

JINTIAN



宁波金田新材料有限公司
Ningbo Jintian New Material Co.,Ltd.

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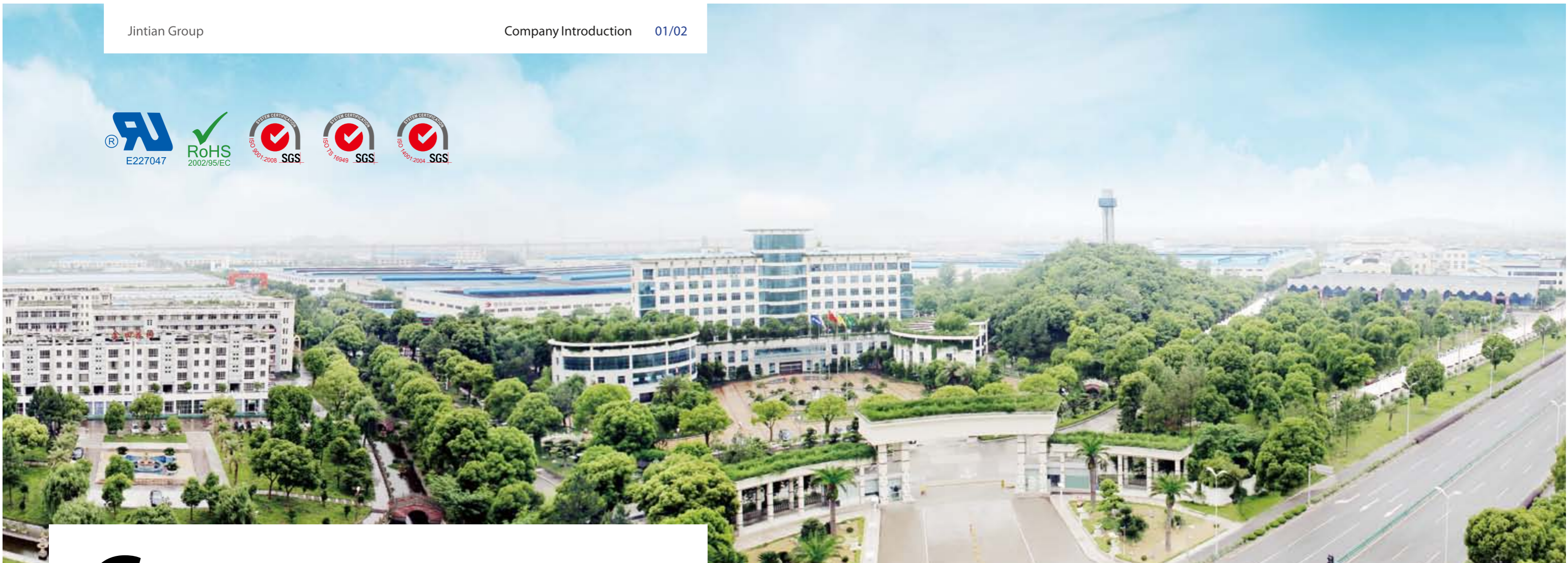
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Company Profile

集团简介

宁波金田铜业（集团）股份有限公司始建于1986年，是一家以铜加工为主的中国500强企业，也是国内最大的铜加工企业之一。

公司占地2000多亩，员工近5000人，产业涵盖铜加工、高新材料、建筑材料、有色金属贸易等领域，下辖十几家生产型及贸易型分子公司，主要产品有铜线、铜棒、铜管、铜带、漆包线、阴极铜、阀门、水表、磁性材料等，产品产量均居行业前列。

公司还先后获得全国“守合同，重信用”单位、中国优秀民营企业、资信AAA级企业、省工业行业龙头骨干企业、省百强企业、首届宁波市市长质量奖等荣誉称号。

Ningbo Jintian Copper (Group) Co.,Ltd., established in 1986, is listed among the top 500 enterprises, majoring in the copper-processing, also the largest copper-processing base in China.

The company occupies 2,000 acres, with nearly 5,000 staff. The industry covers the areas of copper processing, high-tech materials, building materials, and non-ferrous metals trade, with the jurisdiction of more than a dozen production and trade oriented subsidiaries. The main products include copper wires, copper bars, copper tubes, copper stripes, enameled wires, cathode copper, valves, water meters, and magnetic materials, etc. All the production outputs take the lead in the same industry.

The company also has won honors of the “Contract-Honoring and Promise-Keeping” unit, “China Outstanding Private Enterprise”, “AAA-Financial Credit Enterprise”, “the Provincial Industrial Leading Backbone Enterprise”, “the Provincial Top 100 Enterprise”, “the first Ningbo Municipal Mayor Quality Award”, etc.

- Top 500 Chinese Enterprises
- Top 10 Private Owned Enterprises in China
- No. 1 Copper Processing Enterprise in China
- National Level High-tech Enterprises
- National Level Engineering Technology Center
- National Level Laboratory

- 中国企业500强
- 中国民营企业10强
- 中国最大铜加工企业集团
- 国家重点高新技术企业
- 国家级工程技术中心
- 国家级实验室





Company Introduction

公司简介

宁波金田新材料有限公司成立于1995年，致力于漆包铜线产品的研发与生产，投资10亿建立10万吨耐高温漆包线项目，拥有行业内顶尖的MAG、高速连拉连包生产线，以生产高精尖电磁线系列产品为核心，已成为浙江省最大的漆包线生产厂商之一，是浙江电线电缆协会副理事长单位。

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质量体系标准及ISO14001环境管理体系要求组织生产，在国内同行业率先取得ISO/TS16949汽车质量管理体系认证。产品广泛应用于汽车行业、电机、变压器、压缩机等行业，产品符合欧盟ROHS指令要求，已经通过UL安全认证，在国内拥有较高的知名度和市场占有率。先后获得“中国漆包线十佳名优品牌”、“浙江省质量信得过产品”、“省电线电缆行业工业产值超10亿突出贡献奖”、浙江省工商企业信用AA级“守合同重信用”单位、“宁波市名牌产品”、“宁波市信息化与工业化融合标杆企业”等荣誉。

Ningbo Jintian New Material Co., Ltd was founded in 1995. Since establishment, it has been focusing on exploration and production for enameled copper wire and invested 500 million yuan in establishing the 100,000 tons project for high temperature resistant enameled copper wire. Til now the factory is assembled with advanced MAG machines, high-speed drawing-enameled production lines in this industry. With its orientation in series of excellent quality magnet wire product, it has become one of the biggest manufacturers of enameled copper wire in China.

The company employs the global advanced non-ferrous metals processing equipment and production technique, organize production in strict accordance with the requirements of ISO9001 quality system standard and ISO14001 environmental management system standard, and takes the lead in passing the ISO/TS16949 automotive quality management system certification in the domestic industry. Its products are widely used in the automobile industry, motors, transformers and compressors industry etc, complied with EU ROHS directive and certified by American UL(File No. E227047), and enjoy a high prestige and big market share at home with successively being honored “China Enameled Wire Top Ten Famous Brand”

Since 1995, with development and dedication, we are pride in the following achievements:

Production Capacity:

Annual Output: 100,000 metric tons
 Product Size Range: 0.05mm-3.5mm(AWG7-AWG44)
 Product types: Class 130°C- Class 220°C
 Executive standards: IEC, JIS, DIN and NEMA

Management Systems:

ISO 9001: 2008
 ISO TS 16949
 ISO 14001: 2004

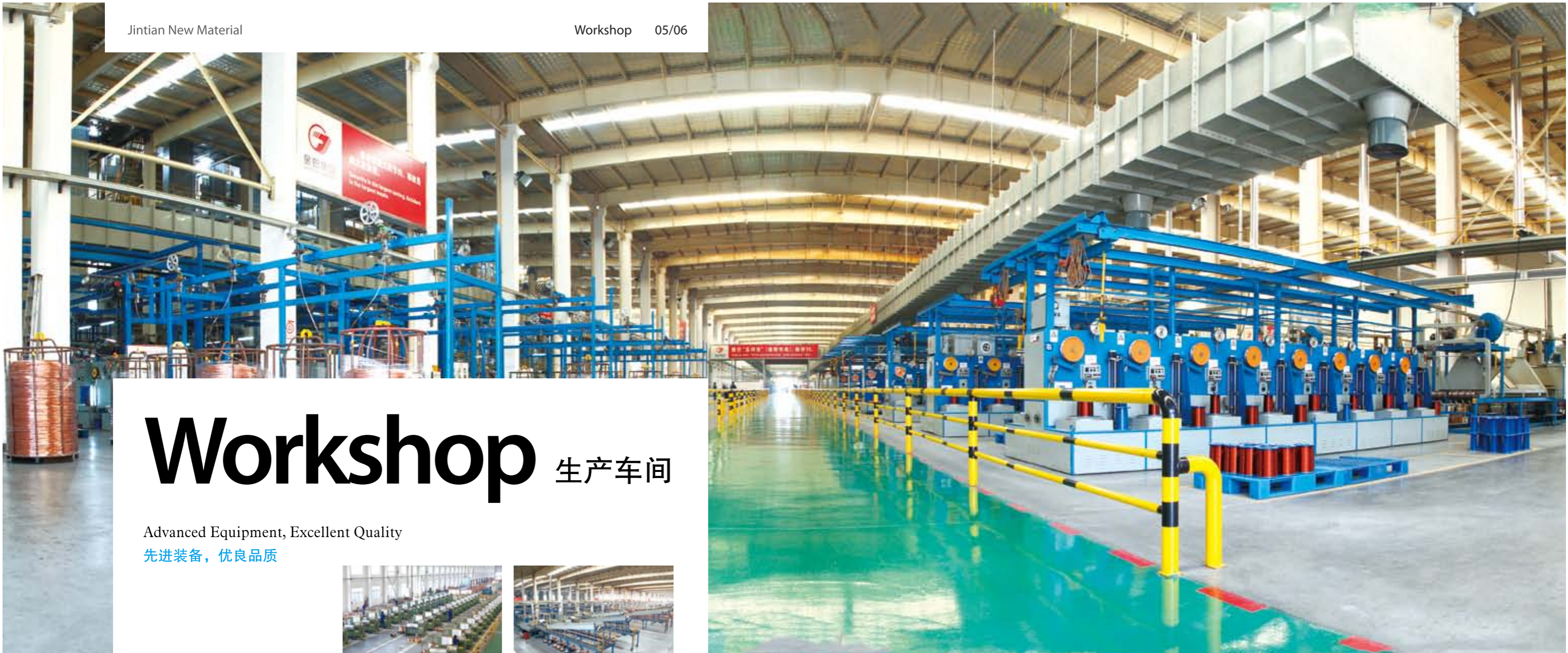
QC Certificate:

RoHS Directive UL Approved

After the new plants finished and new machines imported, our annual output reaches up to 100,000 metric tons. Meanwhile, we have been one of the most important manufacturers and exporter in Enameled copper wires industry in China and across the world.

Main Oversea Markets:

USA, Italy, Middle east Asia, South America, Africa, South east Asia.



Workshop 生产车间

Advanced Equipment, Excellent Quality
先进装备，优良品质



Low-oxygen Copper Wire Plant 低氧杆生产车间



MAG Plant MAG生产车间



Finished Enamelled Copper Wires Plant 漆包线生产车间



Finished Enamelled Copper Wires Plant 漆包线生产车间

目前公司拥有100多套先进的包漆设备，其中三套为采用奥地利（德国）技术的高DV值连连包的卧式漆包机，属于国内同行业所采用的最先进漆包机型号之一。另外还有20余套连连包的立式及卧式漆包机，能满足不同行业客户对漆包线的不同层次的需求。

Presently we have over 100 sets of enameling machines, 3 of which are the world's most advanced horizontal enameling machines from MAG, Austria. Another 20 sets of High DV horizontal and vertical enameling machines with inline drawing can satisfy different requirements from customers across the industries.

Precision Testing

精密检测

Our company is operating strictly under Quality Management Systems such as ISO 9001:2008, ISO 14001:2004. Thanks to our unremitting pursuit of quality improvement over the years, our wires have got RoHS, REACH and UL approval (File No. E227047). Moreover, our company is the first few company who gets the ISO TS 16949 certification, enabling us to satisfy the strict quality requirements of the automotive industry.

We also have advanced testing equipments to do all the necessary tests before every shipment to ensure the all technical parameters of our wires meet our customers' requirements.

我们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ISO9001:2008、ISO14001:2004体系认证证书。因为公司对高品质不懈的追求，大部分产品获得UL认证。同时，我们公司还是行业内为数不多通过ISO TS 16949认证的公司，表明我们的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。



Dielectric loss tester 介质损耗测试仪



Intelligent cut-through tester 智能软化击穿测试仪



Jerking tension tester 急拉伸测试仪



Scrape resistance tester 往复耐刮磨测试仪



Corona resistance tester 抗电晕测试仪



直焊性聚氨酯漆包铜圆线 Self-Solderable Polyurethane Series



QA(U EW)

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	0.05-1.6	14#-44#*	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

尼龙复合涂层系列 Nylon Overcoating Series



QA/N(U EW/N)

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	0.05-1.6	14#-44#*	60317-19	6109.9	MW28-C	C3202
F	155			60317-21	6109.11	MW80-C	
H	180			60317-51	6109.23	MW83-C	

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

聚酯漆包铜圆线 Polyester Series



QZ(PEW)

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	0.06-3.35	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

聚酯亚胺漆包铜圆线 Polyester-imide Series



QZY(EIW)

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
- Good Thermostability under 150°C working environment, good resistance to abrasion and solvent
- 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	0.06-3.5	7#-42#*	60317-8	6109.5	MW30-C	C3202

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

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



Q(ZY/XY) (EI/AIW)

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 forceful 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	0.1-3.5	7#-38#*	60317-13	6109.20	MW35-C	
C	220(复合)					MW73-C	
						MW37-C	

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

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



Q(ZY/XY)/200-BP

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、耐辐照、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。
- The product has good ability and anti-Nai frequency pulse corona performance, can prevent premature failure of turn to turn insulation, extended life motor frequency.
- Application: Apply to mining and metallurgy machinery motors, elevator motors, hybrid and electric cars motor, wind power and other frequency conversion electrical 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	NEMA	JIS
C	200	0.4-2.0	12#-26#*	10930-2010	14711-2013		

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

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

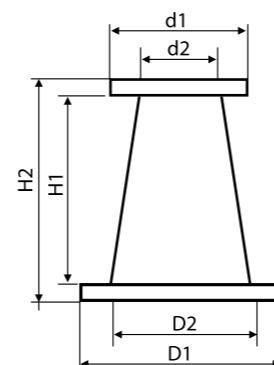
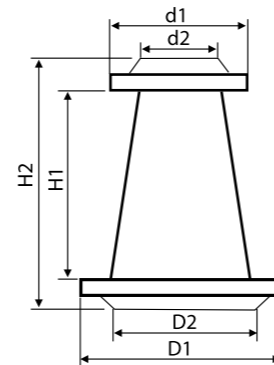
体标称直径 Diameter	公差 Tolerance	最大外径 Max Diameter(mm)			最小漆膜厚度 Min Film Thickness(mm)			最小击穿电压(20° C) Min breakdown voltage(20° C)			导体电阻 ohm/m (20° C) Conductor resistance (20° C)	
		1级	2级	3级	1级	2级	3级	1级	2级	3级	Min	Max
0.028	--	0.034	0.038	--	--	--	--	170	325	--	24.99	30.54
0.032	--	0.039	0.043	--	--	--	--	190	375	--	19.13	23.38
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

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	Φ0.30 - 0.60	0.52	18	1
PT-25	Φ0.40 - 2.50	0.78	30	1
PT-45	Φ0.36 - 3.20	2.15	45	-
PT-60	Φ0.36 - 3.35	2.25	70	-
PT-90	Φ0.50 - 3.20	3.90	90	-
PT-200	Φ0.50 - 3.20	7.30	200	-
PC220*200	Φ0.50 - 2.50	0.65	28	-
PC355*180	Φ2.00 - 3.35	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	0.78±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	
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	/	
DIN160	160±0.5	160±0.5	100±0.5	100±0.5	130±1	160±1	22	0.35/0.30	
DIN200	200±0.5	200±0.5	125±0.5	125±0.5	160±1	200±1	22/30/37	0.60	
DIN250	250±0.5	250±0.5	160±0.5	160±0.5	160±1	200±1	40/30	1	



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

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