT coated

No. 077-33 / Tungsten Carbide Bandsaw Blades

TCT bandsaw blade with the proven ~4% high chrome alloyed tenacious backing material and a carbide tipped, diamond ground tooth edge.

The special Sinus III grind creates a tooth design with multi chipping sections for production cutting with lowest vibrations. The precise diamond grind is uniquely coated to optimise heat conductivity leading to better chip flow. The results are an visible increase of service life and cutting rates compared to ordinary TCT bandsaw blades.

Area of application



Designed for high speed cutting of highest alloyed Cr, Ni, Ti steels grades and super alloys on High Speed Cutting machinery designed for TCT blades. Recommended for endusers looking for the ultimate cutting experience.

Specification Honsberg Sinus Black

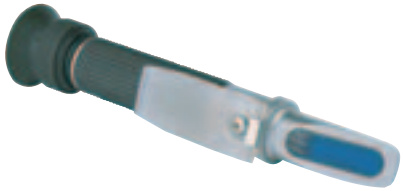
Size - Width x Thickness		Tooth Form - Pitches / Teeth per Inch / tpi			
mm	Inches	1,1/1,6	1,5/2	2/3	3/4
41 x 1,30	1 5/8 x .050		•	•	•
54 x 1,60	2 1/8 x .063	•	•	•	
67 x 1,60	2 5/8 x .063	•			

Saw Blade Tension Gauge

HONSBERG recommends a blade tension of 300 N/mm^2 to avoid off line cutting due to insufficient blade tension, or blade breakage if the tension should be too high. With our specially developed gauge you can easily check the blade from untensioned to tensioned condition or vice versa to reach lower cutting tolerances and an increase in service life of your saw blades.

Refractometer

To reach the ultimate service life of saw blades the right concentration of coolant (see tables page 16-17) is most important to avoid early abrasion. The HONSBERG refractometer helps you to check the mixture of coolant easily and precisely during cutting operation.



Speedometer

More than 30% of all bandsaw machinery show the wrong cutting speed ! To avoid wrong display figures due to unnoticed abrasion of driving components leading to wrong cutting parameters we offer the HONSBERG speedometer. Reliable and simple to use, it gives security to the operator during machine maintenance to achieve best cutting results all of the time.

Swarf Brushes

HONSBERG swarf brushes made of nylon or brass are cleaning the tooth gullets gently and effectively without blunting the tooth flanks or tooth tips. Our swarf brushes are most suitable for usage on carbon steel, bimetal and tungsten carbide bandsaw blades. They are available for machinery of all leading manufacturers. When ordering please mention outside diameter, bore and the widths of the brush.

Micro Spray System

The HONSBERG micro spray system is the advanced solution to modernize old bandsaw machinery with an innovative cooling spray technique. Together with HM 2 cutting oil this system has been especially developed for bandsaw blades optimizing the cooling of the blade on all spots necessary. The areas of application are the cutting of tubes and profiles as well as small and medium solids without any loss of service life for the saw blade. The advantages are dry chips without residue, a clean cutting area, low consumption of cutting oil and low costs. The 100% natural cutting oil HM2 is kind to skin and environment as it is free of chlorine, mineral oil, PCB and phenol. It is classified for German water danger indicator 0, which is the lowest grade possible.

Cutting conditions for solide steels for bimetal bandsaw blades based on selected cross sections and blade widths

Material	DIN	USA	JIS	071 Serra	072 S Spectra	073 Delta	074 Master	075 Radial	070 Duratec	Blade sizes (mm) 27x0,9 to 34x1,1		Blade sizes (mm) 41x1,3 to 54x1,6		Blade sizes (mm) 67x1,6 to 80x1,6	
				Recommended blade						Vc (m/min) solid Ø50-350mm	Vz (cm²/min)	Vc (m/min) solid Ø100-500mm	Vz (cm²/min)	Vc (m/min) solid Ø400-2000mm	Vz (cm²/min)
1.0060	St 60-2	A 572 Gr.65	SM 58	✓	✓					65-70	35-40	60-65	40-45	40-50	20-30
1.0401	C15	1016	S 15C	✓	✓					65-70	35-40	60-65	40-45	40-50	20-30
1.0503	C45	1045	S 45C	✓	✓					68-74	40-45	65-70	45-50	40-55	20-35
1.0570	St 52-3	A572 Gr.50	SM 490	✓	✓					68-74	40-45	65-70	45-50	40-55	20-35
1.1158	Ck25	1025	S25C	✓	✓					68-74	40-45	60-70	45-50	40-55	20-30
1.1221	Ck60	1060	S58C	✓	✓					68-74	40-45	60-70	40-45	35-45	15-25
1.2080	X210Cr12	D3	SKD 1		✓	✓				33-37	10-18	25-35	15-20	15-20	5-10
1.2312	40CrMnMoS 8-6				✓	✓				49-53	22-30	45-50	28-32	25-30	10-15
1.2343	X38CrMoV5-1	H11	SKD 6		✓	✓				41-45	18-24	36-40	22-26	22-30	10-20
1.2363	X100CrMoV5-1	A2	SKD 12		✓	✓				38-42	15-20	30-36	18-22	20-26	8-14
1.2379	X155CrVMo12-1	D2	SKD 11		✓	✓				33-37	10-18	25-35	15-20	15-20	5-10
1.2510	100 MnCrW4	O1	SKS 3		✓	✓				42-46	18-24	36-42	22-26	26-30	12-18
1.2606	X37CrMoW 5-1	H12	SKD 62		✓	✓				42-46	18-24	36-42	22-26	20-28	8-16
1.2714	56 NiCrMoV7	L6	SKT 4		✓	✓				42-46	20-26	40-45	25-30	26-34	12-18
1.2842	90 MnCrV 8	O2			✓	✓				42-45	18-24	36-42	24-28	24-32	12-18
1.3343	S 6-5-2	M2	SKH 51		✓	✓				36-40	16-20	30-35	16-20	26-30	12-18
1.3247	S 2-20-1-8	M42	SKH 59		✓	✓				36-40	16-20	30-35	16-20	26-30	12-18
1.3965	X8CrMnNi 18-8	Nitronic 50			✓	✓	✓	✓	✓	30-32	8-12	26-28	12-18	12-18	4-8
1.4006	X10Cr13	410	SUS410		✓	✓	✓	✓	✓	32-34	12-16	30-34	16-22	20-26	8-14
1.4028	X 20 Cr 13	420	SUS 420J1		✓	✓	✓	✓	✓	36-38	15-20	32-36	18-22	26-30	6-10
1.4125	X105CrMo17	440 C	SUS 440 C		✓	✓	✓	✓	✓	34-37	12-18	28-32	16-18	16-22	6-10
1.4301	X5CrNi 18-10	304	SUS 304		✓	✓	✓	✓	✓	36-38	15-20	32-36	18-22	16-22	6-10
1.4401	X5CrNiMo 17-12-2	316	SUS 316		✓	✓	✓	✓	✓	34-36	14-18	28-32	16-18	16-22	6-10
1.4462	X2VrNiMoN 22-5-3	2205	SUS 329J3L		✓	✓	✓	✓	✓	32-34	10-14	28-32	16-20	16-22	6-10
1.4571	X6 CrNiMoTi17-12-2	316 Ti	SUS 316		✓	✓	✓	✓	✓	32-34	10-14	28-32	16-20	16-22	6-10
1.4841	X15CrNiSi 25-20	314	SUH 310			✓	✓	✓	✓	28-32	8-12	26-30	12-16	14-20	4-8
1.4864	X12NiCrSi 36-16	330	SUH 330			✓	✓	✓	✓	28-32	8-12	26-30	12-16	14-20	4-8
1.4923	X22 CrMoV 12-1					✓	✓	✓	✓	28-32	8-12	26-30	12-16	14-20	4-8
1.4980	X5 NiCrTi 26-15	A286	SUH 660			✓	✓	✓	✓	28-32	8-12	26-30	12-16	14-20	4-8
1.5710	36 NiCr6	(X)3140			✓	✓				48-52	22-28	44-48	28-32	26-34	12-18
1.5755	31 NiCr14	3415	SNC 815		✓	✓				50-54	24-30	46-52	30-36	30-36	14-20
1.6310	20 MnMoNi-5				✓	✓				48-52	22-28	44-48	28-32	26-34	12-18
1.6523	20 NiCrMo2	8620	SNCM 220		✓	✓				50-54	24-30	44-50	30-34	26-34	14-20
1.6546	40 NiCrMo 2-2	8640	SNCM 240		✓	✓				50-54	24-30	44-50	30-34	30-34	10-18
1.6562	40 NiCrMo7	E4340	SNB24-1-5		✓	✓				50-54	24-30	44-50	30-34	30-34	10-18
1.6749	23 CrNiMo 7-4-7				✓	✓				50-54	24-28	44-50	28-32	30-34	10-16
1.6985	28 CrMoNiV 4-9				✓	✓				54-58	28-34	48-54	32-38	36-40	16-22
1.7147	20 MnCr5	5120	SMnC420H		✓	✓				58-62	28-36	52-56	32-38	38-46	18-26
1.7225	42 CrMo4	4140	SCM 440		✓	✓				54-58	28-34	48-54	32-38	36-40	16-22
1.7228	50 CrMo4	4150	SCM 445		✓	✓				56-60	30-36	52-56	34-40	34-40	16-20
1.7335	13CrMo 4-4	A387 Gr. 12	SFVA F 12		✓	✓				62-64	32-38	56-60	36-44	40-46	18-26
1.7707	30 CrMoV9				✓	✓				54-58	28-34	44-50	28-34	28-34	16-20
1.8159	50 CrV4	6150	SUP10		✓	✓				52-54	24-30	52-48	32-38	32-40	12-20
1.8509	41 CrAlMo 7	A 355 Cl. A	SACM 645		✓	✓				42-45	18-24	36-40	22-26	18-24	8-14

Please note:

Above cutting chart refers to average experienced settings. Figures might differ depending on blade type, band saw machine type, condition of the material to be cut (surface, heat treatment, standard, ...) and the required cutting specification (tolerances, service life, ...). Please pay attention that the ultimate service life can only be reached after correct break-in-cutting - DETAILS SEE PAGE 21. If your material is not listed please do not hesitate to contact us for further information - DETAILS SEE PAGE 23

Procedure to set cutting conditions

1st step

- Select the correct blade type based on the area of application mentioned in the product description

2nd step

- Select the correct tooth pitch based on the tooth recommendation (see page 18)

3rd step

- Select the blade speed Vc (m/min) based on cutting conditions chart (see page 16)

4th step

- Select the cutting rate Vz (cm^2/min) based on the cutting conditions chart (see page 16). Also consider the calculation of cutting time and cutting feed rate (see below)

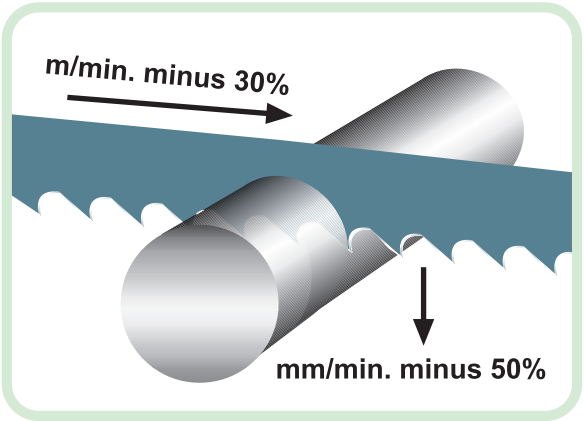
Calculation of cutting time and cutting feed rate

$$\text{cutting time } t = \frac{\text{surface of workpiece } (cm^2)}{\text{cutting rate Vz } (cm^2/\text{min.})}$$

$$\text{feed rate Vf (mm/min.)} = \frac{\text{height of work piece (mm) x cutting rate Vz } (cm^2/\text{min.})}{\text{surface of workpiece } (cm^2)}$$

Break-in Procedures

Life time of bandsaw blades mainly depends on a controlled break-in. We recommend the following break in procedures:



1st step

- Select the correct speed Vc (m/min) and cutting rate Vz (cm^2/min) based on cutting conditions chart (see page 16)

2nd step

- You start with 70% of the regular cutting speed and 50% of the regular cutting rate.

3rd step

- If vibrations still occur, change the speed carefully until they stop. A permanent chip formation during is important during the whole cutting process.

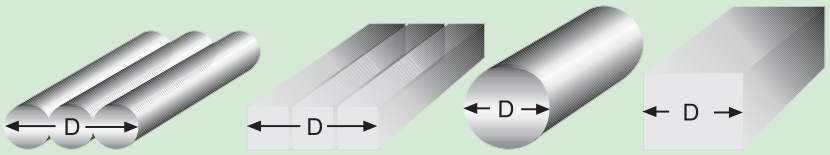
4th step

- After cutting approx. 400-600 cm^2 or at least 15 minutes real cutting time for tubes and profiles you can **first** slowly turn up to final **speed** and **then** up to normal **cutting rate**.

Coolants

Life time of saw blades mainly depends on the correct oil content in coolants, which should be checked regularly with the refractometer (see page 14). For ordinary low and medium alloyed materials Honsberg recommends an oil content between 8-12%, for cutting high and highest alloyed steels 13-18%.

Solid Material



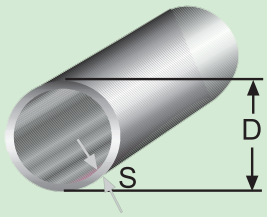
D = cross section

Carbon Steel and Bimetal Bandsaw Blades				TCT Bandsaw Blades	
Standard Toothing		Vario Toothing		Vario Toothing	
Cross section	Toothing	Cross section	Toothing	Cross section	Toothing
bis 10 mm	14 tpi	bis 25 mm	10/14 tpi	50 - 120 mm	3/4 tpi
10 - 30 mm	10 tpi	15-40 mm	8/12 tpi	100 - 250 mm	2/3 tpi
30 - 50 mm	8 tpi	25-50 mm	6/10 tpi	150 - 400 mm	1,5/2 tpi
50 - 80 mm	6 tpi **	35-70 mm	5/8 tpi	350 - 600 mm	1,1/1,6 tpi
80 - 120 mm	4 tpi **	40-90 mm	5/6 tpi	> 500 mm	0,85/1,15 tpi
120 - 200 mm	3 tpi **	50-120 mm	4/6 tpi * **		
200 - 400 mm	2 tpi	80-180 mm	3/4 tpi * **		
300 - 700 mm	1,25 tpi	130-350 mm	2/3 tpi		
> 600 mm	0,75 tpi	150-450 mm	1,5/2 tpi		
		200-600 mm	1,1/1,6 tpi		
		> 500 mm	0,75/1,25 tpi		

Advice:

- * For permanent mixed cutting with cross sections between 50 -150 mm of solid materials we also recommend our new vario toothing 4/5 tpi as an alternative of changing blades between 4/6 and 3/4 tpi.
- ** Please select positive cutting angle (K, D, M or R) depending on blade quality
- For cutting stainless steel and aluminium, we recommend choosing the toothing one grade coarser or using less than the maximum cross section width indicated.
- For tempered materials (> 1200N/mm^2), please choose the toothing one grade finer.
- For cutting aluminium and non-ferrous metals we also offer special toothings e.g. 3 tpi aluminium.

Tubes



Wall thickness S [mm]	Outside diameter D [mm] Toothing Z [tpi]									
	20	40	60	80	100	120	150	200	300	500
2	**14**	**10/14**	**10/14**	**10/14**	**10/14**	**8/12**	**8/12**	**8/12**	**8/12**	**5/8**
3	**14**	**10/14**	**10/14**	**8/12**	**8/12**	**8/12**	**8/12**	**6/10**	**6/10**	**5/8**
4	**10/14**	**10/14**	**8/12**	**8/12**	**8/12**	**6/10**	**6/10**	**5/8**	**5/8**	**4/6 S**
5	**10/14**	**10/14**	**8/12**	**8/12**	**6/10**	**6/10**	**5/8**	**4/6 S**	**4/6 S**	**4/6 S**
6	**10/14**	**8/12**	**8/12**	**6/10**	**6/10**	**5/8**	**5/8**	**4/6 S**	**4/6 S**	**4/6 S**
8	10/14	8/12	8/12	6/10	5/8	5/8	4/6	4/6	4/6	4/6
10		8/12	6/10	5/8	4/6	4/6	4/6	4/6	4/6	4/5
12		8/12	6/10	4/6	4/6	4/6	4/6	4/6	4/6	4/5
15		8/12	6/10	4/6	4/6	4/6	4/6	4/5	4/5	4/5
20			4/6	4/6	4/6	4/6	4/6	4/5	4/5	3/4
30				4/6	4/6	4/5	4/5	4/5	4/5	2/3
50							4/5	3/4	2/3	2/3
80								3/4	2/3	2/3
>100									2/3	1,5/2

Safety Instructions for the Use of Bandsaw Blades

For your own safety, please follow the safety instructions while you are working with bandsaw blades.

- Be careful opening welded loops as they are packed under tension. You can receive free guidelines from your HONSBERG team.
- While unpacking and installing the tool, always wear safety shoes, gloves and safety glasses.
- Take off tooth protection after installing the blade on the machine.
- Close the cover of the bandsaw during cutting operation.
- If possible, turn off the main switch during blade changes.
- You find additional safety instructions in the handbook of your bandsaw machinery manufacturer.

Order

What we need to know for prompt handling of your order:

- Quantity
- Product name (including catalogue no.)
- Blade size (length, width, thickness)
- Toothing (possibly the tooth style if various styles are offered, e.g. 3/4 tpi, 4/6 tpi, ...)

e.g. Honsberg Spectra No. 072 3660x27x0.9mm 4/6tpi (tooth K)

If you are not sure which blade to use, please ask our technicians for cutting recommendations.
We need to know the following:

- Name or specification of material to be cut (if possible German DIN material no.)
- Diameter (for tubes: diameter and wall thickness)
- Form of material (profiles, tubes etc.)
- Condition of the material surface (forged, rolled, cast, drawn, bright)
- Cutting conditions (single or bundle cutting including information about size and shapes of bar stock in bundles)
- Blade measurement (length, width, thickness)
- Type of machine (for 2-column machinery also the back-rake angle of the saw beam)

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