



WHY
WORK
WITH
US

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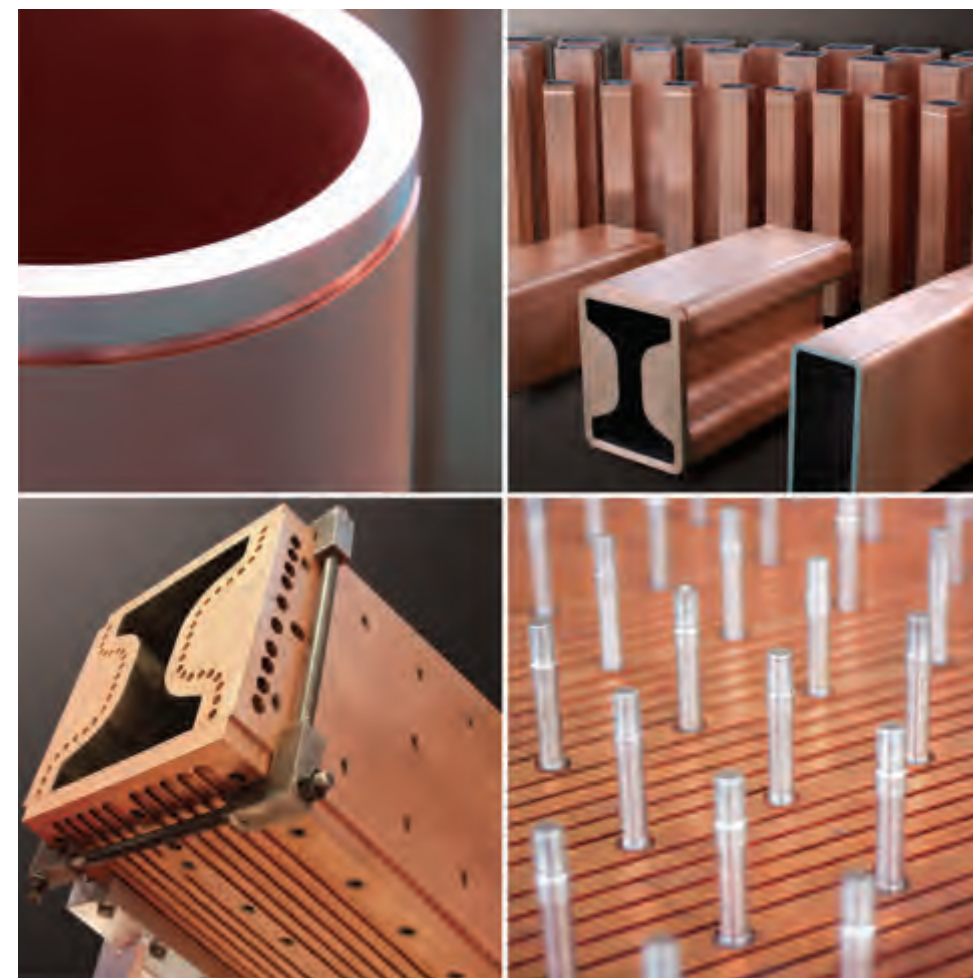
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01

Brief Introduction

PARKOLIN CORP. is a global Distributor for high quality copper moulds for steel making and casters. The manufacturing company employs 280 employees, among them there are 50 engineers and technicians. The company is equipped with advanced equipment and enjoys excellent technology for mechanical and electro-plating processing. It has complete testing devices, perfect production management and strict environmental protection measures. Our products have high quality with good performance. Various sizes and types of copper mould tubes and plates have been supplied to more than 200 customers in China. The special types of mould tubes for special steels casting for the following customers are praised by the customers: Baosteel, Shagang steel, Xingcheng Special steel, Shijiazhuang Special steel, Daye Special steel, Nanjing steel, Hangzhou steel, Qingshan stainless steel etc. Other types of mould tubes are also the favorite of customers and part of the products have been exported to more than 39 countries and regions in Europe, Asia, America, Africa, Oceania, such as Germany, France, Italy, Spain, Russia, Byelorussia, Korea, India, Pakistan, Turkey, Georgia, Kazakhstan, Iran, Malaysia, Viet-Nam, Thailand, Philippine Indonesia, Qatar, UAE., Jordan, U.S.A., Canada, Brazil, Peru, Columbia, Egypt, Nigeria, Australia, New Zealand Taiwan etc.

Our main products: Square, Rectangular, Round and Beam Blank copper mould tubes. With dedicated to research of new technologies, we continuously develop various sizes, materials and special shapes, large and super large size mould tubes. We also developed various types of high efficiency copper mould tube for continuous casting machine. Our products range also features mould assembly and other metallurgical spare parts. Apart from copper mould tubes, we also produce various types of copper mould plates and assembled beam blank moulds.

We have 30 advanced CNC centers and 2 sets special CNC machine tools. We have complete electro-plating facilities, first class electro-plating equipment and up-to-date electro-plating technologies. We have two electro-plating workshops for mould tube plating and mould plates plating separately and each of them covers an area of 1800 square meters. There are 32 tanks for Cr plating of mould tubes and 7 tanks for plating of mould plates. The maximum size of round tubes that can be plated is up to Dia. 1500mm and the widest mould plates can be plated is up to 3800mm. We have advanced water-treatment system. We adhere strictly to the environmental policy of zero emission which makes our company a green and environment-preserving enterprise.

Our company possesses the certificate of ISO 9001:2000 and environmental management certificate ISO 14001. Our company also builds internal internet management.

Our policy of quality management is "Excellent product quality, Best out of best, Reputation first, Customer first."

Our target of quality management is "Our product quality control and testing are performed on every working procedure and the product quality is in the first class domestically and to be the first class internationally. Our company's philosophy is that "insisting on technical innovation, meeting customer's demands, relying on scientific management, fabricating enterprise's image". Customer's satisfaction is our highest expectations and constant innovation is our eternal goal. Our products are with good quality and competitive price and we will provide excellent service to our customers."

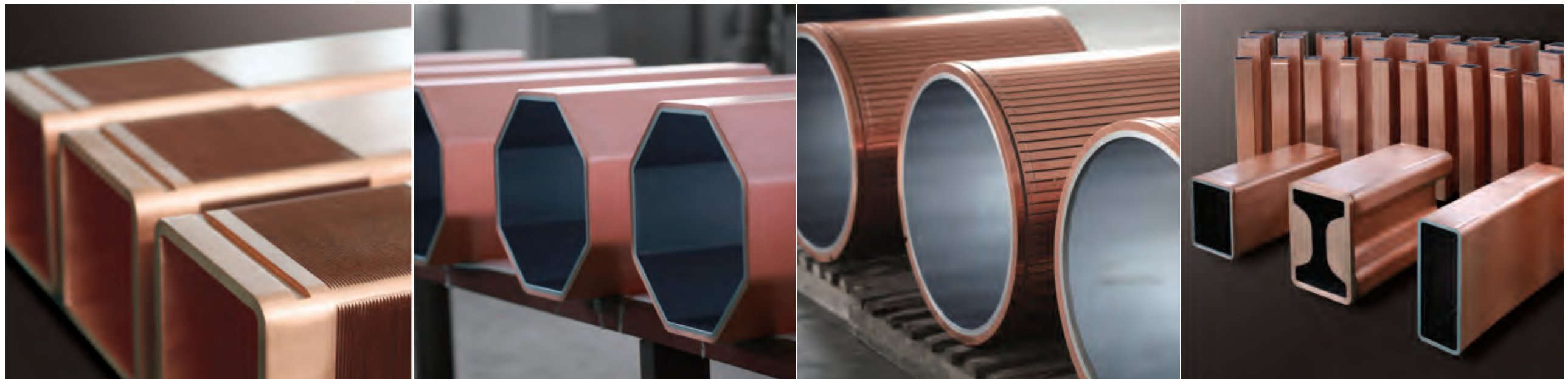
All the customers and friends are welcomed to our company for business. Customers and technical experts' visit to our company will be highly appreciated. We always take a win-win approach to develop our relationship with customers and other related parties. It's our sincere wish that we could join hands with potential customers from all over the world and work together to make a bright future for us.



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Mould Tubes

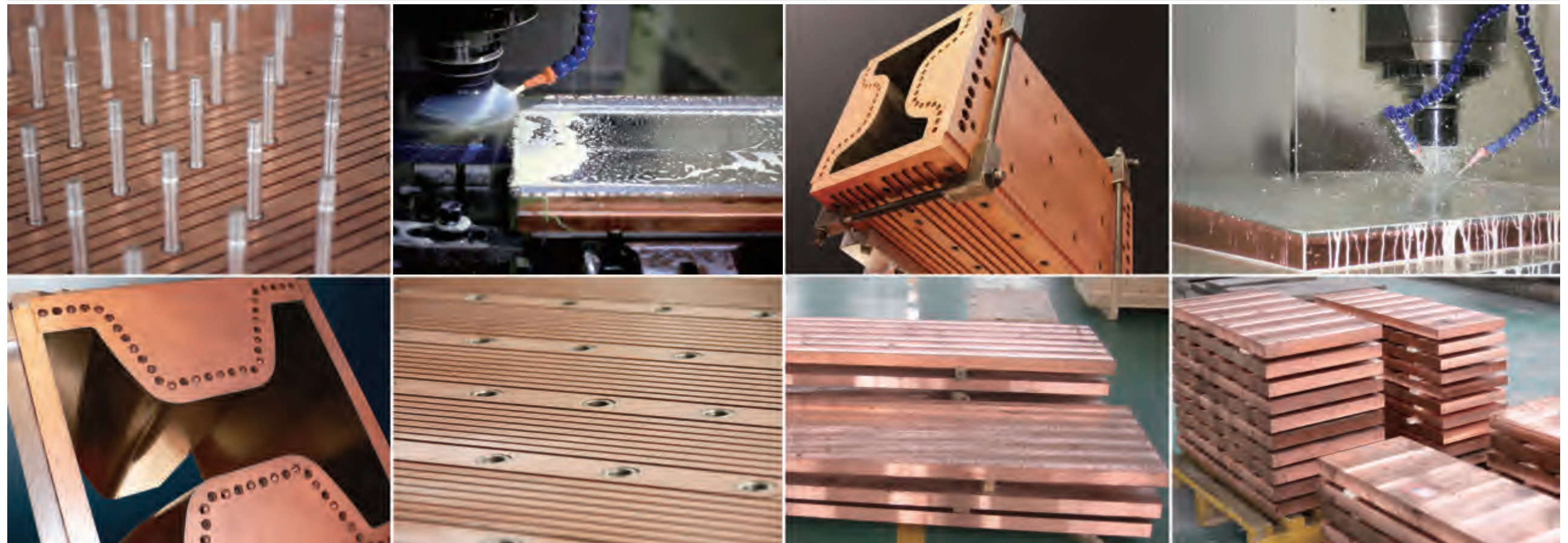
ITEM		CAMBER RADIUS	THICKNESS	LENGTH	REMARKS
NAME	SIZE				
Square & Rectangle Copper tubes	Square 50 × 50~650 × 650 Rectangle (100~500) × 650	3000~17000 Also straight	6~50	602~1100	With slot single taper,double taper,triple taper,quadruplicate taper,parabolic taper and varius kinds of continuous taper high efficiency copper mould tubes
Round copper tubes	Ø110~Ø1500	5000~17000 Also straight	10~50	602~900	With slot double taper,quadruplicate taper,parabolic taper and varius kinds of continuous taper high efficiency copper mould tubes
Non-standard copper mould tubes Beam Blank copper mould tubes	535~150 × 120~70	6000~14000	12~50	700~1016	With slot single taper,double taper,triple taper,quadruplicate taper,parabolic taper



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Mould Plates

COPPER PLATE SIZE	SPECIFICATIONS		MATERIAL	COATING
	LENGTH	WIDTH		
Slab	350-3800	700-1000	Cr-Zr-Cu, CuAg	Ni-Co, Cr, Ni-Fe
Beam Blank	350-900	300-1000	Cr-Zr-Cu, CuAg	Ni-Co, Cr, Ni-Fe
Rectangle	700-900	200-3000	Cr-Zr-Cu, CuAg	Ni-Co, Cr, Ni-Fe
Thin Slab	1200-2000	1100-1200	Cr-Zr-Cu, CuAg	Ni-Co, Cr
Ultra-thin Slab	1530	1100	Cr-Zr-Cu, CuAg	Ni-Co, Cr



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Assembly

Mould assemblies are key equipment for continuous casting. We produce round, square, rectangular and beam blank mould assemblies of different sizes with material of stainless steel and carbon steel. We have vertical and curved types in structure, The precision of mould assemblies are guaranteed as the forged stainless water jackets are produced by extrusion while assembled water jackets are machined by high precision CNC machines.



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Equipment

As the old saying goes, one must sharpen his tool before going to make a perfect work, our company spends heavily on the manufacturing equipment of copper mould tubes and plates. Now we have 9 sets of large, medium and small hydraulic press, 30 sets of CNC machine centers, 2 sets special CNC processing machines, which can produce Dia. 1500mm round tubes and 3800x1000x70mm copper plates.



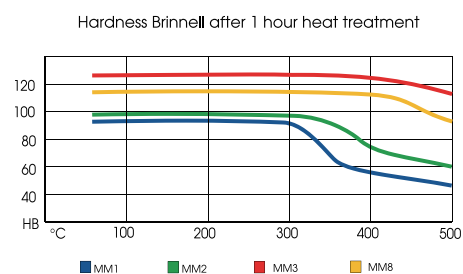
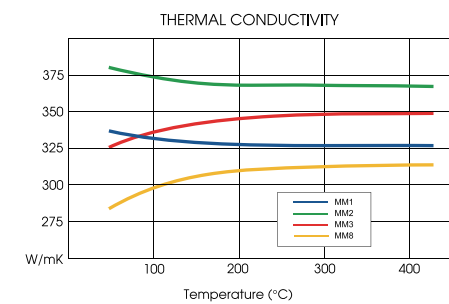
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Mould Material

TP2 is a kind of material is selected by most of the steel plants.It shows excellent heat-proof and anti-fatigue property under high temperature and it has good processing property.

CuAg0.1 with 0.08%-0.12% silver during copper ingots melting will increase the recrystallization temperature of copper by 100C, which will increase the heat stress and anti-abrasive property of copper mould tube interior surface, showing better heat resistant property than TP2.

Cu-Cr-Zr is a kind of copper alloys which can be normalized by time.It has excellent mechanical property under both room temperature and hight temperature. It has hight heat conductivity, melting point, anti-fatigue and anti heat stress properties. Their outstanding features make it different from the previous copper alloys. It combines all good properties together. But compared with other copper alloys, Cu-Cr-Zr is difficult to be formed with higher products costs.



Material					
Item	Temp	Unit	Material		
Chemical Composition			CuDHP	CuAg0.1	CuCrZr
			P0.015~0.040	Ag0.08~0.12 P0.004~0.012	Cr0.30~1.20 Zr0.03~0.30
Physical properties					
Electical conductivity	20	%IACS	83	95	80
Thermal conductivity	20	W/(m. K)	340	372	330
Coefficient of thermal expansion	20~300	10 ⁻⁶ /K	17.1	17.1	17.2
Recrystallisation temperature		℃	345	360	690
Modulus of elasticity	20	10 ³ MPa	120	123	126
Melting point		℃	1083	1083	1078
Specific gravity		g/cm ³	8.9	8.9	8.9
Mechanical properties					
Ultimate tensile strength	20	Mpa	240~310	240~310	375~445
Ultimate tensile strength	100	MPa	190~270	230~270	365~425
Ultimate tensile strength	200	MPa	140~190	205~240	365~410
Ultimate tensile strength	300	MPa		175~210	335~375
Ultimate tensile strength	400	MPa		145~160	315~350
0.2Yield point strength(Rp0.2)	20	MPa	190~250	200~225	280~355
0.2Yield point strength(Rp0.2)	100	MPa	185~260	195~240	270~345
0.2Yield point strength(Rp0.2)	200	MPa		180~225	260~330
0.2Yield point strength(Rp0.2)	300	MPa		165~215	250~320
0.2Yield point strength(Rp0.2)	400	MPa		130~145	240~290
Elongation(A5)	20	%	25_10	16_10	20~13
Hardness	20	HB	80~95	110~125	115~130
Mark：TP2 (GB/T5231-2001)= SF-Cu/DHP-Cu (DIN1787)					



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Mould & Plate Coatings

Copper has lower hardness which leads to lower anti-abrasive property. Therefore, the area at the lower part of the moulds, where the stress increases drastically due to shells, will be more severely worn. To increase the life time of copper moulds, LMM provides uniform mould interior surface plating with suitable hardness. Most of the copper mould tubes for small size billet casting are not used in any casting system where there are rigid casting stream support, therefore they are very sensitive to be worn. We use hard chrome plating to increase the life of mould tubes. The plating thickness recommended by LMM will be controlled in the best range. As for the coating of copper mould plates, based on our years of experience, we are able to provide Cr coating, Ni-Cr coating, Ni-Fe coating and Ni-Cr coating to meet the demand of various customers both at home and abroad.

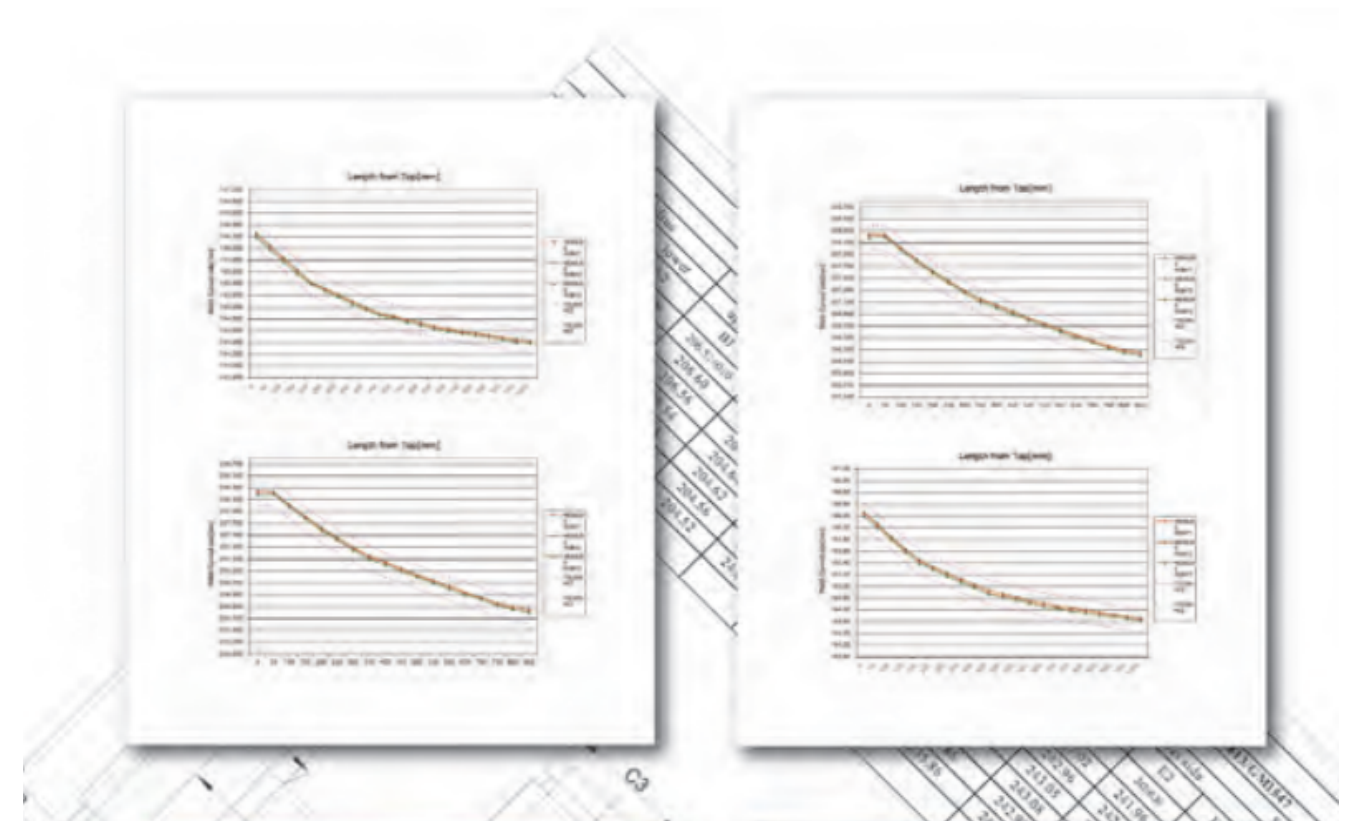
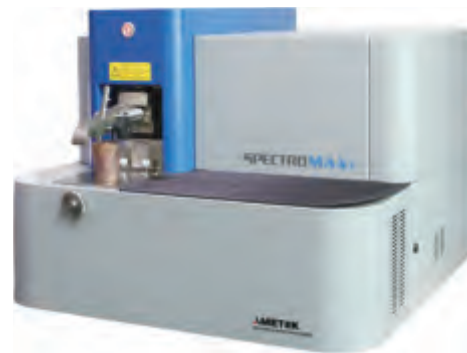


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Quality Assurance

The target of our work is to improve our technological capacities to be in the interest of the customers. For the purpose, we have been dedicated to new products development. We established R&D department for new alloys, optimized copper taper and better anti-abrasive coating. Our physical and chemical laboratories are equipped with advanced analysis and inspection devices which provides strong guarantee for the quality of our products.

Taper Measuring Apparatus, Main inspection instruments and meters.



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Research & Development

Our company has 50 technicians and 15 of them have senior professional titles. We have strong ability to develop products of various materials and sizes (Square, Rectangular, Round, Nonstandard and Beam Blanks, with range from the smallest of 50×50mm to the largest of Dia.1500mm round tubes, 500×500mm Square tubes, 120×650 rectangular tubes). Strong R&D abilities can meet the customers demand to the maximum extent. The perfect combination of experience and theories constantly improves the quality of our products. We are dedicated to shaping steel!





Company Milestone

First mould tubes sale in August 1995.

First export of mould tube in May 2002.

First mould plate sale in June 2005.

In October 2006, first batch of 360x260x90 beam blank mould tubes were produced and supplied to Turkey.

In July 2007, large diameter of mould tubes above 600mm were produced and supplied to Jiangyin

Xingcheng Special Steel Co. This is the first such tube produced in China.

First mould assemblies sales in Sept. 2008.

Super large diameter mould tube $\Phi 700$ were firstly produced in April 2009 and supplied to Jiangyin

Xingcheng Special Steel Co.

Super large diameter mould

tube $\Phi 800$ were firstly produced in June 2009 and supplied to Jiangyin Xingcheng Special Steel Co.

Super large diameter mould tube $\Phi 900$ were firstly produced in September 2010 and supplied to

Jiangyin Xingcheng Special Steel Co.

Experimental production of 1000-1200mm super large diameter mould tube started in May 2011 and

we are researching and developing super large diameter mould tubes over $\Phi 1200$.

