



HIGH SPEED STEEL SAW BLADE

COMPANY PROFILE



For decades, as an HSS saw blade supplier, HAOJING has always been committed to serving key industrial and consumer marketplaces with safe, high quality and pocket-friendly Chinese blades. Our customer-focus service makes us an excellent partner for your business success. One of HAOJING senior technicians has 25 years' experience in various saw blade tools field, which can propose you precise solutions and give the right suggestions.

- Company Name: WUHAN HAOJING DEVELOPMENT CO., LTD.
- Business Type: Manufacturing & Trading Combo
- Factory Location: Wuhan, China (Mainland)
- Year Established: 2013
- Total Factory Area: 30,000 Square meters
- No. of Employees: 50-100
- Capacity: 10,000 pcs/month.
- Main Products: HSS circular saw blade, TCT circular saw blade, etc



Smelting



Semi-Finished



Finished Blades



Customer Visit

GENERAL INTRODUCTION

HSS circular saw blade is widely applied in cutting medium hardness and non-ferrous metal materials, such as mild steel, stainless steel, iron, copper and brass. Our spectrometer equipment to test our blade's components are SHIMADZU (Japan) desktop spectrometer & NITON (US) laptop spectrometer, which are costly and make our blades always stand out of the market. The high-reliability blades we offered would help to improve your productivity, minimize the production costs, and maintain your products always competitiveness.

SHIMADZU (Japan)
desktop spectrometer



NITON (US)
portable spectrometer

MATERIAL ANALYSIS

Elements		Co	C	Si	S	P	W	Mn	Cr	Mo	V
CO5	M35	4.70-4.80	0.90-0.94	0.25-0.38	≤0.03	≤0.03	5.60-5.70	0.25-0.38	3.80-4.10	4.60-4.70	1.85-1.90
DM05	M2	-	0.86-0.90	0.25-0.38	≤0.03	≤0.03	5.60-5.70	0.25-0.38	3.80-4.10	4.60-4.70	1.80-1.85

DM05

CIRCULAR SAWS IN HSS-DM05

Circular saws in high speed steel (5% molybdenum content) suitable for cutting-off steels and alloys with hardness between 500N/mm and 800N/mm. The saw blades are used on manual semi-automatic and fully automatic sawing machine.

CO5

CIRCULAR SAWS IN HSS-CO5

Circular saws in super high speed steel (5% cobalt content) suitable for cutting off steels and alloys with hardness above 800N/mm The saw blades are used on semi-automatic and fully automatic sawing machine.

Special Oxidation-VAPO

It produces a layer of iron oxide (Fe_3O_4) on the surface, which increases the wear-resisting and increases the overall life. Suitable for general cutting works.



Titanium Nitride Coating-TiN

This is an excellent PVD coating for protecting saw blade for wearing, which is a good choice for iron-based materials and cutting conditions requiring resistance to both abrasive and adhesive wear.



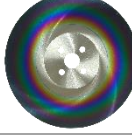

Titanium Aluminium Nitride Coating-TiAlN

TiAlN is a new multi-layer wear protection PVD coating. Recommended for high tensile strength materials above 800N/mm² and stainless steel, responds well to high speed and feed rates as well as extreme working conditions like dry cutting.



Titanium Carbonitride Coating-TiCN

TiCN is a "high performance" PVD coating suitable for severe abrasive wear cutting conditions. Recommended for high tensile strength materials above 800M/mm² and stainless steel, especially for cutting the material in high speed and feed rates. Coating thickness is 0.003 mm.

Coating	Surface Microhardness: HV	Friction Coefficient: CX	Max Working Temp.: °C	Applying
 VAPO	900	0.65	550	General materials
 TiN	2800	0.40	550	Structural steels, alloyed steels, steel pipes and profiles, non-ferrous pipes and profiles
 TiAlN	3500	0.50	800	Hard steels, non-ferrous steels, titanium alloys, copper and brass
 TiCN	3700	0.20	400	Stainless steels, hard steels, titanium alloys

HSS SHARK



The SHARK saw blade uses materials accord with European standard. The sophisticated PVD coating treated SHARK saw blade has a dark grey or black layer, with high wear protection and achieves a very low friction coefficient. It is a cost-efficient solution for productive cutting.

Advantages compare with similar blades

- Higher blade life
- Better wear protection
- Higher production output
- Lower cost per cut
- Ideal for cutting both structural steel and stainless

APPLICATIONS

- All applications like tubes, pipes, profiles.
- Standard stainless (exclusive of 201 series)
- Non alloy tool steel
- Structural steel
- Copper, brass

MACHINES

Manual, semi-automatic, automatic



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1PC HSS SHARK

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2PCS CO5 TIALN

=

3PCS DM05 TIN

HSS SHARK



SILVER FOX, P.V.D multi-layer coating with a thickness of 2.5 microns, opaque grey colored. The particular composition and the innovative mix of noble elements developed by our R&D achieves a hardness which is higher than 3.650 Vickers (HV 0.05), unattained by any other coating. It's suggested for cutting high alloy steels up to 1000 N/mm², stainless steel and all material developing high thermal energy.

Advantages compare with other coatings

- Very tenacious and very resistant to high temperatures.
- Guarantee long-life when using blades in high speed.
- Highly recommended for blades to work with critical cutting parameters on high performance machines.

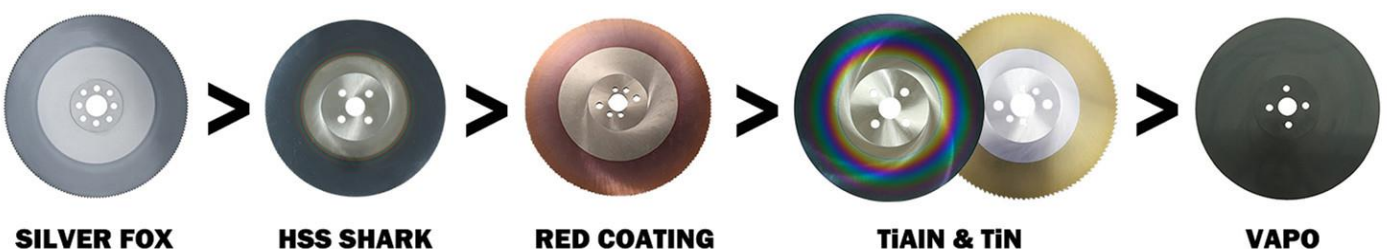
COATING FEATURES

	VAPO	LEPARD	TIALN	RED	HSS SHARK	SILVER FOX
Hardness HV (0.05)	900	2480	2800	3200	3400	3650
Friction Coefficient	0.65	0.50	0.50	0.20	0.55	0.45
Thickness (µm)	2.5	2.5	2.5	2.5	2.5	2.5
Maximum Working Temperature	400°C	450°C	450°C	450°C	560°C	560°C

Coatings carefully designed for each specific cutting application

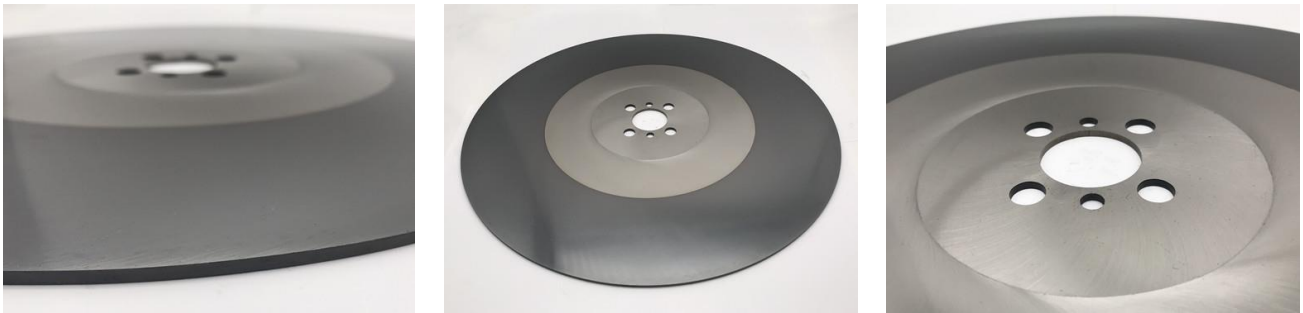
Our surface coating department is equipped with machines that use the latest technology in the field of Physical Vapour Deposition. Technical department and research centres make machine manufacturers and end-users productivity. Our engineers to recommend for each specific application the tool which provides the highest performance in terms of speed, feed rate and durability, all of which guarantee the lowest possible cutting cost.

CUTTING PERFORMANCE



HSS SHARK

HSS SAW BLADE COATING Circular saws are tools that require specific solutions to obtain the best results. It is not enough to guarantee the excellent quality and correct adherence of the coated surface. Still, it is also essential to keep unmodified the technical features, dimensions and cutting properties of the circular saw. All our HSS saw blades are coated to achieve the best cutting performance.



COATING CHOICE The choice of the coating depends on different parameters. It is not always easy to keep all of these in mind when choosing. The most important elements that influence the choice of coating are:

- The material to be cut
- The stiffness of the cut-off machine
- The quality and the quantity of the cooling agent
- The clamping stiffness of the piece to be cut

In the following chart, we would like to give an indication of the results obtained by our engineers with the most common materials.

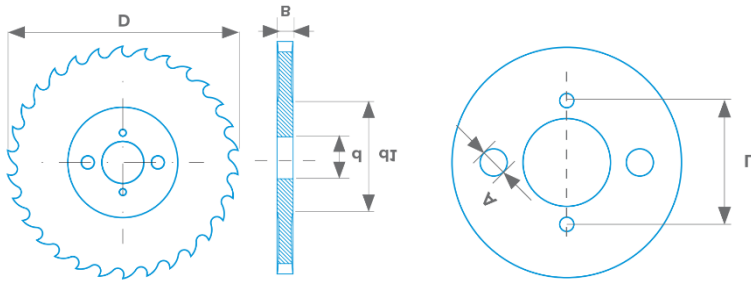
MATERIAL TO BE CUT	RECOMMENDED COATING
Low-alloy steel 400-600 N/mm²	VAPO, LEPARD
Medium hard alloy steel 700-900 N/mm²	TIALN, RED
Hard steel 900-1000 N/mm²	HSS SHARK, SILVER FOX
Stainless steel	HSS SHARK, SILVER FOX
Cast iron	HSS SHARK
Inconel	HSS SHARK, SILVER FOX
Copper	LEPARD, RED
Bronze	LEPARD, RED
Brass	LEPARD, RED

SIZE AVAILABLE

Material	D (mm)	B (mm)	d (mm)	Teeth
DM05/CO5	250	1.0	32/40	A/AW/B/BW/HZ
DM05/CO5	250	1.2	32/40	A/AW/B/BW/HZ
DM05/CO5	250	1.6	32/40	A/AW/B/BW/HZ
DM05/CO5	250	2.0	32/40	A/AW/B/BW/HZ
DM05/CO5	250	2.5	32/40	A/AW/B/BW/HZ
DM05/CO5	250	3.0	32/40	A/AW/B/BW/HZ
DM05/CO5	275	1.0	32/40	A/AW/B/BW/HZ
DM05/CO5	275	1.2	32/40	A/AW/B/BW/HZ
DM05/CO5	275	1.4	32/40	A/AW/B/BW/HZ
DM05/CO5	275	1.6	32/40	A/AW/B/BW/HZ
DM05/CO5	275	2.0	32/40	A/AW/B/BW/HZ
DM05/CO5	275	2.5	32/40	A/AW/B/BW/HZ
DM05/CO5	275	3.0	32/40	A/AW/B/BW/HZ
DM05/CO5	300	1.2	32/40	A/AW/B/BW/HZ
DM05/CO5	300	1.4	32/40	A/AW/B/BW/HZ
DM05/CO5	300	1.6	32/40	A/AW/B/BW/HZ
DM05/CO5	300	2.0	32/40	A/AW/B/BW/HZ
DM05/CO5	300	2.5	32/40	A/AW/B/BW/HZ
DM05/CO5	300	3.0	32/40	A/AW/B/BW/HZ
DM05/CO5	325	1.6	32/40	A/AW/B/BW/HZ
DM05/CO5	325	2.0	32/40	A/AW/B/BW/HZ
DM05/CO5	325	2.5	32/40	A/AW/B/BW/HZ
DM05/CO5	325	3.0	32/40	A/AW/B/BW/HZ
DM05/CO5	350	1.6	32/40	A/AW/B/BW/HZ
DM05/CO5	350	2.0	32/40	A/AW/B/BW/HZ
DM05/CO5	350	2.5	32/40	A/AW/B/BW/HZ
DM05/CO5	350	3.0	32/40	A/AW/B/BW/HZ
DM05/CO5	375	2.0/2.5/3.0	32/40	A/AW/B/BW/HZ
DM05/CO5	400	2.0/2.5/3.0	32/40	A/AW/B/BW/HZ
DM05/CO5	425	2.5/3.0	32/40	A/AW/B/BW/HZ
DM05/CO5	450	2.5/3.0	32/40	A/AW/B/BW/HZ
DM05/CO5	500	3.0/3.5/4.0	32/40	A/AW/B/BW/HZ

* Non-standard size can be customized. Please consult for details.

PINHOLES AVAILABLE



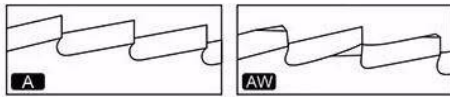
Size (D)	Bore (d)	Pinholes
250/275/300/325/350/375	32	2/8/45+2/9/55+2/11/63
	32	4/12/64
	40	2/8/55+4/12/64
400/425/450/500	32	2/8/45+2/9/55+2/11/63
	32	4/12/64
	40	2/8/55+4/12/64
	50	4/15/80
	50	4/15/80+4/14/85

NUMBER OF TEETH

Tube Thickness	Ø 250mm	Ø 275mm	Ø 300mm	Ø 315mm	Ø 350mm
0.6mm	280T	280T	320T	320T	350T
0.8mm	240T	280T	320T	320T	350T
1.0mm	220T	240T	280T	280T	320T
1.2mm	200T	220T	240T	240T	280T
1.5mm	180T	200T	220T	240T	240T
1.6mm	180T	200T	200T	220T	240T
2.0mm	150T	180T	200T	220T	220T
2.5mm	150T	180T	200T	220T	220T
3.0mm	120T	150T	180T	200T	220T

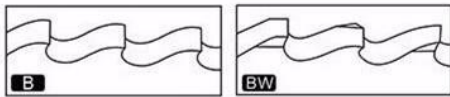
* Different teeth number will be applied for different pipe thickness.

TOOTH FORM



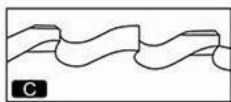
Tooth Form "A" And "AW"

For thin metal slitting saw blade with a tooth pitch up to approx. 3.0mm. Advisable for brass. Tooth form "A" is suitable for slotting materials. All teeth of tooth form "AW" are beveled alternatively.



Tooth Form "B" and "BW"

Suitable for cutting tubes and profiles made of steel or non-ferrous metals. Tooth form "B" is specialized in cutting very thin-walled pipes and profiles. All teeth of tooth form "BW" are beveled alternatively.



Tooth Form HZ

This tooth is also known as form "C". Teeth are ground according to the roughing and finishing tooth system. A tooth pair is consisting of one roughing tooth (1/3 cutting width) and one finishing tooth (2x1/3 cutting width). According to the triple chip geometry the roughing tooth is approx. 0.2~0.3mm higher compared with the finishing tooth. Tooth form "HZ" is suitable for cutting solid materials.

COMPARISON



- | | |
|------------------|---------------------|
| ✓ Cut Steel Pipe | ✗ Cut Steel Pipe |
| ✓ Good Finish | ✗ Low Cut Finish |
| ✓ Smooth Cut | ✗ Rough Cut Surface |



- | | |
|---------------|-----------------|
| ✓ One Day Cut | ✗ One Day Cut |
| ✓ Still Sharp | ✗ Grind & Break |
| ✓ Durable | ✗ Not Durable |



- | | |
|---------------------|---------------------|
| ✓ Cut SUS201 | ✗ Cut SUS201 |
| ✓ Thickness 4mm | ✗ Thickness 4mm |
| ✓ 480 Cutting Times | ✗ 180 Cutting Times |

- 
- ✓ **Sharp & Wearable**
 - ✓ **Good Cutting Performance**
 - ✓ **High Cutting Efficient**

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