

ZEICIN



Zhejiang Zhengcheng Imp&Exp Co.,Ltd



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Company Profile ▼

Zhejiang Zhengcheng Import and Export Co., Ltd. is dedicated to high-end positioning in Chinese quality. It is a subsidiary of Zhejiang Zhengda Mould Co., Ltd., specializing in product export and customer service, providing clients with high-quality and cost-effective products and services to help save operational costs. Zhejiang Zhengda Mould Co., Ltd. was established in 2003 and is located in Jinyun County, Zhejiang Province, covering an area of over 80,000 square meters.

The company integrates various processes including smelting, electroslag remelting, forging, hot rolling, wire drawing, heat treatment, and precision machining, specializing in the production of round bars, flat bars, cold-drawn steel wires, hot-rolled strip steel, and other types of tool and die steel. It also produces high-speed steel die products and cutting tool products.

The company is equipped with advanced facilities, including electric arc furnaces, LF refining furnaces, vacuum degassing furnaces, rapid solidification electroslag remelting furnaces, direct rolling continuous rolling lines for electroslag steel ingots, four-roll cold drawing machines, high vacuum annealing furnaces, instrumentation, and eddy current testers, among other production and testing equipment.

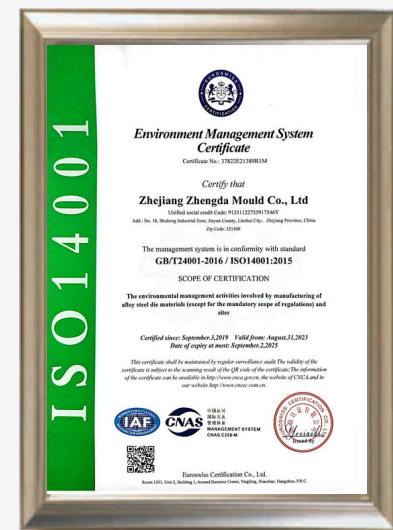
The company has passed ISO9001:2008 quality management system certification and has established strict quality assurance measures to ensure high product quality.

Our company possesses unique and professional raw material innovation technology, capable of handling everything from the R&D and production of raw materials to the manufacturing of finished products, achieving an integrated production line. We aim to replace products from Japan and Western countries by offering high cost-performance, high-performance, and high-quality services.

We are willing to establish long-term friendly cooperation with customers around the world and become your credible partner.

HONORS ▼

ISO9001:2015 Quality system certification & Certification of patent



1	2
3	4

1.Hardness Tester

2.Spectrometer

3.Metallurgical microscopy

4.Oxygen-nitrogen analyzer



QUALITY ASSURANCE ▼

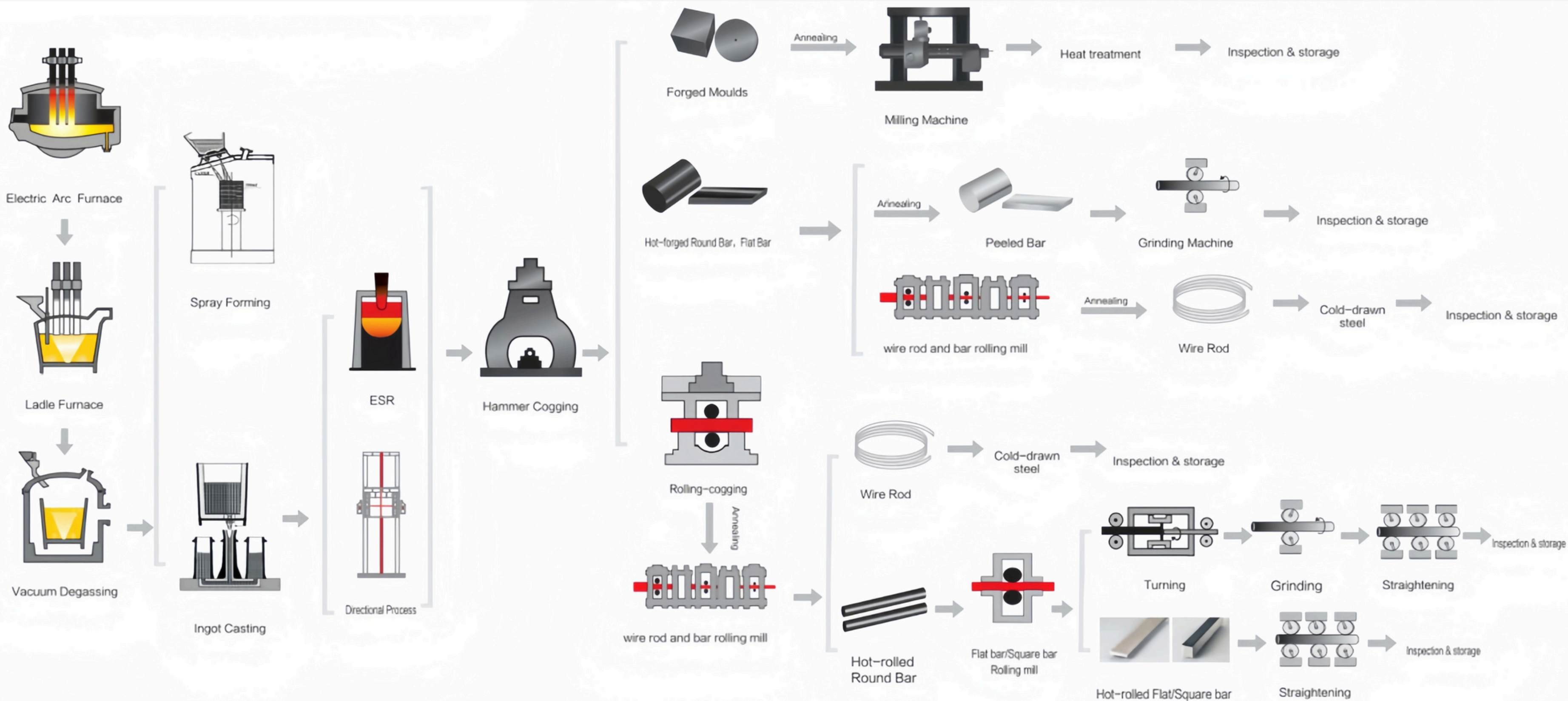
STEEL SERIES ▼

1	HSS	Directional-HSS/HSS
2	Die Steel	Cold-work Tool Steel/Hot-work Tool Steel
3	Steainless Steel	Martensite Stainless Steel
4	Superalloy	Superalloy 6B, 6K
5	Cutting Tools	HSS Tool Bits (Square,Flat),Wood-working Planer Knife, Saw Blades.Semi-finished Tap,Drill Punches etc.Semi-finised Kitchen knife.
6	Partially Prepared Products	Forging knife blank, Punch, Tap, Drill

■ ZEICIN (ZD) products are widely applied in tool,die,automobile,aviation,military,shipbuilding,wind power,metallurgyand so on.



PROCESS & TECHNIQUE ▼



MAJOR EQUIPMENT ▼



Electric Arc Furnace



ESR



5T Forging Machine



Vacuum Annealing Frunace



Non-destructive Detector



Rolling Mill



Drawing Mill



Spray Forming

PRODUCTS SERIES ▼

Type	Specification	Surface condition
Hot-forged Round Bar	φ60-210	Surface condition
Hot-rolled Round Bar	φ12-75	Wheeled / Turned
Hot-rolled Square Bar	(5 × 5) - (40 × 40)	Ground / Turned / Black
Hot-forged Flat Bar	HSS (25-60) × (60-305)	Black
	Die Steel (21-120) × (100-300)	Black / Milling
Hot-Rolled Flat Bar	(3.3-25) × (32-67)	Black
Cold-Rolled Flat Bar	(1.2-6.0) × (6.0-220)	Black
Hot-rolled Wire Rod	φ6.5-13	Black
Cold-drawn Steel Wire	φ1.0-φ10	Ground / Polished
Forged Product	(Round) φ60-250	Black / Machined
	(Rectangle) ≤2Ton	



Hot-forged Peeled Bar



Hot-forged Flat Bar



Forged Round Bar



Moulds



Pre-hardening Precisely Mould



Wire Rod



Hot-rolled Flat Bar



Hot-rolled Round Bar

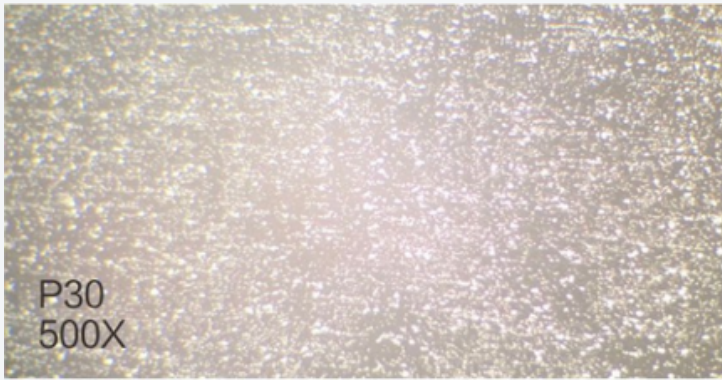


Hot-rolled Square Bar

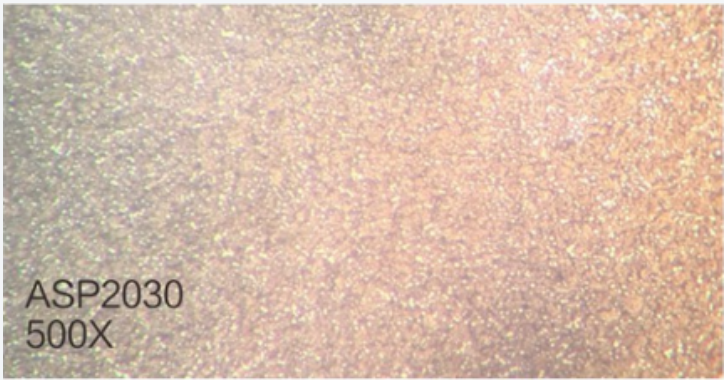
Directional Electroslag Steel Overviews ▼

Directional electroslag steel is the high-end high alloy steel produced by our company's original research and developed technology “Directional Electroslag Process”. The solidification speed of the electroslag ingot is doubled by the rapid solidification device in the process of electroslag remelting. It reduces the amount and particle size of primary carbides, and improve the toughness. On the premise that the total amount of carbides remains unchanged, the reduced primary carbides transformed into secondary carbides so the matrix is strengthened and the wear resistance is enhanced, furthermore, the service life of the steel is greatly improved.

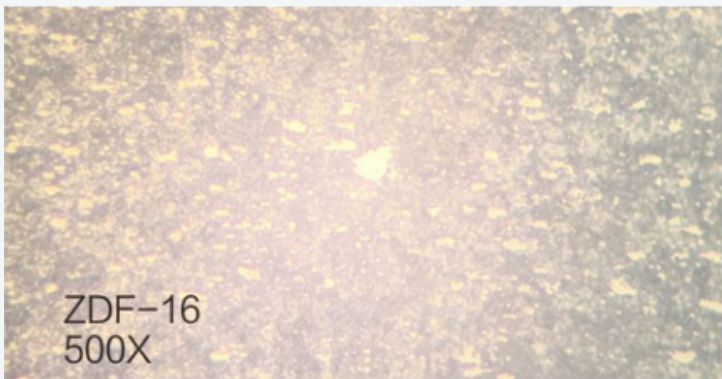
Directional electroslag steel includes directional powder high speed steel, directional high speed steel, directional die steel and directional martensitic stainless steel. Directional powder high speed steel is perfect substitute for imported powder high speed steel. Directional high-speed steel, die steel and martensitic stainless steel have surpassed the existing domestic level and reached the world class quality.



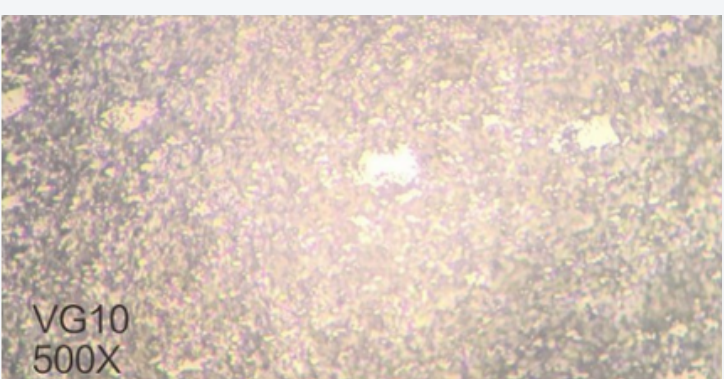
Metallographic comparison of Directional Powder High Speed Steel



Metallographic comparison of Directional Tool Steel



Metallographic comparison of Directional Martensitic Stainless Steel



Directional Powder HSS ▼

Adopt original Directional Technology. During many years improvement, ZEICIN (ZD) has been developing acomplete range of steel grade and variety, and the quality of HSS has reached an international level. P30, P23M35 is our major grade. New HSS grade can be customized according to customers’ practical reguirements. Ouiproduct cover several serials such as forged bar, hot-rolled bar, cold-drawn bar, ground bar etc. Forged knivesand semi-finished Tap, Drill, Punches can be offered. We will help customers to improve the utilization and thecost reduction of materials. with totally controlling the quality properties such as chemical composition, Carbidestructure, decarburization, dimension tolerance, especially the alloy content, carbon saturation, compositiondispersion coefficient and purity. we put our quality management into a tight combination with customersdemands.

Steel Type	ZD (ZEICIN) Grade	Similar Grade					Chemical composition							
		GB	JIS	ASTM	ERASTEEL	DIN	C	Si	Mn	Cr	W	Mo	V	Co
Directional Powder Hss	P30			M36	ASP2030		1.29	0.40	0.30	4.00	6.50	5.00	3.00	8.30
	DV3RE			M32	ASP2030		1.18	0.40	0.30	4.00	5.00	6.00	2.70	
HSS	P23			M32	ASP2023		1.28	0.40	0.30	4.00	6.50	5.00	3.00	
	W18	W18Cr4V	SSKH2	T1	ET1	1.3355	0.79	0.30	0.25	4.10	18.00	-	1.10	
	M35RE	W6Mo5Cr4V2Co5	SKH55	M35	EM35	1.3243	0.91	0.30	0.30	4.00	6.00	5.00	2.00	5.00
	M35+V						0.99	0.30	0.30	4.00	6.00	5.00	2.40	5.00
	M42RE	W2Mo9Cr4VCo8	SKH59	M42	EM42	1.3247	1.10	0.50	0.30	4.00	1.50	9.40	1.10	8.00
	M2RE	W6Mo5Cr4V2	SKH51	M2		1.3343	0.86	0.30	0.30	4.00	6.00	5.00	2.00	

Directional Powder HSS P30 ▼

1、Gproperty

P30 is manufactured by our company's original creative "Directional process". The carbide particles are fine and uniformly distributed without segregation, The properties are better than M35 and M42. and is the perfectly replacement of powder metallurgy ASP2030.

2、Application

Tap, Drill, Punches Drills, End mills, Tufting Machine Hook knife, Paper Cutting Knife etc.

3、Grade&Chemical composition

Execution standard	ZD (ZEICIN) Grade	AISI	NACHI	Hitachi	Bohler	EARSTEEL	ASSAB		
GB/T 9943-2008	P30	M36	FAX38	HAP40	S590	ASP2030	ASP30		
Main chemical composition %									
C	Si	S	P	Mn	Cr	Mo	v	W	Co
1.23-1.33	≤ 0.70	≤ 0.025	≤ 0.025	≤ 0.40	3.80-4.50	4.70-5.30	2.70-3.20	5.90-6.70	8.00-8.80

4、 Specification

Round Bar	specification	Surface condition
Cold-draw Round Bar	φ2.0 - φ10.5mm	Cold-drawn Black/Ground
Hot rolled Round Bar	φ10.6 - φ40mm	Turned

5、 Semi-finished Products

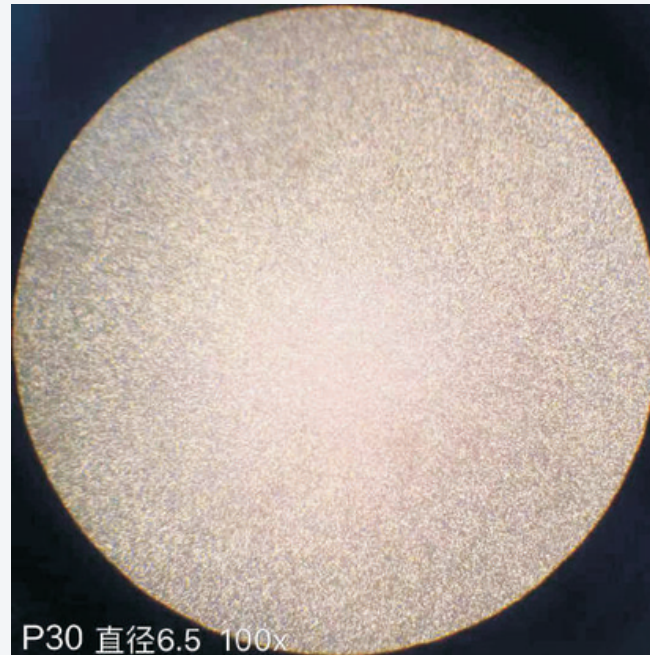
We also provides various semi-finished products such as taps, drills and punchesThe hardness is HRC66-HRC68.



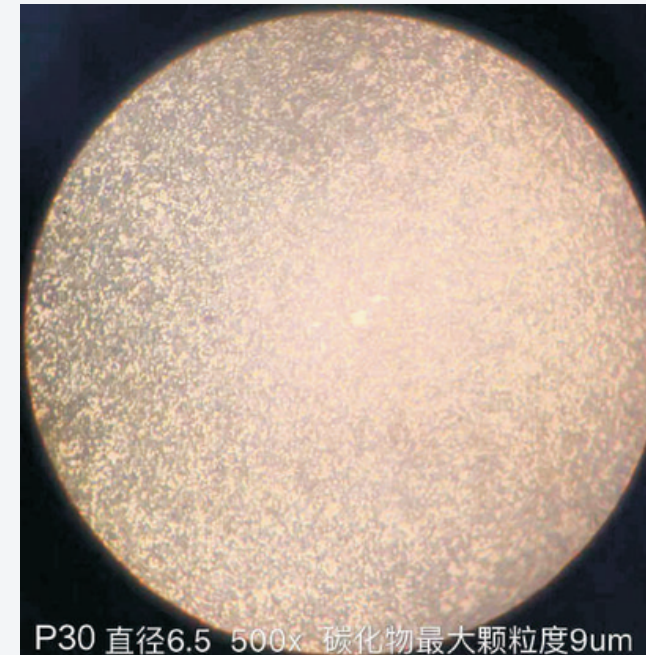
The quality of power steel, the price of electroslag steel = High cost effective material

Metallographic Organization Comparison

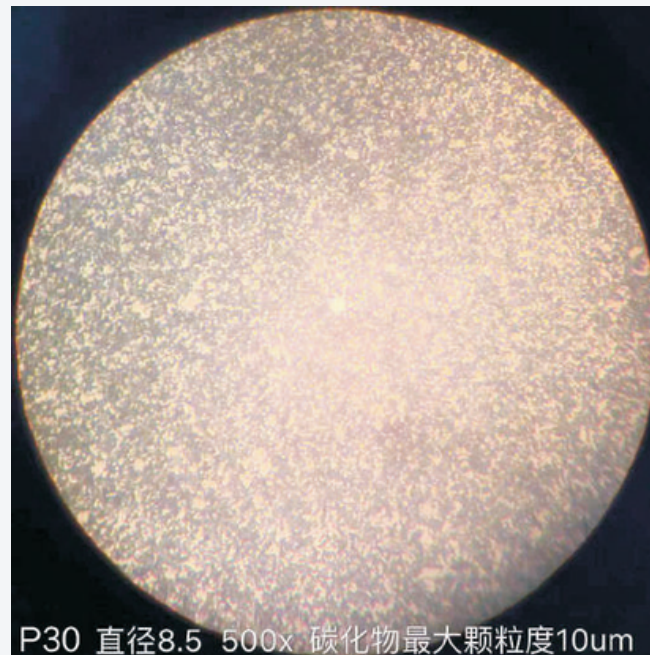
Carbide Particle Size



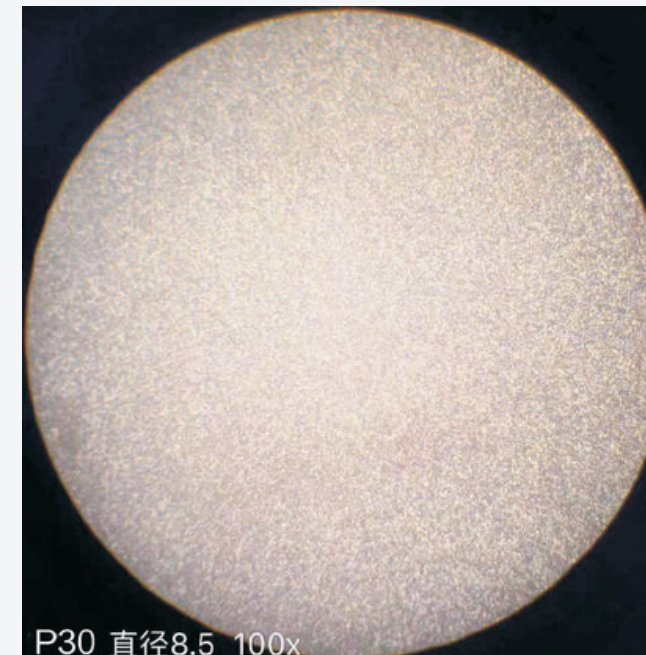
M36 \varnothing 6.5mm 100x



M36 \varnothing 6.5mm 500x



M36 \varnothing 8.5mm 100x



M36 \varnothing 8.5mm 500x

Directional Powder HSS DV3RE ▼

1、Gproperty

DV3RE is manufactured by our company's original creative "Directional process". The carbide particles are fine and uniformly distributed without segregation. The properties are better than M2/ SKH51, and is the perfectly replacement of powder metallurgy ASP2030.

2、Chemical composition

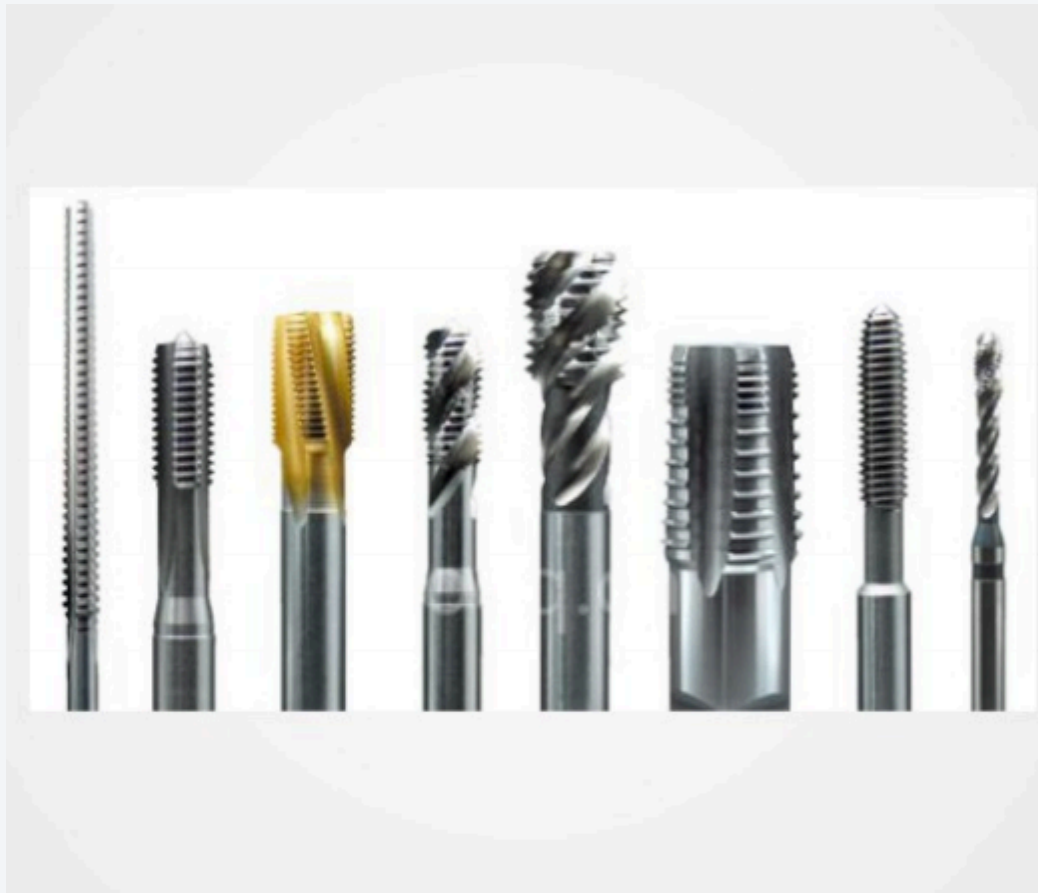
C	Si	S	P	Mn	Cr	Mo	V	W	Co
1.70-1.20	0.20-0.40	≤0.025	≤0.025	0.20-0.40	3.80-4.20	5.80-6.20	2.55-2.75	4.80-5.20	0.40-0.60

3、Specification

Round Bar	specification	Surface condition
Cold-draw Round Bar	φ2.0 - φ10.5mm	Cold-drawn Black/Ground
Hot rolled Round Bar	φ10.6 - φ40mm	Turned

4、 Application

Taps, Tufting Machine Hook Knife etc.



Tap



Tufting Machine Hook Knife

Directional Powder HSS P23 ▼

1、Gproperty

P23 is manufactured by our company's original creative "Directional process". The carbide particles are fine and uniformly distributed without segregation. The properties are better than M2/ SKH51, and is the perfectly replacement of powder metallurgy ASP23.

2、Application

Tap, Drill, Punches etc.

3、Grade&Chemicalcomposition

Execution standard	ZD (ZEICIN) Grade	AISI	NACHI	Hitachi	Bohler	EARSTEEL	ASSAB		
GB/T 9943-2008	P23	M3 : 2	FAX31	-	S790	ASP2030	ASP23		
Main chemical composition %									
C	Si	S	P	Mn	Cr	Mo	v	W	Co
1.22-1.30	0.20-0.45	≤ 0.025	≤ 0.025	0.15-0.40	3.80-4.40	4.80-5.20	2.80-3.20	6.20-6.40	-

4、 Specification

Round Bar	specification	Surface condition
Cold-draw Round Bar	φ2.0 - φ10.5mm	Cold-drawn Black/Ground
Hot rolled Round Bar	φ10.6 - φ40mm	Turned

5、 Semi-finished Products

We also provides various semi-finished products such as taps, drills and punchesThe hardness is HRC66-HRC68.



The quality of power steel, the price of electroslag steel = High cost effective material

Directional Powder HSS M35+V ▼

1、Gproperty

Modified M35, the contents of carbon and vanadium is increased based on ordinary M35.The hardness, strength, toughness and wear resistance are further improved.

2、Application

Heavy load miling cutter, gear cutting tools, heavy load twist drill, tap, planer toll and hi-tensile,hi-temp parts.

3、Grade&Chemicalcomposition

Execution standard	ZD (ZEICIN) Grade	Similar Grade				Steel color	
		CHINA	AISI	JIS	DIN		
GB/T 9943-2008	M35+V	W6Mo5Cr4V2Co5	M35+V	SKH55	1.3243	Green	
Main chemical composition %							
C	Mn	Si	Cr	V	W	Mo	Co
0.98-1.30	0.15-0.40	0.20-0.45	0.38-4.50	2.40-2.50	5.90-6.70	4.70-5.20	4.50-5.20

4、Specification

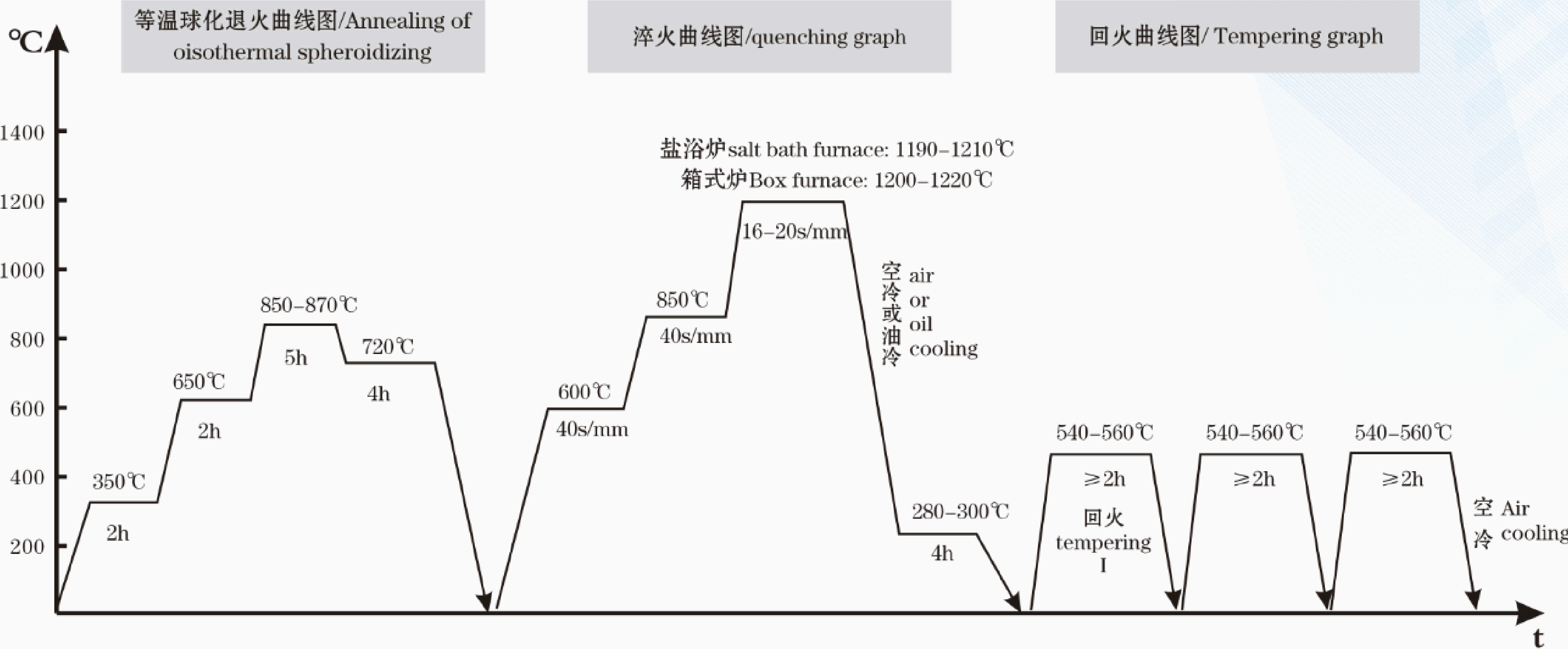
Round bar/mm		
Type	specification(mm)	Surface condition
Cold drawn round bar	φ 2-10	Black
Hot rolling round bar	φ 11-75	Turned
Forged round bar	φ 80-120	Turned
Spray forming round bar	> φ 120	Turned

4、Specification

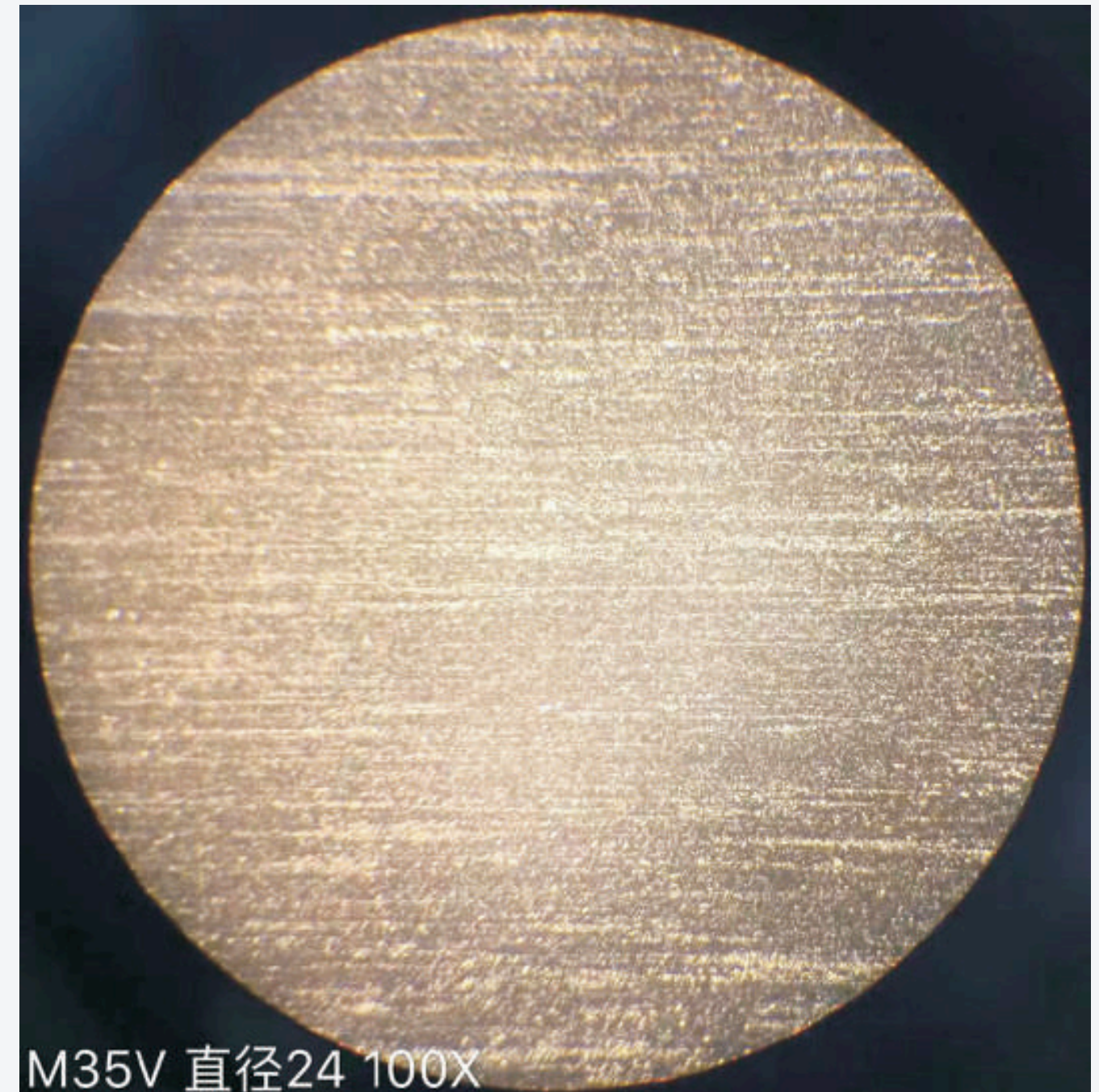
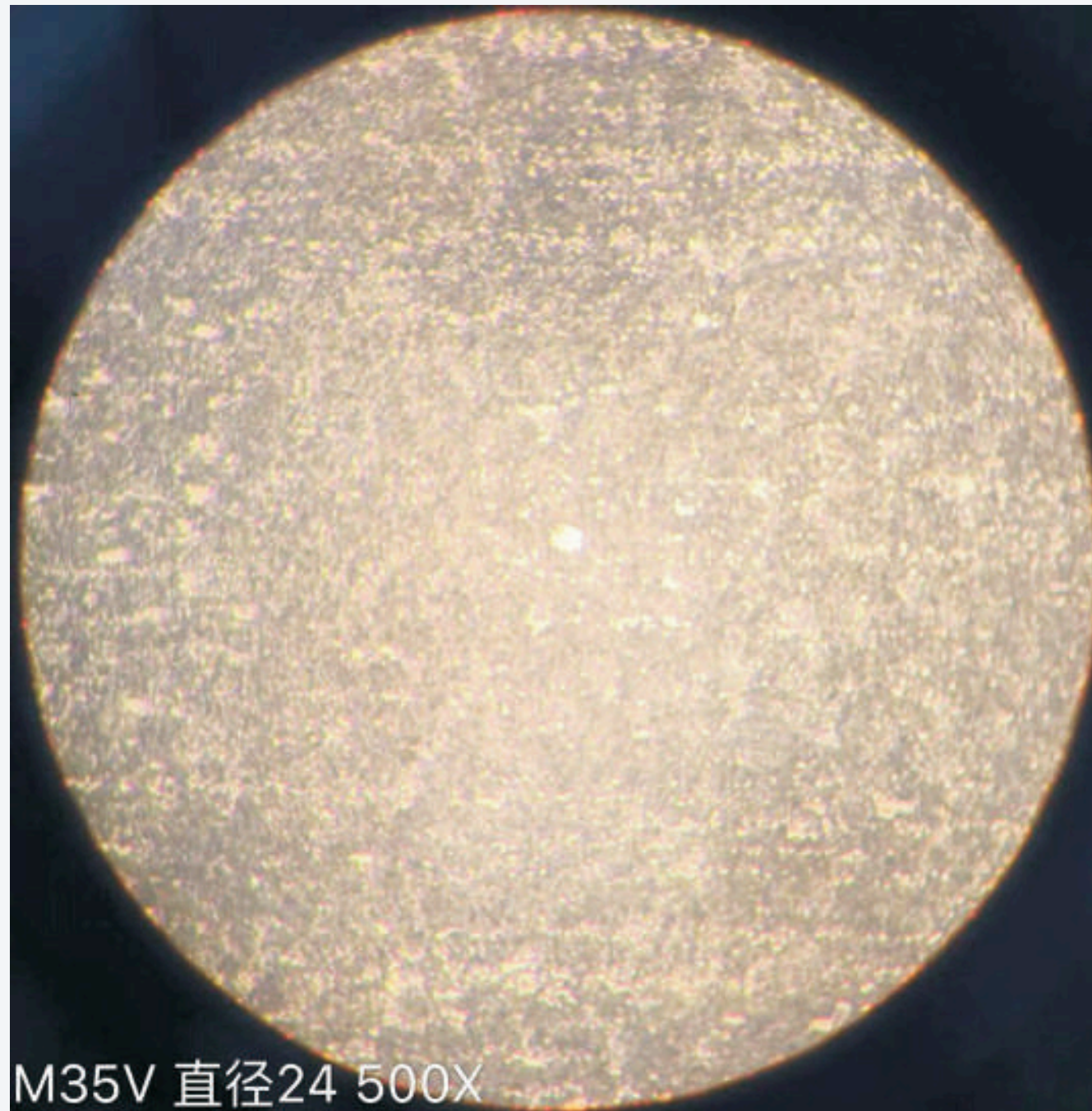
specification for hot-rolled flat bar in common use /mm(black surface)										
T/W	20	25	30	40	50	60	70	80	90	100
3	√	√	√	√						
4-5	√	√	√	√	√	√				
6-13	√	√	√	√	√	√	√	√		
14	√	√	√	√	√	√	√	√	√	
15-18		√	√	√	√	√	√	√	√	
19			√	√	√	√	√	√	√	
20			√	√	√	√	√	√	√	√

HSS M35 等温球化退火--淬火--回火工艺图 HRC(63-65)

Annealing-Quenching-Tempering graph



Microstructure from production material ▼



Directional Powder HSS T1 (W18) ▼

1、Gproperty

Miling cutter, hob, broach, tap, special dril, band sawing blade tooth, die-sinking machine tools, engraving machine parts, automatic lathe's cutter etc.

2、Application

Widely used in the manufacturing process of medium or soft hardness of materials of various cutting tools.

3、Grade&Chemicalcomposition

Execution standard	ZD (ZEICIN) Grade	Similar Grade				Steel color	
		CHINA	AISI	JIS	DIN		
GB/T 9943-2008	W18	W18Cr4V1	T1	SKH2	1.3355	Black	
Main chemical composition %							
C	Mn	Si	Cr	V	W	Mo	Co
0.73-0.83	0.1-0.4	0.20-0.40	3.80-4.50	1.00-1.20	17.20-18.70	-	-

4、Specification

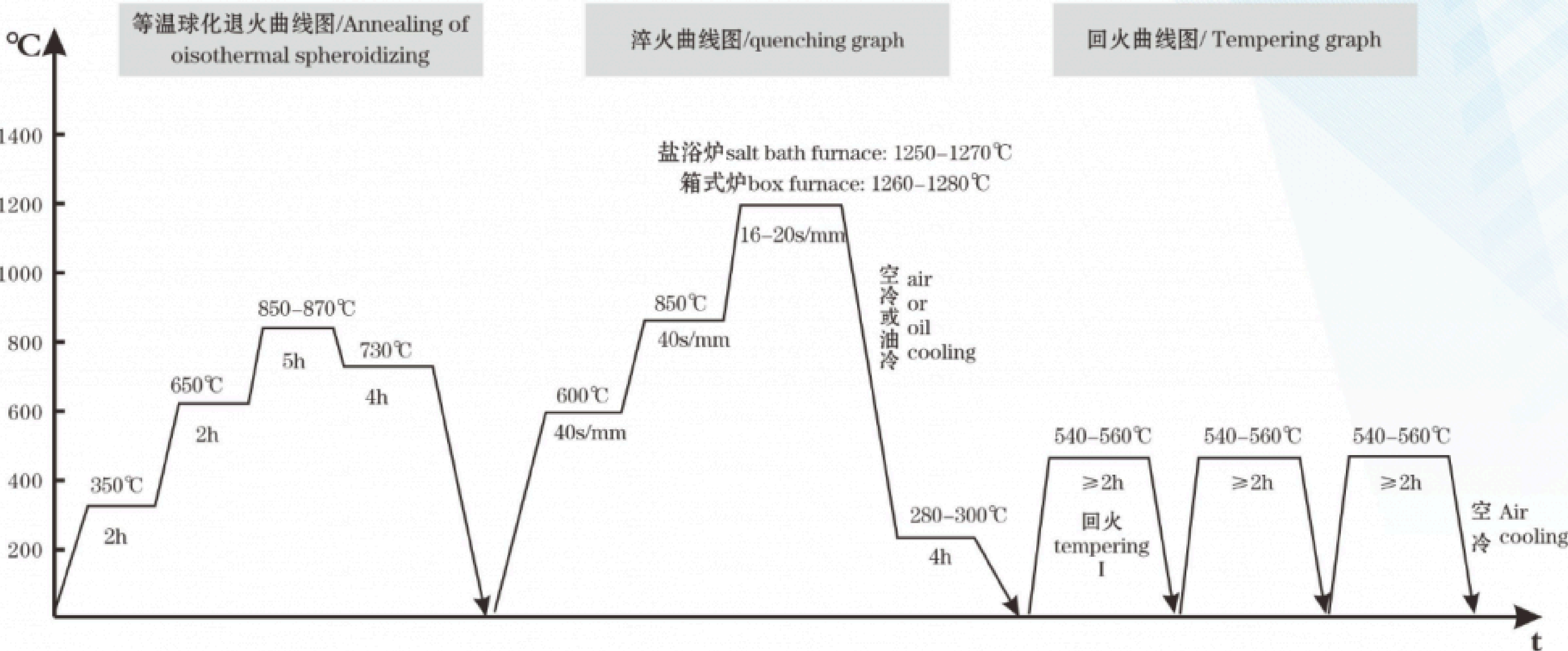
Round bar/mm		
Type	specification(mm)	Surface condition
Cold drawn round bar	φ 2-10	Black
Hot rolling round bar	φ 11-75	Turned
Forged round bar	φ 80-120	Turned
Spray forming round bar	> φ 120	Turned

4、Specification

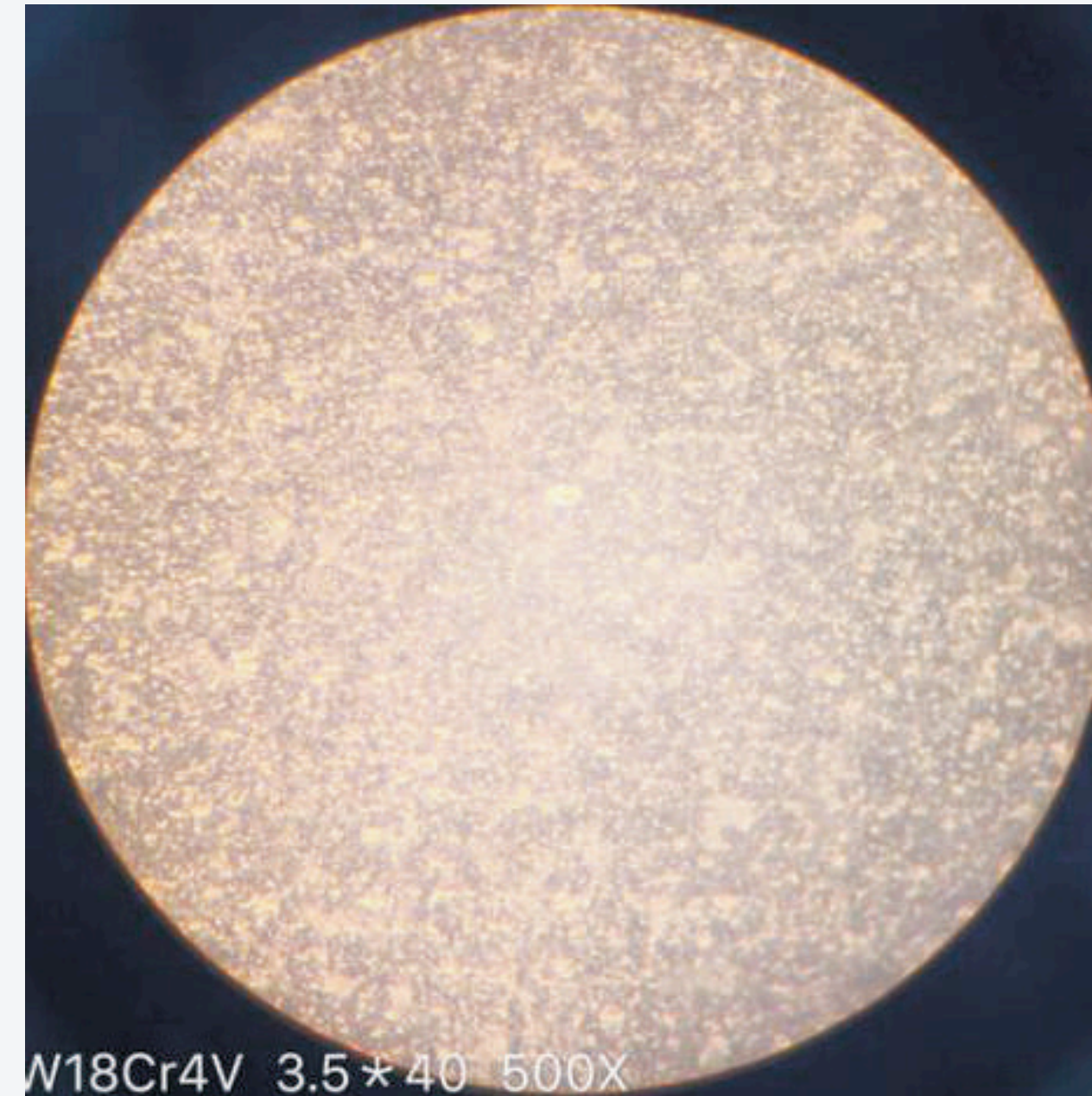
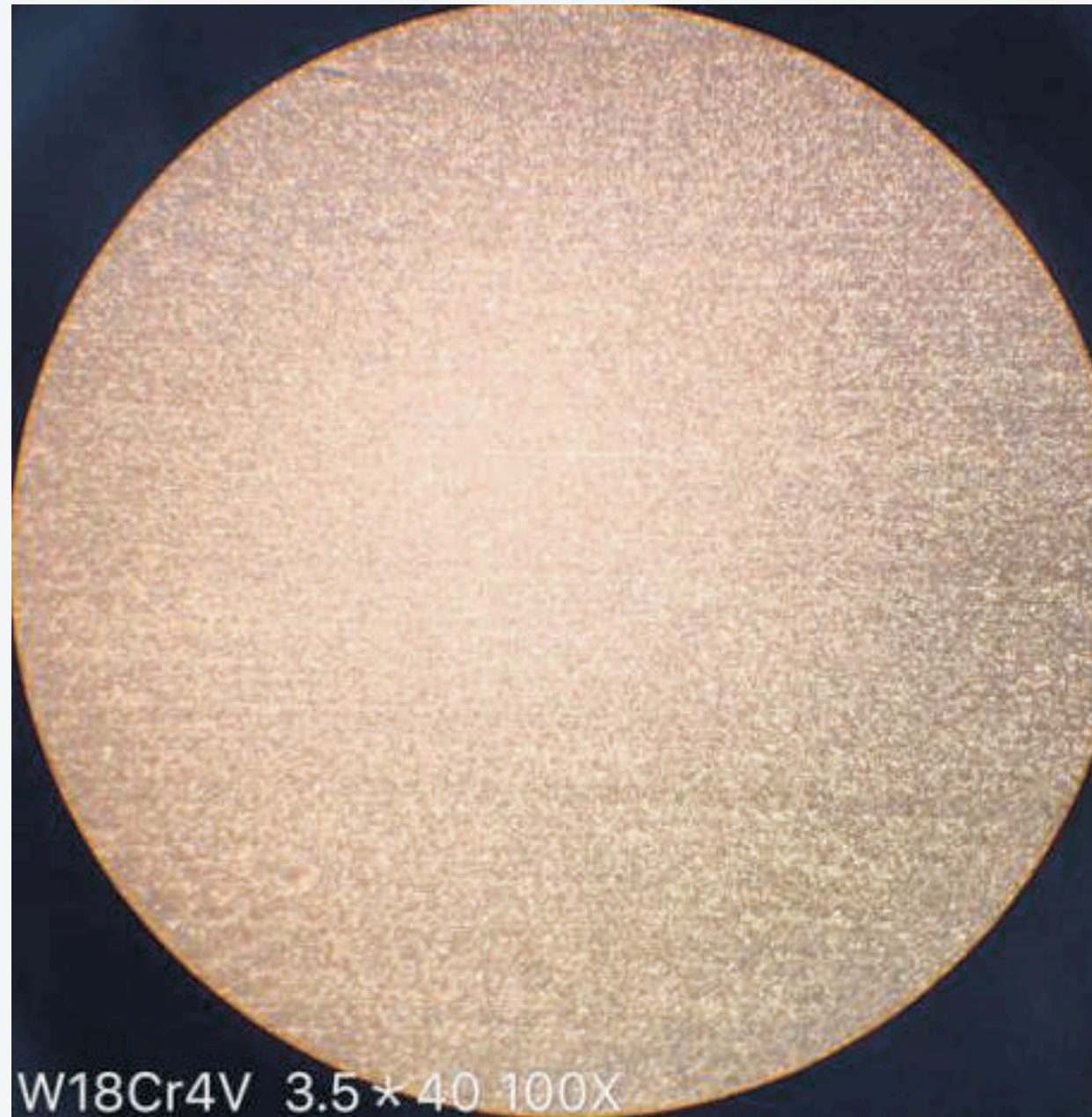
specification for hot-rolled flat bar in common use /mm(black surface)										
T/W	20	25	30	40	50	60	70	80	90	100
3	√	√	√	√						
4-5	√	√	√	√	√	√				
6-13	√	√	√	√	√	√	√	√		
14	√	√	√	√	√	√	√	√	√	
15-18		√	√	√	√	√	√	√	√	
19			√	√	√	√	√	√	√	
20			√	√	√	√	√	√	√	√

HSS T1 等温球化退火--淬火--回火工艺图 (HRC:63-64)

Annealing-Quenching-Tempering graph



Microstructure from production material ▼



Spray Forming Steel ▼

■ SUMMARIZE

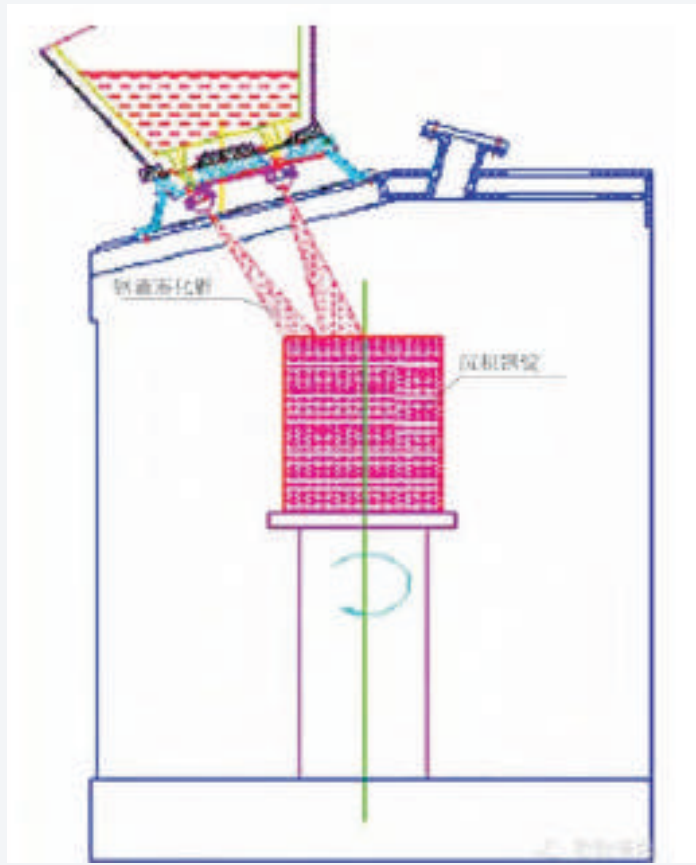
Spray forming is an advanced technology to produce the high performance materials by rapid solidification. The technology has solved the problem of composition of the macro segregation, and has the characteristics of powder metallurgy.

■ THE PROCESS AND PRINCIPLE OF SPRAY FORMING

The raw material is heated into molten metal, and then it is atomized, under the effect of gas injection, the droplets are accelerated and cooled down rapidly; when the collision of flying droplets in the prechamber, the spherical particles have been impacted then became flat, formed to sputtering film; cooling effect of particle precipitation the rapid solidification, and the self fluxing effect accumulation forming.

■ ADVANTAGES OF SPRAY FORMING STEEL

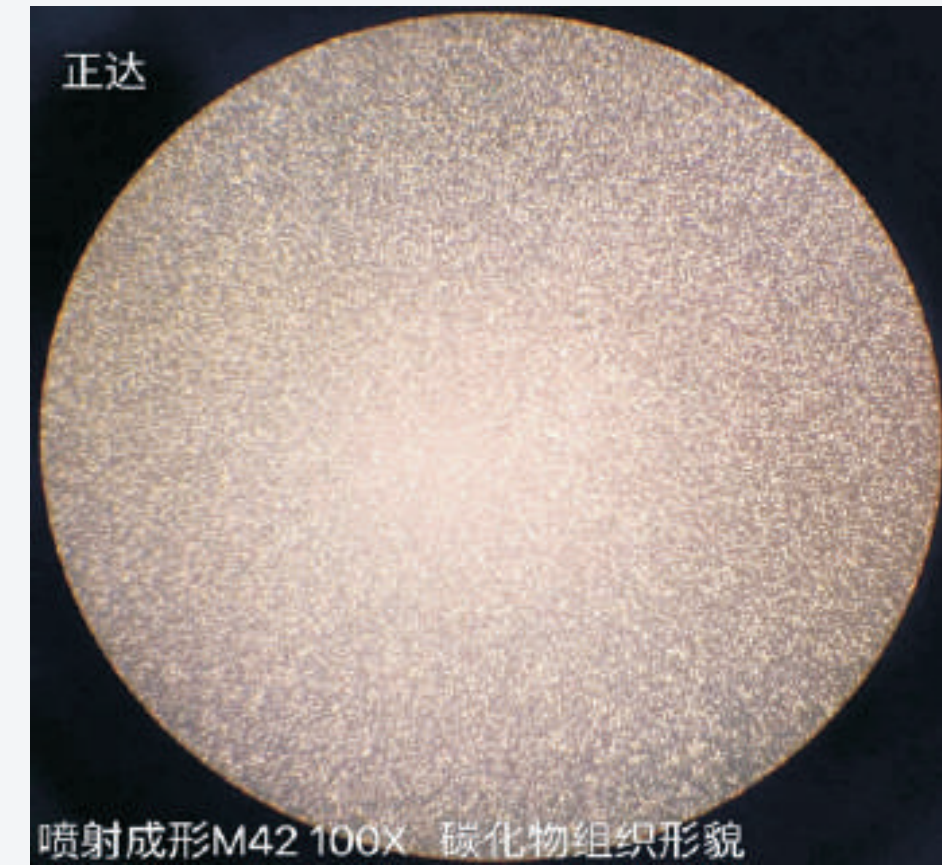
- ◆ No macro segregation of alloying elements.
- ◆ Microstructure much better, and the carbide distributed more evenly.
- ◆ After heat treatment, the mechanical properties are excellent, and the strength and toughness are significantly better than high quality electroslag steel.
- ◆ Service life close to powder steel.



Production sketch



The production process



Spray forming HSS M42
microstructure

SEMI-FINISHED PRODUCTS & APPLICATION ▼



A

HSS steel plate-Material for HSS Circular Saw



B

Material for Thread Rolling Wheel and Thread Rolling Dir



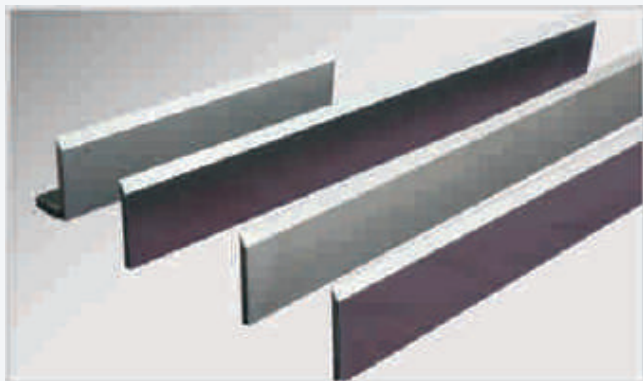
C

HSS Steel Bar-Material for Hobbing Cutter, Broach, etc.



D

Material for Plane Cutter and Air Conditional Vane



Other Application ▼



Drill bit



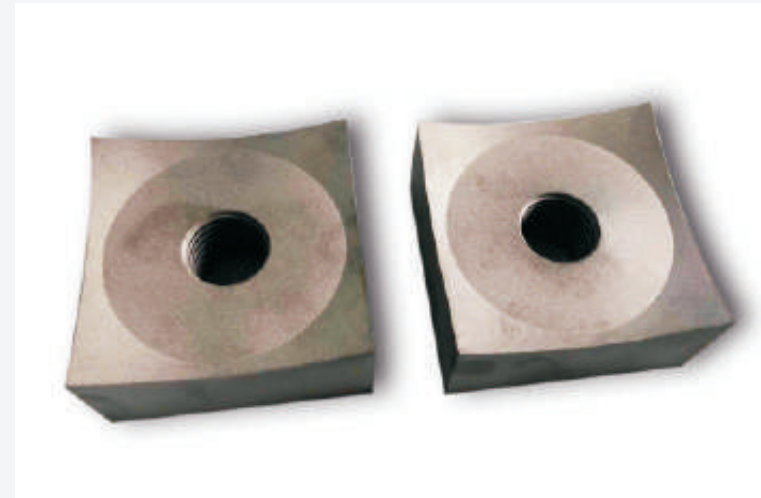
Milling cutter



Slice knife



Kitchen Knife



Shredder Knives



Barber Scissors

DIE STEEL ▼

Supported by Shanghai University, ZEICIN (ZD) aims at developing and producing the high quality hot-work, cold-work die steels. Rare earth electro slag steel has been developed successfully, unique rare earth element modification method used in the process of smelting (patent No. 200810059261.5), the electro slag remelting steel get secondary purification by rare earths, realized the perfect combination of electroslag remelting and the rare earth purification process. Rare earth electro slag steel, High grain boundary strength , High toughness Fatigue-resistance, wear resistance, anti-corrosion, Products reached the first-class die steel in China.

DIE STEEL CHEMICAL COMPOSITION TABLE ▼

Type	ZEICIN(Z D) Grade	Similar Grade								Grade of Other	wt.%Main Chemical composition						
	ZEICIN (Z D)	GB	ISO	ASTM	JIS	DAIDO	UDO	DIN			C	Cr	Mo	Mn	V	W	Si
Cold- work Die Steel	LDER	7Cr7Mo3V2Si									0.70	7.20	2.10	0.30	1.80	-	0.92
	65NbRE	6Cr4W3Mo2VNb									0.65	4.05	2.10	0.30	0.90	2.85	0.30
	Cr8	Cr8Mo2WVSi									0.96	8.20	1.90	0.30	0.95	1.05	1.05
	DC53	Cr8Mo2VSi				G4404					0.96	8.50	2.10	0.30	0.25	-	1.00
Hot-work Die Steel	H13	4Cr5MoSiV1	X40CrMoV51	H13	SKD61	DHA1	ORVAR	1.2344			0.36	5.15	1.25	0.30	0.93	-	1.05
	DHRE	4Cr5Mo3V						1.2367			0.39	5.00	3.00	0.40	0.65	-	0.43
	DM4										0.37	2.40	2.85	0.40	0.30	0.90	0.30
	DM1										0.40	2.20	1.65	0.95	1.00	1.60	0.30
	H21	3Cr2W8V	X30WCr9-3								0.33	2.35	-	0.30	0.24	7.70	0.30

Directional Cold-work Tool Steel A8 ▼

1、Grade

GB	ASTM	DIN	JIS	BOHLER	ASSAB	NACHI
5Cr5WMoSi	A8					

2、Chemical composition

C	Si	S	P	Mn	Cr	Mo	w	v
0.50-0.55	0.80-1.00	≤0.03	≤0.03	0.25-0.40	8.00-9.00	1.50-2.00	1.00-1.50	0.20-0.40

3、Smelting process & Property

- Electric arc furnace + Ladle refining furnace + Vacuum degassing + Directional process.
- The fine carbide particles can improve the tool’ s wear resistance and toughness and prolona the service life.
- The carbide particles are evenly distributed without seqregation, so that the overall hardness of the steel is veryuniform. Good machinability and qrindability, easy to process and more stable performance.

4、Application

- Wood-working Knives
- Forming roll & Punch
- Mold for cold forging,deep drawing and thread rolling
- High speed blanking punch,stainless steel plate punch
- Blanking Die,Stamping die
- Plastic deformation tools

5、Specification

specification for hot-rolled flat bar in common use /mm(black surface)						
T / W	50	100	120	160	200	220
2	√	√	√	√	√	√
3	√	√	√	√	√	√
4	√	√	√	√	√	√
5	√	√	√	√	√	√
6	√	√	√	√	√	√

Martensite Stainless Steel ▼

Martensitic stainless steel has high strength and hardness under heat treatment. We provide a series of martensitic stainless steel and can be customized according to customer's performance requirements and applications of customers. The application of martensitic stainless steel including cutlery, cookwear, surgical and dental instruments, springs, scissors, industrial blades, vehicle stampings, screwdrivers, pliers and staple guns etc.

MARTENSITE STAINLESS STEEL CHEMICAL COMPOSITION TABLE ▼

Type	ZEICIN(ZD) Grade	Similar Grade				Main Chemical composition						
	ZEICIN (ZD)	GB	JIS	ASTM	DIN	C	Si	Mn	Cr	Mo	V	Co
Martensite Stainless Steel	9Cr18Mo	9Cr18Mo	SUS 440C	AISI 440C	1.4125	1.00	0.20-0.80	0.20-0.80	17.10	0.50		
	9Cr18MoV	9Cr18MoV	SUS 440B	AISI 440B	1.4112	0.90	0.20-0.80	0.45	17.50	1.05	0.10	
	11Cr17	11Cr17	SUS 440C	AISI 440C	1.4125	0.98	0.30-0.60	0.30-0.60	17.00-17.50			
	10Cr15Co mav	10Cr15Comav	VG10			1.00	0.20-0.80	0.40	14.90	0.90-1.00	0.30	1.50

9Cr18Mo (102Cr17Mo) ▼

1、Smelting process & Property

EAF+LF+VD+RSESR

High hardness and medium wear resistance, hardness: annealing, no more than 255HB.Quench tempering, or greater than 55HRC.

2、Application

Used as bearing ring and rolling element, non-rust cutting machine tool. shearing tool.surgical blade, parts of high wear-resisting equipment, etc.

3、Grade&Chemical composition

Execution standard	ZD (ZEICIN) Grade	Similar Grade		
		CHINA	AISI	JIS
GB/T 1220-2008	9Cr18Mo	102Cr17Mo	440C	SUS440C
Main chemical composition %				
C	Si	Mn	Cr	Mo
0.95-1.10	≤ 0.8	≤ 0.8	16.00-8.00	0.90-1.00

4、Specification

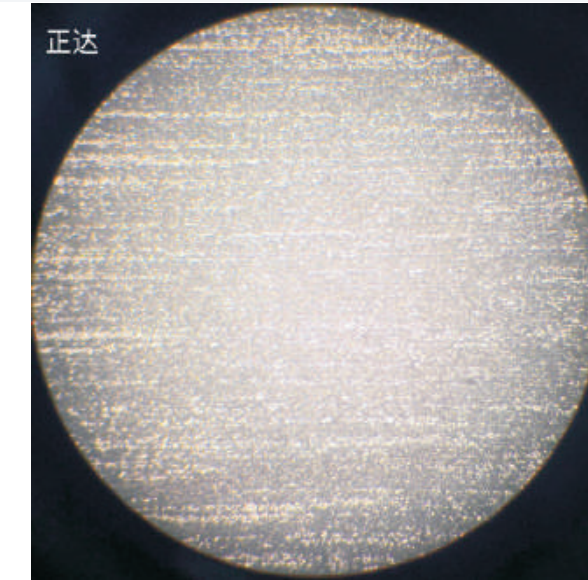
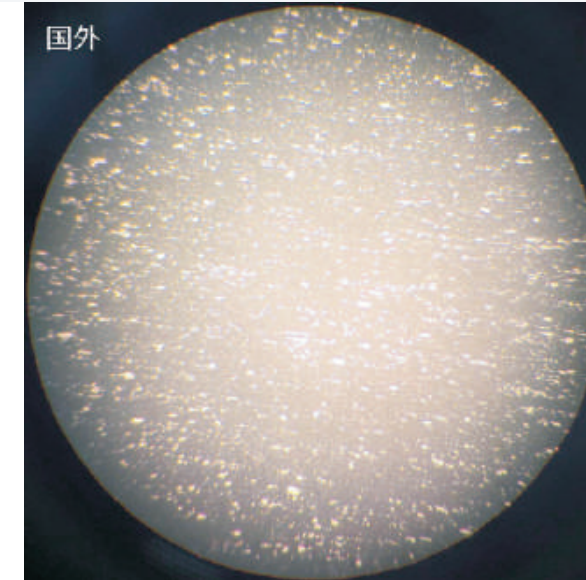
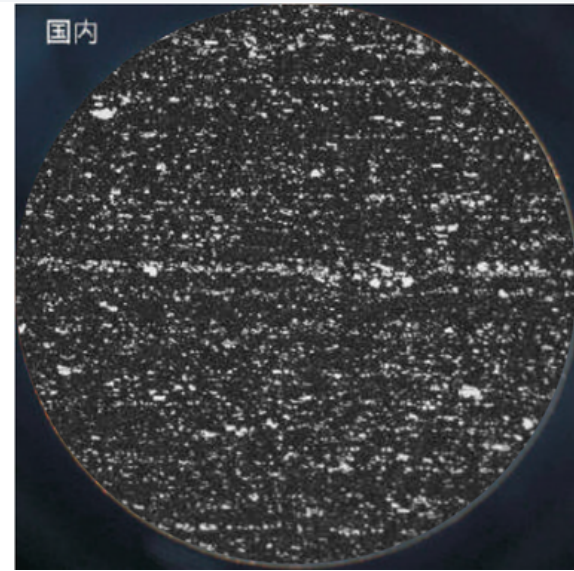
Round bar/mm		
Type	specification(mm)	Surface condition
Cold drawn round bar	φ 2-10	Black
Hot rolling round bar	φ 11-75	Turned
Forged round bar	φ 80-120	Turned

4、Specification

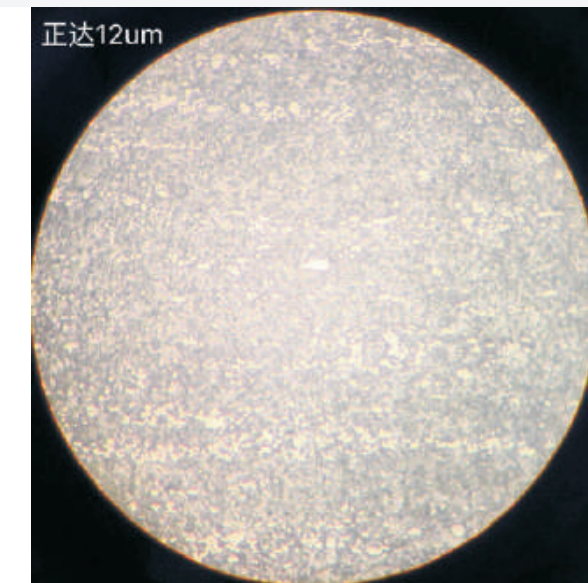
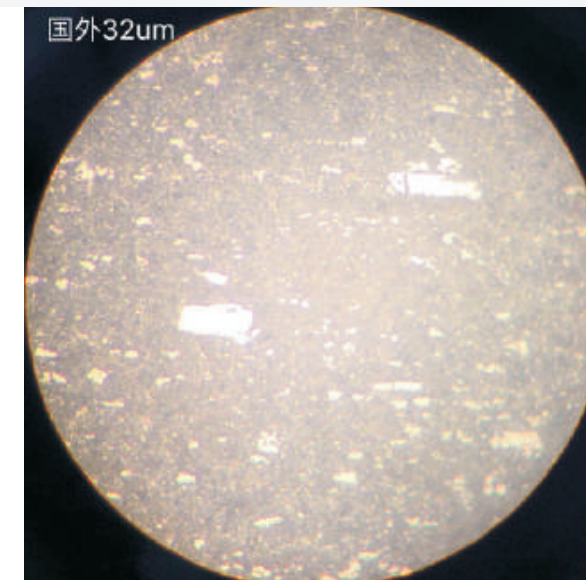
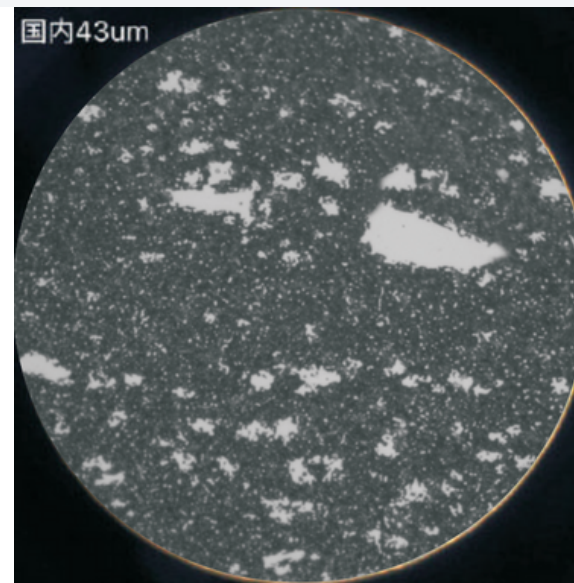
specification for hot-rolled flat bar in common use /mm(black surface)										
T/W	20	25	30	40	50	60	70	80	90	100
3	√	√	√	√						
4-5	√	√	√	√	√	√				
6-13	√	√	√	√	√	√	√	√		
14	√	√	√	√	√	√	√	√	√	
15-18		√	√	√	√	√	√	√	√	
19			√	√	√	√	√	√	√	
20			√	√	√	√	√	√	√	√

Metallographic organization comparision ▼

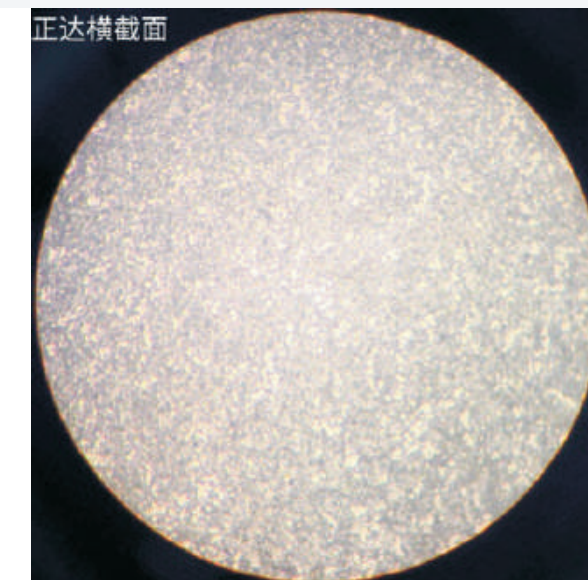
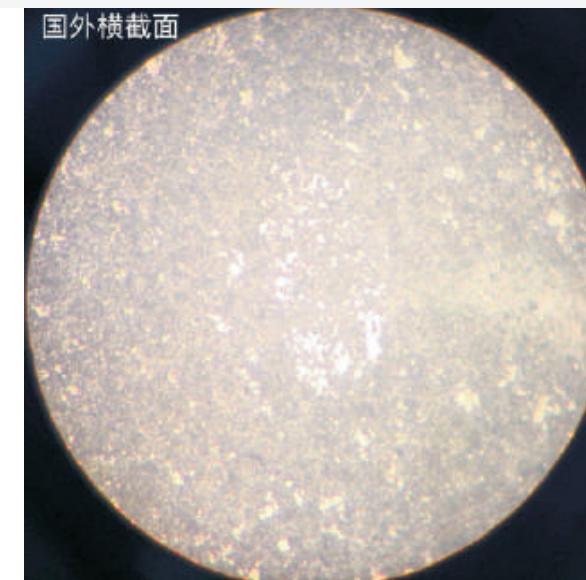
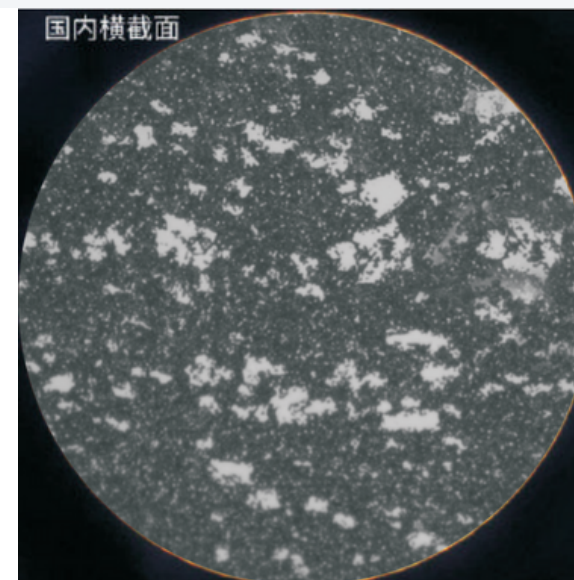
Φ30 domestic(left),
Φ30abroad(middle),
Φ30ZEICIN-ZD(right),
100X



Φ30 domestic(left),
Φ30abroad(middle),
Φ30ZEICIN-ZD(right).
Maximum carbide
500x



Φ30 domestic(left),
Φ30abroad(middle),
Φ30ZEICIN-ZD(right).
intersecting surface
500x.



Directional Martensite Stainless Steel ZDF-9 (9Cr18Mov) ▼

1、Smelting process & Property

EAF+LF+VD+RSESR

High hardness and medium wear resistance, hardness: annealing, no more than 255HB.Quench tempering, or greater than 55HRC.

2、Application

used as bearing ring and roling element, non-rust cutting machine tool. shearing tool,surgical blade, parts of high wear-resisting equipment, etc.

3、Grade&Chemical composition

Execution standard	ZD (ZEICIN) Grade	Similar Grade			
		CHINA	AISI	JIS	
GB/T 1220-2008	ZDF-9	102Cr17Mo	440C	SUS440C	
Main chemical composition %					
C	Si	Mn	Cr	Mo	V
0.87-0.92	≤ 0.80	0.20-0.80	17.00-18.00	1.00-1.20	0.08-0.12

4.Specification

specification for hot-rolled flat bar in common use /mm(black surface)						
T / W	50	100	120	160	200	220
2	√	√	√	√	√	√
3	√	√	√	√	√	√
4	√	√	√	√	√	√
5	√	√	√	√	√	√
6	√	√	√	√	√	√

Directional Martensite Stainless Steel

ZDF-16 (VG10)

▼

1、Smelting process & Property

EAF+LF+VD+Directional Process

High carbon stainless steel, hardness is higher than ordinary stainless steel. Easy to processand excellent cutting performance, toughness, wear resistance and corrosion resistance, iseasy to sharpen razor sharp.

2、Application

It is widely used in high quality kitchen knives, scissors, razors etc.

3、Grade&Chemical composition

Main chemical composition %								
C	Si	S	P	Mn	Cr	Mo	V	Co
0.95-1.05	≤ 0.03	≤ 0.03	≤ 0.03	0.30-0.50	14.50-15.50	0.80-1.20	0.25-0.35	1.30-1.80

4.Specification

specification for hot-rolled flat bar in common use /mm(black surface)						
T / W	50	100	120	160	200	220
2	√	√	√			
3	√	√	√			
4	√	√	√			
5	√	√	√			
6	√	√	√			

10Cr15CoMoV ▼

1、Smelting process&characteristics

EAF+LF+VD+Directional Process

High carbon stainless steel, hardness is higher than ordinary stainless steel. Easy to processand excellent cutting performance, toughness, wear resistance and corrosion resistance, iseasy to sharpen razor sharp.

2、Application

It is widely used in high quality kitchen knives, scissors, razors etc.

3、Grade&Chemical composition

Main chemical composition %								
C	Si	S	P	Mn	Cr	Mo	V	Co
0.95-1.05	≤ 0.03	≤ 0.03	≤ 0.03	0.30-0.50	14.50-15.50	0.90-1.00	0.25-0.35	1.30-1.80

4、 Specification

Round bar/mm		
Type	specification(mm)	Surface condition
Cold drawn round bar	φ 2-10	Black
Hot rolling round bar	φ 11-75	Turned
Forged round bar	φ 80-120	Turned

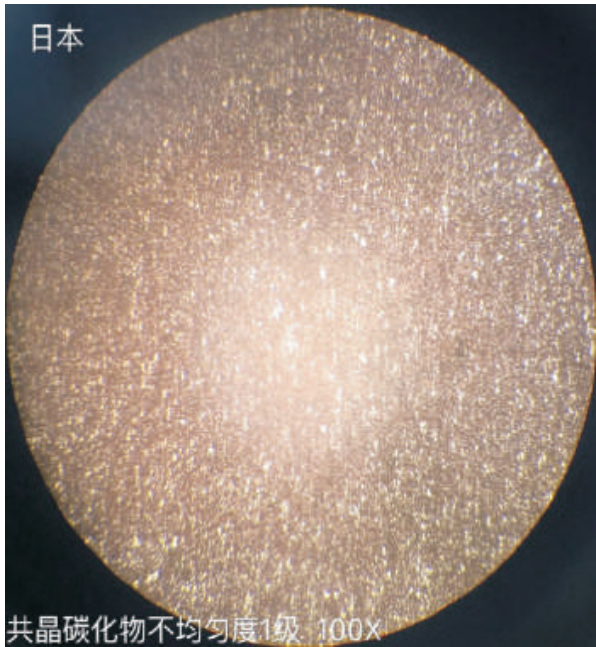
4、Specification

specification for hot-rolled flat bar in common use /mm(black surface)

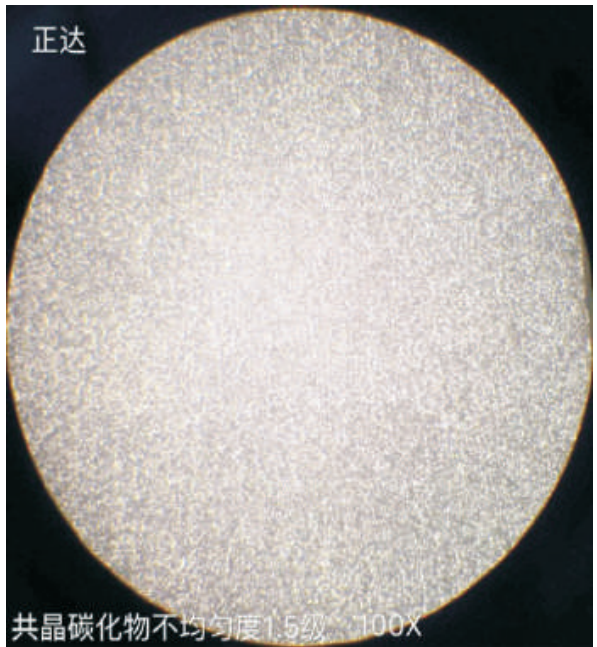
T/W	20	25	30	40	50	60	70	80	90	100
3	√	√	√	√						
4-5	√	√	√	√	√	√				
6-13	√	√	√	√	√	√	√	√		
14	√	√	√	√	√	√	√	√	√	
15-18		√	√	√	√	√	√	√	√	
19			√	√	√	√	√	√	√	
20			√	√	√	√	√	√	√	√

Metallographic organization comparision ▼

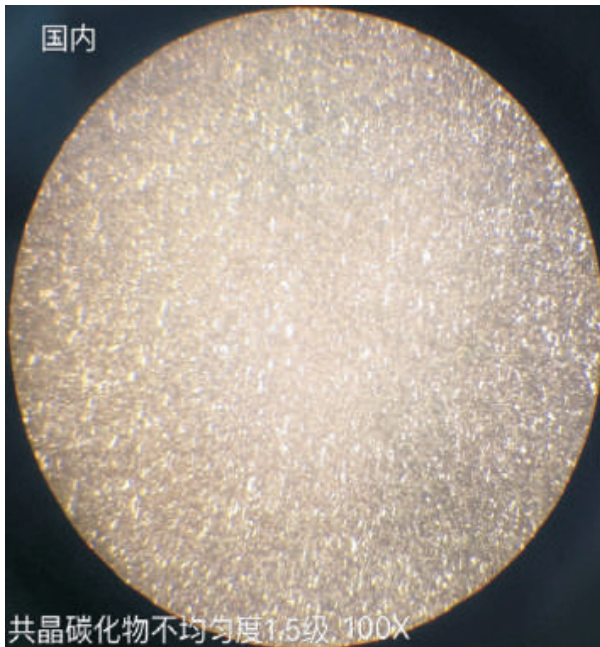
Eutectic Carbide Unevenness



Japan--Class1

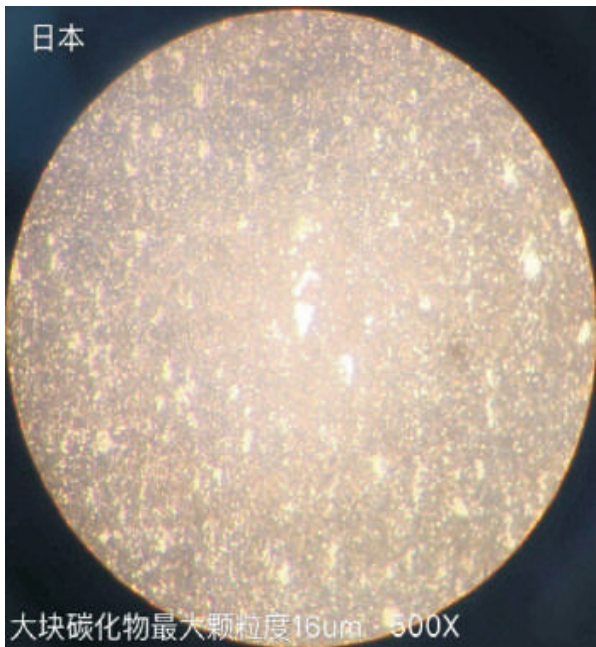


Zaicin (ZD) --Class1.5

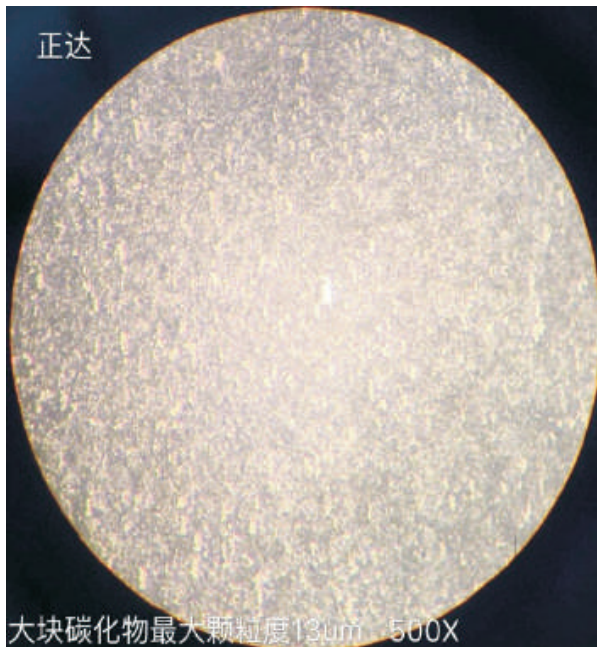


China--Class1.5

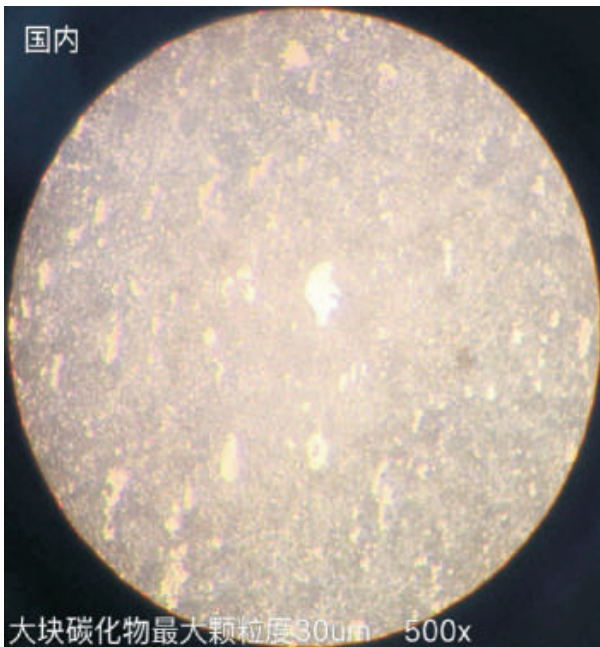
Carbide Particle Size



Japan--16µm



Zaicin (ZD) --13µm



China--30µm

Superalloy-6B ▼

1、Property

Excellent wear resistance, toughness, thermal hardness, good corrosion resistance and mechanical properties.

2、Application

High impact pulp agitators, Critical directional drilling tools, High temperature and pressure valves, Welding wire, Aerospace components, etc.

3、Grade&Chemical composition

Main chemical composition %								
C	Cr	Si	W	Fe	Mo	Ni	Co	Mn
0.90-1.40	28.00-32.00	≤ 2.00	3.50-5.50	≤ 3.00	≤ 1.50	≤ 3.00	Bal	≤ 2.00

Superalloy-6K ▼

1、Property

Excellent wear resistance, toughness, thermal strength, good corrosion resistance andmechanical properties.
Compared with 6B, it has higher hardness but lower toughness.

2、Application

Suitable for various cutting or scraping applications, such as Fiber cutter, Scraper blade.Turbine blade, etc.

3、Grade&Chemical composition

C	Cr	Si	W	Fe	Mo	Ni	Co	Mn
0.90-1.40	28.00-32.00	≤ 2.00	3.50-5.50	≤ 3.00	≤ 1.50	≤ 3.00	Bal	≤ 2.00

4、Specification

Round Bar	specification(mm)	Surface condition
Cold drawn round bar	Φ2.0 - Φ10.5mm	Cold-drawn Black/Ground
Hot rolling round bar	Φ10.6 - Φ40mm	Turned

THANKS

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