Cutting Tools Catalog

TENRYU

www.tenryu-saw.com

TENRYU

SINCE 1910

TENRYU SAW MFG. CO., LTD.

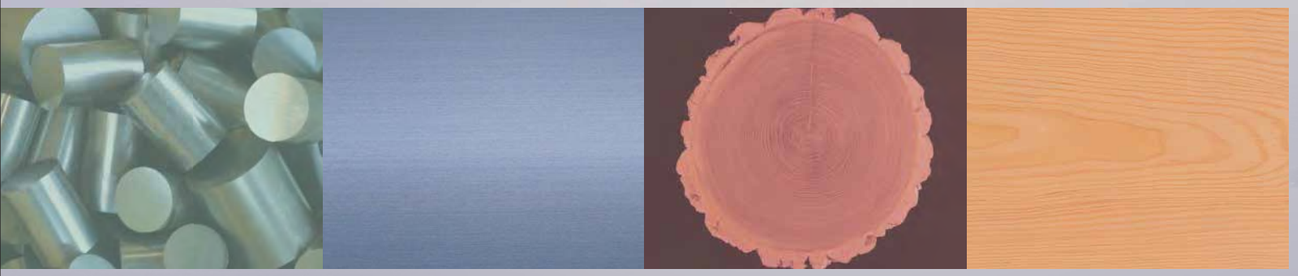
12.3J2000-a1

PIONEER WORK

Since 1910

A history built on making premium quality Japanese-made saws

Our job is to develop products that accommodate new materials and advanced cutting conditions.
Since the establishment of Tenryu in 1910, we have continued to make advancement as a pioneer in the industry, with the theme of "cutting and processing".
We develop products that accommodate new materials and the ever-advancing needs of our customers, using the cutting edge manufacturing machinery and equipment that we have developed based on technologies accumulated over a long period of time.
The 100-year history of Tenryu Saw Mfg. Co., Ltd. is a history of endless challenges to cutting assignments.



Contents

TENRYU SAW MFG. CO.,LTD. JAPAN TRADE MARK

TAKING CUTTING INTO THE NEXT PHASE

- The PAS brand adopts a total approach towards cutting
- We offer know-how we have built up in a number of fields

Our mission is to deliver products that match newly developed materials and advanced cutting conditions.

- Fast cutting
- High-precision cutting
- A durable finish that withstands the test of time

We believe that products, which combine the above performance and requirements to an advanced degree, are also saws that offer the best value in terms of the budgets of our customers.

In our 100 year history, our company has tackled a number of issues related to cutting, and accumulated necessary know-how for manufacturing saws. We manufacture the world's leading products by utilizing manufacturing facilities which have been uniquely developed, and which outstrip existing processing machines, from the quenching of saw plates and the tempering process to a final process in which quality is checked. Building a system, which responds promptly to needs for greater sophistication is also one of our major themes. The development of new products starts from examining the characteristics of work materials used by our customers.

We begin a cutting test by using a testing machine from a pre-production stage of a work material. We work closely with our customers to single out the most suitable tooth tip material, or to develop the tooth tip material that best suits the properties of the work material. Through these trial cutting sessions, we are able to suggest the most suitable cutting parameters, and to deliver the best saw for each individual user.

NEEDS

- Cutting quality
- Cutting costs > Post-processing costs
- Productivity
- Environmental issues
- Automation / Labor saving

The environment surrounding cutting work

In the area of cutting work, requirements have become increasingly strict, such as diversification of materials and greater sophistication in the quality of cutting.

SOLUTION

Carbide tipped saw blades for metal

- Tooth tip material
- Tooth type
- Durability
- Ability to hold a straight cutting
- Reduction of vibration and noise
- Cutting surface / Surface roughness
- Cutting speed
- Reduction of dust

Cutting machine

- Automation / Labor saving
- Production speed
- Subsequent processing costs
- Suggestions for the most suitable cutting requirements

The PAS brand, in Pursuit of the Best

Demands for cutting tools have become increasingly stringent in recent years, such as in terms of processing quality, durability, and productivity. In addition, the properties of materials and forms of work materials have diversified. With regard to the performance of cutting tools, there have been increasing demands for optimum solutions and individual types of processing customers are no longer satisfied with the „one-size-fits-all" approach. In order to provide the most suitable cutting tool for a particular condition faced by a user, the PAS brand maintains close communication with users. All you need to do is to provide us with details of all the tasks required in respect of cutting, and we will propose the most suitable solution, taking into account all the issues involved, including the processing machine and processing conditions. During this process, we evaluate the given tasks from all possible angles, and we present our accumulated know-how in numerical values. We believe that the solution with the best value is that attained when any distance between the user and the PAS brand has reached close to the point of zero.

Our commitment to cutting extends into resharpening

Another of our important themes is to maintain the performance of your saw blade at its very best. Maintaining the performance of a new product is not the only purpose of resharpening. We inspect the blade in detail after use, and we analyze the cutting condition during use. Based on these results, we propose the most economical form of processing. We believe that the best possible resharpening service is that which provides a way of maintaining a superior cost performance.

for Ferrous Metals Saw Blades for Ferrous Metals

for Heavy and Light-Duty Cutting / Throw Away Type

Materials

Structual steel, Tool steel, Alloy steel, Stainless steel, Aluminium alloy, Copper alloy

Shapes of materials

Bar steel, Bar stainless steel, Solid-drawn pipe, Deformed materials

Blade dimensions

Diameter	Kerf	Teeth
200 ~ 910	1.0 ~ 4.5	40 ~ 300

Tooth geometry

Notched breaker

Tooth material

Carbide P30, Cermet, PVD coating TiN, AlTiN, CrN

Features

Despite its thin kerf, this model boasts longevity, perpendicularity and smooth cut surface.

for Heavy-Duty Cutting

Materials

Structual steel, Tool steel, Alloy steel, Stainless steel

Shapes of materials

Bar steel, Seamless pipe, Electrowelded pipe, Bloom, Billet

Blade dimensions

Diameter	Kerf	Teeth
280 ~ 1.800	2.0 ~ 12.0	28 ~ 260

Tooth geometry

Trapezoidal, Noched

Tooth material

Carbide M20 · P30, PVD coating TiN, AlTiN, CrN

Cutting parameters

Steel grade	Cutting speed [m/min]	Feed rate per tooth [fz mm]
Heavy	50 ~ 90	0.05 ~ 0.08
Medium	80 ~ 120	0.08 ~ 0.15
Stainless	50 ~ 90	0.05 ~ 0.10

for Light-Duty Cutting / Automobile Industry

Materials

Structual steel, Tool steel, Alloy steel, Stainless steel

Shapes of materials

Door sash, Reinforced door beam, Exhaust pipe, Fuel pipe

Blade dimensions

Diameter	Kerf	Teeth
200 ~ 460	1.6 ~ 3.0	60 ~ 180

Tooth geometry

Flat, Trapezoidal, Chamfered flat

Tooth material

Carbide P30, Cermet

Cutting parameters

Cutting speed [m/min]	Feed rate per tooth [fz mm]
2.000 ~ 4.000	0.001 ~ 0.02

for Light-Duty Cutting

Materials

Structual steel, Tool steel, Alloy steel, Stainless steel

Shapes of materials

Solid drawn pipe, Electrowelded pipe

Blade dimensions

Diameter	Kerf	Teeth
300 ~ 630	2.0 ~ 12.0	28 ~ 260

Tooth geometry

Trapezoidal, Notched, Chamfered flat

Tooth material

Carbide P30, Cermet

Cutting parameters

Steel grade	Cutting speed [m/min]	Feed rate per tooth [fz mm]
Steel	1.000 ~ 2.000	0.05 ~ 0.10
Stainless	500 ~ 1.000	0.02 ~ 0.06

for Tube & Pipe / Throw Away Type

Materials

Steel pipe STKM11A, 12A, 13A

Shapes of materials

Thin-walled pipe, Thick-walled pipe, Seamless pipe

Blade dimensions

Diameter	Kerf	Teeth
250 ~ 910	1.7 ~ 4.0	60 ~ 200

Tooth geometry

BNCR, BNCSR, BNCV, BNCSV

Tooth material

Cermet (coating or non-coating),
Carbide (coating or non-coating)

Cutting parameters

Cutting speed [m/min]	Feed rate per tooth [fz mm]
100 ~ 200	0.01 ~ 0.03

PVD Coating

Materials

Stainless steel, Special steel

Shapes of materials

Bar steel, Bar stainless steel

Blade dimensions

Diameter	Kerf	Teeth
250 ~ 910	1.7 ~ 4.0	60 ~ 120

Tooth geometry

BNCR, BNCSR, BNCV, BNCSV

Tooth material

Cermet (coating or non-coating),
Carbide (coating or non-coating)

Cutting parameters

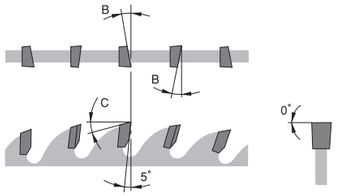
Cutting speed [m/min]	Feed rate per tooth [fz mm]
60 ~ 150	0.03 ~ 0.06

TENRYU SAW MFG. CO.,LTD. JAPAN TRADE MARK

CBB-5 — AFB (Alternate Face Bevel)

Application

Aluminum, Copper

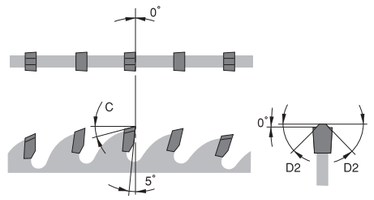


Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D
405	2.6	2.0	25.4	120	5	5	12	0
510	3.5	3.0	40.0	120	5	5	12	0

D-5 — TCG (Triple Chip Grind)

Application

Aluminum, Copper

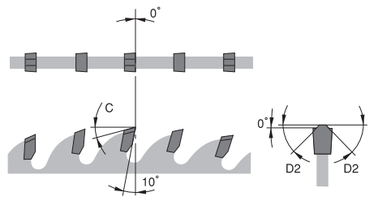


Size					Angles				
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D1	D2
405	3.1	2.5	25.4	120	5	0	12	0	45
455	3.5	3.0	25.4	120	5	0	12	0	45
455	3.5	3.0	25.4	140	5	0	12	0	45
510	3.5	3.0	25.4	120	5	0	12	0	45
510	3.5	3.0	40.0	120	5	0	12	0	45
510	3.5	3.0	40.0	140	5	0	12	0	45

D-10 — TCG (Triple Chip Grind)

Application

Aluminum, Copper



Size					Angles				
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D1	D2
305	3.0	2.5	25.4	100	10	0	12	0	45
355	3.0	2.5	25.4	100	10	0	12	0	45
405	3.1	2.5	25.4	100	10	0	12	0	45

for Wood LAQIV Series

Uses ultra-hard tips
The LAQ series' high-end model

Features

Improved durability

The LAQ Ⅳ pursued the ultimate tooth durability and cut by using the newly-released LAQ Ⅲ, the successor to the LAQ Ⅱ, as a base, and it now uses extremely hard tips of advanced ultra-fine particles (nano ordered).

Quiet operating environment and high-quality cut surfaces

Compared to the hard ultra-fine particle tips that were hard to attach to teeth with conventional whetting technology, a finer whet is now possible with the collection of many different whetting technologies and knowhow that have been cultivated for many years as a top manufacturer of circular saw blades and tipped saw blades.

The state of the teeth as seen from the tip clearance direction

LAQIV Series (ABA-10)

5 teeth/set (ATB with Raker)

Application

Natural wood, Bonded wood, Plywood, Particle, board

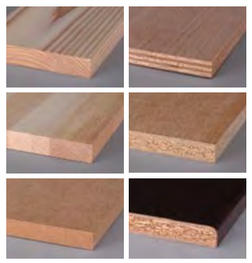
Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D
305	3.0	2.2	25.4	100	10	15	15	10

LAQIV Series (ABA-15)

5 teeth/set (ATB with Raker)

Application

Natural wood, Bonded wood, Plywood, Particle, board



Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D
305	3.0	2.2	25.4	100	15	15	15	10
355	3.0	2.2	25.4	100	15	15	15	10
355	3.0	2.2	25.4	100	15	15	15	10

for Wood LAQIII Series

Pursuing the ultimate in quality and silence
A refined new product in the LAQ series

Features

High quality cutting

Prevent break-out burrs and flaking common to material with adhesive facing on the backside, and get finely-cut surfaces without noticeable knife marks.

Improved resistance

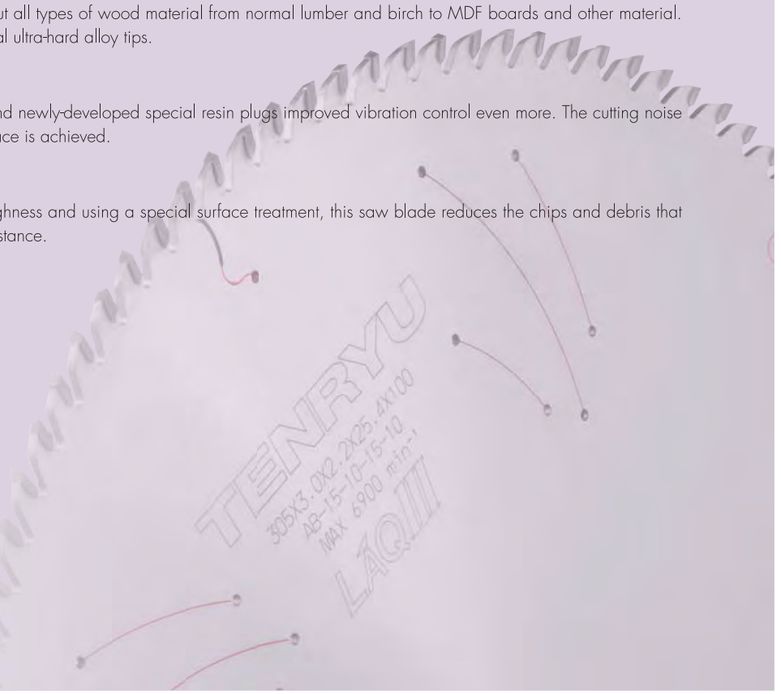
These tough, wear-resistant blades can cut all types of wood material from normal lumber and birch to MDF boards and other material. The teeth use ultrafine particles and special ultra-hard alloy tips.

Quiet operating environment

The unique laser-cut noise-reducing slot and newly-developed special resin plugs improved vibration control even more. The cutting noise is reduced and a high quality cutting surface is achieved.

A higher grade surface finish

By improving the base metal surface roughness and using a special surface treatment, this saw blade reduces the chips and debris that stick to the blade and reduces cutting resistance.

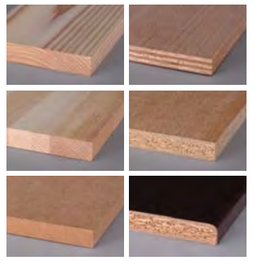


LAQIII Series (ABA-15)

5 teeth/set (ATB with Raker)

Application

Natural wood, Bonded wood, Plywood, Particle, board



Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D
305	3.0	2.2	25.4	100	15	15	15	10
355	3.0	2.2	25.4	100	15	15	15	10
355	3.0	2.2	25.4	120	15	15	15	10

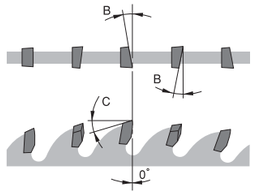
for Wood LAQIII Series

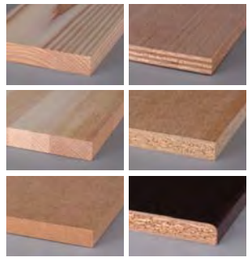
LAQIII Series (AB-0)

5 teeth / set (ATB with Raker)

Application

Natural wood, Bonded wood, Plywood, Particle, board





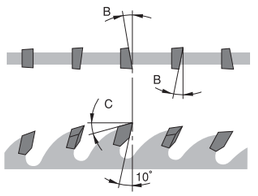
Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D
305	3.0	2.2	25.4	100	0	10	15	10
320	3.0	2.2	25.4	100	0	10	15	10
330	3.0	2.2	25.4	100	0	10	15	10
355	3.0	2.2	25.4	100	0	10	15	10

LAQIII Series (AB-10)

5 teeth / set (ATB with Raker)

Application

Natural wood, Bonded wood, Plywood, Particle, board



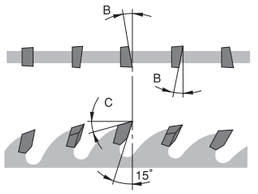
Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D
305	3.0	2.2	25.4	100	10	10	15	10

LAQIII Series (AB-15)

5 teeth / set (ATB with Raker)

Application

Natural wood, Bonded wood, Plywood, Particle, board



Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D
305	3.0	2.2	25.4	100	15	10	15	10
320	3.0	2.2	25.4	100	15	10	15	10
330	3.0	2.2	25.4	100	15	10	15	10
355	3.0	2.2	25.4	100	15	10	15	10

for Wood NEW LAQ Series

Tenryu's technology further evolved the LAQ-creating a new era in cutting

Features

Beautifully-cut surfaces

Controlling the specific vibrations created by the chip saw itself is effective in high-speed cutting.

Improved resistance

Using a special ultra-hard metal alloy that is resistant to corrosion and oxidation improved the life of the cutting edges.

Improved operating environment

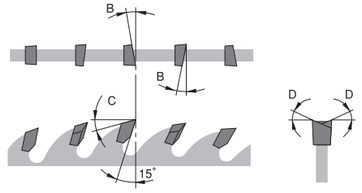
Adding an intermediate laser-cut noise reducing slot to the conventional noise-reducing slot improved vibration control.

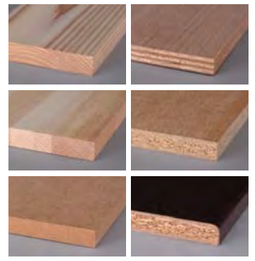
NEW LAQ Series (AB-15)

5 teeth/set (ATB with Raker)

Application

Natural wood, Bonded wood, Plywood, Particle, board





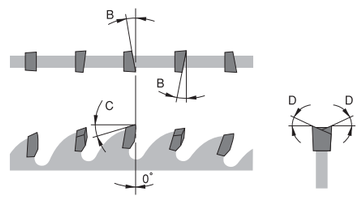
Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D
255	3.0	2.0	25.4	100	15	15	15	10
305	3.0	2.2	25.4	100	15	15	15	10
320	3.0	2.2	25.4	100	15	15	15	10
330	3.0	2.2	25.4	100	15	15	15	10
355	3.0	2.2	25.4	100	15	15	15	10
355	3.0	2.2	25.4	120	15	15	15	10
405	3.2	2.4	25.4	100	15	15	15	10
405	3.2	2.4	25.4	120	15	15	15	10
455	3.2	2.4	25.4	100	15	15	15	10
455	3.2	2.4	25.4	120	15	15	15	10

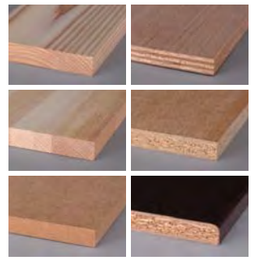
NEW LAQ Series (AB-0)

5 teeth/set (ATB with Raker)

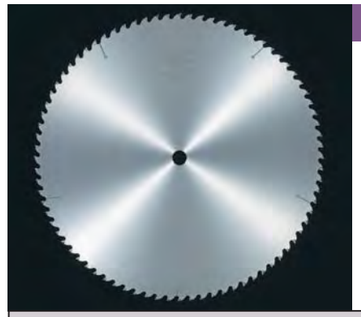
Application

Natural wood, Bonded wood, Plywood, Particle, board





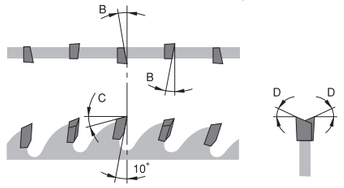
Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D
305	3.0	2.2	25.4	100	0	15	15	10
355	3.0	2.2	25.4	100	0	15	15	10



C-10 ATB (Staggered)

Application

Natural wood, Bonded wood for Cross-cutting

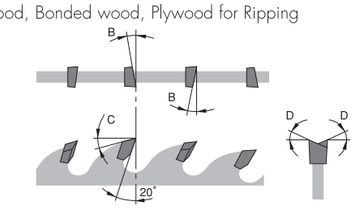


Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teteth	A	B	C	D
405	3.0	2.0	25.4	80	10	10	15	10
405	3.0	2.0	25.4	100	10	10	15	10
455	3.2	2.4	25.4	80	10	10	15	10
455	3.2	2.4	25.4	100	10	10	12	10
510	3.4	2.6	25.4	80	10	10	15	10
510	3.4	2.6	25.4	100	10	10	12	10
560	3.6	2.6	25.4	100	10	10	15	10
610	3.6	2.6	25.4	80	10	10	15	10
610	3.6	2.6	25.4	100	10	10	15	10

CB-20 ATB (Alternate Top Bevel)

Application

Natural wood, Bonded wood, Plywood for Ripping



Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D
255	2.0	1.4	25.4	40	20	5	15	10
255	2.2	1.6	25.4	40	20	5	15	10
255	3.0	2.0	25.4	40	20	5	12	10
305	2.2	1.6	25.4	40	20	5	15	10
305	2.8	2.0	25.4	40	20	5	12	10
305	3.0	2.0	25.4	40	20	5	12	10

Application for Edger

305	3.0	2.0	38.1	40	20	5	12	5

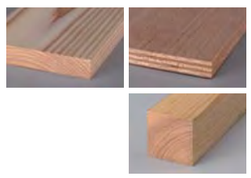
Application for gang Ripper

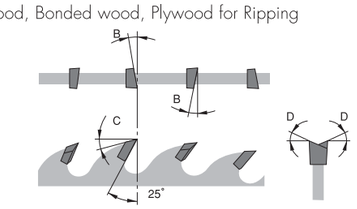
305	3.0	2.0	75.0	40	20	5	12	5

CB-25 ATB (Alternate Top Bevel)

Application

Natural wood, Bonded wood, Plywood for Ripping





Size					Angles			
Diameter	Kerf	Plate Thickness	Center hole	Teeth	A	B	C	D
305	3.0	2.0	25.4	50	25	5	15	10
355	3.0	2.0	25.4	40	25	5	15	10

Offices & Affiliations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Tenryu America Inc.


Tenryu Europe GmbH


Tenryu (China) Saw Mfg. Co., Ltd.


Longlian Tools, Corporation


Tenryu Saw (Thailand) Co., Ltd.

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TENRYU

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