BAND SAW BLADE series

The Amada Bi-Metal Blade combines the smooth and precise cutting action of high speed steel teeth, with the strength and flexibility of very tough backing material.



AMADA is a pioneer manufacturer in the field of band saws, blades, and cutting fluids. We, at AMADA, take pride in being the leaders in the cutting industry over half a century.

MADA

AMADA was founded in 1946. The first major breakthrough was development of a contour machine in 1955. Since then, as one of the ploneer manufacturing of cutting machines in Japan, it has expanded its manufacturing facilities steadily, continuing to provide cutting machines, blades and cutting fluids together with high-cutting performance and machining technology. With time, the types of steel materials to be machined have become versatile and requirements for cutting as higher speed and quality have become more and more demanding. In such circumstances, AMADA has been, and will be, offering products that are optimum for the work contents of our customers based on state-of-the-arts technology and know-how accumulated throughout our history.

MADA

OUTTING



Blade bases in the world

Amada's superior cutting technology is delivered to nations in the whole world

AMADA has bases not only in Japan but also throughout the world, including north and south America, Europe, Asia and Oceania. Through its strong network, voices of customers are directly fed back to Development and Production Departments. We, at Amada, are strenuously endeavoring to provide products that meet user needs.

In addition, Amada has been working on worldwide evolution of AMTP (Amada Machine Tool Plaza) where the essence of Amada's technology including steel-frame processing lines, presses and various sheet metal working machines besides band saw is exhibited and demonstrated and direct communicative exchange with customers takes place.

:Management and development base
:Production base
:Sales base
:AMTP









AMADA SINGAPORE PTE LTD. (Singapore)









Latest technologies

Latest technology and voices of customers are combined successfully in every single Amada blade.

Bi-metal blade produced by using electron beam welding

The tooth tips of a blade are required to be hard and the backing to be ductile. These antithetic conditions were cleared by Amada's bi-metal blade produced by using special electron beam welding. A blade that is composed of two types of material, i.e., the highest grade high-speed steel for teeth and tough special spring steel for the backing, exhibits the performance that is of no comparison with conventional quench hardened blades ... high speed, high accuracy and long service life. It can handle hard-to-cut materials of a wide range, it is strong against bending and torsion, and it makes possible large reductions in the cutting cost.

High-quality and low-noise working achieved with unique variable tooth pitch design

Amada's variable tooth pitch (unequal pitch) is an original design that changes the tooth space, tooth height and garret for each cutting tooth and that also changes the set pattern. It largely reduces inherent vibration and chatter of the blade by controlling the factors. Particularly when cutting structural steel and tube materials, it exhibits quietness of 10 to 30db less than a regular tooth pitch blade.

Also, as the cut-in value is effectively dispersed among teeth, smooth cutting of high efficiency is assured.







Voices of customers are directly fed back to Research & Development and Production Departments

Amada, which produces and markets band saw machines, blades and cutting fluid, of consistent high quality has devoted itself to the development of integral cutting technology so that these products provide the highest synergy effect during working. Research and testing have been conducted day and night with craftsmanship which allows no compromise, and the accumulation of unique know-how.

Direct dialogue between users worldwide and Amada service personnel and communication at AMTP's, located at many places in the world, are also important seeds for development of better products. Opinions and requests from the users are immediately fed back to Blade Development and Production Departments, and bear fruit as new blades.

Products are tested under harsh conditions that are not observed at other manufacturers

One example is the bending test of the welded section. While the condition used at arlother steel blade manufacturers is only about a 75 mm radius, Amada uses a much harshes condition, 25 mm, based on Amada's own standard. Amada's high blade quality is firmly supported in such aspects that usually do not show.



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Basic blade information

Names of blade sections



Edge material

* It is not necessarily true that the harder the edge, the longer the service life and the higher the efficiency. In case of cutting that involves high vibration and a large shock, edge material of high toughness are more advantageous because drop-off wear occurs before friction wear

Matrix high-speed steel



Amada's original matrix high-speed steel, produced based on M42 cobalt high-speed steel. With toughness greatly improved, this steel exhibits its greatest performance under cutting conditions involving vibration and shock

2M 42 high-speed steel



M42 cobalt high-speed steel that provides superior wear resistance. Being treated with Amada's unique heat treatment technology, this steel exhibits a performance that is highest in the class. It is broadly suitable for cutting general steel through hard-to-cut materials

Patent pending Amada M71 high-speed steel



Original highest grade, high-speed steel, developed jointly with a leading steel manufacturer. This steel has hardness of Hv1000, which is the highest ever recorded in ingot high-speed steel. It is suitable for cutting hard-to-cut materials

Tooth shape

Standard tooth shape



Standard tooth shape used for a wide variety of products. Suitable for cutting materials of a broad range from structural steel to hard-to-cut materials



2Hybrid tooth shape patented



Tooth chipping resistance enhanced, without was sacrificing clean cutting, by combining two different tooth shapes each of which has different features. Optimum tooth for cutting structural steel

miscellaneous through articles made of mild steel.

patent pending **OProtector tooth shape**



The "ROTECTOR" provided at the back face of the tooth tip suppresses excessive cut-in. This tooth shape provides the most superior tooth chipping resistance and is optimum for PROTECTOR cutting roll-formed section and general structural steel.

patented **4**HI-L0 tooth shape



patented **G** Kerf dispersed type tooth shape



Kerf dispersed type tooth shape that is composed of a combination of cutting differences in height of tooth tips and in width of their set. Saw chips after cutting are smaller. As all the tooth tips work efficiently, cutting resistance is reduced and stable cutting of hard-to-cut materials is assured. Optimum for medium and large diameter materials of tool steel through stainless steel.



Basic blade information

Pitch

- Pitch is expressed by the number of tooth tips within one inch (25.4 mm).
- Generally, a finer pitch should be selected when the cutting length is shorter and a more coarse pitch should be selected when the cutting length is longer.

See "Blade pitch selection guide" on separate sheet.

Pitch



Tooth tips are located at equal intervals. The regular tooth pitch is expressed as "OOP (OO=number of teeth/inch)".

The example shown on the left is 4P, and the tooth tip interval in this case is 25.4:4P=6.35 mm.

Multiple different pitches are combined within one inch. The variable tooth pitch is expressed by two figures such as "2/3P" in the example shown on the left. It means that the maximum tooth tip interval is equivalent to 2P in a tooth shape group (minimum unit of repetition) and that the minimum tooth interval is equivalent to 3P. Use of this pitch can suppress vibration, and is applicable to cutting in a broad range.

Set



This is the set pattern that is composed of one each of "straight tooth, left set tooth and right set tooth". Mainly adopted for blades of regular tooth pitch.

This is the set pattern that is composed of one "straight tooth" and multiple "left set teeth and right set teeth". There are a number of different types such as set groups consisting of 5 teeth, 7 teeth and 11 teeth to permit selection according to the pitch size and blade size. This is the most typical pattern at Amada that is adopted for variable tooth pitch such as SGLB.

This is the set pattern in which the set teeth have different set projection values. It is often adopted for blades to cut hard-to-cut materials such as the one with kerf dispersed type tooth shape.

This is the set pattern that is composed of multiple "straight teeth, left set teeth and right set teeth". In addition, in this pattern, the teeth before or after each straight tooth are arranged so that they are not oriented in the same direction without exception. It was developed with the objective to enhance the bending in cutting resistance and to reduce the noise level.

* The above figures show basic set patterns. Other compound patterns are also available for specific products.
* WS (wide set) type of large set projection value is available for constriction phenomena that are observed when cutting large-size rolled H-beam, for instance

How to reduce the cutting cost?

One blade should cut a larger cutting area at higher speed and higher accuracy. To achieve this objective:



Amada has prepared "Blade type selection guide" and "Blade pitch selection guide" so that each user can select the optimum blade that suits the particular needs of each case.

Please contact our sales personnel at any time if you require further explanation.



Select the blade which is best suited for the s quality of the material to be cut and the work r



Blade type selection guide

hape and equirements.

- * 1 : The hardness of the tooth tip represents Amada's average value. It is adjusted to some extent according to the types and sizes.
- * 2 : The minimum requirement for cutting is that the tooth tip is harder than the material to be cut. In order to ensure economical cutting, however, the tooth tip should be twice or more as hard as the material to be cut, as a guide.
- * 3 : Non-ferrous metal means mainly aluminum, aluminum alloy, copper and copper alloy. These metals may be equivalent to hard-to-cut materials or even harder in some cases. When using a special alloy, consult AMADA first.

Blade type	Edge material	Hardness of tooth tip	Wear resistance	Features
		(Hv) ^{*1 *2}	Chipping resistance	
PATENT PENDING	Carbide <mark>+ TiN</mark>	1600+2300	****	Highest grade dove-tail type carbide tipped blade developed, using high-cut- ting speed and accuracy found in all
BCTB-4	Carbide	1600	x x x x x x x x x x	AMADA's technology. There are 4 types selectable according to the material to be cut. It is also possible to select the tooth pitch and the tooth tip grinding
BCTB-5	Carbide	1600	*****	pattern depending on work sizes and other factors.
СТВ	Carbide	1600	****	With carbide used for the tooth tip, this blade is intended for extra hard material that cannot be cut with a HSS bi-metal blade.
AURORA	M42 <mark>+ TiN</mark>	950+2300	**** **	Long lasting, high-quality blade with TiN coating added to "SIGMA" usable for hard-to-cut materials.
MAGNUM HL		1000	****	New, high performance edge material and kerf dispersed type tooth shape. Applicable to hard-to-cut material including super heat resisting alloy.
MAGNUM HLG		1000	**** *	high cutting rate, especially for tool steel
SIGMA		950	*** **	Kerf dispersed type tooth shape which re- duces cutting resistance. For hard-to-cut materials from tool steel to super heat re- sisting alloy.
SUPER HL		950	*** **	Kerf dispersed type tooth shape which re- duces cutting resistance. For material of medium or large diameter whose cutting re- sistance is large.
SUPER HLG	M42 HSS	950	*** **	With height difference provided among tooth points, highly accurate set working suppresses friction cutting. Broadly usable for general steel through tool steel.
SGLB		950	*** **	Usable for widely ranged steel types and sizes, from general steel to hard-to-cut ma-terials.
PROTECTOR M42		950	*** ****	Newly designed blade exclusively for struc- tural steel with tooth chipping preventive measures fully provided.
PATENTED	M42 base Matrix HSS	900	** ****	Widely usable for from structural steel to solid material with tooth chipping preventive measure reinforced.
DUOS M42	M42 HSS	950	*** ****	general purpose for structurale steel and small diameters of solid material



Blades line-up

Line-up of AMADA's blades and development concept





Blade pitch selection guide

Blade pitch selection table by materials to be cut

	Maximum cutting length	5	0	100	150	200) 25	0 30	→ mm 00 4	00 5	00 7	00 10	00
Material	to be cut	2	"	4″	6″	8″	10	″ 1 <i>2</i>	→ inches $2^{\prime\prime}$ 1	6″ 2	0″ 2	8″ 40) <i>″</i>
	Roll formed section	6/10F 6/8P											
	Structural steel, Bundled tubes			4/	6P								
	Bundled small diameter material, Mild steel			3/	4P		:	2/3P	1.	 5∕2P			
Solid	Tool steel, Prehardened steel												
material	Hot work die steel, Stainless steel												
	Super heat resisting alloy								1.1	/1.5P		0.75/	/1P

Note 1: It is recommended for optimum cutting to select a pitch to allow for 20 to 30 teeth to correspond to the cutting length.

Note 2: When cutting deformed material or like that varies in the cutting length suddenly, it is desirable that at least 2 teeth are in contact with the material constantly while cutting.

Note 3 : The above table based on "SGLB" should be used as a guide. Specific applicability varies somewhat depending on the characteristics of the blades. For example, 3/4P of "PROTECTOR M42" is capable of cutting materials in the range including 4/6P in the above table.

The maximum cutting length (L max.) varies also depending on the type of the band saw.



Round solid material (Horizontal type, vertical slide)



Column (Horizontal type, vertical slide)



H-beam (Diagonal type, vertical slide)



Rectangular solid material (Horizontal type, vertical slide)



Column (Diagonal type, vertical slide)



Bundled rectangular solid material (Horizontal type, vertical slide)



Rectangular solid material (Vertical type)

0.0.1
mun

Column (Hinge type, swinging slide)



Bundled round solid material (Hinge type, swinging slide)



Round pipe (Horizontal type, vertical slide)





Bundled flat bars (Horizontal type, vertical slide)



Edge material: Carbide + (EXCOAT-DP coating)

6580 cm

1.12.2

88

Quan

Hardness: HV 1600 (Film HV 3000)

Superior Performance if used on the Amada **PCSAW Bandsaw.**

MADA® AXCELF **Exceptionally High Performance Carbide tipped Band** Saw blades always delivering optimum results. **Outstanding cutting efficiency and** accuracy achieved, unthinkable when compared with conventional blades.

Application







Features



Line-up of products

Band Width	Band Thickness		G-Series			H-Series				
(mm)	(mm)	0.9/1.1P	1.4/1.6P	1.8/2P	0.7/1P	1/1.5P	1.8/2P			
41	1.3									
54	1.6	\bigcirc				0				
67	1.6	\bigcirc	0		0		0			
80	1.6				\bigcirc					

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Notes:

To obtain optimum results, please take care when handling the blade so as not to cause teeth chipping. Only suitable for use on carbide band saw machines.

AMADA MACHINE TOOLS EUROPE GmbH

Landstraße 25 42781 Haan

Phone: +49 (0) 2129/579-03 Fax: +49 (0) 2129/579-339 http://www.amadamachinetools.com All specifications subject to change without notice





Edge material : Carbide

Hardness : Hv 1600

General purpose carbide tipped blade capable of cutting very hard material, a task that is hard to cut with blades made of high-speed steel, using carbide for the tooth tip and highly accurate set machining method.

Applicability

Nor	Mild stee 1-ferrous	el, metal	Pre	Tool stee hardened	el, steel	Hot v Sta	work die s ainless st	steel, eel	re	Super hea sisting all	t loy
Small ~100 mm	Medium 100~400 mm	Large 400 mm~	Small ~100 mm	Medium 100~400 mm	Large 400 mm~	Small ∼100 mm	Medium 100~400 mm	Large 400 mm~	Small ∼100 mm	Medium 100~400 mm	Large 400 mm~
No spe Capabl	cial restric e of cuttin	ction for th g the mat	ne materia erial who	I to be cu se hardne	t. ss is HRc	 :40 (Hv 40)0) or mor	e.			

CTB



Features



- General purpose carbide tipped blade, using carbide tip and the specified tooth set.
- Finished with extremely high accuracy by providing Amada's unique grinding on the tooth rake face, bark face and both sides at the tooth tip.
- Blade designed exclusively for super hard material which was hard to cut with the conventional high speed steel blade.
- The hardness of the applicable material to be cut is HRc40 (Hv 400) or more as a guide.

* As the tooth tip of the CTB blade is finished with extra sharpness, it is recommended to use at the saw blade speed of 40m/min. or less.

Band width Band thickness Pitch 1.25 2 2.5 З 4 (mm) (mm) 27 1.1 \bigcirc 34 1.4 \bigcirc \bigcirc \bigcirc 41 1.4 \bigcirc \bigcirc 1.6 54 \bigcirc \bigcirc 67 1.6 \bigcirc \bigcirc

Note) CTB uses carbide for the tooth tip. Please use special care when installing and removing the blade so as not to cause teeth chipping or stripping.

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Line-up of products

AMADA AUSTRIA GmbH is accredited to



HSS Bi-Metal Band Saw Blade

patented

 $\star\star\star\star$

XX

Edge material: M42 + TiN coating

Hardness : Hv 950 (Film : Hv 2300)

Wear resistance

Chipping resistance

Highest grade bi-metal blade with Amada's original TIN coating. Ideal blade for hard-to-cut material which has both toughness and wear resistance.

Applicability

=Break-in area / 1000 cm²

Nor	Mild stee 1-ferrous	el, metal	Tool steel, Prehardened steel			Hot work die steel, Stainless steel			Super heat resisting alloy		
Small ~100 mm	Medium 100~400 mm	Large 400 mm~	Small ~100 mm	Medium 100~400 mm	Large 400 mm~	Small ~100 mm	Medium 100~400 mm	Large 400 mm~	Small ~100 mm	Medium 100~400 mm	Large 400 mm~
 50, 55, A, B, C, D 1005-1095, 1513-1536 1541-1572 •5015-5150 4118-4161 •1330-1345 3115-3315 4012-4047, 4419, 4422, 4427 4615-4626, 4815-4820 4320-4720, 8115-9430 1108-1215 •1100-7075 C10200, C12000, C21000 W-1, W-2, W-5 P-2, P-3, P-4, P-5, P-6, P-20, P-21 S-1, S-2, S-4, S-5, S-6, S-7 L-2, L-6 •5155, 5160 A-2, 0-1, 0-2, 0-6, D-2, D-3, CPM 10V T-1, T-2, T-3, T-4, M-1, M-2, M-5, M15 S0100, 51100, 52100 				• H-10, H H-24, H • 210, 20 308 • 314, 31 347 • 410, 41 • 15-5PH	-13, H-21, -25 2, 302, 303 6, 317, 321 6, 420, 430 , 17-4PH, 7	H-22, 3, 304, , 330, 0, 440C 15-7	• 309, 409, 600 • MONEL, K-MONEL, INCONEL718, HASTELLOY A, B, C • A286, INCOLOY 800, RA330 • ASTROLOY WF-11 • MONEL400, K-500 • Ti-6A1-4V				

AURORA



TIN

High-speed steel section

Features

TIN coating film



Doubled cutting rate, three-fold service life 2 x 3 = six-fold SAVINGS

- TIN coating of Hv 2300 hardness applied to the "SIGMA" blade greatly improved wear resistance.
- Highest adhesion strength and film quality that have not been achieved by any other manufacturer.
- As a synergetic effect of the kerf dispersed type tooth shape (cutting resistance reduced) and the high positive rake angle (cutting ability improved), high speed and long service life were attained for this highest grade bi-metal blade for hard-to-cut materials.

Hv 2300

Line-up of products

Band width	Band thickness		Pitch						
(mm)	(mm)	0.75/1	1.1/1.5	2/3	3/4				
34	1.1			0	0				
41	1.3			0					
54	1.6	\bigcirc	0	0					
67	1.6	\bigcirc	0						

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AMADA AUSTRIA GmbH is accredited to



Edge material: Amada M 71 original high-speed steel

Hardness : Hv 1000

anarra a

=Break-in area / 1000 cm²

Newly developed special blade for hard-to-cut material. With Amada's newly developed M71 HSS edge material and kerf dispersed type tooth shape combined, it can cut hard-to-cut materials of wide range.

Applicability

Mild steel. Hot work die steel, Tool steel, Super heat **Stainless steel** resisting allov **Non-ferrous metal Prehardened steel** Small Medium Large Small Medium Large Small Medium Large Small Medium Large ~100 mm 100~400 mm 400 mm-~100 mm 100~400 mm 400 n ~100 mm 100~400 mm 400 m ~100 mm 100~400 mm 400 mm-" • 1.2343, 1.2344 • 1.4828, 1.4720, 2.4816 •1.2581, 1.2587 • MONEL, K-MONEL, **INCONEL 718** • 1.4571, 1.4300 HASTELLOY • 1.4301, 1.4006 •1.4021, 1.4016 • INCOLLOY 800, • 1.4542, 1.4564 ASTROLOY MONEL400 **TITAN LT31**

MAGNUM HL



Features



- Higher wear resistance than conventional blade made of M42 obtained by using M71 for the edge material.
- Use of kerf dispersed type tooth shape makes saw chips finer, reducing cutting resistance.
- ullet The tooth tip shape with high positive rake angle ensures improved cutting performance.
- As a synergetic effect of the above, the service life of the saw blade has been improved to a large extent when cutting tool steel, stainlass steel, super heat resisting alloy of medium/large diameter whose cutting resistance is large.

Line-up of products

Bandwidth	Bandthickness			Pitch		
(mm)	(mm)	0.75/1	1.1/1.5	1.5/2	2/3	3/4
34	1.1					
41	1.3					
	1.3		\bigcirc	\bigcirc	\bigcirc	
54	1.6					
67	1.6					
80	1.6	\bigcirc	\bigcirc			

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Edge material: Amada M 71 original high-speed steel

Hardness : Hv 1000

anteres.

=Break-in area / 1000 cm²

Newly developed spezial blade for hard-to-cut material. With Amada's newly developed M71 HSS edge material and a difference in the height of tooth tips, highly accurate set working suppresses friction cutting. Based on thorough analysis of the cutting process, high performance is assured for cold die work steel in particular.

Applicability

Mild steel. Tool steel. Hot work die steel, Super heat Non-ferrous metal **Prehardened steel Stainless steel** resisting alloy Small Medium Medium Medium Medium Large Small Small Small Large Large Large 100~400 mm ~100 mm 100~400 mm 400 mm ~100 mm 100~400 mn 400 mm ~100 mm 100~400 mm 400 mm ~100 mm 400 mm " 50, 55, A, B, C, D
1005-1095, 1513-1536
1541-1572 •5015-5150 • W-1, W-2, W-5 • H-10, H-13, H-21, H-22, • 309, 409, 600 • P-2, P-3, P-4, P-5, P-6, P-20, P-21 • MONEL, K-MONEL, H-24, H-25 • S-1, S-2, S-4, S-5, S-6, S-7 INCONEL718, • 210, 202, 302, 303, 304, 308 • 4118-4161 •1330-1345 • L-2, L-6 •5155, 5160 HASTELLOY A, B, C 43115-3315 • 314, 316, 317, 321, 330, 347 • A-2, 0-1, 0-2, 0-6, D-2, D-3, • 4012-047,4419,4422,4427 • A286, INCOLOY 800, RA330 • 410, 416, 420, 430, 440C **CPM 10V** • 4615-4626, 4815-4820 • 4320-4720, 8115-9430 • 1108-1215 • 1100-7075 ASTROLOY WF-11 • 15-5PH, 17-4PH, 15-7 • T-1, T-2, T-3, T-4, M-1, • MONEL400, K-500 M-2, M-5, M15 C10200, C12000, C21000 1.0711,1.0718 • Ti-6A1-4V • 50100, 51100, 52100

MAGNUM HLG



Features



- Higher wear resistance than conventional blade made of M42 obtained by using M71 for the edge material.
- Stable quality and superior roughness achieved by Amada's unique high-accuracy set working.
- Suppresses friction wear, with friction cutting minimized by HI-LO tooth shape of tooth tips.
- Broadly usable for general steel through tool steel, and particularly exhibits outstanding performance in cutting tool steel.

Line-up of products

Band width	Band thickness			Pitch							
(mm)	(mm)	0.75/1	1.1/1.5	1.5/2	2/3	3/4					
34	1.1				\bigcirc	0					
41	1.3			\bigcirc		0					
54	1.6		\bigcirc		\bigcirc						
67	1.6	\bigcirc									
80	1.6	\bigcirc	\bigcirc								
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Edge material: M42 Cobalt high-speed steel

Hardness : Hv 950

SPECIFIC TOTAL

=Break-in area / 1000 cm²

Blade exclusively for hard-to-cut material, whose high-cutting performance gained reputation through good results. Due to the kerf dispersed type tooth shape and high positive rake angle, cutting resistance is reduced to a large extent.

Applicability

Mild steel. Tool steel. Hot work die steel, Super heat **Non-ferrous metal Prehardened steel Stainless steel** resisting alloy Small Medium Medium Small Medium Small Medium Large Small Large Large Large 100~400 mm 400 mm~ 400 mm-100~400 mm 400 mm ~100 mm ~100 mm 100~400 mn 400 mm ~100 mm 100~400 mm ~100 mm • H-10, H-13, H-21, H-22, • 309, 409, 600 • MONEL, K-MONEL, H-24, H-25 •210, 202, 302, 303, 304, INCONEL718, HASTELLOY A, B, C 308 • A286, INCOLOY 800, RA330 •314, 316, 317, 321, 330, • ASTROLOY WF-11 347 • MONEL400, K-500 • 410, 416, 420, 430, 440C • Ti-6A1-4V • 15-5PH, 17-4PH, 15-7





Features



- Use of M42 cobalt high-speed steel which has a higher wear resistance.
- Use of the kerf dispersed type tooth shape with level difference and set size (Wide & Narrow) of the tooth tip combined makes saw chips finer, reducing cutting resistance.
- In addition, use of high positive rake angle ensures stable cutting even when the required cut amount is very small.
- Intended for the medium or large diameter, hard-to-cut items of the tool steel to stainless steel whose cutting resistance would reach the limit of the conventional blades.
- SIGMA blade has enjoyed good results of cutting performance and reputation for a long time mainly in the European markets.

Bandwidth	Band thickness			Pitch		
(mm)	(mm)	0.75/1	1.1/1.5	1.5/2	2/3	3/4
27	0.9					
34	1.1					
41	1.3		\bigcirc			0
54	1.6	\bigcirc				
67	1.6	\bigcirc				
80	1.6	\bigcirc	0			

Line-up of products

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AMADA AUSTRIA GmbH is accredited to

HSS Bi-Metal Band Saw Blade

Edge material: M42 Cobalt high-speed steel

MADA

Hardness : Hv 950

Wear resistance

Chipping resistance

Patented

 $\star\star\star$

**

=Break-in area / 1000 cm²

Blade exclusively for hard-to-cut materials suitable for tool steel to stainless steel of medium or large size, using the kerf dispersed type tooth shape which reduces cutting resistance.

Applicability

Non	Mild stee	el,	Tool steel,			Hot v	Hot work die steel,			Super heat		
	-ferrous	metal	Prehardened steel			Sta	Stainless steel			resisting alloy		
Small	Medium	Large	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large	
~100 mm	100~400 mm	400 mm~	~100 mm	100~400 mm	400 mm~	~100 mm	100~400 mm	400 mm~	~100 mm	100~400 mm	400 mm~	
 1.0301, 1.1274, 1.0102 1.1161, 1.1260 1.7218 1.5066,1.5223 1.5406, 1.5419 1.6955 1.0711,1.0718 			 1.1545, 1.2833, 1.2735, 1.2545, 1.2303, 1.2842, 1.2080, 1.3501, 	1.1663 1.2341 1.2330 1.2714 1.2510 1.2379 1.3355, 1.3 1.3505	3357	 1.2343, 1.2581, 1.4571, 1.4301, 1.4021, 1.4542, 	1.2344 1.2587 1.4300 1.4006 1.4016 1.4564		 1.4828, MONEL INCONE HASTEI INCOLL ASTRO MONEL 	1.4720, 2.4 , K-MONEI EL 718 LLOY .OY 800, LOY 400, TITAN	4816 L, I LT31	

SUPER HL



Features



- Use of M42 cobalt high-speed steel which provides high wear resistance.
- Kerf dispersed type tooth shape makes saw chips finer, reducing cutting resistance.
- 3 different tooth angles are set to correspond to each function of the high tooth, low tooth and straight tooth so that every possible capacity of M42 is obtained.
- Intended for the medium/large diameter, hard-to-cut items of the tool steel to stainless steel whose cutting resistance reaches the limit of the conventional blades.
- If the diameter is large, even the mild steel becomes hard-to-cut. For such large material, use of "SUPER HL" blade is strongly recommended.

Bandbreite	Banddicke		Zahnteilung									
(mm)	(mm)	0.75/1	1.1/1.5	1.5/2	2/3	3/4						
27	0.9				\bigcirc							
34	1.1											
41	1.3		\bigcirc									
54	1.3		\bigcirc		\bigcirc							
54	1.6	\bigcirc										
67	1.6				\bigcirc							
80	1.6	\bigcirc	\bigcirc			0						

Line-up of products

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Edge material: M42 Cobalt high-speed steel

Hardness : Hv 950

=Break-in area / 1000 cm²

With height difference provided among tooth points, highly accurate set working suppresses friction cutting. Based on thorough analysis of the cutting mechanism, high performance is assured for the tool steel in particular.

Applicability

Bundled small diameter material	Mild steel, Non-ferrous metal			Tool steel, Prehardened steel			Hot work die steel, Stainless steel		
~100 mm	Small ~100 mm	Medium 100~400 mm	Large 400 mm~ 	Small ~100 mm	Medium 100~400 mm	Large 400 mm~ 	Small ~100 mm	Medium 100~400 mm	Large 400 mm~
				CQ.					
• 50, 55, A, B, C, D, • 1005-1095, 1513-1536 • 1541-1572 • 5015-5150 • 4118-4161 • 1330-1345 • 4012-4047, 4419, 4427	• 3115-3 • 4615-4 • 4320-4 • 1108-1 • C10200	315 626, 4815- 720, 8115- 215 , 1100), C12000,	4820 9430 -7075 C21000	• W-1, W- • P-2, P-3, • S-1, S-2 • L-2, L-6 • A-2, 0-1 CPM 10 • T-1, T-2, M-2, M- • 50100,	-2, W-5 P-4, P-5, P-6, 2, S-4, S-5, •5155, 510 , 0-2, 0-6,)V , T-3, T-4, M 5, M15 51100, 521	P-20, P-21 S-6, S-7 60 D-2, D-3, 1-1,	• H-10, H H-24, H • 210, 202 • 314, 316 • 410, 41 • 15-5PH	I-13, H-21, I-25 2, 302, 303, 5, 317, 321, 6, 420, 430 , 17-4PH, 1	H-22, 304, 308 330, 347), 440C 5-7

SUPER HLG



Features

Tooth shape



- Use of M42 cobalt high-speed steel which provides high wear resistance.
- Stable quality and superior surface roughness achieved by Amada's unique high-accuracy set working.
- Suppresses friction wear, with friction cutting minimized by HI-LO tooth shape of tooth tips.
- Broadly usable for general steel through tool steel, and particularly exhibits outstanding performance in cutting tool steel.

Band width	Band thickness			Pitch				
(mm)	(mm)	1.1/1.5	1.5/2	2/3	3/4	4/6		
27	0.9			\bigcirc				
34	1.1							
41	1.3	\bigcirc				0		
54	1.3				\bigcirc			
	1.6	\bigcirc			\bigcirc			
67	1.6	\bigcirc						
80	1.6	0						
More available for responding to your immediate order.								

Line-up of products

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Edge material: M42 Cobalt high-speed steel

Hardness : Hv 950

Designed to reduced heat generated at increased chip load. With reduced tooth stripping and breaking this equates to the lowest possible cost per square inch of metal cutting.

Applicability

= Break-in area / 1000 cm²

Bundled small diameter	l	Mild stee	l,	Tool steel,			Hot work die steel,		
material	Non-	ferrous i	netal	Prehardened steel			Stainless steel		
Small	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large
<100 mm	<100 mm	100-400 mm	>400 mm	<100 mm	100-400 mm	>400 mm	<100 mm	100-400 mm	>400 mm
				•1 1545	1 1663		•1 2343	1 2344	
•1.0301, 1.1274, 1.0102 •1.1161, 1.1260 •1.7218 •1.5066,1.5223	•1.5406 •1.6955 •1.0711	, 1.5419 ,1.0718		 1.2833, 1.2735, 1.2545, 1.2303, 1.2842, 1.2080, 1.3501, 	1.2341 1.2330 1.2714 1.2510 1.2379 1.3355, 1. 1.3505	3357	 1.2540, 1.2581, 1.4571, 1.4301, 1.4021, 1.4542, 	1.2587 1.4300 1.4006 1.4016 1.4564	

CHIPBREAKER



Features

Benefit



- Reduced heat generated at increased chip loads
- Prevents scoring on gullet surface
- Reduced chip weld
- Reduced backing fatigue



Reduced red heat area versus conventional blades

- Higher cutting rates
- Increased blade life
- Reduced tooth stripping
- Reduced blade breakage

Tooth Selection

					Widt	th of cut			
coring by chips		100	200	300	400	500	600	800	1000
	Structural Steel	3/4		2/3		1,5/2		1,1/1,5	5
	Mildsteel	3/4		2/3		1,5/2		1,1/1,5	5
Contraction of the local division of the loc	Die,Tool Steel	3/4		2/3		1,5/2		1,1/1,5	
	Stainless Steel	3/4	2/3		1,5	/2	1,1/1	,5	
A CONTRACTOR OF	Nickel Alloy	2/3		1,5/2		1,1/1,5			

Line-up of products

Band width	Band thickness		Pit	ch	
(mm)	(mm)	1.1/1.5	1.5/2	2/3	3/4
27	0.9				
34	1.1				
41	1.3		Х		
E 4	1.3		Х	Х	
54	1.6	Х	Х		
67	1.6	Х	Х		
	🗙 in planning	standard			

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Edge material: M42 Cobalt high-speed steel

Hardness : Hv 950

Amada's best seller blade applicable to all types of steel, using M 42 cobalt high-speed steel which has high wear resistance.

Applicability

=Break-in area / 1000 cm²

Structural steel	Bundled small diameter material	l Non-	Vild stee ferrous	l, metal) Preh	iool steel ardened s	, steel	Hot v Sta	vork die s inless st	steel, eel	S res	uper heat isting all	t oy
Thick wall	-100mm	Small ⊶100 mm=	Medium 190≂400-mm	Large 400 mm~	Small ~~100°mm=	Medium 190~400-mm	Large 14 00 mm~1	Small ~100 [°] mm=	Medium 190~400 mm	Large 11 400 mm~1	Small ∺≈100 mm	Medium	Large 400 mm
			0)							
 A36 50 30, 33, 40, 1005-1095 5015-5150 3115-3315 4615-4626 4320-4720 1108-12-19 C10200, C), 55, A, B, C, , 45, 50, 55 , 1513-1536) •4118-4161 ; •4012-4047 ; 4815-4820), 8115-9430 5 •1100-707 ; 12000, C2100	D •10 •A569 •15 •1330- ; 4419, 4	12, 1008 41-1572 1345 1422, 442	27	• W-1, V P-2, P-2 P-20, P • S-1, S S-6, S • L-2, L • A-2, 0 D-2, D • T-1, T-2 M-2, M • 50100	№2, W-5 3, P-4, P-5, -21 -2, S-4, S -7 -6 •5155, -1, 0-2, C 0-3, CPM 2, T-3, T-4 <i>A</i> -5, M15 0, 51100,	P-6, 5-5, 5160 0-6, 10V , M-1, 52100	 H-10, H22, H 210, 2 304, 3 314, 3 330, 3 410, 4 440C 15-5PH 	H-13, H- I-24, H-2 02, 302, 08 16, 317, 47 16, 420, I, 17-4PH	21, 25 303, 321, 430, ,15-7	 309, 4 MON INCO HAST A286, RA33 ASTR MON Ti-6A 	409, 600 EL, K-MC NEL718, ELLOY A INCOLO 0 COLOY W EL400, K I-4V	DNEL, A, B, C Y 800, /F-11 (-500

SGLB



Features



Metalographic picture of edge material (M42 HSS)

Wear comparison when o (with that of the convent	cutting 400mm diameter, D2 material ional blade deemed as 100%)	l	
SGLB		80%	
Conventional blade			100%

- Use of M42 cobalt high-speed steel which provides high wear resistance.
- Most widely usable blade developed with Amada's unique heat treatment technology while making the best use of the capacity of the material itself.
- Applicable to materials of wide range from the general steel to hard-to-cut material, particularly suitable for the solid material.
- "SGLB" has the fullest line-up of all Amada's blades, all kinds of materials can be cut.

Most steel can be cut with high efficiency with "SGLB".

Band width	Band thickness				F	Pitch			
(mm)	(mm)	1.1/1.5	2/3	3/4	4/6	5/7	6/10	8/12	10/14
19	0.9				\bigcirc		\bigcirc	\bigcirc	0
27	0.9								0
34	1.1						\bigcirc	\bigcirc	
41	1.3					\bigcirc			
E 4	1.3	\bigcirc							
	1.6				0				
67	1.6			0					

Line-up of products

Note 1)
More available for responding to your immediate order.

Note 2) A small quantity of regular tooth pitch blades are produced also. Please contact our sales personnnel if you require.

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RATIO HI-LO

HSS Bi-metal bandsaw blade

Universal bandsaw blade for greater profitability. Powerful performance due to the approved AMADA HI-LO geometry.

Applicability

= Break-in area / 1000 cm²

Economy



RATIO HI-LO



Features



Line-up of products

Bandwith	Bandthickness		Pitch						
(mm)	(mm)	0.75/1	1.1/1.5	1.5/2	2/3	3/4	4/6		
27	0.9				0				
34	1.1								
41	1.3						0		

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HSS Bi-Matal Band Saw Blade

Patent pending

 $\star\star\star$

XXXXX

Edge material: M42 Cobalt high-speed steel

MADA

Hardness : Hv 950

Wear resistance

Chipping resistance

Blade exclusively for structural steel, which has both strength against tooth chipping and high wear resistance. "PROTECTOR" added to the back face of the tooth tip prevents excessive cutting.

Applicability

Break-in cutting is unnecessary

Roll formed section	Structural steel	Bundled small diameter material	Mild stee	el, non-ferro	us metal
		~100 mm	Small ~100 mm	Medium 100~400 mm	Large 400 mm~
	WS type: Rolled large size H-beam				
• A36 • 50, 55, A, B, C, D • 1012, 1008 • 30, 33, 40, 45 • A569		• 50, 55, A, B, C, D • 1005-1095, 1513-1536 • 1541-1572 •5015-5150 • 4118-4161 •1330-1345 • 4012-4047, 4419, 4427	• 3115 • 4615 • 4320 • 1108 • C102	-3315 -4626, 4815-4 -4720, 8115-9 -1215 •1100 200, C12000, C	820 430 -7075 221000

PROTECTOR M42



Features

If you are troubled with chipping and stripping of the tooth at present, use of "PROTECTOR" is strongly recommended. We are convinced that it would meet your expectation.



Line-up of products

Band width	Band thickness				Pit	ch			
(mm)	(mm)	2/3	2/3 WS	3/4	3/4 WS	4/6	5/7	6/10	10/14
27	0.9								
34	1.1								
41	1.3	\bigcirc	\bigcirc		\bigcirc				
54	1.3			\bigcirc					
54	1.6	Ô	Ó		Ó	Ó			

 Note 1) When a roll formed large size H-beam is cut, a pinching symptom may occur in some cases where the blade is caught by the material being cut. In order to prevent such a symptom, please use the WS (wide set) type of "PROTECTOR M42". The WS type of 'PROTECTOR M42" is more reinforced with respect to prevention of pinching than the WS type of any other conventional blade model.
 Note 2) ● More available for responding to your immediate order.

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Edge material: M42 base matrix high-speed steel

Hardness : Hv 900

Universal blade strong against tooth chipping and highly efficient in cutting. "PROTECTOR" added to the back face of the tooth tip prevents excessive cutting.

Applicability

Break-in cutting is unnecessary



PROTEC



Features

If you are troubled with chipping and stripping of the tooth at present, use of "PROTEC" is strongly recommended. We are convinced that it would meet your expectation.



Line-up of products

Band width	Band tchickness		Pi	tch	
(mm)	(mm)	3/4	4/6	5/7	6/10
27	0.9				
34	1.1				
41	1.3				
54	1.6				

Standard

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Edge material: M42 Cobalt High-Speed Steel

Hardness: Hv 950

Innovative twin set and tooth shape with high/low tooth combination. Blade used exclusively for light-duty bandsaw that covers a wide range of machinable materials.

Applicability

Break-in cutting is unnecessary

Tube, Pipe	Light-weight	profile steel	Struct	ural Profile	Small diameter solid	
	С	L	H		<100 mm	
		Applicatio	on Range			
		Αρριισαίκ				
A 36 30, 33, 40, 45 50, 55, A, B, C, D A 569	1005 - 1095 1108 - 1215 1330 - 1345 1513 - 1536	1541 3115 4012 4118	- 1572 - 3315 - 4047 - 4161	4320 - 4720 4815 - 4820 5015 - 5150 8115 - 9430	aluminum and aluminum alloy (1100 - 7075) copper and copper alloy	
302, 304, 30 321, 347, 41	4L, 316, 316L, 0, 430, 444				(C10200 - C21000)	

DUOS M42



Features

Most steel materials can be cut by just one "DUOS M42 9/11P" with high efficiency, so the operator no longer has to select the correct pitch blade.



- Excessive cutting is controlled because "B" teeth protect "A" teeth due to twin set and high/low tooth combination.
- Cutting performance is enhanced by adopting a positive rake angle.
- Anti-clogging measures include increased gullet capacity by the adoption of a two-step relief angle for the first time with a small pitch blade.
- Special process eliminates the need for break-in-procedure on the "DUOS M42".
- "DUOS M42" is a blade exclusively for use on light duty bandsaws. "DUOS M42" was developed with the main objective of
 preventing teeth breakage and chipping, as well as expanding the cutting range.

Blade Pitch Application Comparison

maximale cutting width (mm)										
10	20	30	40	50	60	70	80	90		
DUOS M42 9/11 P										
							Con	ventional 5/7 P		
			Conventior	nal 6/10 P						
Conve	ntional 8/12 P									
Con. 10/14 P										

Line-up of Products

Band width (mm)	Band thickness (mm)	Pitch 9/11	
13 ^{*)}	0.64	\bigcirc	
20	0.9		
27	0.9		

^{*)} only available in 100m coil

Note) Product line-up of "DUOS M42" is limited to comparatively small pitches considering frequency of use. Please use "PROTECTOR M42" 4/6P or 3/4P when a machinable material is not applicable.

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Edge material: Original tungsten high-speed steel Hardness: Hv 850

High grade high-speed steel, which provides high wear resistance, is used for the teeth and tough special steel is used for the backing material. Highest grade contour blade made of HSS bi-metal.

Selection of blade band width

Selection of blade pitch

GLB contour

Features

- Bi-metal blade for the contour machine made practicable for the first time in the world.
- Capable to satisfy three requirements of the blade used for contour cutting of various steel materials; break free, bend free and continuous sharpness.
- Amada's original high grade tungsten high-speed steel is used for the teeth and tough special spring steel is used for the backing material. By combining these two types of steels perfectly, it became possible to cut efficiently all kinds of hard-to-cut material that could never be cut with any conventional blade. In addition, the blade endures breaking or bending force and maintains outstanding sharpness. Surprisingly long service life is now available.

Band width (mm)	Band thickness		Pitch							
	(mm)	4	6	8	10	12	14	18		
0	0.64									
0	0.90						\bigcirc			
Λ	0.64							\bigcirc		
4	0.90	\bigcirc	\bigcirc		\bigcirc	\bigcirc	\bigcirc			
5	0.64							\bigcirc		
	0.90				\bigcirc	\bigcirc	\bigcirc			
6	0.64							\bigcirc		
U	0.90	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc			
8	0.64							\bigcirc		
U	0.90		\bigcirc	\bigcirc	\bigcirc	\bigcirc				
10	0.64							\bigcirc		
ĨŬ	0.90	Ó	\bigcirc	Ó	\bigcirc	0				
13	0.64		\bigcirc	0	\bigcirc		\bigcirc	\bigcirc		
	0.90	\bigcirc	\bigcirc	\bigcirc	\bigcirc		\bigcirc			

Line-up of products

* A coil length is 30m.

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> 특별 성상에 있는 것이다. 특별 특별 전체 전체 전체 전체 전체

Precautions for cutting

Instructions below enable cutting to be performed with higher efficiency.

Break-in cutting

Perform break-in cutting with a new blade.

Just like break-in driving of a car, break-in cutting of a blade is cutting with a light load applied before starting standard cutting.

Troubles such as vibration, tooth chipping and uneven wear tend to occour and the blade life and exhibition of its performance may be largely affected unless tooth points are equalized during sufficient break-in cutting.

Implement correct break-in cutting referring to "Method for break-in cutting" described below.

Work with break-in cutting done

Work without break-in cutting done

Break-in cutting conditions should be considered as a guide. It is particularly necessary to select conditions which do not produce chatter or vibration during initial period of cutting.

Precautions for cutting

Instructions below enable cutting to be performed with higher efficiency.

Adjustment of wire brush

The wire brush brushes off saw chips attached mainly to the garret section of the blade, prevents clogging and biting, and thus supports smooth cutting. Correctly adjust the wire brush position so that it always contacts the point shown on the right. At the same time, adjust the cutting fluid to wash off saw chips attached to the wire brush at the same time.

As a worn wire brush is not effective, replace the wire brush with a new one before it is worn.

Adjustment of blade guide position

The blade guide fixes the traveling line of the saw blade and applies cutting pressure. With almost every horizontal band saw, the blade guide also plays a rote to twist-raise the blade to the vertical position.

If the position of the blade guide is too far from the material to be cut, crooked cut and breakage may result. For this reason, it is desirable that the blade is supported at a position that is as close as possible to the material to be cut, and it is necessary to adjust the position of the blade guide according to the material width and shape.

Make adjustment so that the blade guide is always located at an appropriate position, which also contributes to a longer service life for the blade

Selection of cutting fluid and control of its use

Cutting fluid is used for cooling and lubrication of the cutting section and for removal of saw chips. Water soluble cutting fluid, that is used diluted with water, is generally selected from the viewpoints of safety and cost. But it must be noted that problems such as corrosion, decay and foaming may arise. Therefore, it is important to select a cutting fluid that is suitable for the material to be cut and operation method of the machine. Also, on the machine side, it is necessary to diligently adjust the injection rate of the fluid in accordance with the place such as blade guide section, working section and wire brush. Amada provides a full line-up of water soluble cutting fluid and non-water soluble cutting fluid that are good for various applications. Please place an order for cutting fluid together with an order for blades. Observe oil handling instructions and various regulations for use of cutting fluid. Particularly with water soluble cutting fluid, pay special attention to the quality of the water used for dilution and to the dilution magnification.

Cutting conditions setting chart

• Setting of cutting rate

Cutting rate means the sectional area (cm²) that is cut per minute, and is expressed with the unit of [cm²/min]. To obtain the target cutting rate, calculate the cutting time that is expressed by the following expression and adjust the cutting speed.

Cutting time(minute) = $\frac{\text{Sectional area of material to be cut (cm}^2)}{\text{Cutting rate (cm}^2/\text{min)}}$

A simple metho	od for calcula	Material size	H-B	eam				
Sectional a	area of round	I material = Dian	neter (cm) x Diam	neter (cm) x 0.8		(mm)	200×150	600×200
* In case of cluster	cutting, multiply	the sectional area of	one piece by the num	ber of clustered piece	9S	Sectional area (cm2)	39	134
Grade of the material to be cutDINAISI/SAE/ASTMJIS							Η	Η
St50-2 C22 C35	1.0050 1.0402 1.0501	A570 Gr.50 A572 Gr.50 A588	1035 1040 1045	S20C S22C S25C	SUM21 SUM22 SUM23	Blade speed (m/min)	48~72	41~61
C45 St52-3 9SMn28	1.0503 1.0570 1.0715	A633 Gr.C M1020 M1023	1117 1137 1141	S28C S30C S33C	SUM31 SUM41 SUM42	Cutting rate (cm²/min)	16~24	32~48
Ck22 Ck25 Ck40	1.1151 1.1158 1.1186	1020 1023 1025	1144 1212 1213	S35C S40C S45C	SUM43 SM490A SS490	Cutting time (m/min)	1.6~2.4	2.8~4.2
St37-2 St44-2 St60-2	1.0037 1.0044 1.0060	A570 Gr.36 A570 Gr.40 A572 Gr.65	1049 1050 1055	S10C S15C S55C	SMn420 SMnC433 SNC236	Blade speed (m/min)	44~66	37~56
C10 C15 Ck55	1.0301 A366 3310 SCM415 1.0401 M1010 3415 SCM418 1.1203 M1015 5115 SCr415		SCM415 SCM418 SCr415	SNCM220 SNCM240 SPCC	Cutting rate (cm²/min)	13~19	26~38	
Ck50 16MnCr5 16CrMo4	1.1206 1.7131 1.7242	M1016 8620 SCr420 M1017 8740 SM400A 1008 9314 SM570		SCr420 SM400A SM570	SN400A SS400 STKM12A	Cutting time (m/min)	2.0~3.0	3.5~5.3
C60 Ck60 14NiCr14	1.0601 1.1221 1.5752 1.6565 1.7033 1.7034	1060 1064 3310 3415 4135 4137	4337 4340 5120 5132 5135 5140	S58C SCM421 SCM432 SCM440 SCM445 SCM822	SCr445 SMnC420 SNC815 SNCM431 SNCM439 SNCM447	Blade speed (m/min)	_	—
40NiCrMo6 34Cr4 37Cr4						Cutting rate (cm²/min)	—	—
20MnCr5 34CrMo4 42CrMo4	1.7147 4140 9314 SCr430 1.7220 4142 9850 SCr435 1.7225 4150 A355 CI.A SCr440		SCr430 SCr435 SCr440	SACM645 SCCrM3 SNB7	Cutting time (m/min)	—	—	
C105W1 X155CrVMo12-1 55NiCrMoV6	W1 1.1545 W1 M2 SK3 CrVMo12-1 1.2379 W108 M33 SKS93 rMoV6 1.2713 W110 T1 SKS94 2-5 1.3243 A2 1075 SKS95 2 1.3343 D2 5155 SKT4 -1 1.3355 L3 5160 SKD11		SK3 SKS93 SKS94	SUP9 SUP10 SUP13	Blade speed (m/min)	—	—	
S6-5-2-5 S6-5-2 S18-0-1			SKS95 SKT4 SKD11	SKS95 SUJ1 SKT4 SUJ2 SKD11 SUS303	Cutting rate (cm²/min)	—	—	
100Cr6 X10CrNi1812 55Cr3	1.3505 1.4305 1.7176	L6 303 303Se	6150 9260 52100	SKH2 SKH51 SKH55	SUS303Se SNCM630 SNCM815	Cutting time (m/min)	—	—
X210Cr12 40CrMnMo7 X40CrMoV5-1	1.2080 1.2311 1.2344	304 304L 304H	430Ti 431 439	SUS304 SUS304L SUS316	SUS431 SUS440C SUS630	Blade speed (m/min)	—	—
105WCr6 X15Cr13 X20CrNi172	1.2419 1.4024 1.4057	305 308 316	440C 630 XM8	SUS316L SUS316Ti SUS321	SUS631 SCS24 SCS19	Cutting rate (cm²/min)	—	—
X5CrNi1810 X6CrNiTi18-10 X6CrNiMoTi17-12-2	1.4301 1.4541 1.4571	316L 316Ti 321	D3 H13 M42	SUS405 SUS410 SUS430	SKD1 SKD61 SKH59	Cutting time (m/min)	_	_
X45CrNiW18-9 X5NiCrTi26-15 NiCr20TiAl	1.4873 1.4980 2.4631	1.4873 A-286 1.4980 HASTELLOY 2.4631 INCOLOY 2.4634 INCONEL 2.4650 MONEL 2.4654 NIMONIC	Ti-13-11-3 Ti-6-2-4-2 Ti-6-2-4-6 Ti-6-4 Ti-6-4 Ti-6-6-2	A-286 HASTELLOY INCOLOY INCONEL MONEL NIMONIC	SUH1 SUH3 SUH31	Blade speed (m/min)	_	—
NiCo20Cr15MoAlTi NiCo20Cr20MoTi NiCr19Co14Mo4Ti	2.4634 2.4650 2.4654				SUH36 SUH37 SUH38	Cutting rate (cm²/min)		—
NiCr22Fe18Mo NiCr19NbMo LT31	Co14M0411 2.4654 NIMONIC NIMONIC Fe18Mo 2.4665 Udimet 309 Udimet NbMo 2.4668 WASPALOY 446 WASPALOY 3.7165 Ti-6-4 Ti-6-4		SUH309 SUH446 SUH616	Cutting time (m/min)		_		

Note 1: The above chart shows average data in the general Note 2: Cutting conditions vary greatly depending on the bla Note 3: Material grade codes included in the above chart ar

Cutting conditions setting guide

•Fundamentals of cutting conditions setting

- 1. Select a blade that meets the cutting requirements from "Blade type selection guide".
- 2. Select a tooth pitch that meets the dimensions of the material to be cut from "Blade pitch selection guide".
- 3. Set the blade speed referring to the chart below.
- 4. Referring to the cutting rate given in the chart below, adjust the cutting speed so that the cutting time calculated as described in the page on the left can be obtained

Note: If the blade is a new one, perform break-in cutting. (See separate sheet for break-in cutting.)

Tu	be		Solid material							
<i>ф</i> 100×5t	¢50×3t 9-bundled	¢50 9-bundled	<i>ф</i> 100	¢200	<i>ф</i> 300	<i>\$</i> 400	<i>\$</i> 500	<i>\$</i> 700	<i>ф</i> 1000	
15	40	177	79	314	707	1257	1963	3848	7854	
\bigcirc			•							
52~78	52~78	48~72	48~72	48~72	48~72	43~65	39~58	34~51	30~44	
9~13	16~24	43~65	36~54	72~108	72~108	60~91	49~73	37~56	26~38	
1.1~1.7	1.7~2.5	2.7~4.1	1.5~2.2	2.9~4.4	6.5~9.8	13.9~20.8	26.8~40	69~103	205~307	
48~71	48~71	44~66	44~66	44~66	44~66	39~59	35~52	30~45	26~38	
7~11	13~19	34~50	28~42	56~84	56~84	47~71	39~58	30~45	22~32	
1.4~2.1	2.1~3.1	3.5~5.3	1.9~2.8	3.7~5.6	8.4~12.6	17.7~26.5	34~51	85~127	242~364	
43~65	43~65	40~60	40~60	40~60	40~60	35~53	31~46	26~39	22~32	
6~10	11~17	24~36	20~30	40~60	40~60	34~52	29~43	23~35	18~26	
1.5~2.3	2.3~3.5	4.9~7.4	2.6~3.9	5.2~7.9	11.8~17.7	24.4~37	45~68	111~166	297~446	
30~45	30~45	28~42	28~42	28~42	28~42	25~38	23~34	20~30	18~26	
6~9	10~16	14~27	11~23	23~46	23~46	20~40	17~35	15~25	12~20	
1.7~2.6	2.6~3.9	6.5~12.9	3.5~6.9	6.9~13.8	15.5~31	31~63	57~113	154~263	385~660	
29~43	29~43	24~36	24~36	24~36	22~32	19~29	17~26		_	
5~8	9~14	10~18	8~15	16~30	14~27	13~24	12~22			
1.9~2.9	2.9~4.3	9.8~18.4	5.2~9.8	10.5~19.6	26~49	52~97	90~168			
-	_		8~18	8~18	7~16		_		_	
—	_	_	2~9	3~15	3~14	_	_	_	_	
_	_		9.2~52	20.9~105	52~262		_			

I market collected at random without consideration of blade type or band saw machine type.

ade type, band saw machine type, shape and heat treatment of the material to be cut and required cutting specification (crooked cut, cut face roughness, blade life, etc.).

are from standards of three countries. However, this chart does not constitute a standard cross-referancechart.

Follow the red arrow from the applicable trouble, and check each numbered symptom. (The check points can be known also from the colored block mark.)

der, etc. may have occurred.

Blade troubleshooting

9. Low cutting fluid concentration

The machine main unit may be corroded and the service life of the sliding section may be shortened due to insufficient lubrication.

crook

Wear Breakage

Noise

crook Rough

Chipping

Breakage

crook Rough

Chipping

Rough

Chipping

Noise Stoppage

10. Maladjusted wire brush

If the brushing effect drops, saw chips enter other sliding sections of lhe machine besides the blade, and the service life will be shortened.

11 . Cut Product jamming

Rough

Chipping

Stoppage

Such cutting may occur when the product length is short or when cutting bundled, small-diameter materials.

12. Vibration of the entire machine

The machine may be installed improperly or vibration source such as a large-size press may exist in the vicinity of the machine.

13. Poor clamping for the material to be cut

- a: Saw chips or the like attached to the vise face hinders proper clamping.
- b: In case of bundled cutting, not all of the materials to be cut are firmly clamped.

