AZAK
TOOL TECHNOLOGIES

METAL GATE
ميتـــال جيـــت

HSS

SAW BLADES

METAL GATE
ميتال جيت

Increase your cutting performance with Azak HSS Circular Saw Blades

HSS RAW METERIALS

HSS/Dmo5 | DIN 1.3343 | AISI M2 | JIS SKH51

High speed with Tungsten-Molybdenum. After heat treatment, these elements ensure good hardness and toughness. High cutting perfomance, reduce tool wear, high mechanic resistance are the advantages of this type steel

Chemical Composition %									
C	Si	Mn	P	S	Co	Cr	Mo	V	W
0,86-0,94	≤ 0,45	≤ 0,40	≤ 0,030	≤ 0,030	-	3,80-4,50	4,70-5,20	1,70-2,00	6,00-6,70

HSS/Emo5-Co5 | DIN 1.3243 | AISI M35 | JIS SKH55

High speed with Tungsten (%6,4)-Molybdenum (%5) and Cobalt (%4,8). Cobalt in the structure of metal, ensures excellent hardness at high operating temperatures by avoiding grain growth. It is used for cutting stainless steels and extra hard metals.

Chemical Composition %									
C	Si	Mn	P	S	Co	Cr	Mo	V	W
0,88-0,96	≤ 0,45	≤ 0,40	≤ 0,030	≤ 0,030	4,5-5,00	3,80-4,50	4,70-5,20	1,70-2,00	6,00-6,70

ASP 2052 | DIN 1.3253

S390 PM: Obtained by sintering with powder metalurgy. Significantly reduced blade tension. Because of obtaining by sintering, it has high degree homogenity. These features gives lower razoredge wear, greater tool toughness, increased hardness.

Chemical Composition %										
C	Si	Mn	P	S	Co	Cr	Mo	V	W	Ni
1,63	0,30	0,26	0,018	0,018	8,32	4,91	2,28	5,12	10,09	0,20

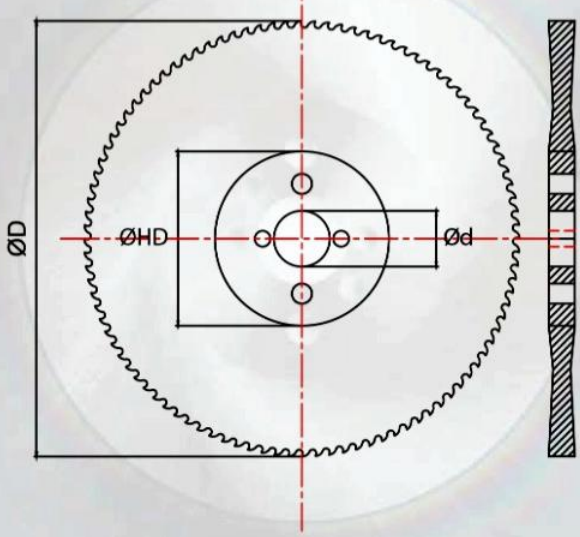
ORDER DESIGNATION

10	HSS-Co5	450	3,50	50	Z240	C	12/8	4/15/80	HD150	TiN
Order Quantity	Quality*	Saw Blade Diameter	Saw Blade Thickness	Bore Diameter	Tooth Number	Tooth Type**	Cutting Angles	Pin Holes	Hub Diameter	Coating Type***

10-HSS-Co5-450-3,50-50-Z240-C-12/8-4/15/80-HD150-TIN

HSS-Co5 quality-450 mm diameter- 3,50 saw thickness- 50 mm bore diameter-240 number of teeth C type- 4/15/80 pin holes- 150 mm flange diameter-TiN coating- 10 pieces Circular Saw Blades

QUALITY	TOOTH TYPE	COATING TYPE
HSS	0:None	Bright Finish
HSS-Co5	A	OXY
ASP2052	B	TiN
HSS-DIN1838	C	TiCN GREY
HSS-DIN1837	AW	TiCN RED
	BR	TiAlN
	BW	AlTiN
	VP	AlTiCrN
		ML-TiAlN
		ML-ALTiN



COATING TYPES

OXY

It is used for only cutting steel materials. Suitable for cutting structural steels, alloyed steels, medium hardness steel tubes and pipes, not used for cutting bronze, copper and brass materials.

Hardness	Thickness	Coefficient of friction	Max. Working Temperature
700 HV	2-4 µm	0.6	550 °C

TİN

It is suitable for cutting low-alloy structural steels, medium hardness steel tubes and pipes and non-ferrous tubes and pipes. However not used for soft materials like copper, brass abd bronze

Hardness	Thickness	Coefficient of friction	Max. Working Temperature
2650 HV	1-10 µm	0.4	600 °C

TİCN GREY

This coating is used for cutting highly abrasive materials such as stainless steel and medium alloyed steels with a hardness of up to 800 N/mm2. The low friction coefficient considerably reduces chipping at the cutting edge and the disc sidewall.

Hardness	Thickness	Coefficient of friction	Max. Working Temperature
3800 HV	1-4 µm	0.25	450 °C

TİCN RED

It is particularly used for cutting stainless steel, titanium, hardened steel as well as brass and copper.

Hardness	Thickness	Coefficient of friction	Max. Working Temperature
3800 HV	1-4 µm	0.25	450 °C

AlTİN

Aluminum Titanium Nitride coating is suitable for cutting extra hard steels, aluminum-silicon alloys, titanium alloys, copper, brass. Otherwise, this coating is suitable for high temperature applications due to low thermal conductivity.

Hardness	Thickness	Coefficient of friction	Max. Working Temperature
3800 HV	1-4 µm	0.6	900 °C

COATING TYPES

TiAlN

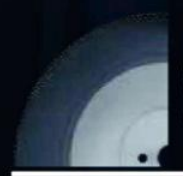
It has an oxidation temperature of 700°C resulting in a surface hardness of 3.600 Vickers. The friction coefficient is 0,5 and allows circular saws to be used with excellent results even in conditions of limited or minimal lubrication and misting. It is particularly suited to high alloy steels of up to 1100 N/mm2, cutting cast iron, stainless steel and all materials that develop considerable heat.

Hardness	Thickness	Coefficient of friction	Max. Working Temperature
3600 HV	1-5 µm	0.5	700 °C

ML - TiAlN:

In the TiAlN multilayer coating, the metallic ratio is 50% aluminum and 50% titanium. Mechanical properties such as film toughness, impact resistance and strength are better in titanium-rich TiAlN coatings. TiAlN coatings should be preferred when high toughness, better surface properties and impact resistance are required. In addition, TiAlN-ML coatings perform much better for dry cutting.

Hardness	Thickness	Coefficient of friction	Max. Working Temperature
3800 HV	1-4 µ	0,55	800°C



ML - AlTiN

In the AlTiN multilayer coating, the metallic ratio is 67% aluminum and 33% titanium. Aluminum-rich AlTiN coatings have higher high temperature resistance, high temperature oxidation resistance and wear resistance. Thanks to its multilayer layer structure, it resists crack growth and maximizes the service life of the saw. In cases where high hardness and temperature resistance are required, AlTiN-ML coatings should be preferred.

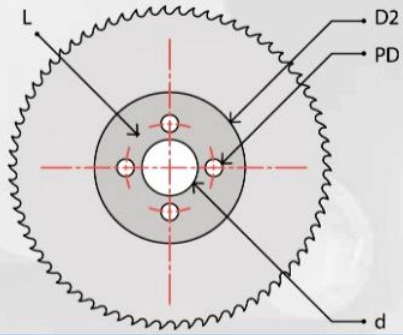
Hardness	Thickness	Coefficient of friction	Max. Working Temperature
3300 HV	1-4 µ	0,6	900 °C

AlTiCrN

This coating is very tenacious and resistant to high temperatures but, it differs from other coatings because it doesn't need to reach high temperatures to obtain the best perfomances. It is highly recommended for high speed cuts with critical cutting parameters, where the performance losses due to the cutting speed increase is sensibly lower than with other traditional coating. The friction coefficient is 0,45 and this permits to use the circular saws both when cutting without or with low cooling or or when cutting with plenty of cooling. It's suggested when cutting high alloyed steels up to 1000 N/mm², stainless steel and all material developing a high thermal energy.

Hardness	Thickness	Coefficient of friction	Max. Working Temperature
3800 HV	1-5 µm	0.5	900 °C

SAW BLADE STANDARD DIMENSIONS



Sample Measurement

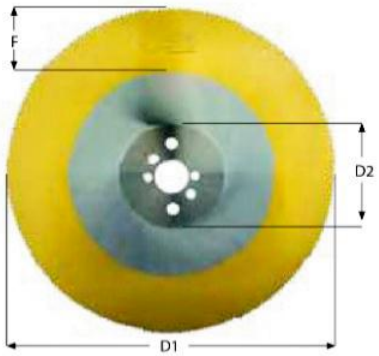
4/12/64 → L
→ PD
→ Pin Hole Qty.

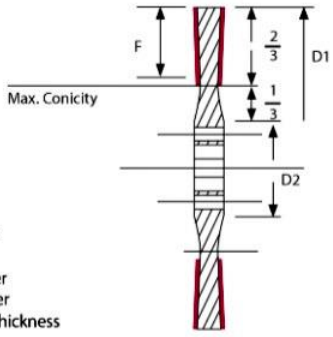
D2 Hub Diameter
PD Pin Hole Diameter
L Pin Hole Axis
d Bore Diameter

Saw Blades Diameter (D1)	Bore Diameter (d)	Hub Diameter (d2)	Thickness (B)	Standard Pin Holes (PD)
160	32	75	1,20/1,50/2,00	2/8/45+2/11/63
175	32	75	1,20/1,50/2,00	2/8/45+2/11/63
200	32	90	1,00/1,20/1,50/1,80/2,00/2,50	2/8/45+2/11/63
210	32	90	2,00	2/8/45+2/11/63
225	32	100	1,00/1,20/1,50/1,80/2,00/2,50	2/8/45+2/11/63
	40	100	1,80/2,00/2,50	2/8/55+4/12/64
250	32	100	1,00/1,20/1,50/1,80/2,00/2,50/3,00	2/8/45+2/11/63+2/9/50
	40	100	2,00/2,50/3,00	2/8/55+4/12/64
275	32	100	1,20/1,50/1,80/2,00/2,50/3,00	2/8/45+2/11/63+2/9/50
	40	100	1,60/2,00/2,50/3,00	2/8/55+4/12/64
300	32	100	1,60/2,00/2,50/3,00	2/8/45+2/11/63+2/9/50
	40	100	1,60/2,00/2,50/3,00	2/8/55+4/11/64
315	32	100	1,60/2,00/2,50/3,00/3,50	2/8/45+2/11/63+2/9/50
	40	100	1,60/2,00/2,50/3,00/3,50	2/8/55+4/12/64
325	32	120	2,00/2,50/3,00	2/8/45+2/11/63
	40	120	2,00/2,50/3,00	2/8/55+4/12/64
350	32	120	1,80/2,00/2,50/3,00/3,50	2/8/45+2/11/63+2/9/50
	40	120	1,80/2,00/2,50/3,00/3,50	2/8/55+4/12/64
	50	120	1,80/2,00/2,50/3,00/3,50	4/15/80+4/14/85
370	32	120	2,50/3,00	2/8/45+2/11/63
	40	120	2,50/3,00/3,50	2/8/55+4/12/64
	50	120	2,50/3,00	4/15/80+4/14/85
400	40	120	2,50/3,00/3,50	2/8/55+4/12/64
	50	120	2,50/3,00/3,50/4,00	4/15/80+4/14/85
425	40	120	2,50/3,00/3,50	2/8/55+4/12/64
	50	120	2,50/3,00/3,50/4,00	4/15/80+4/14/85
450	40	130	2,50/3,00/3,50/4,00	2/8/55+4/12/64
	50	130	2,50/3,00/3,50/4,00	4/15/80+4/14/85
500	40	130	3,00/3,50/4,00/5,00	2/8/55+4/12/64
	50	130	3,00/3,50/4,00/5,00	4/15/80+4/14/85
525	50	140	3,50/4,00	4/15/80+4/14/85
550	50	140	3,50/4,00/5,00	4/15/80+4/14/85
	90	200	4,00/5,00	3/12,5/160
	140	225	4,00/5,00	4/17,5/170
570	50	180	4,00/5,00	4/15/80+4/14/85
600	50	200	4,00/5,00	4/15/80+4/14/85
	90	200	4,00/5,00	3/12,5/160
	140	225	4,00/5,00	4/17,5/170
630	50	225	4,00/5,00	4/14/85+4/15/80
	80	225	4,00/5,00	4/23/120

"The information given in the table are the standard values. We ask you to contact us in case of special requests."

SAW BLADE STANDARD DIMENSIONS





Symbols

F : Coated Band
D1 : Diameter
D2 : Hub Diameter
d : Bore Diameter
B : Saw Blades Thickness

The dimensional tolerances of circular saws are determined by the DIN 1840 standard. In the tables and drawing below you can find the saw blade dimensions, hub diameters, cutting depth, conicity, run-out values and tolerances of the main dimensions.

D1 Dimensions (mm)	D2 Hub (mm)	B (mm)	Run-Out Standard (mm)	F Coated Band (mm)	D1 Dimensions (mm)	D2 Hub Diameter (mm)	B (mm)	Run-Out Standard (mm)	F Band Coated (mm)
160	75	1,2	0,20		325	120	2,5	0,25	60
160	75	1,5	0,20	25	325	120	3,0	0,25	60
160	75	2,0	0,20	25	350	120	1,8	0,25	60
175	75	1,2	0,20	35	350	120	2,0	0,25	60
175	75	1,5	0,20	35	350	120	2,5	0,25	60
175	75	2,0	0,20	35	350	120	3,0	0,25	60
200	90	1,0	0,20	37	370	120	2,5	0,30	65
200	90	1,2	0,20	37	370	120	3,0	0,30	65
200	90	1,5/1,6	0,20	37	370	120	3,5	0,30	65
200	90	1,8	0,20	37	400	130x2,5	2,2	0,30	65
200	90	2,0	0,20	37	400	120	2,5	0,30	65
200	90	2,5	0,20	37	400	120	3,0	0,30	65
225	100	1,2	0,20	38	400	120	3,5	0,30	65
225	90	1,5/1,6	0,20	38	400	120	4,0	0,30	65
225	90	1,8	0,20	38	425	120	2,5	0,30	77
225	90	1,9/2,0	0,20	38	425	120	3,0	0,30	77
225	90	2,5	0,20	38	425	120	3,5	0,30	77
250	100	1,0	0,20	50	425	120	4,0	0,30	77
250	100	1,2	0,20	50	450	130	2,5	0,30	70
250	100	1,5/1,6	0,20	50	450	130	3,0	0,30	70
250	100	2,0	0,20	50	450	130	3,5	0,30	70
250	100	2,5	0,20	50	450	130	4,0	0,30	70
250	100	3,0	0,20	50	500	130	3,0	0,30	95
275	100	1,2	0,25	50	500	130	3,5	0,30	95
275	100	1,6	0,25	50	500	130	4,0	0,30	95
275	100	2,0	0,25	50	525	140	3,5	0,35	77
275	100	2,5	0,25	50	525	140	4,0	0,35	77
275	100	3,0	0,25	50	550	200/225	3,0	0,35	90
300	100	1,6	0,25	50	550	140/200/225	3,5	0,35	90
300	100	2,0	0,25	50	550	140/200/225	4,0	0,35	90
300	100	2,5	0,25	50	600	225	3,5	0,35	90
300	100	3,0	0,25	50	600	200/225	4,0	0,35	90
315	100	1,6	0,25	57	620	225	3,5	0,35	100
315	100	1,8	0,25	57	620	225	4,0	0,35	100
315	100	2,0	0,25	57	650	225	4,0	0,40	100
315	100	2,5	0,25	57	650	225	5,0	0,40	100
315	100	3,0	0,25	57	700	225	4,0	0,40	100
325	120	2,0	0,25	60	700	225	5,0	0,40	100

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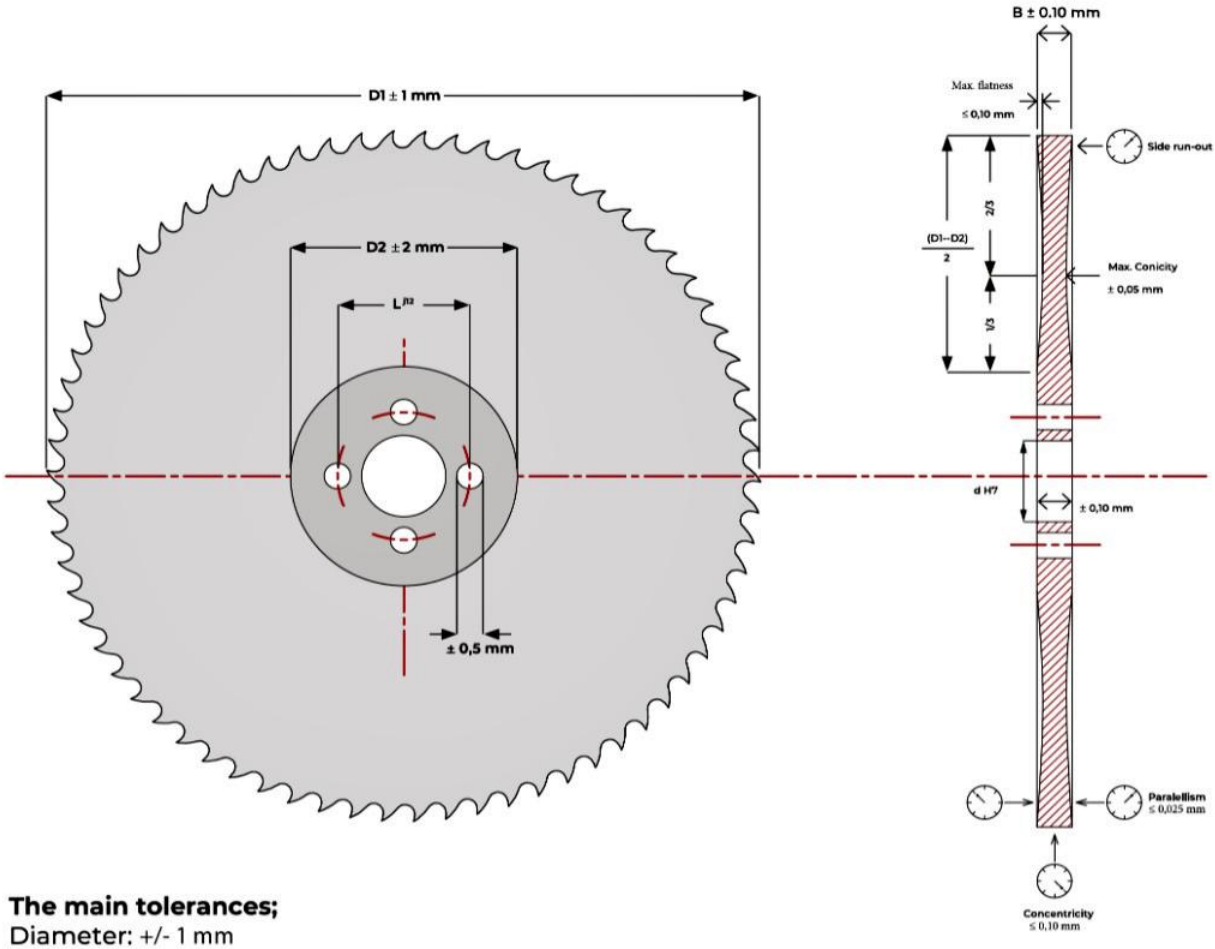
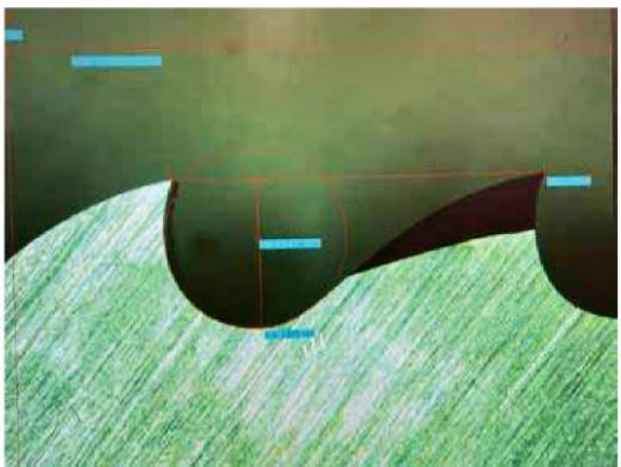
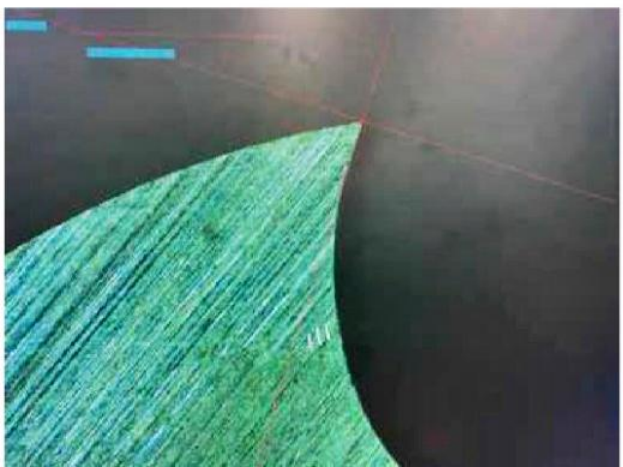
TECHNICAL INFORMATION AND CLEARANCE

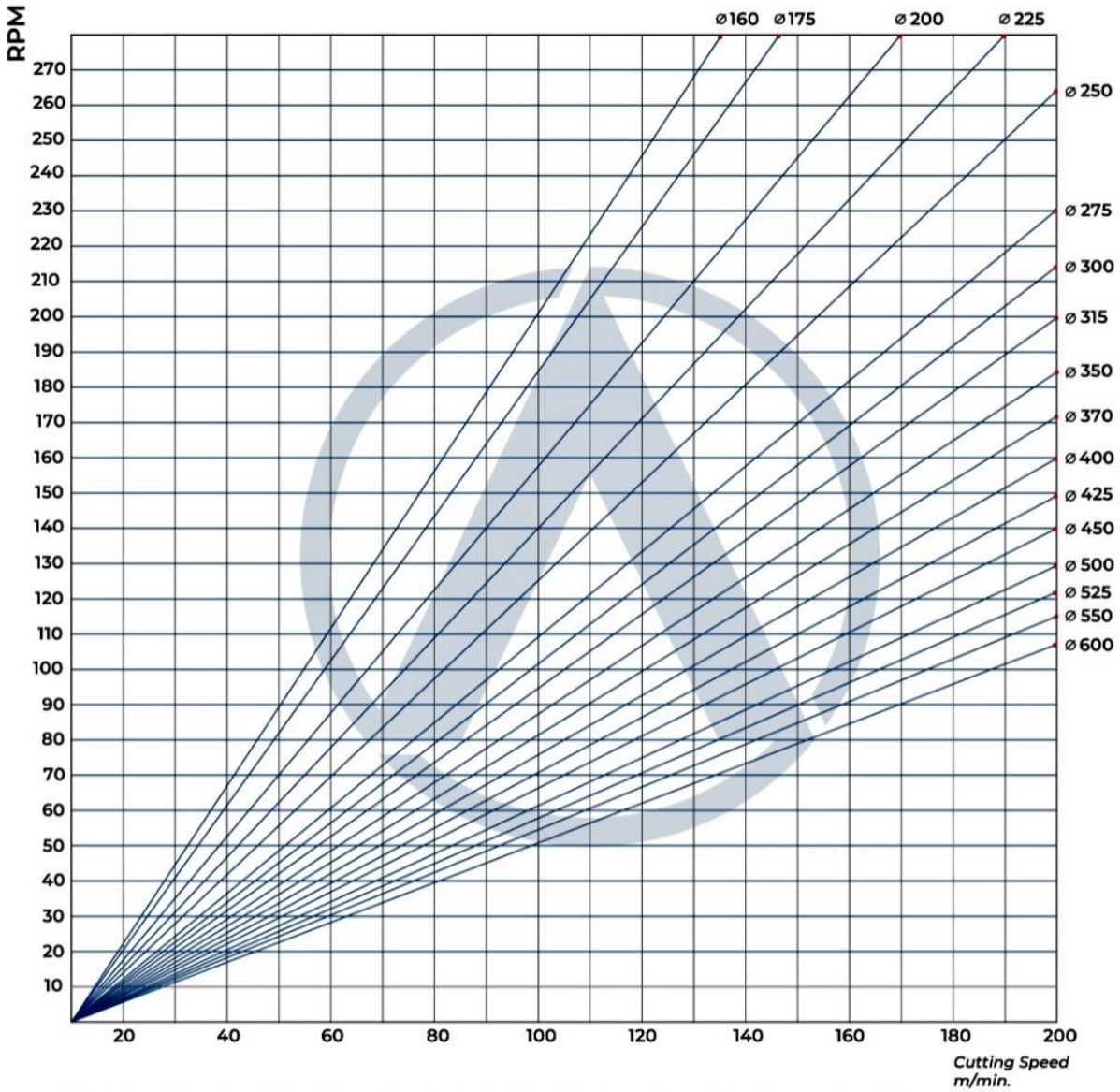


The main tolerances;
Diameter: +/- 1 mm
Hub Diameter: **∓1 mm**
Pin Diameter: +/- 0,5 mm
Pin Axis Diameter: **Iso j12**
Bore Diameter: Iso H7
Diametral runout: Lower than **∓0,02 mm**
Lateral runout changes according to the diameter of the blade but it is below **0,25 mm**
Conicity changes according to the diameter of the blade within tolerance of **+/- 0,05 mm**





TECHNICAL INFORMATION / CUTTING SPEED



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V	Cutting speed (m/min)
D1	Saw blade diameter (mm)
Av	Feed rate (mm/min): Speed of the saw blade in the material
AvZ	Feed rate per tooth (mm/Z)
Z	Number of teeth
rpm	Number of revolutions per minute

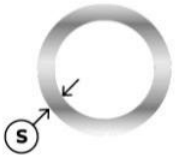
Formulas

rpm = V x 1000/D1 x 3,14

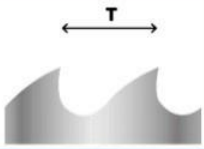
Av = AvZ x Z x rpm

TECHNICAL INFORMATION / CUTTING SELECTION

Pipe And Hollow Sections



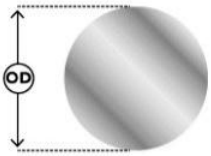
T: Tooth Pitch



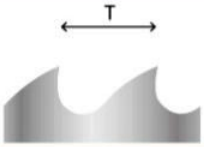
S	< 1 mm	1,1-1,5	1,6 - 2	2,1 - 3	3,1 - 4	> 4 mm
Steel <500 N/mm	3	4	5	5	6	7
Steel <800 N/mm	3	4	4	5	6	7
Steel <1200 N/mm	3	3	4	5	6	7
Stainless Steel	3	4	5	5	6	6
Aluminium	4	5	6	7	8	8
Brass	4	5	6	7	8	8
Copper	4	5	6	7	8	8
Bronze	4	5	6	7	8	9
Titanium	3	3	4	5	5	6
Inconel	3	3	4	5	5	6
Zinc Alloy	3	3	4	5	5	6

"The information given in the table is standard values. We ask you to contact regarding your special requests."

Solid Bar



T: Tooth Pitch

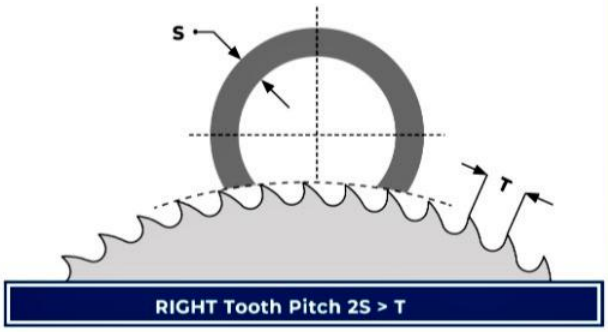


S	10-20	21-40	41-60	61-80	81-110	111-130	131-150
Steel <500 N/mm	6	8	10	12	14	16	18
Steel <800 N/mm	6	8	10	12	14	16	18
Steel <1200 N/mm	5	7	9	12	14	16	18
Stainless Steel	5	7	9	12	14	16	18
Aluminium	8	9	12	16	18	18	18
Brass	8	10	12	14	18	18	18
Copper	8	10	10	14	18	18	18
Bronze	7	10	10	14	16	16	18
Titanium	5	6	8	10	12	14	14
Inconel	5	6	8	10	12	14	14
Zinc Alloy	5	6	10	12	14	16	16
Cast Iron	6	8	10	14	16	18	18

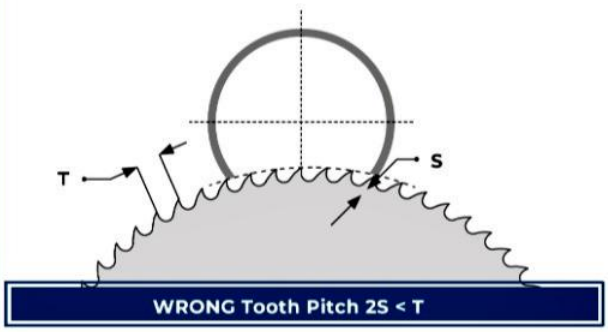
"The information given in the table are the standard values. We ask you to contact us in case of special requests."

TECHNICAL INFORMATION / PITCH SELECTION

Hollow Section Tube



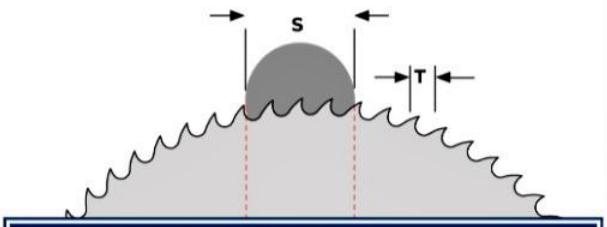
RIGHT Tooth Pitch 2S > T



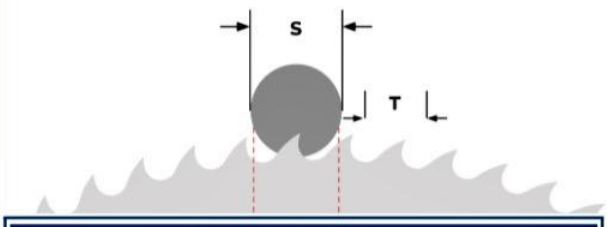
WRONG Tooth Pitch 2S < T

The right pitch should be smaller than 2 times the thickness of the section to be cut for pipe cutting. It is valid for general applications.
We recommend that you contact our technical team for special material quality and tests.

Solid Bar



RIGHT Tooth Pitch S > 3T



WRONG Tooth Pitch S<3T

Three times the recommended pitch value for filling material cutting should be smaller than the thickness of the product to be cut.
It is valid for general applications. We recommend that you contact our technical team for special material quality and cutting conditions.

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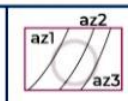
TECHNICAL INFORMATION / FEED RATE & COATING TYPES

In the preceding table, in addition to the cutting speed, we also find the recommended values for feed per tooth (Az), which allow us to calculate the total feed to be set on the machine.

The formula is as follows:

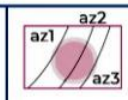
A = Az x Z x RPM A / Feed speed (mm/min) Z/ Number of teeth

PIPE AND HOLLOW SECTIONS

	 Feed rate (mm/Z) min-max	 OXY	 TiN	 TiCN GREY	 TiCN RED	 TiAlN (ML-TiAlN)	 AlTiN (ML-AlTiN)	 AlTiCrN
Steel <500 N/mm	0,03-0,10	70-230	70-230	70-230	70-230	95-240	70-230	
Steel <800 N/mm	0,03-0,09	45-135	45-135	45-135	45-140	65-160	45-140	
Steel <1200 N/mm	0,025-0,07	25-80	25-80	25-80	25-100	40-110	25-100	
Stainless Steel	0,025-0,06	15-70	15-70	15-70	15-80	20-90	15-80	
Aluminium	03,03-0,07	1000-1600	1000-1600	1000-1600	1000-1600	1000-1600	90-1600	1000-1600
Brass	0,04-0,08		400-600	400-600	400-600	400-600	90-550	400-600
Copper	0,04-0,06		200-300	200-300	200-300	200-300	90-300	200-300
Bronze	0,04-0,06		200-400	200-400	200-400	200-400	90-400	200-400
Titanium	0,02-0,06				15-30	15-45		
Inconel	0,025-0,06				15-45	20-50		
Zinc Alloy	0,025-0,06	30-100	30-100	30-100	30-100	45-100	30-100	
Cast Iron	0,04-0,05	30-65	30-65	30-65	30-65	30-65	30-50	

"The information given in the table are the standard values. We ask you to contact us in case of special requests."

SOLID

	 Feed rate (mm/Z) min-max	 OXY	 TiN	 TiCN GREY	 TiCN RED	 TiAlN (ML-TiAlN)	 AlTiN (ML-AlTiN)	 AlTiCrN
Steel <500 N/mm	0,025-0,08	30-115	30-115	30-115	30-115	30-120	30-115	
Steel <800 N/mm	0,025-0,07	25-70	25-70	25-70	25-70	25-80	25-70	
Steel <1200 N/mm	0,020-0,06	15-50	15-40	15-40	15-50	15-55	15-50	
Stainless Steel	0,020-0,06	10-40	10-35	15-35	10-40	10-45	10-40	200-400
Aluminium	0,040-0,08	500-900	500-900	500-900	500-900	500-900	90-900	500-900
Brass	0,040-0,08		400-600	400-600	400-600	400-600	90-600	400-600
Copper	0,040-0,06		200-300	200-300	200-300	200-300	90-300	200-300
Bronze	0,040-0,07		200-400	200-400	200-400	200-400	90-400	
Titanium	0,020-0,05				15-30	15-45		
Inconel	0,025-0,05				16-45	20-50		
Zinc Alloy	0,025-0,08	45-130	30-100	30-100	30-100	45-100	30-100	
Cast Iron	0,025-0,05	30-50	30-50	30-50	30-50	30-55	30-50	

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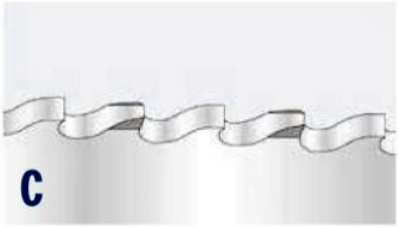
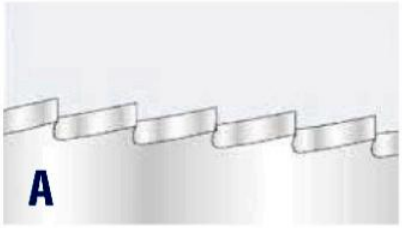
TOOTH TYPES



C tooth form is used for solid cutting and thick pipes which is over 3 mm thickness. (S>3mm)



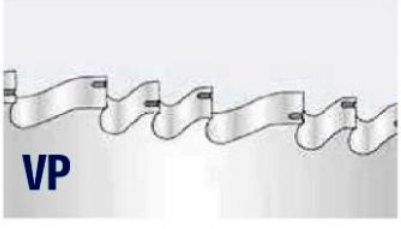
A tooth form is used for cutting materials like brass and bronze which is under 3 mm thickness.

BR tooth form is the best shape for cutting pipes on automatic machines. It allows more cut ting numbers according to other forms.

BW tooth form is the standard tooth shape for tube and pipe cutting. The tooth is bevelled alternatively. This causes chip shredding.

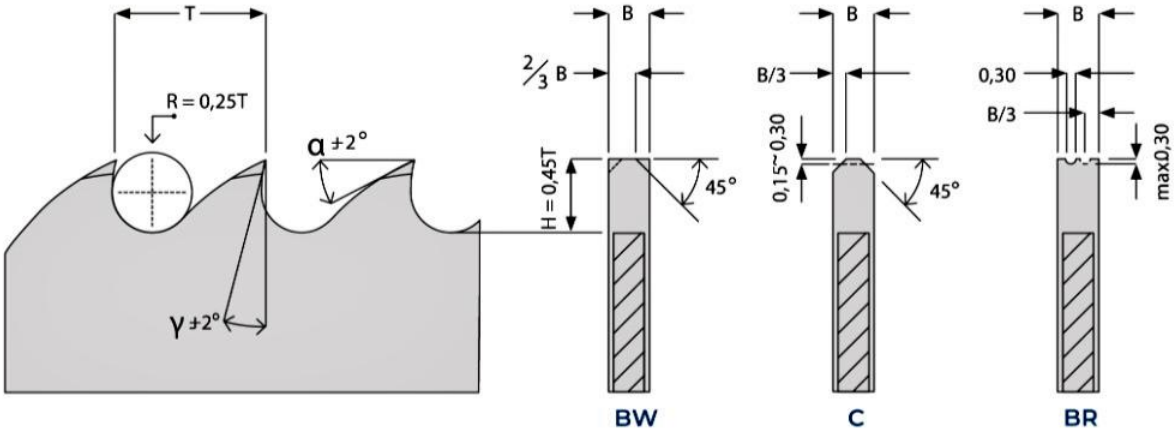
B tooth form is suitable for thin walled tubes, and some structural steels.

AW tooth form is similar to type A. Otherwise, it is got chip shredding.



VP tooth form is the best tooth type for irregular shaped materials which causes vibrations and loud noise.

TOOTHING & CUTTING ANGLES



B Saw Blade Thickness
T Tooth Pitch
H Tooth Height

R Gullet Radius

α Clearance Angle
γ Cutting Angle

MATERIAL TYPE	Cutting Angles (Raw Material of Saw Blade)			
	HSS/DMo5		HSS/DMCo5	
	γ°	α°	γ°	α°
Steel (<500 N/mm2) (standard)	18	12	18	12
Steel (<800 N/mm2)	15	08	15	08
Steel (<1200 N/mm2)	12	06	12	06
Stainless Steel (standard)	12	06	12	06
Cast Iron	12	08	12	18
Brass	15	15	15	15
Copper	16	18	16	18
Bronze	12	08	12	08
Aluminium	15	15	15	15
Zinc Alloy	12	08	12	08
Inconel	-	-	-	-
Titanium	-	-	-	-

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SAW BLADES ACCORDING TO DIN

	Metal Cutting Circular Saw Blades / According to DIN 1837 A				
Tooth Form A DIN 1837	Saw Blade Diameter D1 (mm)	160	200	250	315
	Hub Diameter D2 (mm)	63	63	63	80
	Bore Diameter d (mm)	32	32	32	40
	Saw Blade Thickness	Tooth Number (Z)			
	1,00	160A	200A		
	1,20	160A	200A		
	1,60	160A	160A	200A	
	2,00	128A	160A	200A	
	2,50	128A	160A	160A	200A
	3,00	128A	128A	160A	200A
	4,00	100A	128A	160A	160A
	5,00	100A	128A	128A	160A
	6,00	100A	100A	128A	160A

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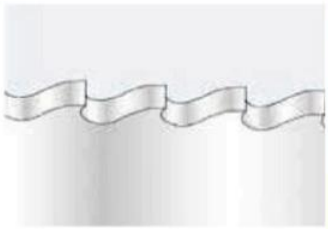
SAW BLADES ACCORDING TO DIN

The designation to "DIN standard" refers to metal cutting circular saw blades made in compliance with the German industrial standard in the 20 to 315 mm diameter range. DIN metal cutting circular saw blades are used primarily for precision sawing and milling work on universal milling machines and other precision machines.

	Metal Cutting Circular Saw Blades / According to DIN 1838 B				
Tooth Form B DIN 1838	Saw Blade Diameter D1 (mm)	160	200	250	315
	Hub Diameter D2 (mm)	63	63	63	80
	Bore Diameter d (mm)	32	32	32	40
	Saw Blade Thickness	Tooth Number (Z)			
	1,00	80B	100B		
	1,20	80B	100B		
	1,60	80B	80B	100B	
	2,00	64B	80B	100B	
	2,50	64B	80B	80B	100B
	3,00	64B	64B	80B	100B
	4,00	48B	64B	80B	80B
	5,00	48B	64B	64B	80B
	6,00	48B	48B	64B	80B

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	Metal Cutting Circular Saw Blades / According to DIN 1838 C				
Tooth Form C DIN 1838	Saw Blade Diameter D1 (mm)	160	200	250	315
	Hub Diameter D2 (mm)	63	63	63	80
	Bore Diameter d (mm)	32	32	32	40
	Saw Blade Thickness	Tooth Number (Z)			
	1,00	80C	100C		
	1,20	80C	100C		
	1,60	80C	80C	100C	
	2,00	64C	80C	100C	
	2,50	64C	80C	80C	100C
	3,00	64C	64C	80C	100C
	4,00	48C	64C	80C	80C
	5,00	48C	64C	64C	80C
	6,00	48C	48C	64C	80C

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STANDARD PIN HOLES FOR CUT OFF MACHINES

Machine Brand	Saw Blade Diameter (D1)	Bore Diameter (d2)	Pin Holes
MACC	225-350	32	2/8/45+2/11/63
MAIR	300-350	40	2/8/55+4/12/64
MEP	225-350	32	2/8/45+2/11/63
MTM	500-550	90	3/12,5/160
OMES	250-300	32	2/8/45+2/11/63
OMP	250-370	32	2/8/45+2/11/63
	400-525	50	4/15/80
OTO MILLS	500	50	4/15/80
	550	140	4/17/170
R.G.A	250	25.4	-
	250-370	40	2/8/55+2/12/64
ROBEJO	250-350	32	2/8/45+2/11/63
ROHBI	175-250	32	2/8/45
SCOTCHMAN	250-300	32	2/8/45+2/11/63
INDUSTRIES	275-350	40	2/8/55+4/12/64
SIMEC	200-350	32	2/8/45+ 2/11/63
SINICO	350	32	2/8/45+4/11/63
SOCO	250-350	32	2/11/63
STARTRITE	250	32	2/9/56
	300-315	32	2/11/80
STAYER	225	32	-
THOMAS	225-300	32	2/8/45+2/11/6
	315-350	32	2/11/63+2/12/75
TOMET	200-315	32	2/8/45+2/11/63
TRENNJAEGER	250-315	40	4/12/64+2/8/55
	315-450	50	4/14/85+4/15/80
	450-525	50	4/18/100
ULMIA	160-250	32	-
	250-400	40	4/11/63
VIEMME	250-350	32	2/8/45+2/11/63
VOUCHER	275	35	2/13,5/57,2
YÜKSEL OTOMASYON-ERW TECH	550	50	4/14/85+4/15/80
	350	40	4/12/64
WAGNER	200-315	32	4/9/50
	350	50	4/14/85+4/15/80
WAHLEN	250-400	40	2/8/55+4/11/63
WEIDMANN	210-275	32	2/8/45+2/11/63
WINTER	250-315	40	2/8/55+4/11/63
WUNSCH	210-250	32	2/8/45
	210-400	40	2/8/55+4/12/64
PDS MACHINERY	400-425	50	4/14/80+4/14/85

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STANDARD PIN HOLES FOR CUT OFF MACHINES

Machine Brand	Saw Blade Diameter (D1)	Bore Diameter (d2)	Pin Holes
ADIGE SALA	200-250	32	4/9/50
	275-315	32	2/11/63
	350	40	4/12/64
	400-425	50	4/15/80
BEWO	250-300	32	2/8/45 man.
	315	40	2/8/55 man.
	350	40	4/11/63 man.
	315	40	4/11/63 aut
BİRLİK MAKİNE	350-370-400-425-450 -500-550-600-620	50	4/14/84+4/15/80
BIMAX	100-300	32	2/8/45
BONAK	250-300	40	2/8/55+4/12/64
BROBO	350	40	2/8/55
WALDOWN	300	38	2/9/55
	300-400	40	2/9/55+4/12/64
	500	40	2/8/55+4/12/64+2/18/80
CONNI	400-425	40	4/11/63
	400-425	50	4/15/80
DEMURGER	160-300	25.4	-
	200-250	32	2/8/45+ 2/11/63
	225-300	40	2/8/55+4/12/64
DONG JIN	275-370	40	2/8/55+4/11/63
DORINGER	300-350	40	2/8/55+4/12/64
EISELE	110	22	-
	210-225	40	2/8/55
	250-350	40	2/8/55+4/12/64
	370-450	40	2/12/64+2/15/80
	500	40	2/15/80+2/15/100
FABRIS	225-350	32	2/8/45/+2/11/63
FEMI	225-315	32	2/8/45+2/11/63
FONG-HO	250-275	32	2/8/45+2/9/50+2/11/63
	300-400	32	4/11/63
	360	40	2/11/63+3/11/65
GERNETTI	250-350	40	4/11/63
HAEBERLE	225-315	40	2/8/55
IBP	200-350	32	2/8/45+2/11/63
PEDRAZZOLI	425	50	4/15/80
IMET	250-350	32	2/8/45+2/11/63
	315-350	40	2/8/55+4/12/64
KALTENBACH	225-250	32	2/8/45+2/9/40+2/11/63
	350-370	50	4/15/80
KASTO	425	50	4/15/80
MACC	425	50	4/15/80
	300-350	32	2/8/45+2/11/63

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PROBLEMS & SOLUTIONS

Problem	Possible Causes	Solutions
Burrs	Tooth pitch too large	Reduce the pitch
	Worn teeth	Regrind the saw
Build-up of chip in tooth gullet	Tooth pitch too small	Increase the pitch
	Incorrect tooth shape	Reduce the pitch
	Speed too high	Reduce the pitch
Blade breakage	Cutting speed too high	Reduce the pitch
	Feed speed too high	
	Blade feed speed not constant	Check machine
	Incorrect ratio between feed and cutting speeds	Reduce the pitch
	Play in blade clamping system	Check clamping system
	Tooth pitch too small	Check flange
	Tooth pitch too large	Check pitch
	Lubrication cooling absent or inadequate	Reduce the pitch
Poor surface finish of cut piece	Worn teeth	Reduce the pitch
	Tooth pitch too large	Check pitch
	Incorrect shape of tooth	Reduce the pitch
	Incorrect cutting speed	Reduce the pitch

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METAL GATE
ميتـــال جيـــت

TCT

SAW BLADES

AZAK
TOOL TECHNOLOGIES

Reinforce your strength with Azak TCT Circular Saw Blades

ST001 - FOR CUTTING SOLIDS WITH HIGH TENSILE STRENGTH

The PVD coated, carbide tipped ST001 saw blade has been developed for cutting solid carbon steel (carbon content < 0.60%) with a tensile strength 500 N/mm2 and higher at very high production rates.

Main application areas and the parameters:

- Solid carbon steel with a tensile strength between 500 and 900 N/mm2 on high performance machines.
  Suggested cutting speed: 100 - 280 m/min.
  Feed rate: 0,06 - 0,10 mm/tooth.
  Machines:Soco,Nishijimax, Tsune, Mega, Everising, Rattunde, Behringer.
- Hard solid carbon steel with a tensile strength higher than 900 N/mm2 and ferritic, martensitic and duplex stainless steel bars Ø >35 mm on high performance machines
  Suggested cutting speed: 60 - 140 m/min.
  Feed rate: 0,05 - 0,09 mm/tooth.
  Machines: Soco, Nishijimax, Tsune, Mega, Everising, Rattunde, Behringer.

Advantages:

- New saw body design
- Specifically designed for cutting solid carbon steel with medium tensile strengths
- High productivity
- Best blade life performances when a wider range of materials needs to be cut

STANDARD DIMENSIONS FOR FOR ST001

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
250	2	32	90/110/120	0,05
	2,9	50	110	0,05
270	2	40	110	0,07
285	2	32	110/140	0,07
	2,5	40	110	0,07
	3,3		140	0,07
315	2	32	110/140	0,07
	2,3	40	110/120/140	0,07
	2,5		100/120/140/	0,07
	2,7	50	150	0,07
350	2,34	32	120	0,07
	2,7	40	120/140	0,07
	2,8	50	140	0,07
360	2,5	32	140	0,10
	2,6		110/140	0,10
	2,7	40	140	0,10
	2,75		150	0,10
	2,8	50	140	0,10
	3		140	0,10
370	2,2	32	120	0,10
	2,3		120	0,10
	2,34	40	120	0,10
	2,4	50	120	0,10
	2,6		140	0,10
375	2,8	50	120	0,10
380	2,5	40	130/140	0,10
	2,6	50	140	0,10
	2,8		115	0,10
400	2,7	50	140	0,10
	2,75		140/150	0,10
	2,8		140	0,10
420	2,6	40	140/160	0,10
	2,7		140	0,10
	3	50	140	0,10
	3,34		140	0,10

STANDARD DIMENSIONS FOR ST001

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
425	2,7	32	120/140	0,10
450	3	50	140	0,12
460	2,7	40	120/140/150	0,12
	2,8	50	140/150	0,12
480	2,7	40	140	0,12
	2,8	50	140	0,12
	3		140	0,12
500	2,7	40	120/140	0,15
	2,75		150	0,15
	2,8		140	0,15
	3,2	50	180	0,15
	3,4	80	140/150/160	0,15
			150	0,15
			160	0,15
520	2,7	40	140	0,15
	3,2		140	0,15
	3,4		200	0,15
	3,6	50	140	0,15
	3,7		140	0,15
	3,8		140/150	0,15
525	3,4	50	200	0,15
560	3	40	140/150	0,15
	3,7	50	150/200	0,15
	3,8	80	140/150	0,15
580	3,2	80	170/200	0,15
	3,7	80	170	0,15
600	3,6	80	180	0,15
630	3,2	50	150/160/200	0,15
	3,8	80	200	0,15
650	3,7	80	200	0,15
	3,8	80	180/270	0,15
660	3,7	80	200	0,15
690	3,6	80	180	0,15
750	3,8	80	250	0,15

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ST002 - FOR FLYING CUT OFF APPLICATIONS

ST002 is a TCT saw blade for flying cut off applications. It provides an opportunity to greatly increase the tube manufacturing line speeds and cut the production costs. There are 3 versions available as for single / twin cut off units, applications with heavy inside scarf and for orbital flying cut off applications.

Main application areas and the parameters:

·Single and twin flying cut-off machines designed for TCT cutting with small or no ID-scarf. Tubes with a tensil strength up to 1.000 N/mm2
Cutting speed: 350 m/min (starting value). Tooth load: 1/2/3: relation 1/2/0.8. 0.05/0.10/0.04 mm/tooth.
·For flying cut-off applications dealing with heavy inside scarf. It features a very specific tooth geometry, combined with highly shock resistant carbide tips. Due to strong saw body shoulders which give the teeth maximum support, the combination tooth/body obtains very high stability and fracture resistance.
Cutting speed: 400 – 500 m/min (choose max available).
Tooth load,: 1/2/3: relation 1/1/1. Starting value 0.04 mm/tooth.
Machines: MTM, OTO mills, Nakata and Olimpia.
·For orbital flying cut-off applications on tube mills. Key features of this saw blade are fracture-resistant carbide tips, protected with PVD coating.
Cutting speed: 350 – 400 m/min.
Feed rate: 1/2: 0,04 / 0,12 mm/tooth.
Machines: MTM, OTO mills, Elmaksan, Kusakabe, Linsinger, Nakata and SMS Meer.

Advantages:

·Extremely high line speed because of very short cutting times
·Very good surface finish, burr-free cut
·Increased uptime
·High blade life
·Cuts heavy ID scarf
·Cuts high tensile API Pipes (up to 1.800 N/mm2)
·Various tooth geometries available
·Burr-free cut

STANDARD DIMENSIONS FOR ST002

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
250	2,3	32	180	0,05
	3,2	40	180	0,05
	3,7	45	180	0,05
285	2	32	110	0,07
	3,6	40	120	0,07
300	3,2	80	220	0,07
	3,7			0,07
	4,3			0,07
315	2,2	32 40 50	100	0,07
	2,3		100	0,07
	2,5		120	0,07
	3		120	0,07
	3,2		220	0,07
	3,5		140	0,07
	3,6		100/170	0,07
320	3,2	50	140	0,07
	3,7	50	140	0,07
		80	220	0,07
		115	230	0,07
350	2,3	32 50	100/120/140	0,07
	2,7	50	120/140/280	0,07
	2,8	50	140	0,07

STANDARD DIMENSIONS FOR ST002

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
350	3,2	50 80	140/280	0,07
	3,6	32 40 50	140/170	0,07
	3,7	115	280	0,07
	4,3	50	150	0,07
355	2,8	45	280	0,10
	3,2	45 50 80 90	160/280	0,10
	3,6	45	160	0,10
	3,7	45 80	280	0,10
	4,3	80	280	0,10
370	2,3	40	140	0,10
380	3,2	50 80 115	280	0,10
	3,7	50 80 115	280 320	0,10

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STANDARD DIMENSIONS FOR ST002				
Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
400	4,3	115	320	0,10
	4,8	50	250	0,10
400	2,3	40 50	120	0,10
	2,8	40 50	120	0,10
	3,2	50 115	150/280	0,10
	3,5	50	150	0,10
	3,6	40 50	120/140/170	0,10
	3,7	50	250	0,10
420	4,3	115	250	0,10
425	2,8	40	140	0,10
	3,7	80	230	0,10
450	2,5	50	150	0,12
	2,8	50 80	120/140/160	0,12
			140	0,12
			150	0,12
			160	0,12
	3	50	140/150/250	0,12
	3,2	50	150	0,12
	3,6	40 50	140/160/170	0,12
460	2,8	50	120	0,12
	3,2		280	0,12
500	2,8	50 140	120/140/220	0,15
	3,4	40 50 80 90	120/160/220	0,15
	3,5	50	140	0,15

STANDARD DIMENSIONS FOR ST002				
Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
500	3,6	40 50 80 90	160/170/220	0,15
	4	50	120	0,15
520	3,6	50 80	140/180	0,15
550	4	140	230	0,15
560	2,8	140	225	0,15
	3,6	50 80 90 140	150/220/230	0,15
	4	50 140	230	0,15
	4,8	50 140	220	0,15
580	5,5	80	160	0,15
600	3,6	50 80 90 140	140/240/320	0,15
	3,8	140	225	0,15
	4,8	140	220	0,15
620	3,6	140	225	0,15
	4	140	230	0,15
630	3,6	80	160/200	0,15
650	3,6	80 120	320	0,15
660	3,6	80	180	0,15
690	3,6	80	180/220	0,15
	3,7	50	200	0,15
760	4,4	80	220	0,15

"The information given in the table are the standard values. We ask you to contact us in case of special requests."

CHOOSING THE RIGHT NUMBER OF TOOTH						
Blade Diameter [m m]	Tooth Thickness [m m]	Body Thickness [m m]	Bore Diameter [m m]	Number of Tooth (Z)	Pipe Diameter [m m]	Pipe Thickness [m m]
250	2,00	1,70	32	60	60	5,0 - 10,0
	2,00	1,70	32	72	60	4,0 - 8,5
	2,00	1,70	32	80	60	4,0 - 7,5
	2,00	1,70	32	100	60	3,0 - 6,0
285	2,00	1,70 / 1,75	32 / 40	80	75	4,0 - 7,5
	2,00	1,70 / 1,75	32 / 40	100	75	3,0 - 6,0
	2,00	1,70 / 1,75	32 / 40	120	75	2,5 - 5,0
	2,00	1,70 / 1,75	32 / 40	140	75	2,0 - 4,0
315	2,20	1,90	32 / 40	80	90	4,0 - 7,5
	2,20	1,90	32 / 40	100	90	3,0 - 6,0
	2,20	1,90	32 / 40	120	90	2,5 - 5,0
	2,20	1,90	32 / 40	140	90	2,0 - 4,0
350	2,60	2,27	50	80	100	4,0 - 8,0
	2,60	2,27	50	100	100	3,0 - 6,5
	2,60	2,27	50	120	100	2,5 - 5,5
	2,60	2,27	50	140	100	2,2 - 4,5
360	2,60	2,27	32 / 40 / 50	80	110	4,5 - 9,0
	2,60	2,27	32 / 40 / 50	100	110	3,5 - 7,0
	2,60	2,27	32 / 40 / 50	120	110	3,0 - 6,0
	2,60	2,27	32/40/50	140	110	2,2 - 4,5
370	2,30	2,00	32 / 50	80	110	4,5 - 9,0
	2,30	2,00	32 / 50	100	110	3,5 - 7,0
	2,30	2,00	32 / 50	120	110	3,0 - 6,0
	2,30	2,00	32 / 50	140	110	2,2 - 4,5
400	3,00	2,50	50	100	115	3,5 - 7,0
	3,00	2,50	50	120	115	3,0 - 6,0
	3,00	2,50	50	140	115	2,5 - 5,0
425	2,60	2,27	50	100	130	4,5 - 9,0
	2,60	2,27	50	120	130	4,0 - 7,5
	2,60	2,27	50	140	130	3,0 - 6,0
450	2,90	2,50	50	90	145	5,0 - 10,5
	2,90	2,50	50	100	145	5,0 - 9,5
	2,90	2,50	50	120	145	4,0 - 8,0
	2,90	2,50	50	130	145	3,5 - 7,5
	2,90	2,50	50	140	145	3,0 - 7,0
	2,90	2,50	50	160	145	2,5 - 6,0
500	3,50	3,00	50	120	170	4,5 - 9,0
	3,50	3,00	50	140	170	4,0 - 8,0
	3,50	3,00	50	170	170	3,0 - 6,0
550	3,80	3,20	90 / 140	120	175	5,0 - 9,5
	3,80	3,20	90 / 140	140	175	4,0 - 8,0
	3,80	3,20	90 / 140	170	175	3,5 - 6,5
	3,80	3,20	90 / 140	180	175	3,0 - 6,0
560	3,80	3,20	80/90/140	120	180	5,0 - 9,5
	3,80	3,20	80 / 90 / 140	140	180	4,0 - 8,0
	3,80	3,20	80/90/140	170	180	3,5 - 6,5
600	3,80	3,20	90 / 140	120	200	5,0 - 11,0
	3,80	3,20	90 / 140	140	200	4,5 - 9,5
	3,80	3,20	90 / 140	170	200	4,0 - 8,0
	3,80	3,20	90 / 140	180	200	3,5 - 7,5
650	3,80	3,20	80	150	225	5,0 - 12,0
	3,80	3,20	80	170	225	4,5 - 9,5
690	3,80	3,20	80	150	245	5,5 - 13,0
	3,80	3,20	80	170	245	5,0 - 11,0

"The information given in the table are the standard values. We ask you to contact us in case of special requests."

ST003 - FOR CUTTING TUBES AT HIGH PERFORMANCE AUTOMATIC MACHINES

ST003 saw blade has been developed for cutting tubes on high performance automatic sawing machines. It is most effective on sawing machines with accurate control of chip load and variable feed rate. Bigger tips are applied at pitches > 9mm for added stability.

Main application areas and parameters:

- Steel tubes with a tensile strength between 600 to 1,500 N/mm2.
  Suggested cutting speed: 180 - 280 m/min.
  Feed rate: 0,04 - 0,16 mm/tooth.
  Machines: Soco, Rattunde, Sinico, Bewo, RSA, Plantool, Adige, OMP
- Thin walled steel tubes with a tensile strength up to 1,800 N/mm2 Suggested cutting speed: 200 - 350 m/min.
  Feed rate: 0,04 - 0,2 mm/tooth
  Machines: Soco, Rattunde, Sinico, Bewo, RSA, Adige

Advantages

- For high performance cutting of carbon steel tubes
- Cutting alloyed steel up to 900 N/mm2
- Versatile, fast, cost-effective, dependable performance
- Cutting tubes with tensile strengths up to 1,800 N/mm2
- Cutting speeds up to 350 m/min
- Very high feed rates

STANDARD DIMENSIONS FOR ST003

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
240	1,75	32	80	0,05
250	1,7	32 40	110	0,05
	2		110/120	0,05
	2,3		110	0,05
285	1,6	32 40	110	0,07
	2		110/140	0,07
	2,5		200	0,07
315	2,2	32 40	100/120	0,07
	2,3	32 40	110/140	0,07
	2,5	32 40 50	110/140	0,07
350	2,2	32 40	120/140	0,07
	2,3	40 50	110/140	0,07
	2,4	32 50	140	0,07
	2,6	32 40 50	110/140/200	0,07
	2,7	32 40 50	120/140	0,07
360	2,5	32	110/140/180	0,10
	2,6	40	110/140/180	0,10
	2,7	50	140	0,10
370	2,2	40	120	0,10

STANDARD DIMENSIONS FOR ST003

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
370	2,6	32	100/110/120	0,10
	2,7	50	120/140	0,10
375	2,8	50	120	0,10
380	2,8			
400	2,3	50	140	0,10
	2,7			
	2,8	50	120	0,10
	3,2	50	150	0,10
420	2,7	40 50	140	0,10
425	2,7	32 40 50	140/265	0,10
450	2,8	50	120	0,12
	3,6	50	140	0,12
460	2,7	40 50	130/140/160	0,12
480	2,7	40	140	0,12
490	2,7	40		
500	3,4	50	140	0,15
520	2,7	40 50	140	0,15
560	3,4	50	200	0,15
	3,7	80	150/200	0,15
580	3,2	80	160	0,15
600	3,6	140	225	0,15
630	3,6	50 80	160/280	0,15
650	3,6	80	200	0,15
690	3,6	80		
740	3,7	80		

"The information given in the table are the standard values. We ask you to contact us in case of special requests."

ST004 - FOR CUTTING OF THIN WALLED TUBES

ST004 saw blade has been specifically designed to cut thin walled tubes. Because of its light cutting properties, it is also very well suited for use on a wide range of automatic cut-off machines.

Main application areas and parameters:

·Thin wall high hardness tube cutting on lighter machines. High performance cutting of thin walled tubes and unstable profiles on highend machines.
Suggested cutting speed: 160 - 280 m/min.
Feed rate: 0,025 - 0,12 mm/tooth.
Machines: Soco, Kasto, Bewo, RSA, Adige, Sinico, Rattunde

Advantages:

- For high performance cutting of carbon steel tubes
- Cutting alloyed steel up to 900 N/mm2
- Versatile, fast, cost-effective, dependable performance
- Setting new standards for fast cutting of stainless steel tubes
- Smooth cut surface, very little burr, long blade life
- Low cutting force allows cutting thin walled tube/profile
- For cutting thin wall, high hardness, unstable products
- Low vibration, low noise, smooth cut surface, low burr
- For thin walled tube/profile made of DP, CP, HSLA and TRIP type materials

STANDARD DIMENSIONS FOR ST004

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
200	2	40	100	0,05
250	2	32	80	0,05
	2,1	32	110	0,05
275	2	32	110	0,07
285	2	31,75 32 40	100/110/120	0,07
	2,3	50	140	0,07
300	2,2	32	100	0,07
	2,3	32 40	100	0,07
315	2,2	50	140	0,07
	2,3	32 40 50	110/120/140	0,07
	2,4	50	140	0,07
	2,7	50	140	0,07
350	2,2	32 40 50	100/120/140	0,07
	2,3	32 40 50	110/140	0,07
	2,6	50	140	0,07
	2,7	32 40 50	120/140	0,07
360	2,2	32 40	100/120/140	0,10

STANDARD DIMENSIONS FOR ST004

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
360	2,3	50	140	0,10
		32		
		40	120/140	
		50		
370	2,7	32	140	0,10
		40		
380	2,3	50	140	0,10
	2,6	40	140	0,10
400	2,3	32	110/140	0,10
		40		
		50		
	2,6	50	140	0,10
	2,7	40 50	110/140	0,10
420	2,6	50	140	0,10
	2,7	50	140	0,10
425	2,5	32 50	140	0,10
450	2,8	50	140	0,10
	3,6	50	140	0,10
460	2,7	40 50	140	0,12
490	2,7	40	140	0,12
500	2,7	50 80	140/160	0,15
	3,2	50	150	0,15
	3,4	40 50	120/140	0,15
520	3,6	50	150	0,15

"The information given in the table are the standard values. We ask you to contact us in case of special requests."

ST005 - FOR CUTTING SOLIDS WITH LOW TENSILE STRENGTH

ST005 saw blade achieves extended blade life at solid cutting by combining the performance advantages of Cermet with the latest PVD coating technology.
Cermet tipped, PVD coated saw blade dedicated to cutting carbon steel (carbon content < 0.60%) with a low to medium tensile strength up to 750 N/mm2. The best blade performance is being achieved when cutting lower tensile materials. On many applications, a blade life of 50 m2 and more can be achieved.

Main application areas and parameters:

- Solid carbon steel with a tensile strength up to 750 N/mm2
  Suggested cutting speed: 100 - 280 m/min.
  Feed rate: 0,06 - 0,10 mm/tooth.
  Machines: Soco, Kasto, Nishijima, Tsune, Amada, Behringer, RSA, Rattunde, Sinico, Mega, Exactcut, Everising
- High performance cutting of low and medium strength solid steel bars with a tensile strength of 400 - 800 N/mm2 with high requirements on surface quality and straightness
  Suggested cutting speed: 100 - 280 m/min.
  Feed rate: 0,04 - 0,11 mm/tooth.
  Machines: Soco, Rattunde, Kasto, Nishijima, Tsune, Behringer, Mega, Exactcut, Everising and other automatic sawing machines

Advantages:

- High blade life
- Smooth surface
- Low noise
- Low cost per cut
- New saw body design
- Specifically designed for cutting low to medium tensile carbon steel

STANDARD DIMENSIONS FOR ST005

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
250	1,5	32	110	0,05
	2	32 40	110/120	0,05
	2,1	32	110	0,05
270	2	40	110	0,07
280	2	32	110	0,07
285	2	32 40 50	80/110	0,07
	2,1	32 40	110	0,07
315	2	32	110	0,07
	2,2	32 40	110/120	0,07
	2,3	32 40	110/120	0,07
		32	140	0,07
	2,5	32 40	120/140	0,07
	2,6	32	120	0,07
350	2,4	50	140	0,07
	2,5	40	140	0,07
	2,7	32 50	100/140	0,07
360	2,5	32 40 50	120/140	0,10
	2,6	32 40 50	120/140	0,10

STANDARD DIMENSIONS FOR ST005

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
370	2	50	140	0,10
	2,3	40	140	0,10
370	2,5	50	140	0,10
	2,6	50	140	0,10
380	2,6	40 50	140	0,10
420	2,6	32 40 50	140	0,10
	2,7	40 50	140	0,10
425	2,7	40 50	130/140	0,10
460	2,7	40 50 80	120/140/160	0,12
	2,8	40	140	0,12
480	2,7	40 50	140	0,12
	2,8	50	140	0,12
500	2,7	50	160	0,15
	3,4	50	140	0,15
520	3,2	50	140	0,15
	3,8	40	140	0,15
560	3	50	150	0,15
580	3,2	80	170	0,15
630	3,2	80	200	0,15
660	3,2	80	200	0,15
750	3,8	80	250	0,15

"The information given in the table are the standard values. We ask you to contact us in case of special requests."

SS001 - FOR CUTTING STAINLESS STEEL TUBES

The high nickel content of austenitic stainless steel tubes makes them difficult to cut with HSS saw blades. With the dedicated tooth geometry of the carbide tipped and PVD coated SS001 saw blade, perfect surface finish and burr-free tube ends will be achieved.

Main application areas and parameters:

·Austenitic stainless steel tubes
Suggested cutting speed: 80 - 140 m/min.
Feed rate: 0,06 - 0,12 mm/tooth.
Machines: Soco, Rattunde, Bewo, RSA, Sinico

Advantages:

- For high performance cutting of carbon steel tubes
- Cutting alloyed steel up to 900 N/mm2
- Versatile, fast, cost-effective, dependable performance
- Setting new standards for fast cutting of stainless steel tubes
- Smooth cut surface, very little burr, long blade life
- Low cutting force allows cutting thin walled tube/profile

STANDARD DIMENSIONS FOR SS001

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
225	2,3	32	80/110	0,05
250	2,1	40	110	0,05
270	2	40	110	0,07
285	2	32 40	110	0,07
315	2,2	50	140	0,07
	2,3	32 40	110	0,07
350	2,2	32	120	0,07
	2,3	40	110/140	0,07
	2,7	50	140	0,07
	2,8	50	140	0,07

STANDARD DIMENSIONS FOR SS001

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
355	2,8	45 50	280	0,10
360	2,6	50	180	0,10
370	2,6	32	120	0,10
400	2,6	50	140	0,10
	2,7	32	120	0,10
420	2,7	50	110	0,10
450	2,8	32	120	0,10
	3	50	320	0,10
460	2,6	40	150	0,12
560	3,6	140	225	0,15
630	3,6	80	200	0,15

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SS002 - FOR CUTTING STAINLESS STEEL SOLIDS

SS002 saw blades are carbide tipped and PVD coated for cutting stainless steel solids.

Main application areas and parameters:

·Austenitic, ferritic, martensitic and duplex stainless steel bars with a diameter ≤ 35 mm
Suggested cutting speed: 80 - 140 m/min.
Feed rate: 0,03 - 0,05 mm/tooth.
Machines: Soco, Tsune, Amada, Mega, Kasto, Kentai, Behringer, Exactcut, Everising
·Austenitic stainless steel bars with a diameter > 35 mm
Suggested cutting speed: 80 - 120 m/min.
Feed rate: 0,06 - 0,12 mm/tooth.
Machines: Soco, Tsune, Amada, Mega, Kasto, Kentai, Behringer, Exactcut, Everising

Advantages:

- New saw body design
- Best saw blade when cutting ferritic, martensitic and duplex stainless steel at smaller diameter ranges
- Specifically developed for stainless steel solids with a diameter ≤ 35 mm
- Dedicated tooth geometry
- Specifically developed for stainless steel bars with a diameter > 35 mm
- Very high production rates

STANDARD DIMENSIONS FOR SS002

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
225	2	40	120	0,05
250	1,7	40	120	0,05
	2	32 40	110/120	0,05
285	2	32 40	100/110	0,07
300	2	40	120	0,07
315	2,6	32	110/120	0,07
		40		
		32	120	0,07
360	2,5	40	140	0,10

STANDARD DIMENSIONS FOR SS002

Diameter mm	Thickness mm	Borehole mm	Hub Diameter mm	Side run-out mm
360	2,6	50	140	0,10
370	2,3	32	140	0,10
380	2,6	40	140	0,10
420	2,7	50	110/140	0,10
425	2,7	50	140	0,10
460	2,7	50	120/140/220	0,12
	2,8	50	140	0,12
	3	50	130	0,12
520	3,8	50	140	0,15

"The information given in the table are the standard values. We ask you to contact us in case of special requests."

METAL GATE
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CRV
SAW BLADES

"Clean, reliable and efficient cuts with Azak CrV (friction) Blades

CRV (FRICTION) SAW BLADES

AZAK Friction Saw Blades are avaible in Chrome Vanadium Steel to 1.2235
The tooth styles by the machine type and specification and hardness condition of the material to be sawn (blade life can be further increased by applying sawn (blade life can be further increased by applying a chrome coating).
Our standard range covers diameters of 200 mm to 1200 mm. Larger diameters are available to special order.
The ideal peripheral speed range is 100*140m/sec.
Feed rates can vary from 80-2000mm/min dependant on sawing conditions

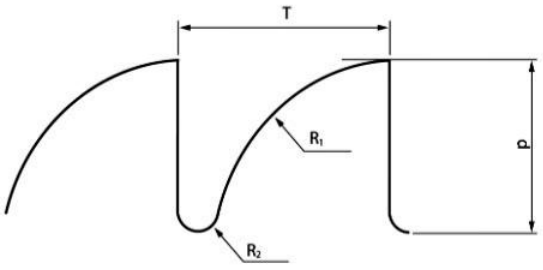
The friction saw blades are used to cut billets, slabs and grates. They are called friction blades because the cut is done with the help of the friction between the teeth of the blade and the working material

D (mm)	Thickness (B) (mm)	Bore (d) (mm)	Number of tooth (z)
300	2,5 3,0	40 [30]	200
350	2,5 3,0	40 [30]	200/220 160/200/220
400	2,5 3,0 4,0	40	240/300
450	3,0 3,5 4,0	40	300
500	3,0 4,0 5,0 6,0	40 40	300
520	3,0 4,0 5,0 6,0	40	300
550	3,0 4,0 5,0	40	300
560	3,0 4,0 5,0	40	300
580	4,0 5,0 6,0	40	300

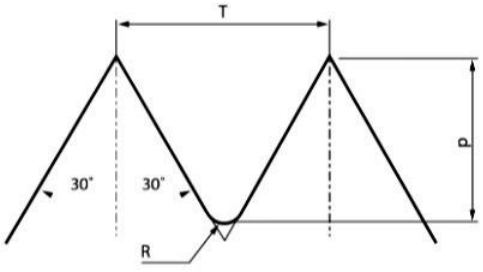
D (mm)	Thickness (B) (mm)	Bore (d) (mm)	Number of tooth (z)
600	4,0 5,0 6,0	40/50	300
650	4,0 5,0 6,0	40/50	300
700	4,0 5,0 6,0 7,0	40/50	300
750	5,0 6,0 7,0	40/50	300/350/400
800	5,0 6,0 7,0 8,0	40/50	300/350/400
850	6,0 7,0 8,0	40/50	300/350/400
900	6,0 7,0 8,0	50/80/100	300/350/400
1000	7,0 8,0 10,0	40/50/80/100	300/350/400
1200	8,0	40/50/80/100	320/350/420

The information given in the table is standard values. We ask you contact us regarding to your special requests.

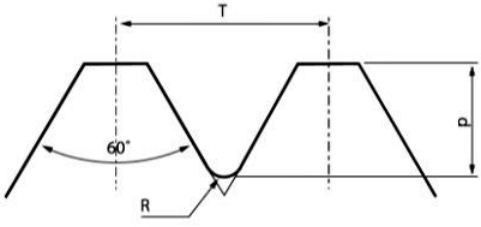
TOOTH TYPES



Parrot
Tooth shape for carbon steel friction cutting with material cutting temperature
T < 250° C

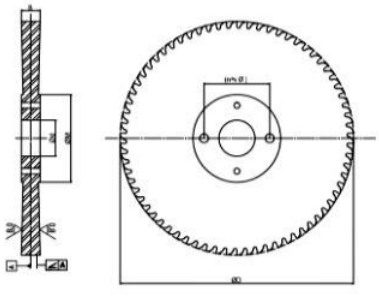


Triangular
Tooth shape suitable for hot cutting on rolling billets, pipes and structural steel with temperature
T < 800° C

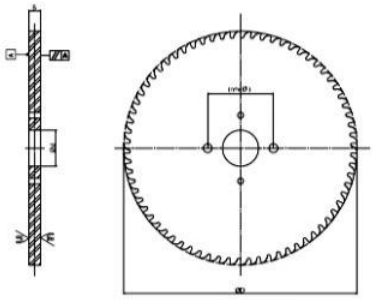


TFTringular forged
to cut solid steel in cold and hot conditions

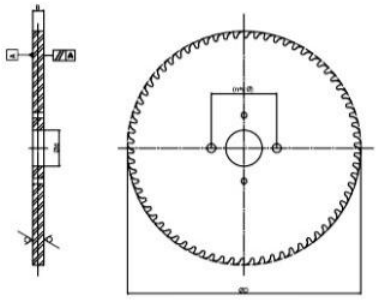
VERSIONS



Type 1



Type 2



Type 3

METAL GATE
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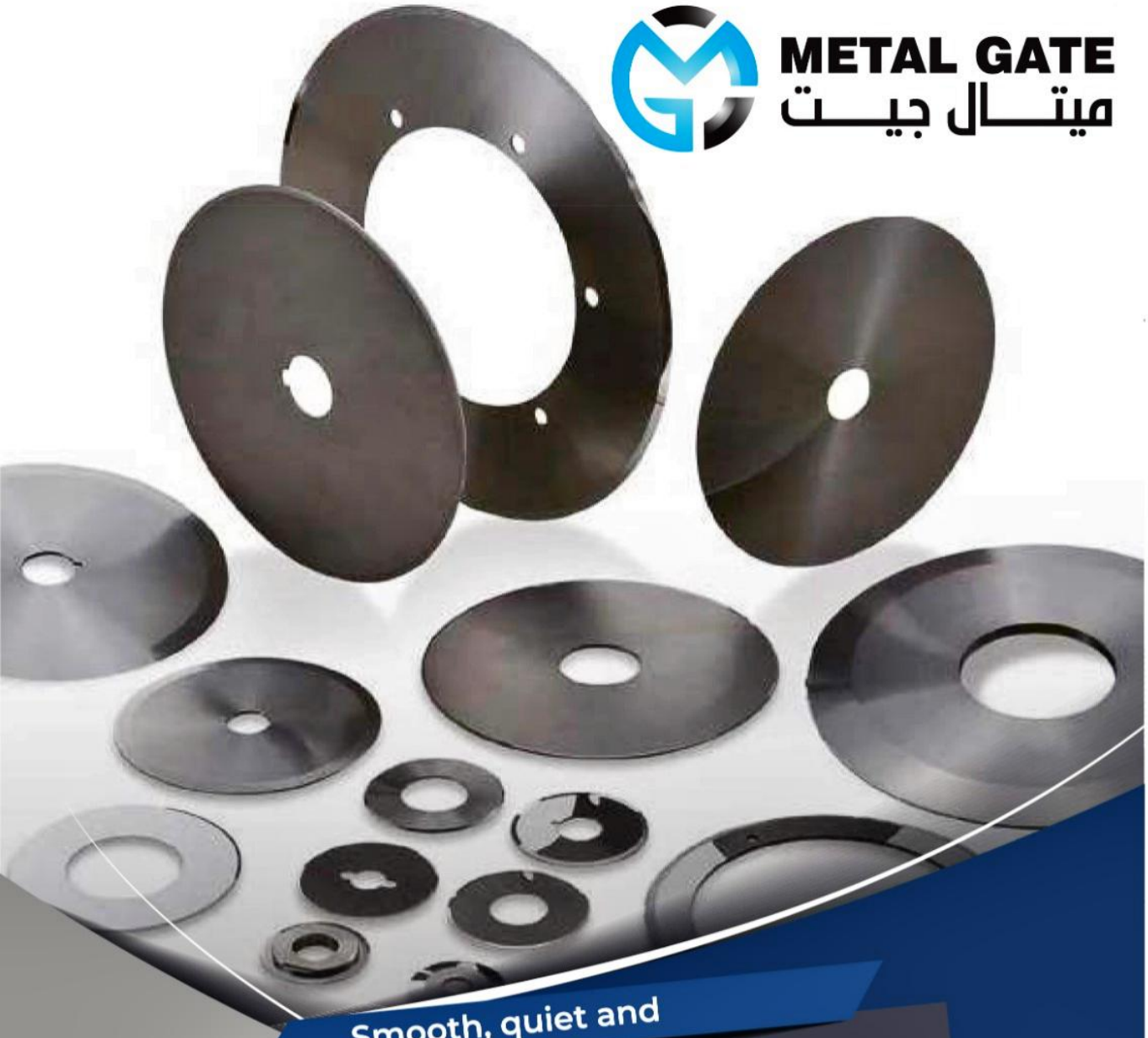


Smooth, quiet and

efficient cut with

AZAK CIRCULAR KNIVES

LOG SAWS

Our Log Saw Quality

The Azak Tool is well known for its high quality log saw blades. We are currently able to produce log saw blades with diameters up to 1200 mm.

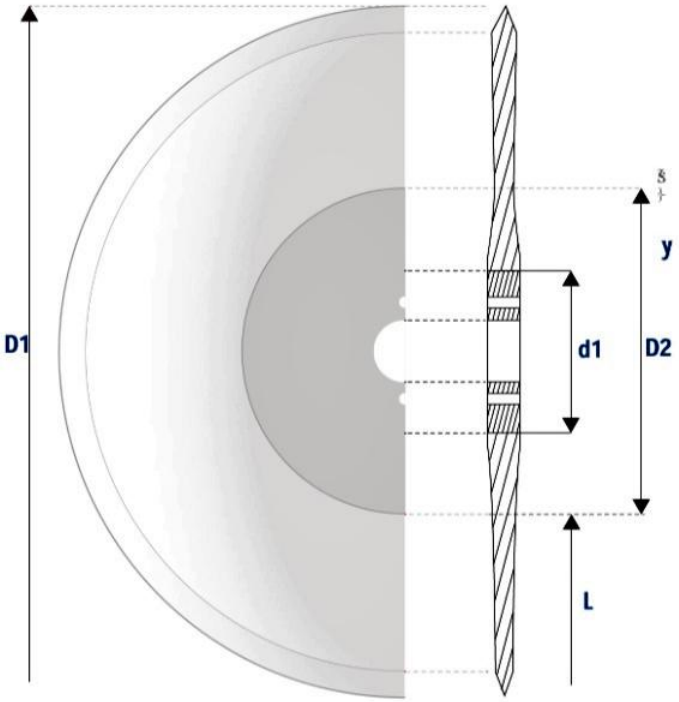
In addition to the standard sizes we can manufacture any blade according your requirements, with diameters up to 1200 mm and thickness up to 10 mm. In order to optimize your production processes further we recommend our special surface coatings. Friction coefficient and temperature values are being reduced through this surface refinement and durability is being improved.

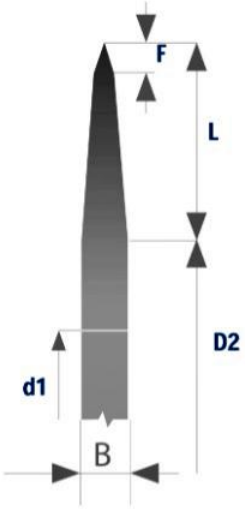
Because of unsuitable transportation or faulty handling the following quality aspects of log saw blades could be impaired:

- Lateral run-out
- Tension
- Damages to the pre-bevel
- Blade is eccentric or octagonally shaped

These quality aspects cannot be repaired by the user. Such a blade may no longer be used. If at all possible, a repair can only be performed by the blade manufacturer.

LOG SAWS





Dimensions (mm)

Diameter D1 (mm)	Thickness B	Central Bore d (mm)	Hub D2 (mm)	Bevel L (mm)	Pin Holes (mm)	Threaded Holes
610	4,76	68,26	216	197	4/11,5/108	4/1/4UNC/203.2
610	4,76	68,26	230	190	4/11,5/108	4/1/4UNC/203.2
610	4,76	82,55	230	190	4/11,5/108	4/1/4UNC/203.2
700	4,76	68,26	320	190	4/11,5/108	4/1/4UNC/203.2
360	5,00	60,00	320	245	4/1/4UNC/254	4/1/4UNC/289
810	6,00	60,00	320	245	4/1/4UNC/254	4/1/4UNC/289
870	6,00	60,00	380	245	4/1/4UNC/254	4/1/4UNC/289
1000	8,0	60,00	320	340	4/1/4UNC/254	4/1/4UNC/289
1200	8,0	60,00	520	340	4/1/4UNC/254	4/1/4UNC/289

"The information given in the table are the standard values. We ask you to contact us in case of special requests."

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SAW BODIES

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Robust, Reliable And Long Lasting Azak Saw Bodies

SAW BLADE BODIES

We manufacture saw bodies for different applications and industries such as wood, metal and marble/concrete cutting. We can also manufacture saw bodies with different hardness and dimensions depending on the customer request.

Application	Quality(mm)	Diameter(mm)	Thickness(mm)
Wood Cutting	75Cr1, 80Crv2	⌀100- Ø1600	1,5-7
Metal Cutting	80Crv2, 75Cr1	⌀100- Ø1600	1,5-7
Friction Saw	80Crv2, 75Cr1	⌀200- Ø1600	2-10
Marble/Concrete Cutting	30MnB5, 28MnB5	⌀190- Ø1600	1,2-7

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MARBLE DISCS

SOCKET DIAMETER (mm)	BODY DIAMETER (mm)	THICKNESS (mm)	BORE DIAMETER (mm)	TOOTH NUMBER
200	190	1,2	22-25,4-60	13
250	240	1,6	22-25,4-60	17
300	290	1,8	25,4-60	18-21
300	290	1,8	25,4-60	22-23
350	340	2,2	25,4-60	21-25
350	340	2,2	25,4-60	26-27
350	340	2,5	25,4-60	21-25
400	390	2,5	25,4-60	24-28
400	390	2,5	25,4-60	30
400	390	3,5	25,4-60	24-28
400	390	3,8	25,4-60	24-28
400	390	4,0	25,4-60	24-28
450	440	2,8	25,4-60	26-32
450	440	3,5	25,4-60	26-32
450	440	3,8	25,4-60	26-32
450	440	4,0	25,4-60	26-32
500	490	2,8	25,4-60	30-36
500	490	3,5	25,4-60	30-36
500	490	4,0	25,4-60	30-36
550	540	3,0	25,4-60	32-40
550	540	3,5	25,4-60	32-40
550	540	4,0	25,4-60	32-40
600	590	3,0	25,4-60	32-40
600	590	3,5	25,4-60	32-40
600	590	4,0	25,4-60	32-40
625	615	3,5	60-80	32-40
625	615	4,0	60-80	32-40
650	640	3,5	60-80	38-46
650	640	4,0	60-80	38-46
650	640	4,5	60-80	38-46
700	690	3,5	60-80	40-50
700	690	4,0	60-80	40-50
725	715	3,5	60-80	40-50
725	715	4,0	60-80	40-50
750	740	3,5	60-80	40-50
750	740	4,0	60-80	40-50
750	740	4,5	60-80	40-50

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MARBLE DISCS

SOCKET DIAMETER (mm)	BODY DIAMETER (mm)	THICKNESS (mm)	BORE DIAMETER (mm)	TOOTH NUMBER
800	790	3,5	60-80	46-57
800	790	4,0	60-80	46-57
800	790	4,5	60-80	46-57
850	840	3,5	60-80-100	50-58
850	840	4,0	60-80-100	50-58
850	840	4,5	60-80-100	50-58
900	884	3,5	80-100-120	64
900	884	4,5	80-100-120	64
900	884	5,0	80-100-120	64
1000	984	3,5	100-120	70
1000	984	4,5	100-120	70
1000	984	5,0	100-120	70
1000	984	5,5	100-120	70
1000	984	6,0	100-120	70
1050	1034	4,5	100-120	72
1050	1034	5,5	100-120	72
1050	1034	5,5	100-120	72
1050	1034	6,0	100-120	72
1100	1084	5,5	100-120-140	74
1200	1184	3,5	100-120-140	80
1200	1184	4,5	100-120-140	80
1200	1184	5,5	100-120-140	80
1200	1184	6,0	100-120-140	80
1250	1232	4,5	100-120-140	84
1250	1232	5,5	100-120-140	84
1250	1232	6,0	100-120-140	84
1300	1282	4,5	100-120-140	88
1300	1282	5,5	100-120-140	88
1300	1282	6,0	100-120-140	88
1350	1332	6,0	100-120-140	90
1400	1382	4,5	100-120-140	92
1400	1382	5,5	100-120-140	92
1400	1382	6,0	100-120-140	92
1400	1382	6,5	100-120-140	92
1500	1482	5,5	100-120-140	100
1500	1482	6,5	100-120-140	100
1600	1582	3,5	100-120-140	104
1600	1582	6,0	100-120-140	104
1600	1582	7,0	100-120-140	104

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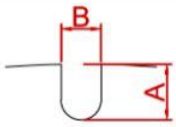
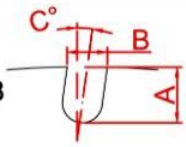
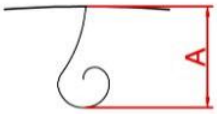
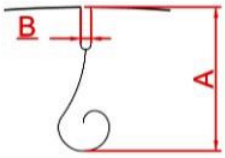
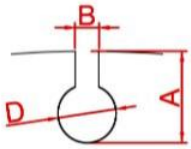
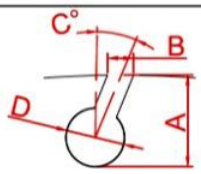
MARBLE DISCS

SLOT NAME	SLOT TYPE
S1	S1 A/B  S1 C°/A/B 
S2	S2 A 
S3	S3 A/B 
S4	S4 A/B/D  S4 C°/A/B/D 

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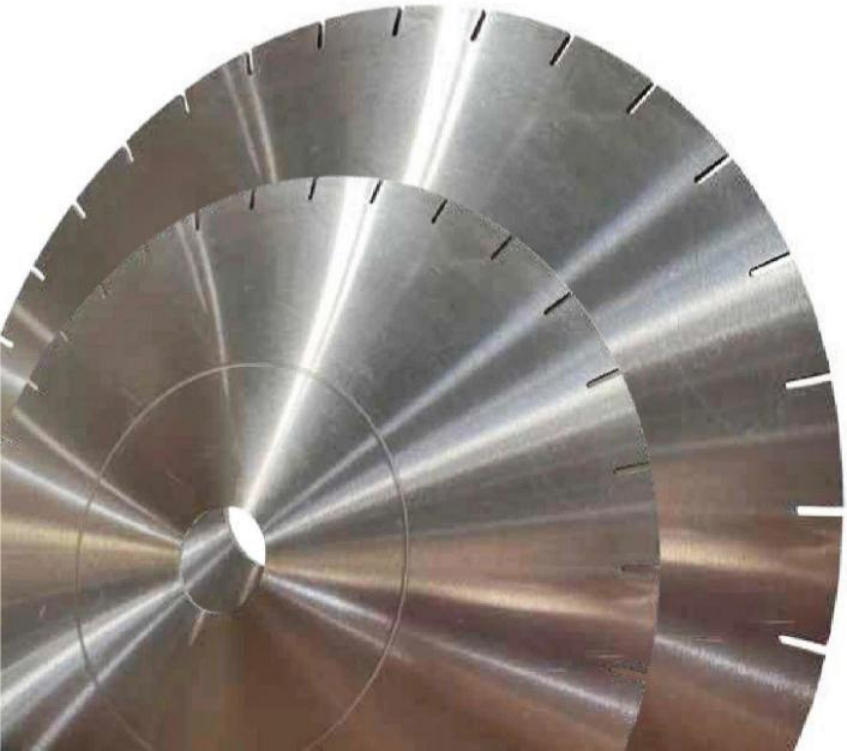

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