使命愿景 MISSION & VISION

创造客户价值，打造百年企业，
成为行业标杆，为现代工业文明做贡献。

宁波金田铜业（集团）股份有限公司
NINGBO JINTIAN COPPER(GROUP) CO.,LTD.
浙江省宁波市江北区慈城城西西路1号
No.1 Chengxi West Road,Cicheng,Ningbo,Zhejiang
0574-83005999 www.jtcopper.com

金田铜业官网
WEBSITE

金田铜业官微
WECHAT

Linkin

Facebook

STOCK CODE
股票代码
601609

金田铜业电磁线事业部
Jintian Copper Industry Electromagnetic wire division

宁波金田铜业/Ningbo Jintian
广东金田铜业/Guangdong Jintian
重庆金田铜业/Chongqing Jintian
金田铜业（越南）/Jintian Copper (Vietnam)

金田铜业集团简介 COMPANY PROFILE

500
中国企业500强
Top 500
Chinese Enterprises

100
中国民营企业100强
Top 100 Private
Owned Enterprises in China

中国铜加工领军企业
National Level
High-tech Enterprises

国家重点高新技术企业
National Level
Engineering Technology Center

国家级工程技术中心
National Level
Engineering Technology Center

国家级实验室
National
Level Laboratory

公司创建于1986年，是全球领先的铜合金及先进材料制造企业。主要产品有铜管、棒、线、板、带、排、电磁线、阀门、磁性材料及黄铜、青铜、紫铜、白铜等高端合金。致力于为新能源汽车、风力发电、光伏能源、电力电气、轨道交通、消费电子等产业发展提供全球一流的产品和服务。

公司立足宁波，放眼世界，在全球有八大生产基地，25家分子公司，8000余名员工。在美国、德国、泰国、日本、韩国等地设立分支机构，业务遍及100多个国家和地区，是众多世界知名企业的长期合作伙伴。加工产能规模达240万吨，为中国制造业500强。

Jintian was founded in 1986 and is a global leader in the manufacturing of copper alloys and advanced materials. Our main products include copper tube, rod, wire, plate, strip, busbar, electromagnetic wire, valve, magnetic materials, and high-end alloys such as brass, bronze, copper, and copper-nickel. We are committed to providing global firstclass products and services for the development of new energy vehicles, wind power generation, photovoltaic energy, electric power, rail transit, consumer electronics and other industries.

Based in Ningbo, Jintian has eight production bases, 25 subsidiaries, and more than 8,000 employees worldwide. We have set up subsidiaries in the USA, Germany, Thailand, Japan, Korea, etc. Our business covers more than 100 countries and regions, and we are the long-term partner of many world-famous enterprises.With a copper processing capacity of 2.4 million tons, Jintian ranks among China's top 500 manufacturers.

金田铜业-电磁线介绍 COMPANY INTRODUCTION

宁波金田新材料有限公司成立于1995年，隶属于宁波金田铜业集团，专注于电磁线产品的研发与生产。公司在杭州湾新区投资10亿元，建立了年产12万吨的耐高温电磁线项目，并在重庆、广东及越南设有总产能达8万吨的生产基地。我们采用全球领先的MAG高速连拉连包生产线，专注于高精度、高性能电磁线产品的制造，现已成长为中国电磁线行业的知名企业之一。

公司采用国内外先进的有色金属加工装备和生产工艺，严格按照ISO9001质量管理体系及ISO14001环境管理体系进行生产。同时，我们是国内率先通过IATF 16949汽车行业质量管理体系认证和ISO45001职业健康安全管理体系认证的企业之一。我们的产品符合欧盟ROHS指令要求，并已通过UL安全认证，广泛应用于汽车、电机、变压器和压缩机等行业。

Founded in 1995, Ningbo Jintian New Material Co., Ltd. is a subsidiary of Ningbo Jintian Copper Group, specializing in the research and production of electromagnetic wires. The company has invested 1 billion yuan to establish a high-temperature resistant electromagnetic wire project with an annual capacity of 120,000 tons in the Hangzhou Bay New Area. Additionally, it has production bases in Chongqing, Guangdong, and Vietnam with a combined capacity of 80,000 tons. We utilize globally advanced MAG high-speed drawing and enameling production lines, focusing on the manufacturing of high-precision, high-performance electromagnetic wire products. Jintian New Material Co., Ltd. has now grown into a well-known enterprise in China's electromagnetic wire industry.

The company adopts advanced non-ferrous metal processing equipment and production technology from both domestic and international sources, strictly adhering to ISO9001 quality management and ISO14001 environmental management systems. We are also one of the first in the industry to achieve IATF 16949 automotive quality management system certification and ISO45001 occupational health and safety management system certification. Our products comply with the EU ROHS directive and have passed UL safety certification, being widely used in the automotive.in the automotive industry,motor,transformer,compressor and other industries.

金田铜业全球布局 GLOBAL LAYOUT

集团总部 Group Headquarter

宁波金田铜业（集团）股份有限公司
NINGBO JINTIAN COPPER(GROUP) CO.,LTD.

制造基地 Manufacturing Base

宁波金田新材料有限公司
NINGBO JINTIAN NEW MATERIAL CO.,LTD.

江苏兴荣铜业有限公司
JIANGSU XINGRONG COPPER CO.,LTD.

重庆金田铜业有限公司
CHONGQING JINTIAN COPPER CO.,LTD.

广东金田铜业有限公司
GUANGDONG JINTIAN COPPER CO.,LTD.

金田铜业（越南）有限公司
JINTIAN COPPER INDUSTRIAL(VIETNAM) CO.,LTD.

包头科田磁业有限公司
BAOTOU KETIAN MAGNET CO.,LTD.

金田铜业（泰国）有限公司
JINTIAN COPPER（THAILAND) CO.,LTD.

全球化布局 Global Layout

金田铜业（德国）有限公司
JINTIAN COPPER (GERMANY) GmBH

金田铜业泰国办事处
NINGBO JINTIAN COPPER(GROUP)CO.,THAILAND OFFICE

金田铜业日本株式会社
JINTIAN COPPER JAPAN CO.,LTD.

金田铜业韩国办事处
NINGBO JINTIAN COPPER(GROUP)CO.,LTD.KOREA OFFICE

金田铜业（美国）有限公司
JINTIAN COPPER (USA) CO.,LTD.

国际贸易 International Trade

宁波金田进出口有限公司
NINGBO JINTIAN IMPORT & EXPORT CO.,LTD.

香港铭泰国际实业有限公司
HONGKONG MAYTIME INTERNATIONAL INDUSTRY CO.,LTD.

金田（新加坡）国际实业有限公司
JINTIAN (SINGAPORE) INTERNATIONAL INDUSTRY PTE. LTD.

金田铜业电磁线全球布局 GLOBAL LAYOUT

浙江宁波生产基地
Zhejiang Ningbo Bay Production Base

圆线产能:12.5万吨/年
扁线产能:6万吨/年
PEEK线产能:2.5千吨/年
占地面积:40万平方米

Round line capacity 125,000 tons/year
Flat line production capacity 60,000 tons/year
PEEK line production capacity 2.5 thousand tons/year
Floor area 400,000 square meters

广东生产基地
Guangdong Production Base

圆线产能:5万吨/年
扁线产能:3千吨/年
占地面积:2.5万平方米

Round line capacity 50,000 tons/year
Flat line production capacity 3,000 tons/year
Floor area 25,000 square meters

重庆生产基地
Chongqing Production Base

圆线产能:3万吨/年
占地面积:3万平方米
超微线标杆工厂

Round line capacity 30,000 tons/year
Floor area 30,000 square meters

越南生产基地
Vietnam Production Base

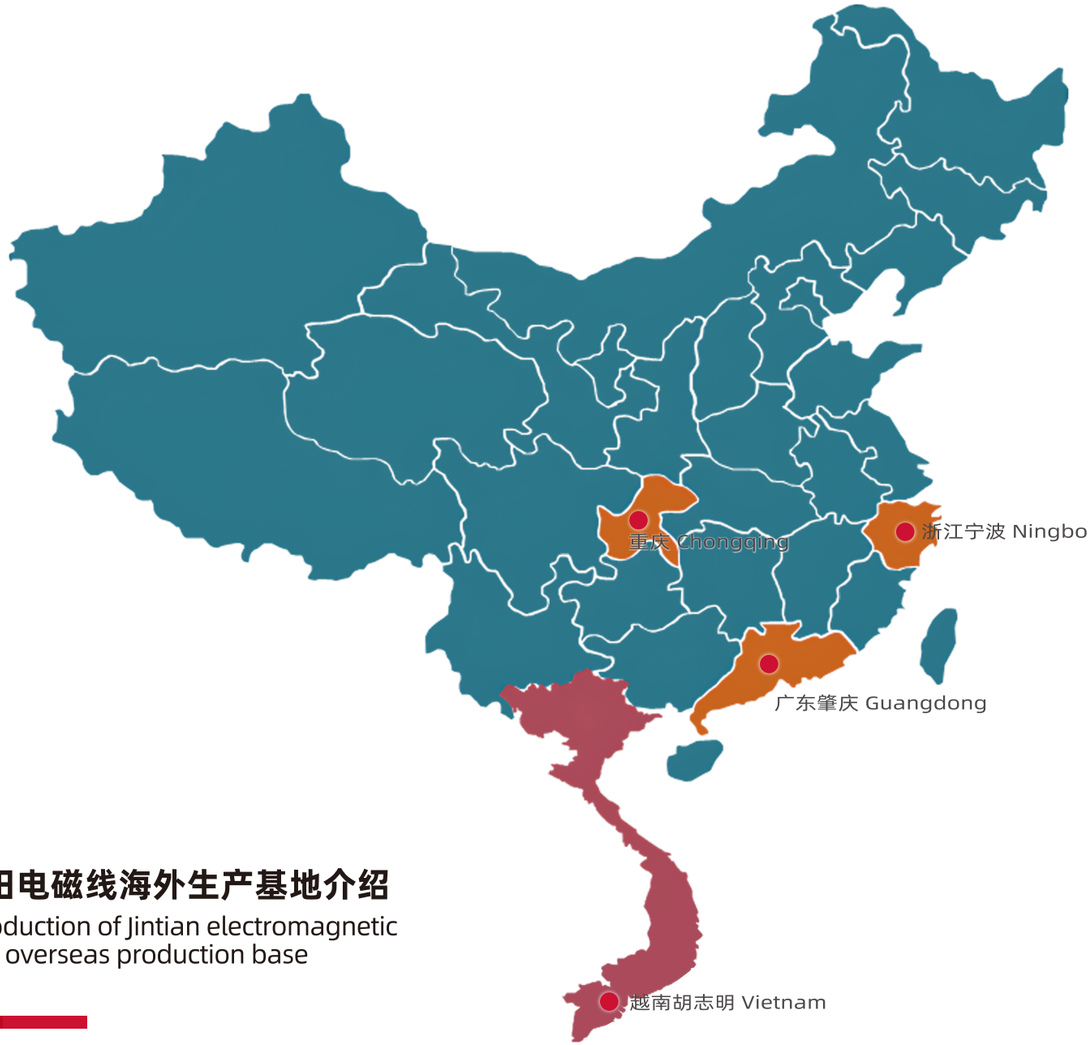
圆线1万吨/2025年
扁线1千吨/2025年
PEEK线:1千吨/2025年
占地2.5万平方米

Round line 10,000 tons /2025
Flat line 1 thousand tons /2025
PEEK line : 1 thousand tons /2025
It covers an area of 25,000 square meters

北美基地(规划中)
North American base (Under planning)

圆线（2025~2028）
扁线（2025~2028）

Round line (2025~2028)
Flat line (2025~2028)



金田电磁线海外生产基地介绍

Introduction of Jintian electromagnetic wire overseas production base

越南金田电磁线生产基地位于越南胡志明市，产品可销往欧盟、东盟、美洲等各个国家和地区。

Vietnam Jintian's electromagnetic wire production base is located in Ho Chi Minh City, Vietnam. Products can be sold to the European Union, ASEAN, the Americas, and other countries and regions."

- 公司的运营管理、质量控制与中国生产基地同步，与中国基地共享生产技术和研发成果。
  The company's operation management and quality control are synchronized with the Chinese production base, and production technology and research and development results are shared with the Chinese base.
- 原材料本土化采购，可提供原产地信息和LME报价服务，产品可享受关税优惠政策。
  We source raw materials locally, provide origin information and LME quotation services, and our products can enjoy preferential tariff policies
- 使用全球先进的生产设备和检测设备，产品满足IEC、NEMA、JIS等国际标准。
  We use the world's advanced production equipment and testing equipment, and our products meet IEC, NEMA, JIS and other international standards.

主营产品 Main Products

漆包圆铜线

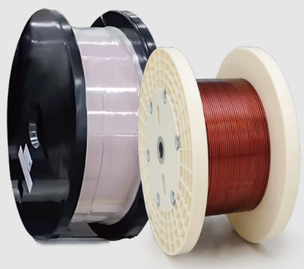
Enameled round copper wire

0.15mm—4.00mm

漆包铜扁线与PEEK线

Enameled flat copper wire and PEEK wire

横截面积/Cross-sectional area:**2-45mm²**
窄边（a边）/Narrow side (a side):**0.50-6.00mm**
宽边（b边）/Wide edge(b edge):**1.00-15.00mm**



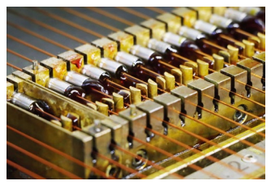
生产车间
WORKSHOP

公司引进MAG高速连拉连包设备，生产汽车用及高端耐热电磁线产品。设备配备有先进的粒子和高压针孔在线监测，实现对产品的百分之百全检。二维码和数据采集系统实现产品质量的全过程可追溯。

The company introduced MAG high-speed drawing and enameling equipment to produce high-end magnet wire for the automobile industry.It equipped with the most advanced particle and high voltage pinhole on-line detection instrument to achieve 100% inspection of products.The QR code and data collection system allow for full traceability of product quality.


美国连铸连轧生产线
American Southwire Continuous Casting and Rolling Production Line


高速连拉连包
High Speed Drawing and Enameling Machine


模具涂漆
Mold Coating


自动包装线
Automatic Packaging Line

先进装备，优良品质
ADVANCED EQUIPMENT,EXCELLENT QUALITY

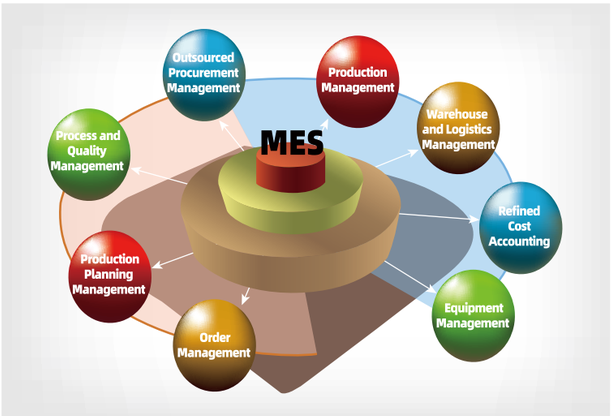

MAG生产车间
MAG Plant


MAG生产车间
MAG Plant

生产制造执行系统

MANUFACTURING EXECUTION SYSTEM

- 实现生产计划智能化
  Implement intelligent production planning
- 实现物流智能化管理
  Implement intelligent management of logistics
- 实现工艺标准数字化
  Implement digital management of process standards
- 实现质量管理数字化
  Implement digital management of quality control



技术创新 & 科技兴业

INNOVATION SCIENCE AND TECHNOLOGY PROSPER THE INDUSTRY

金田铜业坚持科技兴企理念，拥有各类科技人员近千人。公司通过ISO9001质量体系认证，各种产品均为省市名牌产品；先后投入科研资金10多亿元，不断通过更新改造及设备引进，使公司的科技实力达到了国内领先水平；建立了国家级企业技术中心和博士后工作站，不断将先进技术转化成自己的创新成果，其中完全自主研发的新型大吨位潜液电炉，具有能源消耗低、生产周期短、排放污染少的显著特点，荣获了国家有色技术工业科技进步一等奖，并被列入国家火炬计划项目，还被行业专家誉为具有世界领先水平的“金田法”。

Jintian Copper is committed to advancing through technological innovation, employing nearly 1,000 scientific and technical professionals. We have achieved ISO 9001 quality system certification, and many of our products are recognized as top provincial and municipal brands. Over the years, we have invested more than 1 billion yuan in scientific research. By continuously upgrading our equipment and adopting new technologies, we have reached a leading position in the industry. We have established a national-level enterprise technical center and a post-doctoral research station, constantly transforming cutting-edge technologies into innovative products. One of our significant achievements includes the development of a large-tonnage submerged electric furnace, fully self-researched and self-developed. This furnace features low energy consumption, a short construction period, and minimal pollution, earning it the ‘First-Class State Prize for Scientific and Technological Progress in the Non-Ferrous Metal Industry.’ It has also been recognized as a key project under the State Torch Plan and is highly regarded by industry experts as the ‘Jintian Method.

精密检测
PRECISION TESTING

公司严格按照质量管理体系要求管理运行，并拥有全球知名的SGS公司审核后颁发的ISO9001:2015、ISO14001:2015体系认证证书。因为我司对高品质不懈的追求，大部分产品获得UL认证。同时，我司还是行业内为数不多通过IATF16949认证的公司，表明我司产品完全符合对安全要求极为严格的汽车行业设计要求。

公司测试体系完备，所有生产标准规定的测试项目，全部按测试标准作检验测试。

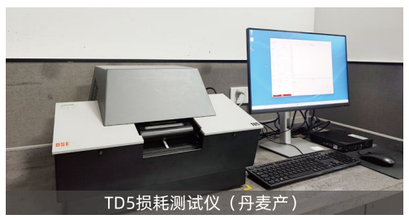
Jintian New Material operates strictly under the Quality Management Systems, such as ISO 9001:2015 and ISO 14001:2015, certified by the world-renowned SGS company. Due to our relentless pursuit of high quality, most of our products have obtained UL certification (File No. E227047). Additionally, we are one of the few companies in the industry that has achieved IATF 16949 certification, ensuring our products meet the stringent design and safety requirements of the automotive industry.
Our company is equipped with advanced testing equipment, capable of conducting all necessary tests to ensure that every product shipment meets the technical parameters required by our customers.


红外光谱仪 Tensile strength tester

科学管理，品质稳定
ERP STSTEM, QUALITY CONTROL


工频正弦波环境测试PDIV值（日本制）
High frequency sine wave environment test PDIV value


模拟EV车高频电晕老化试验仪器
Simulation EV vehicle high frequency corona aging test equipment


TD5损耗测试仪（丹麦产）
TD5 Dielectric Loss Tester (Made in Denmark)


高清度切面分析仪器
High resolution section analyzer

QA(UEW) 直焊性聚氨酯漆包铜圆线 Self-Solderable Polyurethane Series

产品主要特点及用途：
Products main features and application

- 能直焊，易染色
- 高频下介质损耗低，盐水针孔性能好
- 适用于继电器、微电机、变压器、仪器仪表，和各类电子元器件及绕组用线圈
- Can be Soldered without removal of coating, and easy to be dyed
- Small dielectric loss under high frequency apparatus and good pinhole test performance
- Apply to relays, micro-motors, transformers, instrumentation and various kinds of electronic components and with for coils

热级 Thermal level		规格范围 Specifications range		适用标准 Standard			
代号code	等级level	mm	AWG	IEC	GB / T	NEMA	JIS
B	130	0.012-1.8	13#-46#*	60317-4	6109.4	MW75-C	C3202
F	155			60317-20	6109.10	MW79-C	
H	180			60317-51	6109.23	MW82-C	

注：“*”为近似美国线规　Note:“*”for approximate American wire gage

QA/N(UEW/N) 尼龙复合涂层系列 Nylon Overcoating Series

产品主要特点及用途：
Products main features and application

- 尼龙复合漆包线除了保留单涂层漆包线原有特点外，还具有表面摩擦系数小，耐磨性佳，弯折性能好等特点
- The polyamide overcoated wires demonstrate the same properties as the above wires without polyamide coating. What's more, because of the polyamide coating, these wires' mechanic properties are improved greatly in friction modulus, abrasive resistance, bending properties ect.

热级 Thermal level		规格范围 Specifications range		适用标准 Standard			
代号code	等级level	mm	AWG	IEC	GB / T	NEMA	JIS
B	130	0.04-1.8	13#-46#*	60317-19	6109.9	MW28-C	C3202
F	155			60317-21	6109.11	MW80-C	
H	180			60317-55	6109.23	MW83-C	

注：“*”为近似美国线规　Note:“*”for approximate American wire gage

QZ(PEW) 聚酯漆包铜圆线 Polyester Series

产品主要特点及用途：
Products main features and application

- 耐刮性、耐溶剂性能优良
- 适用于B级电机、普通电器、仪器仪表，和各类电子元器件及绕组用线圈
- Good resistance to abrasion and solvent
- Apply to B Class motors, appliances, instrumentations, various types of electronic components and winding for coils

热级 Thermal level		规格范围 Specifications range		适用标准 Standard			
代号code	等级level	mm	AWG	IEC	GB / T	NEMA	JIS
B	130	0.06-4.0	7#-42#*	60317-34	6109.7	MW5-C	C3202
F	155			60317-3	6109.2		

注：“*”为近似美国线规　Note:“*”for approximate American wire gage

QZY(EIW) 聚酯亚胺漆包铜圆线 Polyester-imide Series

产品主要特点及用途：
Products main features and application

- 优良的热稳定性，耐刮、耐溶剂性能好
- 适用于大、中、小型H级电机、高温变压器、仪器仪表，和各类电子元器件及绕组用线圈
- Excellent thermal stability, with good resistance to abrasion and solvents.
- Applied in all sizes of H Class motors, transformers, instrumentations, various types of electronic components and winding for coils

热级 Thermal level		规格范围 Specifications range		适用标准 Standard			
代号code	等级level	mm	AWG	IEC	GB / T	NEMA	JIS
H	180	0.06-4.0	7#-42#*	60317-8	6109.5	MW30-C	C3202

注：“*”为近似美国线规　Note:“*”for approximate American wire gage

Q(ZY/XY) (EI/AIW)

聚酯亚胺/聚酰胺酰亚胺复合漆包铜圆线
Polyester-imide Over coated with Polyamide-imide

产品主要特点及用途：
Products main features and application

- 耐高、低温、耐冷冻剂，耐辐射，耐热冲击，化学性能优良
- 适用于各类工作环境恶劣的C级电机、变压器、及制冷剂为R22、R410c/R600a/R134a的冰箱、空调用压缩机电机绕组

- Capable of working under extreme situations where strong resistibility against very high and low temperature, powerful cryogen, hard radiation and prceful heat shock are needed.
- Applied in C Class motors, transformers, electric refrigerator powered by Refrigerant R22/R410c/R600a/134a and windings in air-conditioner compressor.

热级 Thermal level		规格范围 Specifications range		适用标准 Standard			
代号 code	等级 level	mm	AWG	IEC	GB / T	NEMA	JIS
C	200	0.08-4.0	7#-40#*	60317-13	6109.20	MW35-C MW73-C	
C	220(复合)					MW37-C	

注：“*”为近似美国线规　Note:“*” for approximate American wire gage

Q(ZY/XY)/200-BP

变频电机用抗电晕漆包铜圆线
Corona-resistant Enameled Wires Used for Inverter-fed Motors

产品主要特点及用途：
Products main features and application

- 该产品可在200℃环境下连续工作，除了具备优良耐高温、耐辐射、高强度耐磨特性外，还具备宝贵的耐电晕性能，此性能用于改善局部放电性能，延长变频电机的使用寿命。
- 因此广泛适用于各种变频调速电机、起重电机、电梯电机等。

- Could work continuously at 200 degrees environment. Except with good heat-resistant, irradiation resistance and high strength wear resistance, also with good corona resistant performance.
- Application: Suitable for use in mining and metallurgy machinery motors, elevator motors, hybrid and electric vehicle motors, wind power generators, and other frequency conversion motor windings.

热级 Thermal level		规格范围 Specifications range		适用标准 Standard			
代号code	等级level	mm	AWG	JB/T	GB/T	NEMA	JIS
C	200	0.3-2.0	12#-28#*	10930-2010	14711-2013		

注：“*”为近似美国线规　Note:“*” for approximate American wire gage

AIW

聚酰胺酰亚胺漆包铜圆线
Polyamide-imide enamelled round copper wire

产品主要特点及用途：
Products main features and application

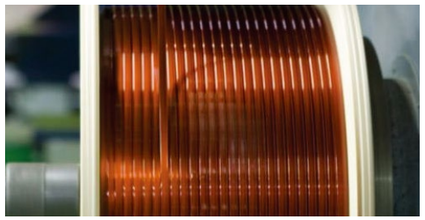
- 漆膜韧性高，与铜导体的附着性优良，高密着性，同时具有很高的耐高温性
- 适用于各类汽车电磁阀、继电器、高温电机等绕组用线圈

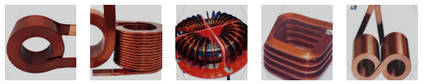
- The enamel coating provides high toughness, excellent adhesion to copper conductors, and superior resistance to high temperatures.
- Suitable for all kinds of automotive solenoid valve, relay, high temperature motor winding coil

热级 Thermal level		规格范围 Specifications range		适用标准 Standard			
代号 code	等级 level	mm	AWG	IEC	GB / T	NEMA	JIS
C	220	0.080—4.000	7#-40#*	60317-26	*	MW81-C	*

注：“*”为近似美国线规　Note:“*” for approximate American wire gage

漆包铜扁线(变压器用线、光伏立绕用线等)
Enamelled copper flat wire (transformer wire, photovoltaic vertical winding wire, etc.)





产品主要特点及用途：
Products main features and application

- 优良的导电性、热稳定性、耐刮性、耐溶剂性，绕成线组具有散热性能好，磁场效率高的优势
- 适用于各种变压器、光伏产品、电机、电流互感器、感应线圈等电器设备绕组线圈

- Electrical conductivity, excellent thermal stability, scratch resistance, solvent resistance, With good heat dissipation and high field efficiency after winding performance and the advantages of high efficiency magnetic field
- Suitable for various transformers, photovoltaic products, motors, current transformers, inductive coils, and other electrical device winding coils.

热级 Thermal level		型号 Model		规格范围 Specifications range	适用标准 Standard			
代号code	等级level	名称name	型号model	mm^2	IEC	GB/T	NEMA	JIS
E	120	120级缩醛漆包铜扁线	QQ B-x/120	$1.5mm^2$—$60mm^2$ 1.2:1≤宽窄比≤8:1	60317-18	7095.2	MW87-C	*
B	130	130级聚酯漆包铜扁线	QZ B-x/130	$1.5mm^2$—$60mm^2$ 1.2:1≤宽窄比≤8:1	60317	7095.7		*
F	155	155级聚酯漆包铜扁线	QZ B-x/155	$1.5mm^2$—$60mm^2$ 1.2:1≤宽窄比≤8:1	60317-16	7095.3		*
H	180	180级聚酯亚胺漆包铜扁线	QZY B-x/180	$1.5mm^2$—$60mm^2$ 1.2:1≤宽窄比≤8:1	60317-28	7095.4		*
C	200	200级聚酯亚胺/聚酰胺酰亚胺复合漆包铜扁线	Q(ZY/XY)B-x/200	$1.5mm^2$—$45mm^2$ 1.2:1≤宽窄比≤12:1	60317-29	7095.6	MW36-C	*

注：“*”为近似美国线规　Note:“*” for approximate American wire gage

零针孔漆包铜线
Zero pinhole enamelled wire



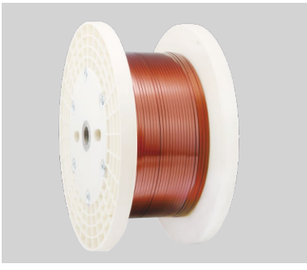

产品主要特点及用途：
Products main features and application

- 绝缘性性能优异，减少了因针孔导致的绝缘薄弱点，能有效提高绝缘强度，降低匝间失效和相间失效的风险。
- 适用于高速绕线、分布式高张力绕组、高槽满率的定子、转子成型，可支持高压真空匝间测试的零针孔高要求测试项目。
- Excellent insulation performance, reduce the insulation weakness caused by pinholes, can effectively improve the insulation strength, reduce the risk of inter-turn failure and inter-phase failure.
- Suitable for high speed winding, distributed high tension winding, high slot full rate of stator, rotor forming, can support high pressure vacuum turn to turn test zero pinhole high demand test projects.

热级 Thermal level		规格范围 Specifications range		适用标准 Applicable Standard			
代号code	等级level	mm	AWG	IEC	GB/T	NEMA	JIS
H	180	0.40—1.60	15#—26#*	60317-22	6109-12	MW76-C	*
C	200			60317-13	6109-20	MW35-C	*
C	220（复合）			*	*	MW37C	*

注：“*”为近似美国线规　Note:“*” for approximate American wire gage

新能源汽车驱动用中压平台（400-600V)用漆包铜扁线
Enameled Copper Flat Wire for New Energy EV Mid-Voltage Platform (400-600V)



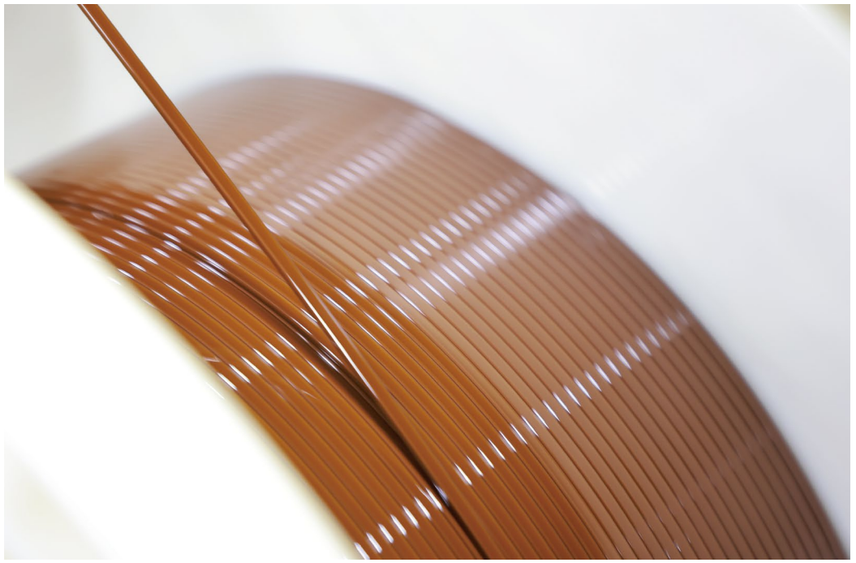
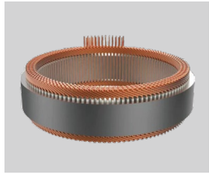
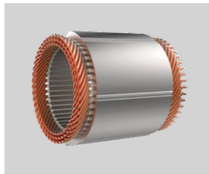

产品主要特点及用途：
Products main features and application

- 电气性能、热性能、机械性能、化学性能优异，绕组散热好，磁场效率高
- 通过：85%RH/85℃测试、高温老化、高温油浸、高低温循环测试等特殊性能测试。
- 应用于新能源车辆400V-600V驱动电机等
- Excellent electrochemical, thermal, mechanical, and chemical properties, good heat dissipation of the winding, and high magnetic field efficiency;
- Meets: 85%RH/85℃ test, high temperature aging, high temperature oil resistance,high and low temperature cycle tests, and other special performance tests.
- Applications: New energy vehicle 400V-600V drive motors, etc.

热级 Thermal level		型号 Model	规格范围 Specifications range		适用标准 Applicable Standard			
代号code	等级level	名称name	型号model	mm²	IEC	GB/T	NEMA	JIS
C	220	220级聚酰胺亚胺漆包铜扁线	QXY B-x/220	1.5mm²—45mm² 1.2:1≤宽窄比≤12:1	60317-29	7095.6	MW38-C	*
C	240	240级聚酰亚胺漆包铜扁线	QY(F)B-x/240	1.5mm²—45mm² 1.2:1≤宽窄比≤8:1	60317-47	7095.5	MW20-C	*

注：“*”为近似美国线规　Note:“*” for approximate American wire gage

新能源汽车驱动用高压平台（800V)用漆包铜扁线
Enameled Copper Flat Wire for New Energy EV High-Voltage Platform (800V)


产品主要特点及用途/Products main features and application

- 聚酰亚胺漆包铜扁线，兼具高温油浸、高PDIV特性,用于新能源汽车800V高压平台，具有抗电晕性能和更稳定的电气性能。
- Revised to: Focus on high-temperature oil-resistant, high PDIV enamelled flat wires for new energy 800V electric drive high-voltage platform, with anti-corona performance and more stable electrical properties.

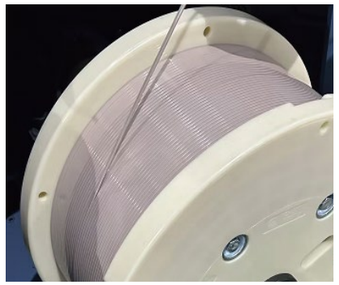
热级 Thermal level		型号 Model	规格范围 Specifications range		适用标准 Applicable Standard			
代号code	等级level	名称name	型号model	mm²	IEC	GB/T	NEMA	JIS
C	220	220级聚酰胺亚胺漆包铜扁线	QXY B-x/220	1.5mm²—45mm² 1.2:1≤宽窄比≤12:1	60317-29	7095.6	MW38-C	*
C	240	240级聚酰亚胺漆包铜扁线	QY(F)B-x/240	1.5mm²—45mm² 1.2:1≤宽窄比≤8:1	60317-47	7095.5	MW20-C	*

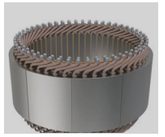
注：“*”为近似美国线规　Note:“*” for approximate American wire gage

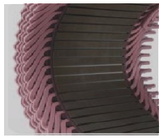
可满足以下特殊条件/The following special conditions can be satisfied

特殊实验 Special experiment	试验时长（循环 Test duration (cycle)	特殊性能 Special performance	性能数值 Performance value
高温耐ATF油（含水/不含水，150℃） High temperature AFT resistant oil (water/no water, 150℃)	2000h，残留率 > 90% 2000h, residue rate > 90%	PDIV	> 2000V
高低温耐ATF油（含水/不含水，-40℃/+180℃） High temperature AFT resistant oil (water/no water, 150℃)	8/12/16循环，残留率 > 90%	耐电晕	Vpp 3000V > 1300h

新能源汽车高压平台用PEEK线
PEEK Wire for New Energy EV





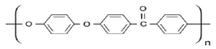


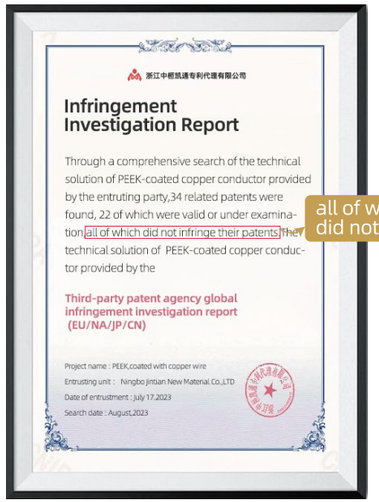
产品主要特点及用途：
Products main features and application

- PEEK材质漆包线，环保材料，自熄性；
- 同时满足高温耐受、抗辐射、耐击穿特性，具有抗电晕特性。
- PEEK漆包线在150°C条件下长时间使用仍能保持优异的电气和机械性能；在260°C条件下，低压低载条件下仍能保持绝缘。
- PEEK material enamelled wire, environmentally friendly material, self-extinguishing
- Can simultaneously meet high temperature resistance, radiation resistance, and breakdown resistance, with anti-corona characteristics.
- PEEK enamelled wire can be used at 150°C for a long time while maintaining excellent electrical and mechanical properties; at 260°C, it can maintain insulation under low pressure and low load conditions;

金田发明专利
Jintian Invention Patent

分子式 Molecular Formula





浙江中桥凯通专利代理有限公司

Infringement Investigation Report

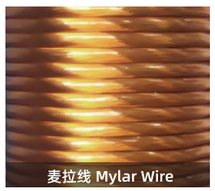
Through a comprehensive search of the technical solution of PEEK-coated copper conductor provided by the entruting party,34 related patents were found, 22 of which were valid or under examination,all of which did not infringe their patents.The technical solution of PEEK-coated copper conductor provided by the

Third-party patent agency global infringement investigation report (EU/NA/JP/CN)

Project name : PEEK,coated with copper wire
Entrusting unit : Ningbo jintian New Material Co.,LTD
Date of entrustment : July 17,2023
Search date : August,2023

all of which did not infringe

Litz线（压方线）、麦拉线
Litz Wire (Flat Wire), Mylar Wire



方形漆包/膜包利兹线 quare Enamelled/Mylar Coated Litz Wire

产品主要特点及用途：
Products main features and application

- 绞合线：高功率密度及电机效率，材料具有良好的趋肤效应，减少高频损耗
- 麦拉线：优异的电气性能、良好的耐热性、表面平整、透明及机械柔韧性，具有电磁干扰屏蔽特性
- 用于高频电感器和变压器的绕组绝缘护套，使用于转换器、通讯设备、超声波设备、声纳设备、视频设备、无线电设备及热电设备等
- Litz Wire: High power density and efficiency for motors, material with advantageous skin effect, reducing high-frequency losses
- Mylar Wire: Excellent electrical performance, good heat resistance, surface flatness,transparency, and mechanical flexibility, with electromagnetic interference shielding characteristics
- Applications: Insulation sheath for winding high-frequency inductors and transformers, used in converters, communication equipment, ultrasonic equipment, sonar equipment, video equipment, radio equipment, and thermoelectric equipment, etc.

产品类型 Product Types	单线根数 Number of Single Wires
圆形漆包/麦拉包绞合线 Round Enamelled/Mylar Coated Litz Wire	7-2000根（奇数或偶数可选） 7-2000 wires (odd or even optional)
方形漆包/麦拉包绞合线 Square Enamelled/Mylar Coated Litz Wire	7-2000根（奇数或偶数可选） 7-2000 wires (odd or even optional)

JINTIAN 金田铜业
金田电磁线
JINTIAN MAGNET WIRES

具体参数性能
Specific parameter performance

项目 item \ 种类(型号) Type (model)			QQ-x/120	QZ-x/130	QZ-x/155	QA-x/130	QA-x/155	QA-x/180	QZY-x/180	QZYH-x/180	Q(ZY/XY)-X/200	Q(ZY/XY)BP-X/200	AIW
			PVF系列	PEW、PEW/N系列		UEW、UEW/N系列			EIW系列		EI/AIW系列		
耐温等级 Temperature resistance class			120	130	155	130	155	180	180	180	200	200	220
尺寸结构 Dimensional structure	导体尺寸/mm Conductor size		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	最小漆膜厚度/mm Conductor size		0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084
	最大外径/mm Maximum outside diameter		1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084	1.084
机械性能 Mechanical property	附着性 adhesion		OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
	柔韧性 pliability		OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
	耐磨性 Abrasion resistance		14.2	15.1	15.1	12.3	12.3	12.3	15.1	15.1	15.1	15.1	15.1
	静摩擦系数 Coefficient of static friction		0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051	0.051
热性能 Thermal performance	软化击穿 Coefficient of static friction		170°C 2min OK	240°C 2min OK	270°C 2min OK	155°C 2min OK	175°C 2min OK	230°C 2min OK	300°C 2min OK	265°C 2min OK	320°C 2min OK	320°C 2min OK	350°C 2min OK
	热冲击 Thermal shock	圆棒 Round rod	ϕ2.240mm 卷绕wind	7d 卷绕wind	ϕ2.240mm 卷绕wind	ϕ2.240mm 卷绕wind	ϕ2.240mm 卷绕wind	ϕ2.240mm 卷绕wind	ϕ2.240mm 卷绕wind	ϕ2.240mm 卷绕wind	ϕ2.240mm 卷绕wind	ϕ2.240mm 卷绕wind	ϕ2.240mm 卷绕wind
		温度/时间 Temperature /time	155°C 30min	155°C 30min	175°C 30min	170°C 30min	200°C 30min	200°C 30min	200°C 30min	200°C 30min	220°C 30min	220°C 30min	240°C 30min
电性能 Electrical property	击穿电压/KV Breakdown voltage /KV		11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3
	漆膜连续性 Film continuity		0	0	0	0	0	0	0	0	0	0	0
	盐水针孔 Brine pinhole		0	0	0	0	0	0	0	0	0	0	0
化学性能 Chemical property	直焊性 Straight weldability		不具备 Not have	不具备 Not have	不具备 Not have	375°C 4S	375°C 4S	390°C 4S	不具备 Not have	470°C 6S	不具备 Not have	不具备 Not have	不具备 Not have
	耐溶剂 Solvent resistance		4H	4H	4H	4H	4H	4H	4H	4H	4H	4H	4H
抗电晕 Corona resistance			不具备 Not have	不具备 Not have	不具备 Not have	不具备 Not have	不具备 Not have	不具备 Not have	不具备 Not have	不具备 Not have	不具备 Not have	30h	不具备 Not have

注：以规格：1.000mm、2级漆膜为例 Note: Take specification: 1.000mm, grade 2 paint film as an example

漆包铜扁线可满足的特殊特性
Enamelled copper flat wire can meet special characteristics

品类特点 Category characteristics	EI/AIW	EI/AIW（抗电晕）	AIW	AIW+抗电晕	PI	PEEK(PEAK)
绝缘特性 Insulation characteristic	△	△	△	△	◎	◎
卷绕特性 Winding characteristic	△	△	△	△	◎	◎
真空溶焊特性 Vacuum solution welding characteristics	△	△	△	△	◎	◎
耐电晕放电时间 Corona discharge resistance time	×	△	×	◎	◎	◎
PDIV（同膜厚） PDIV (same film thickness)	△	△	△	△	◎	◎
耐老化寿命 Aging life	△	△	△	△	◎	◎

◎表示性能卓越 △表示可具备该性能（仅次于 ◎） ×表示无法满足
◎ Indicates excellent performance △ Indicates that it has the performance (second only to ◎) × indicates that it is not satisfied

UL认证情况
UL parameter certification

E227047

Material Designation	Mark Dsg	ANSI Type	Temp Class
xPEW, QZL-x/130	xPEW, QZL-x/130	/	130[#]
xUEW/130, QA-x/130	xUEW/130, QA-x/130	MW75C	130[#]
xUEWN/130, QA/X-x/130	xUEWN/130, QA/X-x/130	MW28C	130[#]
xPEW/155, QZ-x/155	xPEW/155, QZ-x/155	MW5C	155[#]
PEW/N	PEW/N	/	155[#]
UEW/F,xUEW/155, QA-x/155	UEW/F,xUEW/155, QA-x/155	MW79C	155[#]
UEWN/F,xUEWN/155, QAX-x/155	xUEWN/155, QA/X-x/155	MW80C	155
EIW/H,xEIW/180, QZY-x/180	EIW/H,xEIW/180,QZY-x/180	MW30C	180[#]
xUEW/180, QA-x/180	xUEW/180, QA-x/180	MW82C	180
UEWN/180,QA/X/180	UEWN/180,QA/X/180	MW83C	180
xEIWB/180,QZYB-x/180	xEIWB/180,QZYB-x/180	/	180[#]
xEI/AIW(BP)/200,Q(ZY/XY)BP-x/200	xEI/AIW(BP)/200,Q(ZY/XY)BP-x/200	MW35C,MW73C	200[#]
xEI/AIW/200,Q(ZY/XY)-x/200	xEI/AIW/200,Q(ZY/XY)-x/200	MW35C,MW73C	200[#]
xEIW/200, QZY-x/200	xEIW/200, QZY-x/200	MW74C	200
xEI/AIWB/200, Q(ZY/XY)B-x/200	xEI/AIWB/200, Q(ZY/XY)B-x/200	MW36C	200[#]
xEI/AIW/220, Q(ZY/XY)-x/220	xEI/AIW/220,Q(ZY/XY)-x/220	MW73C	220
xAIW/220	xAIW/220	MW81C	220
xEI/AIWB/220,Q(ZY/XY)B-x/220	EI/AIWB/220,Q(ZY/XY)B-x/220	MW38C	220
PIW/240 or QY-x/240	PIW/240 or QY-x/240	MW16C	240
xPIWB/240 or QYB_x0002_x/240	xPIWB/240 or QYB_x0002_x/240	/	240

常规生产控制参数表
Reference to Paramenters for Normal Production

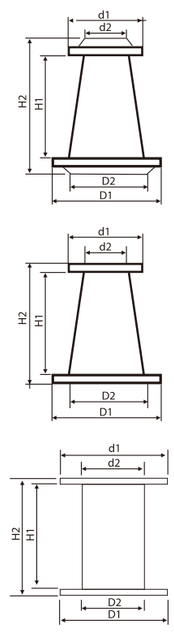
体标称直径 Diameter	公差 Tolerance	最大外径 Max Diameter(mm)			最小漆膜厚度 Min Film Thickness(mm)			最小击穿电压(20℃) Min Breakdown Voltage(20℃)			导体电阻 ohm/m(20℃) Conductor Resistance(20℃)	
(mm)	(mm)	1级	2级	3级	1级	2级	3级	1级	2级	3级	Min	Max
0.036	-	0.044	0.049	-	-	-	-	225	425	-	15.16	18.42
0.040	-	0.049	0.054	-	-	-	-	250	475	-	12.28	14.92
0.045	-	0.055	0.061	-	-	-	-	275	550	-	9.705	11.79
0.050	-	0.06	0.066	-	-	-	-	300	600	-	7.922	9.489
0.056	-	0.067	0.074	-	-	-	-	325	650	-	6.316	7.565
0.063	0.002	0.076	0.083	-	0.007	0.012	0.018	375	700	-	5.045	5.922
0.071	0.003	0.084	0.091	0.097	0.007	0.012	0.018	425	700	-	3.941	4.747
0.080	0.003	0.094	0.101	0.108	0.007	0.014	0.020	425	850	1200	3.133	3.703
0.090	0.003	0.105	0.113	0.12	0.008	0.015	0.022	500	900	1300	2.495	2.900
0.100	0.003	0.117	0.125	0.132	0.008	0.016	0.023	500	950	1400	2.034	2.333
0.112	0.003	0.13	0.139	0.147	0.009	0.017	0.026	1300	2700	3900	1.632	1.848
0.125	0.003	0.144	0.154	0.163	0.010	0.019	0.028	1500	2800	4100	1.317	1.475
0.140	0.003	0.16	0.171	0.181	0.011	0.021	0.030	1600	3000	4200	1.055	1.17
0.160	0.003	0.182	0.194	0.205	0.012	0.023	0.033	1700	3200	4400	0.8122	0.8906
0.180	0.003	0.204	0.217	0.229	0.013	0.025	0.036	1700	3300	4700	0.6444	0.7007
0.200	0.003	0.226	0.239	0.252	0.014	0.027	0.039	1800	3500	5100	0.5237	0.5657
0.224	0.003	0.252	0.266	0.28	0.015	0.029	0.043	1900	3700	5200	0.4188	0.4495
0.250	0.004	0.281	0.297	0.312	0.017	0.032	0.048	2100	3900	5500	0.3345	0.3628
0.280	0.004	0.312	0.329	0.345	0.018	0.033	0.050	2200	4000	5800	0.2676	0.2882
0.315	0.004	0.349	0.367	0.384	0.019	0.035	0.053	2200	4100	6100	0.2121	0.227
0.355	0.004	0.392	0.411	0.428	0.020	0.038	0.057	2300	4300	6400	0.1674	0.1782
0.40	0.005	0.439	0.459	0.478	0.021	0.040	0.060	2300	4400	6600	0.1316	0.1407
0.45	0.005	0.491	0.513	0.533	0.022	0.042	0.064	2300	4400	6800	0.1042	0.1109
0.50	0.005	0.544	0.566	0.587	0.024	0.045	0.067	2400	4600	7000	0.08462	0.08959
0.56	0.006	0.606	0.630	0.653	0.025	0.047	0.071	2500	4600	7100	0.06736	0.07153
0.63	0.006	0.679	0.704	0.728	0.027	0.050	0.075	2600	4800	7100	0.05335	0.05638
0.71	0.007	0.762	0.789	0.814	0.028	0.053	0.080	2600	4800	7200	0.04198	0.04442
0.80	0.008	0.855	0.884	0.911	0.030	0.056	0.085	2600	4900	7400	0.03305	0.03500
0.90	0.009	0.959	0.989	1.018	0.032	0.060	0.090	2700	5000	7600	0.02612	0.02765
1.00	0.010	1.062	1.094	1.124	0.034	0.063	0.095	2700	5000	7600	0.02116	0.0224
1.12	0.011	1.184	1.217	1.248	0.034	0.065	0.098	2700	5000	7600	0.01687	0.01785
1.25	0.013	1.316	1.349	1.381	0.035	0.067	0.100	2700	5000	7600	0.01353	0.01435
1.40	0.014	1.468	1.502	1.535	0.036	0.069	0.103	2700	5000	7600	0.01079	0.01143
1.60	0.016	1.67	1.706	1.74	0.038	0.071	0.107	2700	5000	7600	0.008264	0.008749
1.80	0.018	1.872	1.909	1.944	0.039	0.073	0.110	2700	5000	7600	0.006529	0.006913
2.00	0.020	2.074	2.112	2.148	0.040	0.075	0.113	2700	5000	7600	0.005289	0.005600
2.24	0.022	2.316	2.355	2.392	0.041	0.077	0.116	2700	5000	7600	0.004218	0.004465
2.50	0.025	2.578	2.618	2.656	0.042	0.079	0.119	2700	5000	7600	0.003385	0.003584
2.65	0.027	2.731	2.772	2.811	0.043	0.081	0.123	1300	2500	3800	0.003014	0.003190
2.80	0.028	2.88	2.922	2.961	0.043	0.081	0.123	1300	2500	3800	0.002698	0.002857
3.00	0.03	3.083	3.126	3.166	0.045	0.084	0.127	1300	2500	3800	0.002351	0.002488
3.15	0.032	3.233	3.276	3.316	0.045	0.084	0.127	1300	2500	3800	0.002131	0.002258
3.35	0.034	3.436	3.479	3.521	0.046	0.086	0.130	1300	2500	3800	0.001885	0.001996
3.55	0.036	3.635	3.679	3.721	0.046	0.086	0.130	1300	2500	3800	0.001693	0.001763
4.00	0.04	4.088	4.133	4.176	0.047	0.089	0.134	1300	2500	3800	0.001334	0.001389

包装信息
Package Information

线盘 Spool Type	绕线范围 Sizes Applicable (mm)	线盘自重 Net Weight of Spool (kg)	容线近似重量 Approximate Weight of Wires Applicable (kg)	每箱轴数 Spools per Carton
PL-2S	Φ0.020-0.050	0.13	1.2	16
PT-2	Φ0.020-0.050	0.17	2	12
PT-4	Φ0.050-0.30	0.20	7	4
PT-10	Φ0.10-0.30	0.40	12	2
PT-15	Φ0.10-0.60	0.52	18	1
PT-25	Φ0.10-2.50	0.83	30	1
PT-45	Φ0.25-4.00	2.15	45	-
PT-60	Φ0.25-4.00	2.25	70	-
PT-90	Φ0.25-4.00	3.90	90	-
PT-200	Φ0.50-4.0	7.30	200	-
PT-270	ϕ0.50-4.0	10.5	270	-
PT-500A	ϕ1.30-4.0	20.7	480	-
PC220*200	Φ0.50-2.5	0.65	28	-
PC355*180	Φ2.00-4.0	2.50	60	-
DIN160	Φ0.05-0.40	0.35/0.30	7	-
DIN200	Φ0.20-1.50	0.60	12	-
DIN250	Φ0.60-2.50	1	21	-

线盘信息
Spool Information

线盘型号 Type	侧板直径(mm) Reel Diameter		筒体直径(mm) Inner Diameter		内宽 (mm) H1	盘体总高 (mm) H2	轴孔直径 (mm)	重量 (kg)	备注
	小头 直径d1	大头 直径D1	小头 直径d2	大头 直径D2					
PT4	125±0.5	140±0.5	70±0.5	80±0.5	170±1	195±1	27±0.5	0.2±0.005	
PT10	160±0.5	180±0.5	97±0.5	110±0.5	200±1	230±1	30.5±0.5	0.4±0.005	
PT15	179±0.5	200±0.5	96±0.5	107±0.5	200±1	230±1	31±0.5	0.52±0.010	
PT25	214±0.5	230±0.5	110±0.5	129.5±0.5	250±1	280±1	31±0.5	0.83±0.015	
PT45	236±0.5	250±0.5	139±0.5	159±0.5	335±1	400±1	100±0.5	2.15±0.02	
PT60	270±0.8	300±0.8	150±0.8	175±0.8	350±1	400±2	45±0.5	2.25±0.02	平角
PT60	270±0.8	300±0.8	150±0.8	175±0.8	350±1	400±2	45±0.5	2.08±0.02	圆角
PT90	300±0.5	315±0.5	180±0.5	200±0.5	424±1	499±1	100±0.5	3.9±0.05	
PT200	375±0.5	400±0.5	224±0.5	250±0.5	530±1	630±1	100±0.5	7.3±0.1	
PT270	435±2.0	460±2.0	320±2.0	350±2.0	530±2	630±2	100±0.5	10.5±0.05	
PC500A	500±2	500±2	315±1	315±1	180±1	250±2	40±0.5	8.45±0.05	
PC500B	500±2	500±2	250±1	250±1	250±1	300±2	56±0.5	8.60±0.05	
PC600A	600±2	600±2	400±1	400±1	280±1	338±2	332±0.5	13.05±0.1	
PC710B	710±2	710±2	500±2	500±2	180±3	127±1	250±3	11.05±0.1	
220*200	219±0.5	219±0.5	108±0.5	108±0.5	198±1	232±1	32±0.5	0.62±0.01	
木盘线盘	355±0.5	355±0.5	150.4±0.5	150.4±0.5	180±1	210±1	40±1	/	
DIN250	250±0.5	250±0.5	160±0.5	160±0.5	160±1	200±1	40/30	1	



注：可按照客户要求，使用特殊线盘，如：DIN160, 200, 250 Note: Special pools of customer, are welcomed, like DIN160, 200, 250

线规对照表
Gauge Reference

Gauge No.	SWG		AWG	
	mm	inch	mm	inch
50	0.025	0.0010	0.0252	0.00099
49	0.031	0.0012	0.0282	0.00111
48	0.041	0.0016	0.0315	0.00124
47	0.051	0.0020	0.0356	0.00140
46	0.061	0.0024	0.0399	0.00157
45	0.071	0.0028	0.0447	0.00176
44	0.081	0.0032	0.0508	0.00198
43	0.091	0.0036	0.0559	0.00222
42	0.102	0.0040	0.0635	0.00249
41	0.112	0.0044	0.0711	0.00280
40	0.122	0.0048	0.0787	0.00314
39	0.132	0.0052	0.0889	0.00353
38	0.152	0.0060	0.102	0.00396
37	0.173	0.0068	0.114	0.00445
36	0.193	0.0076	0.127	0.00500
35	0.213	0.0084	0.142	0.00561
34	0.234	0.0092	0.16	0.00630
33	0.254	0.0100	0.18	0.00708
32	0.274	0.0108	0.203	0.00795
31	0.295	0.0116	0.226	0.00893
30	0.315	0.0124	0.254	0.0100
29	0.345	0.0136	0.287	0.0113
28	0.376	0.0148	0.32	0.0126
27	0.417	0.0164	0.361	0.0142
26	0.457	0.018	0.404	0.0159
25	0.508	0.020	0.455	0.0179
24	0.559	0.022	0.511	0.0201
23	0.610	0.024	0.574	0.0226
22	0.711	0.028	0.643	0.0253
21	0.813	0.032	0.724	0.0285
20	0.914	0.036	0.813	0.0320
19	1.016	0.040	0.912	0.0359
18	1.219	0.048	1.024	0.040
17	1.422	0.056	1.151	0.045
16	1.626	0.064	1.29	0.051
15	1.829	0.072	1.45	0.057
14	2.032	0.080	1.628	0.064
13	2.337	0.092	1.829	0.072
12	2.642	0.104	2.052	0.081
11	2.946	0.116	2.304	0.091
10	3.251	0.128	2.588	0.102
9	3.658	0.144	2.906	0.114
8	4.064	0.160	3.264	0.128
7	4.470	0.176	3.665	0.144
6	4.877	0.192	4.115	0.162
5	5.385	0.212	4.62	0.182
4	5.893	0.232	5.189	0.204
3	6.401	0.252	5.827	0.229
2	7.010	0.276	6.543	0.258
1	7.620	0.300	7.348	0.289

知名客户群 Well-known customer base

NOTE