JX MOLD & DIE

五金精密模具 冷镦成型行业专用

high precision mold for hardware cold heading forming industry

金信硬质集团
JINXIN CARBIDE GROUP

株洲金信冷镦精密模具有限公司

Zhuzhou Jinxin cold heading precision mold Co., LTD

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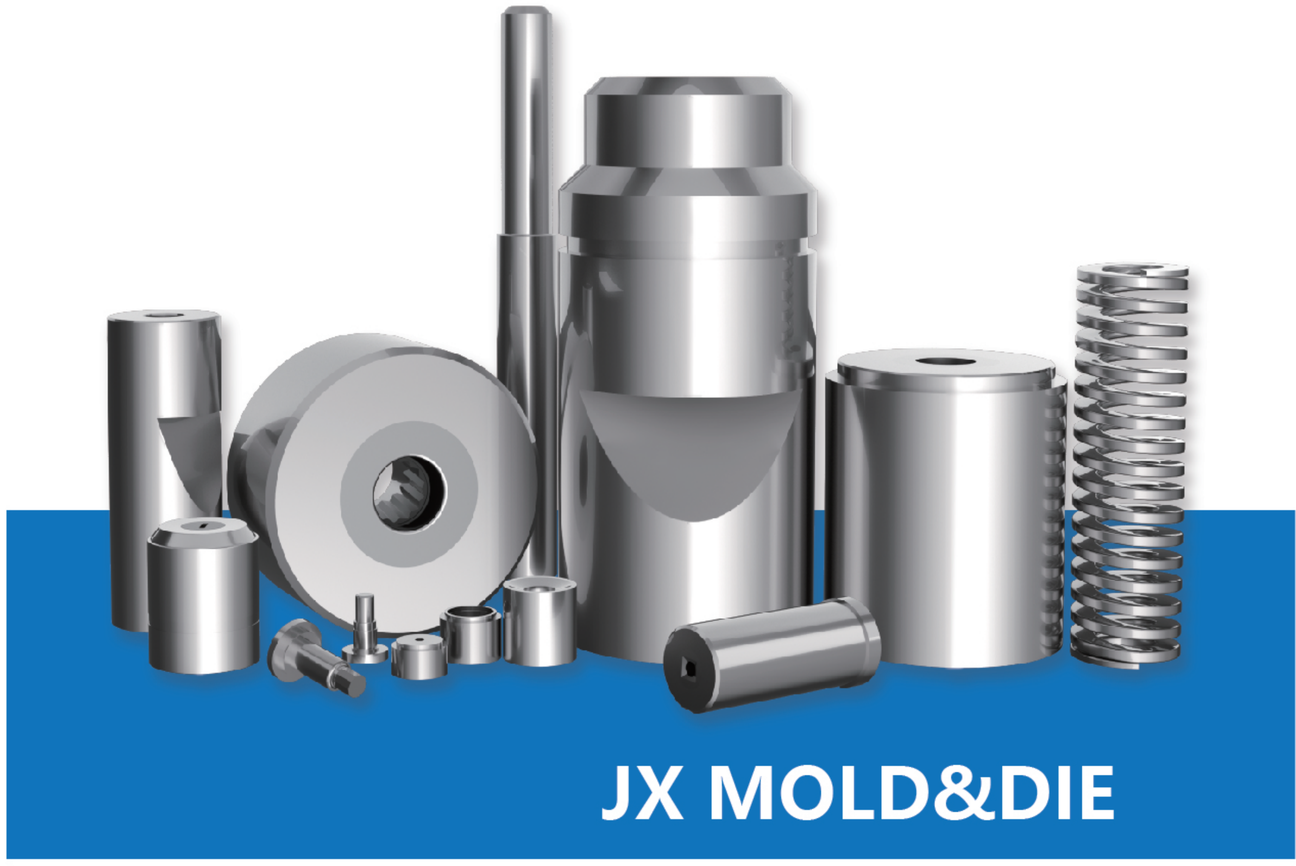
追|求|卓|越　精|诚|致|信

金信硬质集团
JINXIN CARBIDE GROUP



JX MOLD&DIE

金信精密冷镦模具

JINXIN HIGH PRECISION COLD HEADING MOLDS AND DIES

追|求|卓|越　精|诚|致|信

株洲金信冷镦精密模具有限公司（以下简称“公司”）隶属金信硬质集团，是一家集开发设计、生产制造、销售服务为一体的专业冷镦精密模具供应商，为全球生产企业提供尖端冷镦模具解决方案。公司位于中国著名硬质合金生产基地湖南株洲，依托于此地丰富的资源和深厚的技术底蕴，公司拥有成熟的模具制造技术，整合了全套硬质合金模具加工资源，为客户提供最优质的模具产品。

公司引进了一系列来自日本、德国、瑞士等工业强国的先进生产及检测设备，确保模具加工的精准度和高效性。始终坚守“精准选材，品质至上”的原则，通过严格的品控流程，确保每一件产品都达到高精度、高寿命的标准。

公司与国内外众多知名企业建立了长期稳定的战略合作关系，核心产品包括多种合金锻打模、强束模、束梅花、束六角打模、不锈钢主模、沉头F头主模、冲模、六片组合冲模以及钨钢高速钢冲棒等，广泛应用于新能源汽车、医疗器械、5G电子、航空军工、路桥建筑等多个领域。

公司以“追求卓越，精诚致信”为企业精神，坚持以高精尖的人才，高精尖的技术装备，打造高端、高品质硬质合金冷镦模具，秉承“好合金　金信造”的质量理念，树立中国硬质合金民族品牌，让中国制造誉满世界。

Company Profile

Zhuzhou Jinxin Cold Heading Precision Mold Co., LTD. (hereinafter referred to as the "Company") belongs to Jinxin Group, is a professional cold heading precision mold supplier integrating development, design, manufacturing, sales and service, and provides cutting-edge cold heading mold solutions for global manufacturers. The company is located in China's famous cemented carbide production base Zhuzhou, Hunan province, relying on the rich resources and deep technical heritage here, the company has mature mold manufacturing technology, integrated a full set of cemented carbide mold processing resources, to provide customers with the best quality mold products.

The company has introduced a series of advanced production and testing equipment from Japan, Germany, Switzerland and other industrial powers to ensure the accuracy and efficiency of mold processing. Always adhere to the principle of "precise material selection, quality first", through strict quality control process, to ensure that every product meets the high precision and high life standards.

The company has established a long-term and stable strategic cooperative relationship with many well-known enterprises at home and abroad. The core products include a variety of alloy forging dies, strong beam dies, beam plum, beam hexagonal punching dies, stainless steel main dies, countersunk F-head main dies, punching dies, six-piece combination punching dies and tungsten steel high-speed steel punching rods, etc. Widely used in new energy vehicles, medical equipment, 5G electronics, aviation and military, road and bridge construction and other fields.

The company to "the pursuit of excellence, sincere letter" as the spirit of enterprise, adhere to the sophisticated talent, sophisticated technology and equipment, to create high-end, high-quality carbide cold heading mold, adhering to the "good alloy Jinxin manufacturing" quality concept, establish China's carbide national brand, so that China's manufacturing reputation in the world.

致力于为全球紧固件成型提供高端应用服务

Committed to providing high-end application services for global fasteners

高速耐冲击的冷、热镦各类打模，主要用于汽车零部件、医疗器械、5G电子、航天军工、路桥建筑领域冷镦成型。

High-speed and impact-resistant cold and hot upsetting various kinds ofmoulds are mainly used for cold upsetting of automobile parts, medicaldevices, 5G electronics, aerospace and military industry, road and bridgeconstruction.

工艺流程

01 出图、审图 配发管制编号
Drawing and auditing Issue a control number

02 准备材料 锯断
Prepare material for sawing

03 粗车 加工
Rough Machining

04 热处理 加工
Heat Treatment Machining

05 模壳内孔加工 钨钢外径加工
Mold Shell inner Hole Processing Tungsten Steel Outer Diameter Processing

06 将钨钢 压入模壳内
Press Tungsten carbide Into the Mold Shell

07 钨钢内孔 研磨
Tungsten Carbide Bore Grinding

08 电火花加工 内孔抛光
EDM Bore Polishing

09 外径研磨 抛光
Outher Diameter Grinding Potshing

10 品质检验 出货
Quality Inspection Shipment

专业•专职•专人的服务

Professional, Responsible, Reliable

成为您最值得信赖的合作伙伴

Aim to be your honest and sincerely partner

★高端的生产检测设备
★稳定高效的品质与服务
★完善的加工品控
★整合硬质合金模具加工配套资源

★ High-end production testing equipment
★ Stable and efficient quality and service
★ Perfect processing product control
★ Integrated carbide die processing supporting resources

各类非标多冲程成套模具

广泛用于新能源、医疗器械、军工等非标冷镦零件成型依客户图纸及样品，提供模具开发、生产制造等整套解决方案。

It is widely used for forming non-standard cold heading parts such as new energy,medical instruments, military industry, etc.According to the customer's drawings and samples, provide a complete set of solutionsfor mold development, production and manufacturing.

5G电子元件

广泛用于手机、数码电器等充电插头冷镦成型。

It is widely used for cold upsetting of charging plugs such as mobile phones and digitalappliances.

冲模系列 Stamping mold serious

是各种冷镦产品用于头部成型系列模具，根据产品的头部尺寸、材质、用料而制做!

It is a series of cold heading products used for head forming dies, which are madeaccording to the head size, material and material of the product!

六片组合模 6 in one comination mold

	steel sleeve	tungsten carbide core
material	steel SKD61	importing raw material

主要用于各类钻尾螺丝、六角法兰螺丝、螺栓头部成型专用。

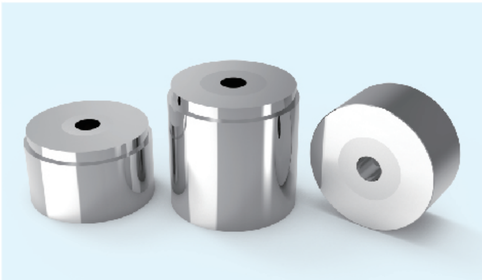
Mainly used for various types of drill tail screws, hexagonal flange screws, and bolt heads forming .

四角一冲 4 legged cone with punch die

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于建筑类螺丝、强板钉等，头部初次成型专用。

Mainly used for construction screws, strong plate nails, etc., and for molding of the head the first time.

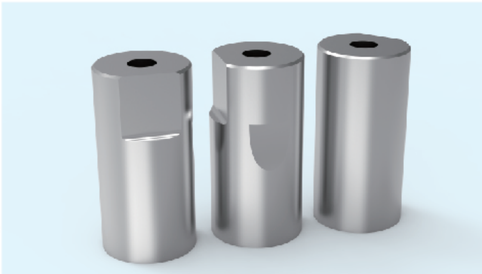


汽车冷镦产品打模
cold heading punch die for automotive parts

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各类汽车冷镦产品。

maily used for virous cold stamping parts for automotive



强束模 strong necking die

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各类非标件成型专用。

maily used for all kinds of non standard molding

强束模 strong necking die

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各类钻尾螺丝、六角螺柱成型专用。

maily used for all types of drill tail screw, specialy for hex studs molding.

内模芯（倒角）
Inner mold core (chamfered)

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各种冷镦产品杆部长度控制所需。

maily used for a rod length controlling with all types of cold heading parts

F头喇叭头不锈钢主模 F head speaker head stainless steel main mold

	steel sleeve	tungsten carbide core
material	SKD61	imported raw material

主要用于各类钻尾螺丝、纤维板钉等成型专用。

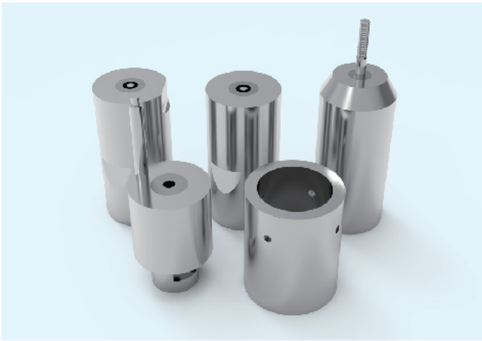
maily used for types of drill tail screw, nail molding for fiberboard.

凸位打模 Convex punch die

	steel sleeve	tungsten carbide core
material	SKD61	imported raw material

主要用于各类钻尾螺丝成型专用。

maily used for types of drill tail screw



强束模 strong necking die

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各类台阶钉的成型专用。

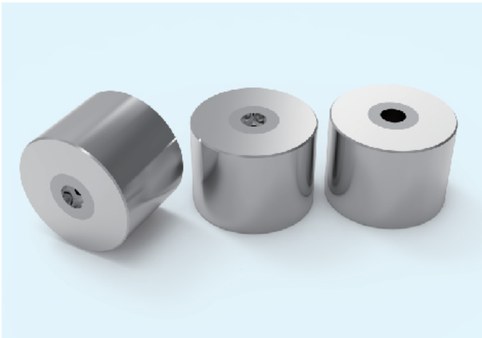
maily used for forming all kinds of step nails

二冲模 double punch die

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各种冷镦产品头部成型专用。

maily used for head forming with cold tamping parts

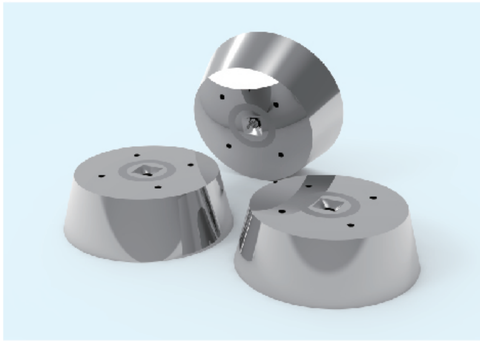


倒角模 chamfered angle mold

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各类非标冷镦零件成型专用。

maily used for the forming of all kinds of non-standard cold tamping parts



马车螺丝套片 carriage bolt sleeve

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各类马车螺丝等成型专用。

maily used for the forming of all kinds of carriage bolts and screws

异形套片 irregular sleeve

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各种冷镦产品头部下面（背面）尺寸成型。

maily used for the opsite side of head forming of all kinds of cold stamping parts

六角套片 hexagon sleeve

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各种冷镦产品六角部位尺寸成型。

maily used for the hex part shape forming of all kinds of cold stamping parts

套片模芯 sleeve and core mold

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各类非标准冷镦零件，固定头部及杆部尺寸。

maily used for fixing the head and rod size of the non-standard cold forging parts

包钨活动冲

tungsten carbide mobile puching die with sleeve

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各类冷镦产品固定头部尺寸。

maily used for fixing the head size of cold forging parts

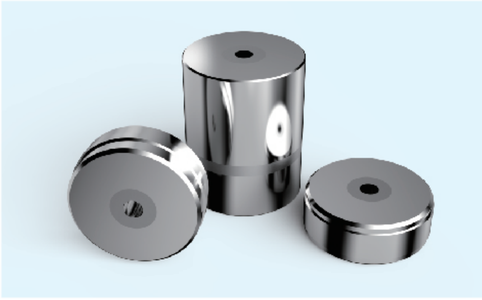
四角一冲（全钨）

4 legged cone with punch die（100% tungsten)

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

主要用于各类纤维钉头部成型专用。

Mainly used for nail head molding for fiberboard



多功位线模切刀

Multi station cutter for wire die

	steel sleeve	tungsten carbide core
material	steel SKD61	imported raw material

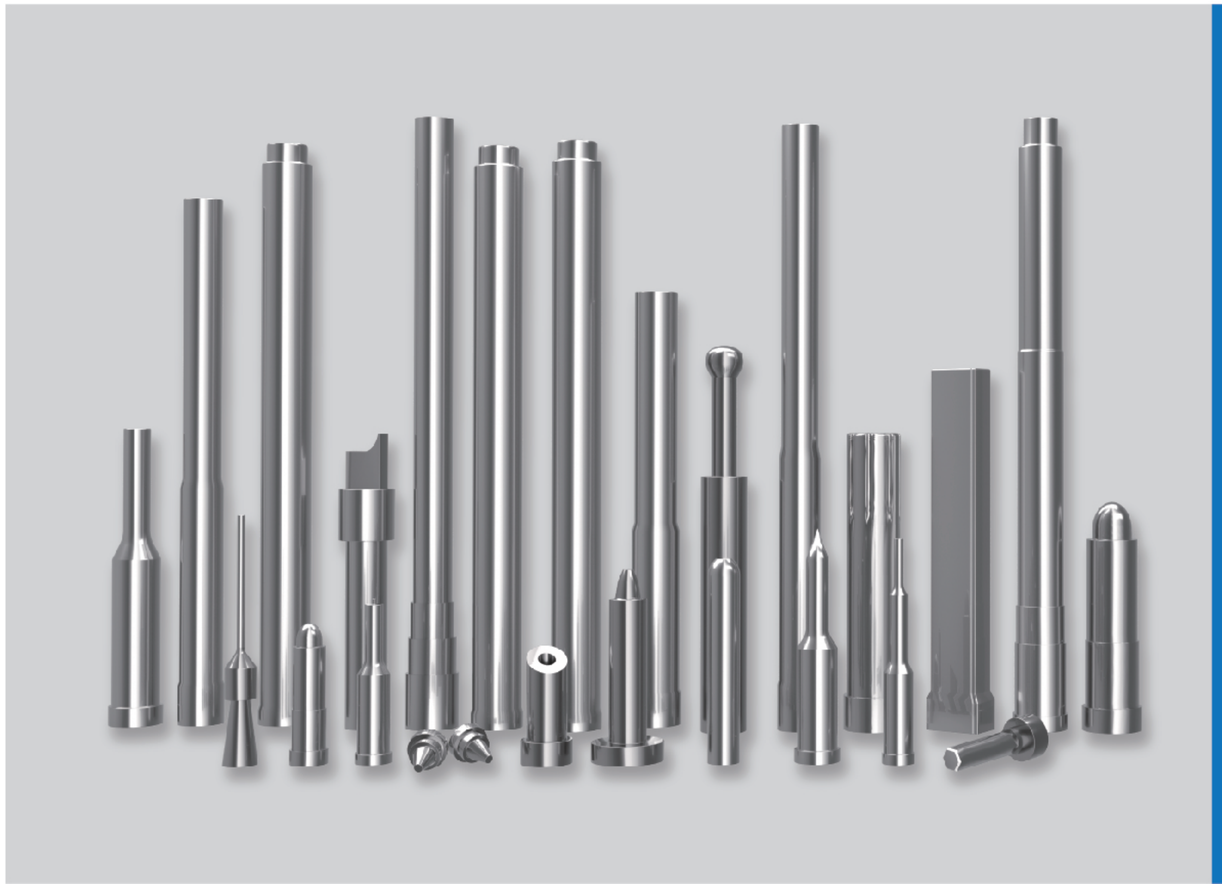
主要用于各种冷镦机切料专用。

Mainly used for all kinds of cold heading machine cutting material special purpose.

各类高速钢及钨钢顶针冲棒

依据图纸加工，主要用于配套各种冷镦打模、冲模、冲棒。

It is processed according to the drawing and mainly used for supporting various cold heading dies,dies and punches.



钨钢模具 tungsten steel molds and dies

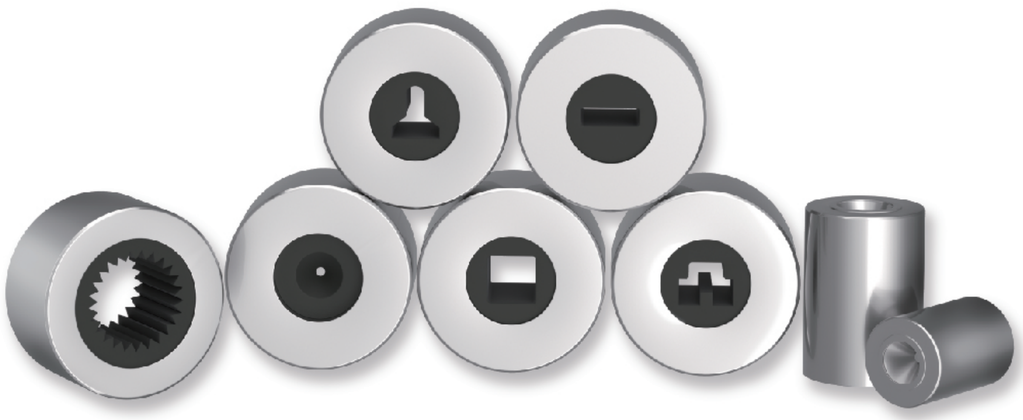
Tungsten steel molds are high-precision and high hardness molds that are widely used in multiple fields due to their wear resistance, heat resistance, and deformation resistance characteristics. The following are some main uses of tungsten steel molds:

Plastic industry: used for plastic injection molding, such as producing plastic parts, containers, and components.
Metal industry: used for injection casting molding, manufacturing automotive parts, mechanical parts, etc.
Medical device industry: used for injection molding, such as producing medical device casings, medical devices, etc.
Cutting tools: Manufacturing hard alloy cutting tools for the metal processing industry.
Hardware processing: used for manufacturing stainless steel products, instrument covers, etc
Mechanical manufacturing: used for manufacturing machine tools, cutting tools, grinding tools, etc,
Aerospace field: used to produce components for making aircraft and spacecraft.
Automotive industry: applied to engine components, high-pressure fuel pipes, etc,
electronic and appliances fiel: used for mobile phone batteries, electronic product casings, etc.
Household appliance manufacturing: such as the manufacturing of refrigerators, compressors, and washing machine motors.
Shipbuilding industry: used for manufacturing ship structures and ship accessories.

In addition, tungsten steel molds are also suitable for the manufacturing of wear-resistant parts, such as bearings, shaft sleeves, and the production of stretching tools.

紧固件螺栓成型模具 Fastener bolt forming molds

Fastener bolt forming mold: comprising a fixed mold, which including fixture blocks and threaded rods . The upper end of the fixed mold is provided with a groove, and a transition mold is provided in the groove. The left and right sides of the transition mold are equipped with a slide block . The threaded rod is threaded to the slide block , and the end of the threaded rod that is far away from each other runs through the fixed mold. The corresponding threaded rod on the fixed mold has a straight through-hole, and the end of the slide block that is close to each other is equipped with several fixture blocks. The corresponding fixture block that left and right ends of the transition mold are equipped with several fixed slots, and the upper end of the fixed mold is symmetrically equipped with a bracket, there is no moving mold between the bracket.
When in use of the present invention, the transition mold is placed into a groove, and the rotating handle drives the threaded rod to rotate. The threaded rod drives the sliding block to move closer to each other, and the sliding block drives the fixed block to insert into the fixed slot, thereby installing and fixing the transition mold. When disassembling, the handle can be rotated in reverse, which is easy to operate, easy to install and disassemble, result in time-saving and labor-saving.



拉拔模具 Drawing mold

1、 ROLLING TYPE DRAWING DIE

Rolling type drawing dies are the most commonly used molds in aluminum processing, mainly used for rolling starch and defects in aluminum materials, especially suitable for small-sized aluminum materials. Rolling type drawing dies can cause aluminum material to become fibrous, improve its strength and toughness, and eliminate internal stresses. In addition, rolling type drawing dies can also be used for processing complex shaped aluminum materials,

2、 THRUST TYPE DRAWING MOLD

Thrust type drawing molds are mainly used to strengthen the axial direction of aluminum materials, improve their tensile strength and fatigue resistance. The thrust type drawing die can be adjusted and replaced according to the different sizes of aluminum materials, suitable for various aluminum specifications.

3、 PUSH-PULL PULLING MOLD

The working principle of push-pull drawing molds and push-pull drawing molds is similar, but their structure is relatively flexible, and different models of molds can be used when processing aluminum materials of different specifications, improving work efficiency and processing quality.

4、 VACUUM SUCTION DRAWING DIE

Vacuum suction drawing mold is a new type of drawing mold that has emerged in recent years. During the working process, negative pressure is generated to suck up the aluminum material, and then it is processed into the desired shape. This type of mold does not require any mechanical force and does not generate excessive stress on the aluminum material. The surface of the processed aluminum material is very smooth, suitable for high-precision aluminum processing. However, due to its reliance on vacuum systems, careful maintenance and management are required to ensure the normal operation of the system.

In summary, the classification and applicability of drawing molds vary. Choosing the right mold can improve the efficiency and quality of aluminum processing, reduce production costs, and have a profound impact on the development of the aluminum processing industry。

热镦模具 Hot heading mold

热镦模具材料主要有合金钢、高速钢和硬质合金等。

The main materials for hot heading molds include alloy steel, high-speed steel, and hard alloy, etc

1、 ALLOY STEEL

Alloy steel is widely used in the manufacturing of most hot molds. They can withstand high temperature and high pressure, as well as repeated pressure effects. Alloy steel is usually composed of elements such as tungsten, molybdenum, chromium, and cobalt. The addition of these elements can enhance the hardness, strength, wear resistance, and corrosion resistance of steel. In some advanced applications, these steel grades typically require a heat treatment process of quenching and tempering

2、 HIGH SPEED STEEL

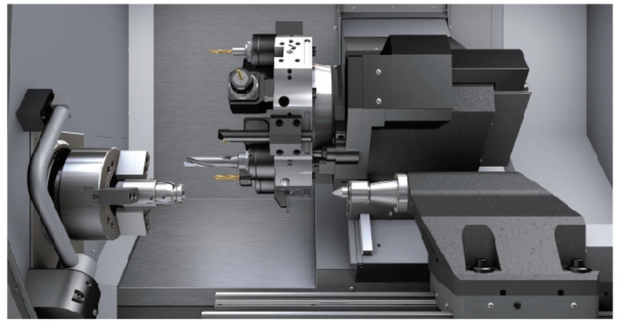
High speed steel is also a commonly used hot mold material, which has high hardness, high resistance, and high temperature stability. In high-speed cutting and drilling applications, high-speed steel is one of the most commonly used materials. High speed steel improves its hardness and wear resistance by adding a large amount of elements such as tungsten, molybdenum, chromium, cobalt, manganese, vanadium, and silicon. Although high-speed steel has high hardness, it needs to avoid thermal deformation at high temperatures.

3、 HARD ALLOY

Hard alloys are also suitable for hot mold manufacturing, as their high hardness and strength enable them to maintain stability even at high temperatures. Hard alloy, also known as tungsten cobalt hard alloy, is composed of small, granular tungsten cobalt particles. The addition of tungsten drill particles improves the hardness and wear resistance of steel. Hard alloys also require special heat treatment processes to ensure their performance,

4、 OTHER MATERIALS

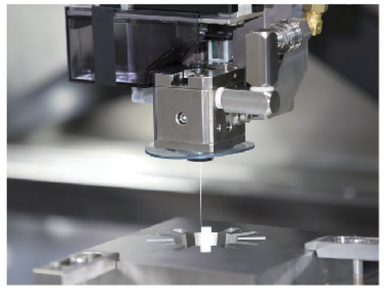
In addition to the above-mentioned materials, there are also some other materials that can be used for the manufacturing of hot heading molds, including stainless steel, copper alloys, and plastics. In practical applications, different materials are suitable for different production volumes and processing requirements. Choosing appropriate materials can effectively improve production efficiency and quality

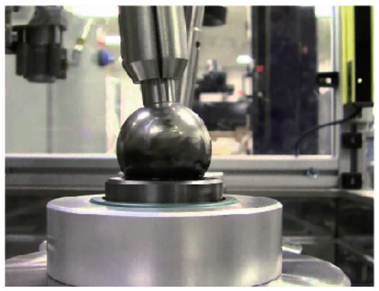


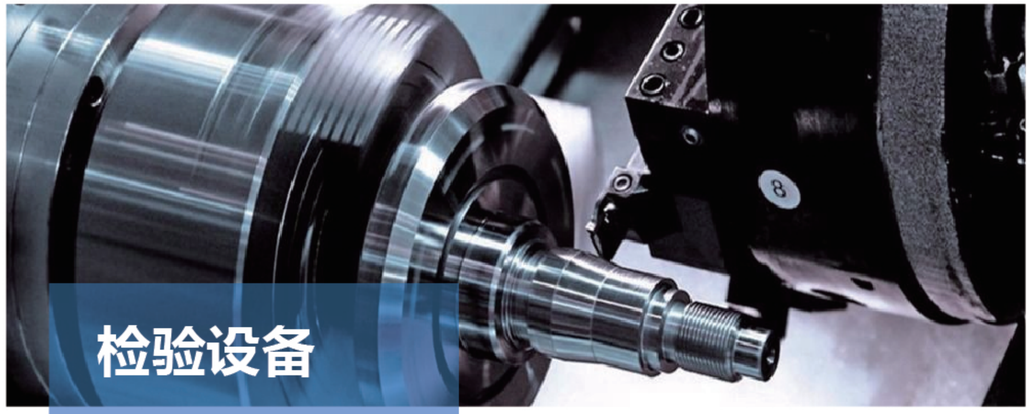
生产设备 production equipment

本公司拥有精密普通车床、进口数控车床 、数控内孔研磨机器、数控外圆研磨机器、钨钢模具放电加工机器、数控线切割、全自动内孔抛光机器等 100 多台精密设备，能够全力应对客户不间断的产能需求！

The company has more than 100 sets of precision equipment such as precision ordinary lathes, imported lathes, CNC inner hole grinding machines, CNC cylindrical grinding machines, tungsten steel die discharge machining machines, CNC wire cutting, automatic inner hole polishing machines, etc., which can fully cope with customers' uninterrupted production demand!





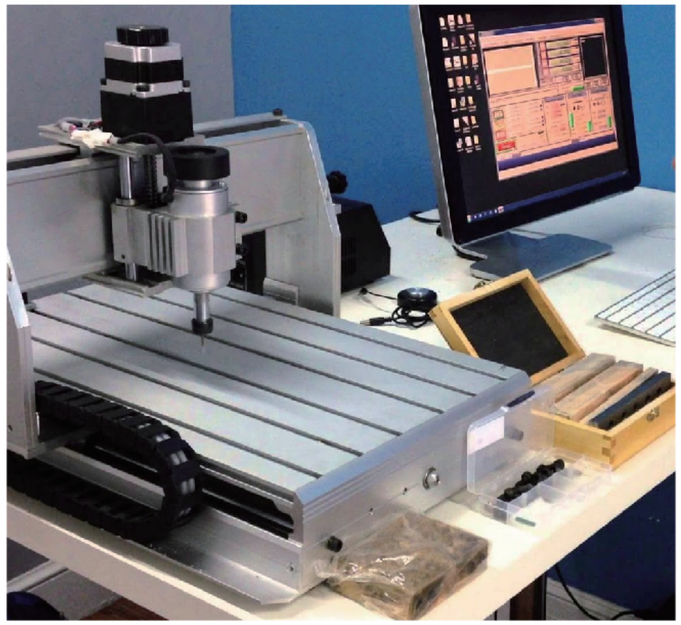


检验设备

insoectuib equipment

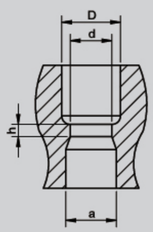
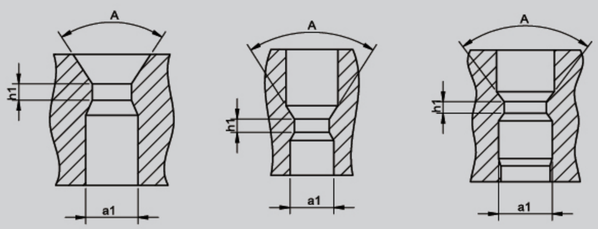
金信模具一直致力于推动中国精密钨钢模具业的发展，是国内精密冷镦挤压、热锻模具、汽车紧固件模具领域的技术领跑者和领先制造商。公司拥有进口内径千分尺、精密影像测量设备、进口二次元、精密粗糙度轮廓仪、各式精密内孔塞规等检测设备，确保产品制造精度准确无误。

Jinxin Mold has been committed to promoting the development of China's precision tungsten steel mold industry, is the domestic precision cold heading extrusion, hot forging die, automotive fastener mold field technology leader and leading manufacturer. The company has imported inner diameter micrometer, precision image measuring equipment, imported secondary element, precision roughness profilometer, service precision inner hole plug gauge and other testing equipment to ensure the accuracy of product manufacturing.



冷镦模具缩径带标准

Standard for reducing band of cold heading die

强缩、封闭缩	开式缩
	

缩径带直径 Diameter of reducing band	强缩、封闭缩 Strong Reduce，Closed Reduce		开式缩 open shrinkage		缩径带直径 Diameter of reducing band	强缩、封闭缩 Strong Reduce，Closed Reduce		开式缩 open shrinkage	
	后愉间隙a reducing bend width	缩径带宽度a reducing bend width	后愉间隙a reducing bend width	缩径带宽度a reducing bend width		后愉间隙a reducing bend width	缩径带宽度a reducing bend width	后愉间隙a reducing bend width	缩径带宽度a reducing bend width
≤3	0.04-0.05	0.8	0.02-0.03	0.6	> 12-14	0.07-0.08	1.7	0.05-0.06	1.5
> 3-4	0.04-0.05	0.8	0.02-0.03	0.6	> 14-16	0.07-0.08	1.9	0.05-0.06	1.7
> 4-5	0.05-0.06	0.9	0.03-0.04	0.7	> 16-18	0.08-0.09	2.1	0.06-0.07	1.9
> 5-6	0.05-0.06	0.9	0.03-0.04	0.7	> 18-20	0.08-0.09	2.2	0.06-0.07	2.0
> 6-8	0.05-0.07	1.1	0.03-0.05	0.9					
> 8-10	0.06-0.07	1.3	0.04-0.05	1.1	angle of strong reduce and closed reduce: R=D/2				
> 10-12	0.06-0.07	1.3	0.04-0.05	1.3	A angle of open reduce: A=22-30° generally make it 26-28°				

冷镦成型实用查询

Parameter standards for cold forming die

公制细牙(6g)M/MMACHINESCREW2A(60*)					
SIZE 规格	P 牙距	外径（D）		碾造径	
		最大 (MAX)	最小 (MIN)	最大 (MAX)	最小 (MIN)
M4	0.5	3.97	3.86	3.62	3.58
M4.5	0.5	4.47	4.36	4.12	4.08
M5	0.5	4.97	4.86	4.62	4.58
M6	0.75	5.97	5.85	5.45	5.41
M7	0.75	6.97	6.85	6.45	6.41
M8	1.0	7.97	7.83	7.29	7.24
M9	1.0	8.97	8.83	8.29	8.24
M10	1.25	9.96	9.81	9.12	9.07
M10	1.0	9.97	9.82	9.28	9.23
M12	1.25	11.96	11.76	11.12	11.07
M12	1.5	11.96	11.79	10.95	10.89
M14	1.5	13.96	13.79	12.95	12.89
M16	1.5	15.96	15.79	14.95	14.89
M18	2.0	17.95	17.65	16.62	16.54
M18	1.5	17.95	17.78	16.93	16.86
M20	2.0	19.95	19.65	18.62	18.54
M20	1.5	19.95	19.78	18.92	18.85
M22	1.5	21.95	21.78	20.92	20.85
M24	1.5	23.95	23.78	22.92	22.85
M26	1.5	25.95	25.78	24.93	24.85
M27	1.5	26.95	26.78	25.93	25.85
M28	1.5	27.95	27.78	26.93	26.85
M30	1.5	29.95	29.78	28.93	28.85

公制细牙(6g)M/MMACHINESCREW2A(60*)					
SIZE 规格	P 牙距	外径（D）		碾造径	
		最大 (MAX)	最小 (MIN)	最大 (MAX)	最小 (MIN)
M2	0.4	1.98	1.89	1.72	1.69
M2.3	0.4	2.28	2.19	2.02	1.99
M2.5	0.45	2.48	2.38	2.18	2.15
M3	0.5	2.98	2.88	2.64	2.61
M3.5	0.6	3.47	3.36	3.06	3.03
M4	0.7	3.98	3.84	3.49	3.45
M4.5	0.75	4.47	4.34	3.96	3.92
M5	0.8	4.98	4.83	4.43	4.38
M6	1.0	5.97	5.82	5.30	5.25
M7	1.0	6.97	6.82	6.30	6.25
M8	1.25	7.96	7.79	7.12	7.07
M9	1.25	8.96	8.79	8.12	8.07
M10	1.5	9.96	9.77	8.97	8.91
M11	1.5	10.97	10.73	9.97	9.91
M12	1.75	11.95	11.76	10.79	10.73
M14	2.0	13.95	13.74	12.63	12.56
M16	2.0	15.95	15.74	14.63	14.56
M18	2.5	17.95	17.71	16.31	16.23
M20	2.5	19.95	19.71	18.31	18.23
M22	2.5	21.95	21.71	20.31	20.23
M24	3.0	23.94	23.68	21.98	21.90
M27	3.0	26.94	26.68	24.98	24.89
M30	3.5	29.94	29.66	27.66	27.56
M33	3.5	32.94	32.66	30.65	30.56

表格参数 Form Parameters

冷打或冷锻用碳钢线材化学成分表

Chemical composition table of carbon steel wire for cold stamping or cold forging

SAE/AISI 线材代号	化学成分（%） content (%)				对应 JIS 代号	对应 DIN 代号
	C	Mn	P（最高）	S（最高）		
1005	0.06MAX	0.35MAX	0.030	0.050	-	-
1006	0.08MAX	0.25~0.40	0.030	0.050	-	-
1008	0.10MAX	0.30~0.50	0.030	0.050	-	-
1010	0.08~0.13	0.30~0.60	0.030	0.050	S10C	Sk10
1012	0.10~0.15	0.30~0.60	0.030	0.050	S12C	-
1013	0.11~0.16	0.50~0.80	0.030	0.050	-	-
1015	0.13~0.18	0.30~0.60	0.030	0.050	S15C	Ck15
1016	0.13~0.18	0.60~0.90	0.030	0.050	-	-
1017	0.15~0.20	0.30~0.60	0.030	0.050	S17C	-
1018	0.15~0.20	0.60~0.90	0.030	0.050	-	-
1019	0.15~0.20	0.70~1.00	0.030	0.050	-	-
1020	0.18~0.23	0.30~.60	0.030	0.050	S20C	Ck22
1021	0.18~0.23	0.60~0.90	0.030	0.050	-	-
1022	0.18~0.23	0.70~1.00	0.030	0.050	SMnC420	20Mn5
1023	0.20~0.25	0.30~0.60	0.030	0.050	S22C	Ck22
1025	0.22~0.28	0.30~0.60	0.030	0.050	S25C	Ck25
1026	0.22~0.28	0.60~0.90	0.030	0.050	-	-
1029	0.25~0.31	0.60~0.90	0.030	0.050	S28C	-
1030	0.28~0.34	0.60~0.90	0.030	0.050	S30C	-
1035	0.32~0.38	0.60~0.90	0.030	0.050	S35C	Ck35
1037	0.32~0.38	0.70-1.00	0.030	0.050	S35C	Ck35
1038	0.35~0.42	0.60-0.90	0.030	0.050	S38C	-
1039	0.37~0.44	0.70-1.00	0.030	0.050	S40C	40Mn4
1040	0.37~0.44	0.60-0.90	0.030	0.050	S40C	-
1042	0.40~0.47	0.60-0.90	0.030	0.050	S43C	-
1043	0.40~0.47	0.70-1.00	0.030	0.050	S43C	-
1044	0.43~0.50	0.30-0.60	0.030	0.050	-	-
1045	0.43~0.50	0.60-0.90	0.030	0.050	S45C	Ck45
1046	0.42~0.50	0.70-1.00	0.030	0.050	S45C	Ck45
1049	0.46~0.53	0.60-0.90	0.030	0.050	S50C	-
1050	0.48~0.55	0.60-0.90	0.030	0.050	S53C	Ck50
1053	0.48~0.55	0.70-1.00	0.030	0.050	S53C	-
1055	0.50~0.60	0.60-0.90	0.030	0.050	S55C	Ck55

表格参数 Form Parameters

冷打或冷锻用碳钢线材化学成分表

chemical composition table of standard stainless steel wire

JIS 线材代号	化学成分（%） content (%)					
	C	Si	Mn	P（最高）	S（最高）	Al（最低）
SWRCH 6R	0.08MAX	-	0.60MAX	0.040	0.040	-
SWRCH 8R	0.10MAX	-	0.60MAX	0.040	0.040	-
SWRCH 10R	0.08~0.13	-	0.30~0.60	0.040	0.040	-
SWRCH 12R	0.10~0.15	-	0.30~0.60	0.040	0.040	-
SWRCH 15R	0.13~0.18	-	0.30~0.60	0.040	0.040	-
SWRCH 17R	0.15~0.20	-	0.30~0.60	0.040	0.040	-
SWRCH 6A	0.08MAX	0.10MAX	0.60MAX	0.030	0.035	0.02
SWRCH 8A	0.10MAX	0.10MAX	0.60MAX	0.030	0.035	0.02
SWRCH 10A	0.08~0.13	0.10MAX	0.30~0.60	0.030	0.035	0.02
SWRCH 12A	0.10~0.15	0.10MAX	0.30~0.60	0.030	0.035	0.02
SWRCH 15A	0.13~0.18	0.10MAX	0.30~0.60	0.030	0.035	0.02
SWRCH 16A	0.13~0.18	0.10MAX	0.30~0.60	0.030	0.035	0.02
SWRCH 18A	0.15~0.20	0.10MAX	0.60~0.90	0.030	0.035	0.02
SWRCH 19A	0.15~0.20	0.10MAX	0.60~0.90	0.030	0.035	0.02
SWRCH 20A	0.18~0.23	0.10MAX	0.70~1.00	0.030	0.035	0.02
SWRCH 22A	0.18~0.23	0.10MAX	0.30~0.60	0.030	0.035	0.02
SWRCH 10K	0.08~0.13	0.10~0.35	0.70~1.00	0.030	0.035	-
SWRCH 12K	0.10~0.15	0.10~0.35	0.30~0.60	0.030	0.035	-
SWRCH 15K	0.13~0.18	0.10~0.35	0.30~0.60	0.030	0.035	-
SWRCH 16K	0.13~0.18	0.10~0.35	0.30~0.60	0.030	0.035	-
SWRCH 17K	0.15~0.20	0.10~0.35	0.60~0.90	0.030	0.035	-
SWRCH 18K	0.15~0.20	0.10~0.35	0.30~0.60	0.030	0.035	-
SWRCH 20K	0.18~0.23	0.10~0.35	0.30~0.60	0.030	0.035	-
SWRCH 22K	0.18~0.23	0.10~0.35	0.70~1.00	0.030	0.035	-
SWRCH 25K	0.22~0.28	0.10~0.35	0.30~0.60	0.030	0.035	-
SWRCH 30K	0.27~0.33	0.10~0.35	0.30~0.60	0.030	0.035	-
SWRCH 35K	0.32~0.38	0.10~0.35	0.30~0.60	0.030	0.035	-
SWRCH 40K	0.37~0.43	0.10~0.35	0.30~0.60	0.030	0.035	-
SWRCH 45K	0.42~0.48	0.10~0.35	0.30~0.60	0.030	0.035	-
SWRCH 50K	0.47~0.53	0.10~0.35	0.30~0.60	0.030	0.035	-

表格参数 Form Parameters

标准不锈钢线材化学成分表
chemical composition table of standard stainless steel wire

线材代号	化学成分（%） content (%)							
	C_{Max}	Mn_{Max}	P_{Max}	S_{Max}	Si_{Max}	Cr	Ni	Mo
奥斯田铁系（AUSTENITIC）								
SUS 301	0.15	0.20	0.045	0.030	1.00	16.00~18.00	16.00~18.00	-
SUS 302	0.15	0.20	0.045	0.030	1.00	17.00~19.00	17.00~19.00	-
SUS 302B	0.15	0.20	0.045	0.030	2.00~3.00	17.00~19.00	17.00~19.00	-
SUS 302HQ	0.08	0.20	0.040	0.030	1.00	17.00~19.00	17.00~19.00	-
SUS 303	0.15	0.20	0.030	0.15min	1.00	17.00~19.00	17.00~19.00	0.60MAX
SUS 304	0.08	0.20	0.045	0.030	1.00	18.00~20.00	18.00~20.00	-
SUS304L	0.03	0.20	0.045	0.030	1.00	18.00~20.00	18.00~20.00	-
SUS 305	0.12	0.20	0.045	0.030	1.00	17.00~19.00	17.00~19.00	-
SUS 305J1	0.08	0.20	0.040	0.030	1.00	16.50~19.00	16.50~19.00	-
SUS310	0.25	0.20	0.045	0.030	1.00	24.00~26.00	24.00~26.00	-
SUS310S	0.08	0.20	0.045	0.030	1.00	24.00~26.00	24.00~26.00	-
SUS314	0.25	0.20	0.045	0.030	1.50~3.00	23.00~26.00	23.00~26.00	-
SUS316	0.08	0.20	0.045	0.030	1.00	16.00~18.00	16.00~18.00	2.00~3.00
SUS316L	0.03	0.20	0.045	0.030	1.00	16.00~18.00	16.00~18.00	2.00~3.00
SUS 384	0.08	0.20	0.045	0.030	1.00	15.00~17.00	15.00~17.00	-
SUS 385	0.08	0.20	0.045	0.030	0.20	11.50~13.50	11.50~13.50	-
肥粒铁系（FERRITIC）								
SUS 405	0.18	1.00	0.040	0.030	1.00	11.50~13.50	-	-
SUS 430	0.12	1.00	0.040	0.030	1.00	16.00~18.00	0.75MAX	-
SUS 430F	0.12	1.25	0.060	0.15min	1.00	16.00~18.00	0.60MAX	0.60MAX
SUS 434	0.12	1.25	0.040	0.030	1.00	16.00~18.00	0.60MAX	-
SUS 446	0.20	1.50	0.040	0.030	1.00	23.00~27.00	-	-
肥粒铁系（FERRITIC）								
SUS 403	0.15	1.00	0.040	0.030	1.00	11.50~13.50	0.60MAX	-
SUS 410	0.15	1.00	0.040	0.030	1.00	11.50~13.50	0.75MAX	-
SUS 416	0.15	1.25	0.060	0.15min	1.00	12.00~14.00	0.60MAX	0.60MAX
SUS 431	0.20	1.00	0.040	0.030	1.00	15.00~17.00	1.25~2.50	-
SUS 440	0.95~1.20	1.00	0.040	0.030	1.00	16.00~18.00	*	**

density

注：代号后附加字母的意思 The letter behid the grade means:
L: 表示低碳级，碳含量在 0.035% 以下（L: low carbon grade, content of carbon bellow 0.035%)
S: 表示碳含量低在 0.08% 以下；(S: content of carbon bellow 0.08%)
F: 表示易切削；(F: easy to cut off)
B: 表示其砂含量为 2.0-3.0% (B : Sand content 2.0-3.0%)
③SUS 305J1: 冷锻压造性比 SUS 305 好，用于压造比大的盘头、平头螺丝及要求牙峰强度和扭力的铁板螺丝，
(SUS 305J1: Better cold deformation performance than SUS 305, used for Pan head and flat head screws that with high compressing forming ratio, and iron plate screws that require strong tooth peak and torque.
③SUS 302HQ: 成份 18% 铬 -8% 镍加添 3% 铜，用于头型比例大、异型等压造形状困难的螺丝（如大扁头螺丝）
(SUS 302HQ: content with 18% chrome, 8% Nickel, 3% copper, used for irregular special shape screw that with large proportion of head and difficult to stamp and form a shape. like big flat truss head screw)

表格参数 Form Parameters

PVD 镀钛镀膜特性表
PVD Titannium plating and coating characteristic table

coating	TiN 氮化钛	TiCN 碳氮化钛	TiALN 氮化铝钛	CrN 氮化铬	WC/C 碳化钨碳膜	ALCRONA 碳化钨碳膜
Miro hardness	Hv2000	Hv3000	Hv3000~5000	Hv1800	Hv1400	Hv3200
frictional coefficient	0.4	0.3~0.4	0.4	0.5	0.1	0.35
coating thickness	2~4μm	2~4μm	2~5μm	3~6μm	1~4μm	2~4μm
color	Golden	Gray	Dark purple	silvery white	Black	dark purple
MAX working Temperature	550 °c	400 °c	850°c~1000 °c	700 °c	300 °c	1100 °c
processing temperature	PVD 400~450 °c	PVD 400~450 °c	PVD 400~450 °c	PVD 400 °c	PVD 250 °c	PVD 400~450 °c

常用螺丝模具钢材
Common screw mold steel

	Material grade		Standard hardness HRC	advantage	usage
	JJS	Other			
steel for mold	S45C		25~64	High quality carbon structure, affordable price	螺母、螺丝、普通机械零件、一般剪刀、剪模、牙板
	SKD11		58~61	good Wear resistant, non deformable, and good impact resistant	冷冲模、冷挤压模具、标准模块、一冲套、二冲套
	SKD11	$Cr_{12}MOV$(GB)	58~61	Wear resistant chromium steel with small deformation and affordable price	冷做成型模具，冷拉模、螺丝打头模、线模、剪刀
	SKD11	SLD(HITACHI)	60~62	Wear resistance and stamping resistance, high toughness	高重承载、冷锻、深抽模具、合金不锈钢螺丝牙板
	SKD11	DC53(DAIDO)	61~63	High hardness, high strength, toughness, and excellent wear resistance	
	SKD61		43~53	super thermal impact resistance and deformation, thermal fatigue resistance, and has a relatively soft hardness	热作模具、螺丝主模外壳

	Material grade		Standard hardness HRC	advantage			usage
	JJS	Other		Flexural strength N/mm2≥	density g/cm2	Impact Strength g/cm2	
Tungsten Steel	G40(ISO)	YG20C(GB)	82	2260	13.5		Ordinary carbon steel screw mold, affordable price
	V50	EA65(CB)	85	2940	13.75	0.80	Screw mold with diameter below φ20
	V60	VA80(CB)	84	2740	13.6	0.85	Screw mold with a diameter of φ20~φ50, six piece molds
		ST6(CB)	86	2640	13.8	0.75	Special for stainless steel screw molds
		ST7(CB)	84.8	2540	13.38	0.80	

	Material grade		Standard hardness HRC	Other						usage
	JJS	AISI		C	Cr	W	Mo	V	Co	
HSS STEEL	SKH-51 (SKH-9)	M2	61~64	0.85	4.15	6.50	5.30	2.05	-	Advanced punches, punching dies, screw molds and rubbing plates, and thimble with good wear resistance, impact resistance, and toughness.
	SKH-55		63~66	0.90	4.20	6.50	5.30	2.05	5.00	High hardness, good wear resistance, and excellent high-temperature strength, alloy high-strength screw molds.
	SKH-59		64~67	1.05	3.80	1.60	9.50	1.25	8.30	High speed, high heat resistance, good wear resistance, and the best toughness, stainless steel screw punches, punching molds, and screw molds.
	ASP-30 (ASSAB)	M42	66~68	1.27	4.20	6.40	5.00	3.10	8.50	High load punching die, powder high-speed steel, stainless steel screw thimble, hollow rivet punching rod.



Business Goal

Honestly,
Rliable service
Creativity

pursue for exellent, and to be trustable and reliable for our partner. Our Products popular in both demestic and international markets, and won the highly reputation from customers all over the world, distributed into almost 56 countries.

Focusing on standardization, batch production, and automated manufacturing of the tungsten steel molds/dies