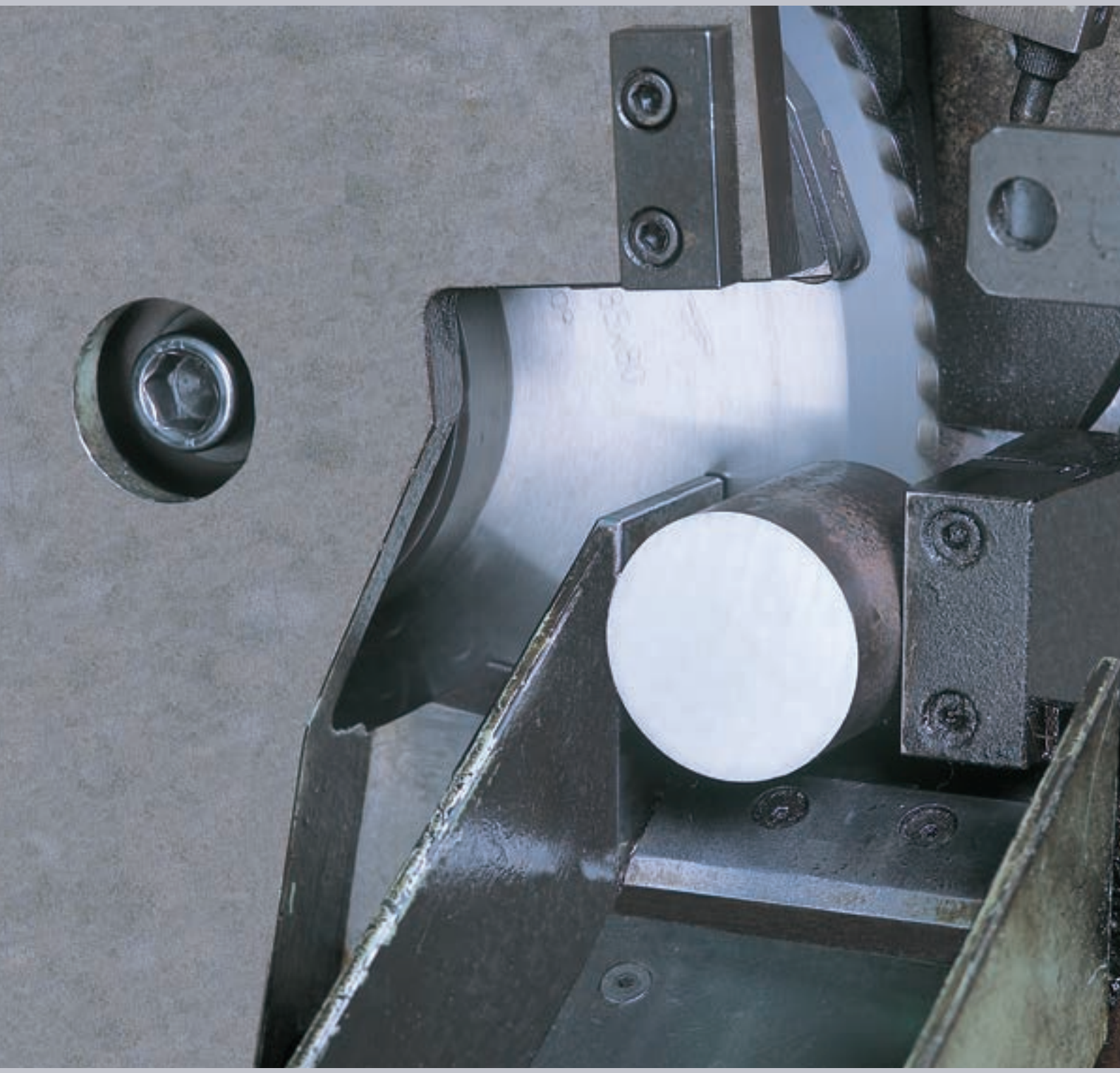
Ferro Max
Cold Saw Blades

for Single Use



Kanefusa - A New Dimension of Performance

ISO 9001
JQA-QM3710

ISO 14001
JQA-EM3137
Head Office
Factory

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[Class] [Article] [Revision]

Advantages

The Kanefusa single use saw blade technology is superior to other sawing concepts both in economical and environmental perspectives.

Our FM (Ferro Max) Cold Saw Blades (single use) cut on average three times faster than a conventional band saw or metal saw, which means one machine can do the job of three, reducing power consumption, exhaust emission, mist oil in the air and floor space, all good for the environment.

FM Cold Saw Blades also allow a thinner kerf than resharpenable types, which leads to a better material utilization and less swarf that must be either disposed of or recycled.

Because all Kanefusa FM Cold Saw Blades are manufactured in Kanefusa Quality, all blades provide a constant cut quality and durability, providing you with high process reliability, which is a key to "Just-in-Time" production.

The single use sawing concept is efficient and highly economical. It allows you to use your resources in the most efficient way. You can also reduce manufacturing costs and respond faster to your customer's needs.

1 / *Cycle Time*

Cutting Time Comparison (**Metal Saw - Band Saw - FM Cold Saw**)
(**Figures are of examples and not guaranteed results**)



- Less space
- Fewer personnel
- Environment-friendly
- Less sawing sludge
- Less investment

Type	Diameter [mm]	Metal Saw t [s]	Band Saw t [s]	Ferro Max t [s]	Time Factor
Solid	55	285		28	10
	75		475	33	14
	110		220	39	5.6
	13	11		7	1.6
	42		159	8	20
	48	95		9	11
	105		217	30	7
Tube	42 ; 12		67	6	11
	41 ; 10	46		5	9
	51 ; 8	138		6	23
	63.5 ; 10		170	7	24

Lower cost per cut

2 / *Durability*

Efficiency study at a Scandinavian user

Machine: Bewo FCH-85-H Material: 2172 (50 x 30 x t4)

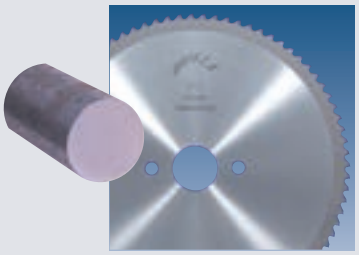
Type	ST-5P	Metal Saw
Spec.	315 x 2.0 x 32 x z90	—
Average number of cuts / blade	9000	900
Cut cycle time [s]	4	4
Edge Life [s]	36000	3600
Tool change time [s]	600	600
Edge life + tool change time per blade [s]	36600	4200
Effective mfg time [s] (6 hours)	21600	21600
Number of cuts / day	5,311	4,629
Number of cuts / year (250 days)	1,327,869	1,157,143
Gain in productivity [%]	15	—

Kanefusa original tooth geometry
+ Superior manufacturing technology
+ Cermet or tungsten carbide teeth
= over 300 % longer edge life compared with Metal saws or band saws

15% productivity increase or equal to 170,726 cuts / year or 98 m^2 / year

More uptime of the machine and therefore higher productivity and less manufacturing cost.

Product Line



1. ST-5

Edge Material: Cermet
Application: Solids
Material: Carbon steel, alloy steel
Carbon content ≦ 0.45 %

Recommended cutting conditions
v_c = 70 - 120 m/min
f_z = 0.05 - 0.07 mm
Lubricant: Supralube 25-Ⅱ

With higher wear and adhesion resistant tooth tips, it achieves more stable and longer sawing performance.

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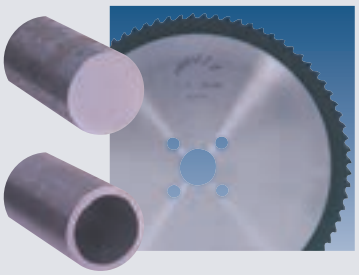

2. Ti-5

Edge Material: Coated Tungsten Carbide
Application: Solids and tubes
Material: High carbon steel, alloy steel
special purpose steel
Carbon content ≧ 0.4 %

Recommended cutting conditions
v_c = 70 - 120 m/min
f_z = 0.05 - 0.07 mm
Lubricant: Supralube 25-Ⅱ

Universal application and high performance

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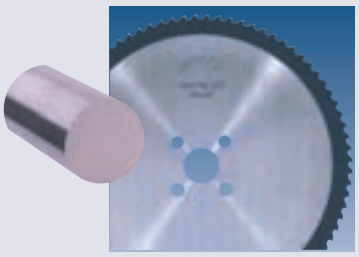
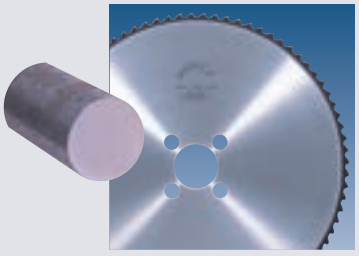


3. Ferro Max SUS

Edge Material: Coated Tungsten Carbide
Application: Solids
Material: Stainless steel

Recommended cutting conditions
v_c = 50 - 70 m/min
f_z = 0.04 - 0.06 mm
Lubricant: Supralube 60s

Special coating up to 100 % longer tool life compared with conventional saw blades for stainless steel cutting

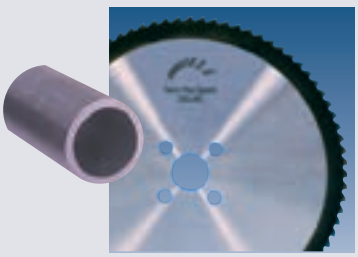


4. Ferro Max Dies

Edge Material: Coated Tungsten Carbide
Application: Solids
Material: Die steel

Recommended cutting conditions
v_c = 60 - 80 m/min
f_z = 0.05 - 0.07 mm
Lubricant: Supralube 60S

Special coating up to 100% longer tool life compared with Ti-5



5. Ferro Max Speed

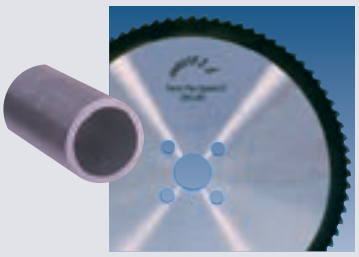
Edge Material: Coated Tungsten Carbide
Application: Solids and tubes
Material: Carbon steel, alloy steel
Carbon content > 0.3 %

Recommended cutting conditions
v_c = 200 - 300 m/min
f_z = 0.05 - 0.08 mm
Lubricant: Supralube 25-Ⅱ

Higher cutting speed for less cycle time and higher productivity

KANEFUSA

"Advanced Material Technology" is Kanefusa's special coating technology applied on cutting edge of sawblades.
The coating is very instrumental in making much longer cutting life in high temperature and fast speed sawing applications.

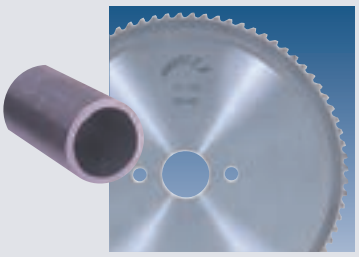


6. Ferro Max Speed LC

Edge Material: Coated Tungsten Carbide
Application: Solids and tubes
Material: Carbon steel, alloy steel
Carbon content ≦ 0.25 %

Recommended cutting conditions
v_c = 200 - 300 m/min
f_z = 0.05 - 0.08 mm
Lubricant: Supralube 25-Ⅱ

Higher cutting speed achieved for low carbon steel. Special coating and carbide edge up to 100% longer tool life.



7. ST-5P

Edge Material: Cermet
Application: Tubes and solids
Material: Carbon steel, alloy steel
Carbon content ≦ 0.45 %

Recommended cutting conditions
v_c = 100 - 200 m/min
f_z = 0.03 - 0.06 mm
Lubricant: Supralube 25-Ⅱ

With high chipping resistant cermet tooth edge, it achieves more stable sawing performance in the harsh condition which triggers damages to tooth edges.
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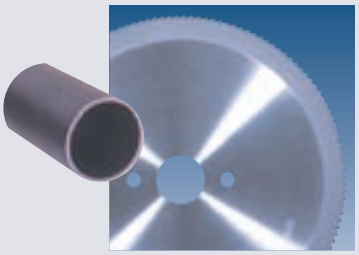
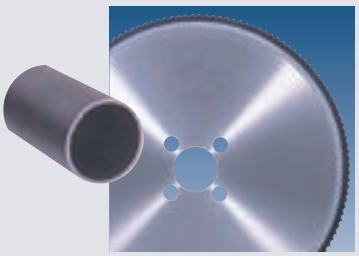


8. Ferro Max Tube

Edge Material: Cermet
Application: Thin wall tubes
Material: Carbon steel, alloy steel
Carbon content ≦ 0.25 %
Tensile strength 400-600N/mm²

Recommended cutting conditions
v_c = 100 - 200 m/min
f_z = 0.03 - 0.05 mm
Lubricant: Supralube 25-Ⅱ

For thin wall tubes without deformation of the wall

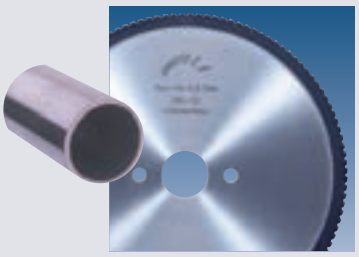


9. Ferro Max Super Tube

Edge Material: Coated Tungsten Carbide
Application: Thin wall tubes
Material: Carbon steel, alloy steel
Carbon content ≧ 0.25 %
Tensile strength 600-1400 N/mm²

Recommended cutting conditions
v_c = 200 - 300 m/min
f_z = 0.03 - 0.05 mm
Lubricant: Supralube 25-Ⅱ

High cutting speed for thin wall tubes



10. Ferro Max SUS Tube

Edge Material: Coated Tungsten Carbide
Application: Thin wall tubes
Material: Stainless steel

Recommended cutting conditions
v_c = 50 - 100 m/min
f_z = 0.03 - 0.05 mm
Lubricant: Supralube 60S

Achieves 10 times longer cutting life compared with Ferro Max Tube in difficult stainless steel tube sawing with newly developed special tooth shape, carbide edge and coating

Kanefusa is the pioneer of cold saw blades for single use. Since we released the first version in 1987, we have not only improved the quality and durability of the saw blades but also increased their versatility. Today we supply eight different types used for various applications such as bearing steel, drive shafts, rails, pipes and tubes, shock absorbers.

3 / *Quality Cut*

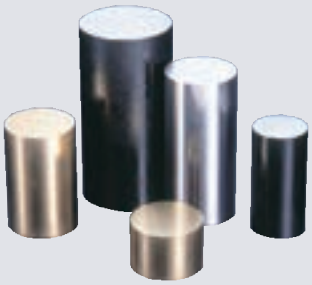
The cut surface and dimensional accuracy, by FM cold saw blades, is superior to band sawing.

- Eliminating or reducing subsequent manufacturing processes
- Reducing the manufacturing cost
- Increasing product value

4 / *Process Reliability*

Saw blades for single use deliver repeated quality cut, blade after blade. Standard saw blades lose performance after grinding due to incorrect grinding, the plate distortion and edge wear.

- Performance is stable and tool change can be scheduled
- Easier maintenance, because no pick up and delivery of sawblade is necessary



Better cut quality, higher productivity and process reliability enable "Just-in-time" production.

■Application Chart

	JIS	Material Group	Parameters		Saw Type
Carbon Steel Alloy Steel	S-C	Case hardened steel	Carbon content ≦ 0.45%		***ST-5*** ***ST-5P***
	SNC	Nickel chrome steel			
	SNCM	Nickel chrome molybdenum steel	Carbon content ≧ 0.4%		***Ti-5***
	SCr	Chrome steel			
	SCM	Chrome molybdenum steel	v_c ≧ 200m/min	Carbon content ≦ 0.25%	***Ferro Max Speed LC***
	SMn	Manganese steel		Carbon content > 0.3%	***Ferro Max Speed***
Special-Purpose Steel	SUS	Stainless steel			***Ferro Max SUS***
	SUP	Spring steel			***Ti-5***
	SUM	Sulfur free cutting steel			
	SUJ	High carbon chromium ball bearing steel			
	SKD	Die steel			***Ferro Max Dies***
Steel Tube	STKS	Alloy steels	Tensile strength ≦ 600N/mm² and v_c ≦ 200m/min	Thin wall tubes	***Ferro Max Tube***
				Thick wall tubes	***ST-5P***
	STK	Carbon steel	Tensile strength ≧ 600N/mm² or v_c ≧ 200m/min	Thin wall tubes	***Ferro Max Super Tube***
	STKM	Carbon steel		Thick wall tubes	***Ferro Max Speed***
	STKR	Square steel tube for general structure	Tensile strength ≦ 600N/mm² and v_c ≧ 200m/min	Thin wall tubes	***Ferro Max Super Tube***
				Thick wall tubes	***Ferro Max Speed LC***
	SUS	Stainless steel		Thin wall tubes	***Ferro Max SUS Tube***

We manufacture saw blades for the following brands:
Amada, Behringer-Eisele, Bewo, Daito, Delta, Endo, Everising, Exact-Cut, Fong Ho, Kasto, Kentai, Mega, Nishijima, Noritake, Rattunde, Soco, Sinico, Tsune, Adige, Plantool and others

■Kanefusa Lubricant for oil mist

For best performance of the saw blades, we recommend original Kanefusa lubricant.

Material	Mist fluid	Composition	Dropping speed (1drop)	Characteristics
Mild steel	Supralube 25-Ⅱ	Vegetable ester	5-7 S	Middle viscosity
Stainless steel	Supralube 60S	Sulfur mineral	1-2 S	High viscosity
Non - ferrous steel	Supralube 10P-Ⅱ	Distilled vegetable ester	2-5 S	Odorless, low viscosity

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