



Our mission

Quality First, Customer First, and Continuous Improvement—we remain dedicated to delivering superior products and services that meet the evolving needs of our clients.

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Company Profile(公司简介)：

Xi'an Zipeng Machinery Technology Co., Ltd., located in Xi'an, Shaanxi Province, China, is a professional manufacturer dedicated to the R&D and production of customized copper foil flexible busbar, aluminum foil flexible busbar, and copper-aluminum composite busbar. Special-shaped copper and aluminum busbar. Leveraging decades of profound experience in design and R&D, the company has forged a stellar reputation for technical proficiency and innovation.

Spanning a 5,000-square-meter production base, the company features standardized professional workshops and advanced inspection equipment, along with a core R&D team of over 50 specialists. Focusing on customized product requirements in specialized fields, it has garnered widespread market acclaim through precise craftsmanship and reliable quality.

The company started international trade since 2016, with products exported to over 30 countries and regions including Germany, France, the United States, Italy, and Dubai, serving world-renowned corporations such as Schneider, Siemens, General Electric, Emerson, and CRRC.

Our products are extensively applied in key sectors such as wind power projects, electric vehicle lithium battery systems, electric vehicle charging piles, high/medium/low voltage distribution cabinets, rail transit traction systems, and welding machines, covering core industries like new energy, industrial electrical engineering, and rail transit.

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西安梓鹏机械科技有限责任公司位于中国陕西省西安市，是一家专注于定制化铜箔柔性母线、铝箔柔性母线及铜铝过渡母线，异型铜，铝排的研发与生产的专业制造商。凭借数十年深厚的设计研发经验，公司以技术精湛和创新领先树立了卓越声誉。

公司拥有 5000 平方米的生产基地，配备标准化专业车间、先进的检测设备以及 50 余名核心研发专家团队。聚焦于特种领域的定制化产品需求，公司凭借精湛工艺和可靠品质赢得了市场的广泛赞誉。

自 2016 年开展国际贸易以来，公司产品已出口至德国、法国、美国、意大利、迪拜等 30 多个国家和地区，服务施耐德、西门子、通用电气、艾默生、中车等世界知名企业。

公司产品广泛应用于风电项目、电动汽车锂电池系统、电动汽车充电桩、高低压配电柜、轨道交通牵引系统及焊接机等关键领域，覆盖新能源、工业电气工程、轨道交通等核心产业。

秉承“质量第一、客户至上、持续改进”的使命，公司致力于提供满足客户不断变化需求的优质产品与服务。

Copper Foil Flexible Busbar(铜箔柔性母线)

Product Overview / 产品概述



Copper Foil Flexible Busbar (also known as laminated copper flexible connector, copper sheet flexible connector) is an electrical connection component composed of multiple layers of high-purity T2 copper foil precision laminated by polymer diffusion welding or silver brazing process. Both ends are designed as rigid connection ends, and the middle is a flexible conductor structure. The product has core characteristics such as high conductivity, large current carrying capacity, flexible buffering, vibration resistance, aging resistance and corrosion resistance.

It can effectively absorb thermal expansion and contraction, installation deviation and vibration impact during equipment operation, solve the connection problems of various electrical equipment, and is widely used in power electrical, new energy, rail transit, metallurgical industry and other fields.

铜箔柔性母线（又称叠片式铜软连接、铜皮软连接），是由多层高纯度 T2 紫铜箔经高分子扩散焊或银钎焊工艺精密叠加成型，两端设计为刚性连接端，中间为柔性导体结构的电气连接部件。产品具备高导电、大电流承载、柔性缓冲、抗震动、耐老化、耐腐蚀等核心特性，可有效吸收设备运行过程中的热胀冷缩、安装偏移及震动冲击，解决各类电气设备的连接难题，广泛应用于电力电气、新能源、轨道交通、冶金工业等多个领域。

Core Parameters（核心参数）：

Parameter Name(参数名称)	Specification(规格)
Conductor Material（导体材质）	T2 copper foil, copper content $\geq 99.95\%$ （T2 紫铜箔，含铜量 $\geq 99.95\%$ ）
Copper Foil Thickness（铜箔厚度）	0.03~0.5mm (regular 0.1mm)（0.03~0.5mm（常规 0.1mm））
Welding Process（焊接工艺）	Polymer diffusion welding, silver brazing（高分子扩散焊、银钎焊）
Surface Treatment（表面处理）	Bare copper, tin-plated, nickel-plated, silver-plated (optional)（裸铜、镀锡、镀镍、镀银（可选））
Insulation Treatment（绝缘处理）	Heat shrinkable tube, dip molding, glass fiber tube (optional) 热缩管、浸塑、玻纤管（可选）
Size Range（尺寸范围）	Width: 5~200mm; Total length: 30~1500mm; Hole diameter: 4~20mm（宽度：5~200mm；总长度：30~1500mm；孔径：4~20mm）
Current Carrying Capacity(载流量)	50~3000+A (customized by cross-sectional area) 50~3000+A（按截面积定制）
Resistivity(电阻率)	$\leq 0.0172\Omega \cdot \text{mm}^2/\text{m}$

Product Types(产品类型):

- 1. Standard Straight Type:** Flat punching at both ends, simple structure, suitable for connection in ordinary scenarios such as conventional busbars and battery modules.
 - 2. Special-shaped/Bent Type:** Can be customized into various shapes such as L-type, U-type, Z-type and arc type, adapting to connection needs in narrow spaces and special installation angles.
 - 3. Sectional Pressure Welding Type:** Middle sectional welding process, with stronger flexibility, can bear larger bending and vibration, suitable for gas-insulated switchgear, high-voltage equipment and other scenarios.
 - 4. Insulation Coating Type:** Overall or partial heat shrinkable tube and dip molding treatment, improving product insulation performance and protection level, suitable for high-voltage, humid and other complex environments.
1. 标准平直型: 两端平板冲孔, 结构简洁, 适用于常规母线、电池模组等普通场景连接。
 2. 异型/折弯型: 可定制 L 型、U 型、Z 型、弧形等多种形状, 适配狭小空间、特殊安装角度的连接需求。
 3. 分段压焊型: 中间分段焊接工艺, 柔性更强, 可承受更大幅度的弯曲和震动, 适用于充气柜、高压设备等场景。
 4. 绝缘包覆型: 整体或局部套热缩管、浸塑处理, 提升产品绝缘性能和防护等级, 适用于高压、潮湿等复杂环境。

Product Advantages(产品优势):

- **Excellent Conductivity:** Adopting high-purity T2 copper foil, with low resistivity, small contact resistance and high conductivity, which can effectively reduce power loss.
 - **Good Flexible Buffering:** Multi-layer copper foil laminated structure, which can be freely bent, compressed and stretched, can fully absorb the impact caused by thermal expansion and contraction and vibration of equipment, and protect the connection part of equipment.
 - **High Current Carrying Capacity:** Multi-layer laminated design, excellent heat dissipation performance, current carrying capacity far exceeds that of cables with the same cross-section, which can meet the connection needs of various high-current equipment.
 - **Long Service Life:** The surface can be tin-plated, nickel-plated and silver-plated to enhance oxidation resistance and corrosion resistance, maintenance-free, and the service life can reach more than 10 years.
 - **Convenient Installation:** The product is lightweight and compact, can be flexibly customized according to the installation space, adapts to various complex installation scenarios, and reduces installation difficulty.
- 导电性能优异: 采用高纯度 T2 紫铜箔, 电阻率低, 接触电阻小, 导电效率高, 可有效降低电能损耗。
 - 柔性缓冲性好: 多层铜箔叠加结构, 可自由弯曲、压缩、拉伸, 能充分吸收设备热胀冷缩和震动带来的冲击, 保护设备连接部位。
 - 大电流承载能力: 多层叠片设计, 散热性能优良, 载流量远超同截面电缆, 可满足各类大电流设备的连接需求。
 - 使用寿命长: 表面可做镀锡、镀镍、镀银处理, 增强抗氧化、耐腐蚀能力, 免维护, 使用寿命可达 10 年以上。
 - 安装便捷: 产品轻量化, 结构紧凑, 可根据安装空间灵活定制, 适配各种复杂安装场景, 降低安装难度。

Application Fields(应用领域)

- **New Energy Field:** Power batteries, energy storage systems, photovoltaic combiner boxes, wind power converters, new energy vehicle battery connections.
- **Power Electrical Field:** High and low voltage switchgear, transformers, generators, bus ducts, distribution boxes, relays.
- **Rail Transit Field:** Subway, high-speed rail traction converters, rail transit electrical systems, locomotive electrical connections.
- **Industrial Equipment Field:** Metallurgical electric furnaces, electrolytic equipment, electric welding machines, high-frequency induction equipment, industrial furnaces.
- **Special Equipment Field:** Nuclear power equipment, marine electrical, forklifts, AGV robots, medical equipment.
- 新能源领域：动力电池、储能系统、光伏汇流箱、风电变流器、新能源汽车电池连接。
- 电力电气领域：高低压开关柜、变压器、发电机、母线槽、配电箱、继电器。
- 轨道交通领域：地铁、高铁牵引变流器、轨道交通电气系统、机车电气连接。
- 工业设备领域：冶金电炉、电解设备、电焊机、高频感应设备、工业炉。
- 特种设备领域：核电设备、船舶电气、叉车、AGV 机器人、医疗设备。

Customization Instructions(定制说明)

1. **Customization Requirements:** Please provide product drawings, specific dimensions (length, width, thickness, hole diameter, hole spacing), surface treatment requirements, insulation requirements, rated current and other parameters.
2. **Design Support:** Can provide exclusive product design schemes according to customers' installation space, current requirements and protection level.
3. **Minimum Order Quantity:** The minimum order quantity for conventional products is 5~10 pieces, and the minimum order quantity for special-shaped parts and customized parts can be negotiated.
4. **Delivery Time:** 7~8 working days for conventional products, 10~15 working days for customized parts according to complexity.

1. 定制需求：请提供产品图纸、具体尺寸（长度、宽度、厚度、孔径、孔距）、表面处理要求、绝缘需求、额定电流等参数。
2. 设计支持：可根据客户的安装空间、电流需求、防护等级，提供专属的产品设计方案。
3. 起订量：常规产品最小起订量 5~10 件，异型件、定制件起订量可协商。
4. 交期：常规产品 7~8 个工作日，定制件根据复杂度 10~15 个工作日。

Braided Flexible Busbar (编织柔性母线)

Product Overview / 产品概述



Braided Flexible Connector (also known as Copper Braided Tape Flexible Connector, Copper Stranded Wire Flexible Connector) is a high-performance flexible conductive component, made of high-purity T2 copper wires (copper content $\geq 99.95\%$) through precision multi-spindle braiding. Copper terminals or copper tubes are crimped at both ends and fixed by special welding or cold-pressing process.

As a kind of flexible connection, it allows axial expansion and contraction, deflection and a certain amount of displacement at the connection part, which can effectively compensate for thermal expansion and contraction, installation errors and vibration displacement of equipment during operation.

It features high flexibility, excellent conductivity, strong vibration resistance, good fatigue resistance and easy installation, and is widely used in high-current flexible connection scenarios such as new energy, power electrical, rail transit and industrial equipment. It is especially suitable for high-voltage electrical appliances, vacuum electrical appliances, mining explosion-proof switches, automobiles, locomotives and other related products as flexible connections.

编织柔性母线（又称铜编织带软连接、铜绞线软连接），是一款高性能柔性导电组件，采用高纯度 T2 紫铜丝（含铜量 $\geq 99.95\%$ ）经多锭精密编织成型，两端压接铜端子或铜管，通过特殊焊接或冷压工艺固定而成。作为挠性连接的一种，它允许连接部位发生轴向伸缩、折转和垂直轴向产生一定位移量，可有效补偿设备运行过程中的热胀冷缩、安装误差及振动位移。

产品具备高柔性、强导电、抗震动性强、耐疲劳、易安装等特性，广泛应用于新能源、电力电气、轨道交通、工业设备等大电流柔性连接场景，尤其适用于各种高压电器、真空电器、矿用防爆开关及汽车、机车等相关产品做软连接使用。

Product Types(产品类型)：

1. **Standard Flat Type:** Flat terminals at both ends, universal type, suitable for connection of conventional busbars, power distribution cabinets and battery packs.
 2. **Copper Stranded Type:** Circular multi-strand twisted, with stronger bendability and no angle limit, suitable for high dynamic vibration scenarios.
 3. **Insulated Type:** Fully wrapped with heat shrinkable tube or silicone tube, improving insulation and protection, suitable for high-voltage, humid and dusty environments.
 4. **Custom Special-Shaped Type:** L-type, U-type, bent type, multi-hole position, suitable for narrow spaces and special installation angles.
1. 标准扁平型：两端平板端子，通用型，适配常规母线、配电柜、电池包连接。
 2. 铜绞线型：圆形多股绞合，折弯性更强、无角度限制，适用于高动态振动场景。
 3. 绝缘包覆型：全包裹热缩/硅胶管，提升绝缘与防护，适用于高压、潮湿、粉尘环境。
 4. 异型定制型：L 型、U 型、折弯型、多孔位，适配狭小空间与特殊安装角度。

Core Technical Parameters/核心技术参数

Parameter(参数名称)	Specification(规格)
Conductor Material(导体材质)	T2 copper wire, copper content $\geq 99.95\%$ (T2 紫铜丝, 含铜量 $\geq 99.95\%$)
Single Wire Diameter (单丝直径)	0.05mm、0.10mm、0.12mm、0.15mm (regular/常规)、0.20mm
Braiding Structure (编织结构)	24 spindles, 32 spindles, 36 spindles, 48 spindles, 64 spindles, 96 spindles single/multi-layer (24 锭、32 锭、36 锭、48 锭、64 锭、96 锭 (单层/多层))
Welding Process (焊接工艺)	Cold crimping, ultrasonic welding, diffusion welding (the bonding interface can be formed at one time by molecular diffusion welding) (冷压接、超声波焊、扩散焊 (搭界面可采用分子扩散焊一次性成型))
Resistivity (电阻率)	$\leq 0.022 \Omega \cdot \text{mm}^2/\text{m}$
Current Capacity(载流量)	3–5A/mm ² (short-term peak 10A/mm ²) 瞬时代流量 10A/mm ²
Operating Temperature(工作温度)	-40°C ~ +150°C (extreme conditions can reach -40°C~300°C) (-40°C ~ +150°C (极端条件可达到-40°C~300°C))
Withstand Voltage(耐压等级)	$\leq 600\text{V}$ (reinforced insulation up to 10kV) ($\leq 600\text{V}$ (加强绝缘可达 10kV))
Size Range(尺寸范围)	Width: 4~200mm; Thickness: 0.5~20mm; Total length: 50~2000mm; Hole diameter: 4~20mm (customized) 宽度: 4~200mm; 厚度: 0.5~20mm; 总长度: 50~2000mm; 孔径: 4~20mm (定制)
Surface Treatment(表面处理)	Bare copper, tin-plated, nickel-plated, silver-plated (optional) 裸铜、镀锡、镀镍、镀银 (可选)
Insulation Treatment(绝缘处理)	Heat shrinkable tube, silicone tube, dip coating, fiberglass tube (optional) 热缩管、硅胶管、浸塑、玻纤管 (可选)

Application Fields (应用领域)

- **New Energy Field:** Power batteries, energy storage converters, PV combiner boxes, wind power equipment, new energy vehicle motor drives and charging piles.
- **Power Electrical Field:** High and low voltage switchgear, transformers, generators, bus ducts, grounding systems, distribution boxes and relays; it is also widely used in power transformation and distribution projects such as power plants and power stations.
- **Rail Transit Field:** Metro/high-speed rail traction converters, pantographs, vehicle electrical systems, locomotive electrical connections.
- **Industrial Equipment Field:** Metallurgical electric furnaces, electrolytic equipment (electrolytic aluminum, electrolytic zinc, electrolytic copper), welding machines, automation equipment; it is also applied in chemical industry such as electroplating.
- **Automotive Field:** New energy vehicle electric drives, batteries, charging piles, high-voltage wiring harness connections.
- **Special Equipment Field:** Explosion-proof electrical appliances, marine electrical equipment, medical equipment, aerospace, mining explosion-proof switches.
- **新能源领域:** 动力电池、储能变流器、光伏汇流箱、风电设备、新能源汽车电驱及充电桩。
- **电力电气领域:** 高低压开关柜、变压器、发电机、母线槽、接地系统、配电箱、继电器；广泛应用于电厂、电站等输变电工程。
- **轨道交通领域:** 地铁/高铁牵引变流器、受电弓、车辆电气系统、机车电气连接。
- **工业设备领域:** 冶金电炉、电解设备（电解铝、电解锌、电解铜）、电焊机、自动化装备；应用于电镀等化工行业。
- **汽车领域:** 新能源汽车电驱、电池、充电桩、高压线束连接。
- **特种设备领域:** 防爆电器、船舶电气、医疗设备、航空航天、矿用防爆开关。

Customization & Order (定制与订购)

1. **Customization Parameters:** Provide length, width, thickness, hole diameter, hole spacing, surface treatment, insulation requirements and rated current.
 2. **Minimum Order Quantity:** 5–10 pieces for conventional products, negotiable for special-shaped/special specifications.
 3. **Delivery Time:** 7–8 working days for conventional products, 10–12 working days for complex customization.
 4. **Packaging:** Carton + pearl cotton, wooden box packaging for heavy products, moisture-proof and shock-proof to ensure transportation safety.
1. **定制参数:** 提供长度、宽度、厚度、孔径、孔距、表面处理、绝缘要求、额定电流。
 2. **起订量:** 常规 5–10 件，异型/特殊规格可协商。
 3. **交期:** 常规 7–8 天，复杂定制 10–12 天。
 4. **包装:** 纸箱+珍珠棉，重型产品木箱包装，防潮防震，保障运输安全。

Copper to Aluminum busbar(铜铝过渡母线)

Product Overview/产品概述



Copper to Aluminum Busbar (including Copper-Clad Aluminum Busbar and Copper-Aluminum Transition Busbar) is a high-performance composite conductor widely used in power distribution systems. It integrates the excellent electrical conductivity, corrosion resistance of copper and the lightweight, cost-effective advantages of aluminum, solving the key problems of galvanic corrosion, poor contact and high cost caused by direct connection between copper and aluminum conductors.

Adopting advanced metallurgical bonding or friction welding technology, it has stable performance, long service life and wide applicability, and is an essential core component in industrial, new energy, data center and other power scenarios.

铜铝过渡母线（含铜包铝母线、铜铝过渡母线）是一种广泛应用于配电系统的高性能复合导体，融合了铜的优异导电性能、耐腐蚀特性与铝的轻量化、高性价比优势，解决了铜铝导体直接连接产生的电化学腐蚀、接触不良、成本偏高三大核心难题。采用先进的冶金复合或摩擦焊接工艺，性能稳定、使用寿命长、适用性广，是工业、新能源、数据中心等电力场景中不可或缺的核心部件。

Product Series /产品系列

1. Copper-Clad Aluminum Busbar (CCA Busbar) / 铜包铝母线排

The product adopts metallurgical cladding technology, with pure aluminum as the core and high-purity copper as the outer cladding, forming a seamless and firm combination without delamination. It is mainly used for long-distance power transmission and distribution, which can greatly reduce the weight of the busbar and save installation costs while ensuring electrical performance.

产品采用冶金复合工艺，以纯铝为芯体，高纯铜为外层包覆，形成无缝牢固结合，不分层、不脱落。主要用于远距离输配电场景，在保证电气性能的同时，可大幅减轻母线重量，节约安装成本。

2. Copper-Aluminum Transition Busbar / 铜铝过渡母线排 It is made of high-pressure friction welding technology, with T2 oxygen-free copper at one end and 1060/1070 pure aluminum at the other end. It is specially designed for the transition connection between copper and aluminum conductors in power equipment, completely eliminating galvanic corrosion and ensuring stable current transmission under high-current working conditions.

采用高压摩擦焊接工艺制成，一端为 T2 无氧铜，一端为 1060/1070 纯铝，专门为电力设备中铜、铝导体的过渡连接设计，彻底杜绝电化学腐蚀，保证大电流工况下电流传输稳定。

Material & Technical Parameters / 材质及技术参数

Parameter(参数名称)	Specification 参数
Copper Material (铜材质)	T2 Oxygen-free Copper, conductivity $\geq 98\%$ IACS (T2 无氧铜, 导电率 $\geq 98\%$ IACS)
Aluminum Material (铝材质)	1060/1070 Pure Aluminum, conductivity $\geq 60\%$ IACS (1060/1070 纯铝, 导电率 $\geq 60\%$ IACS)
Bonding Technology (结合工艺)	Copper-Clad: Metallurgical Cladding; Transition: Friction Welding (铜包铝: 冶金复合; 过渡排: 摩擦焊接)
Bonding Strength (结合强度)	≥ 80 MPa
Working Temperature (工作温度)	$-40^{\circ}\text{C} \sim +150^{\circ}\text{C}$
Rated Voltage (额定电压)	Up to 1000V, 50/60Hz (最高 1000V, 50/60 赫兹)
Current-Carrying Capacity (载流量)	400A $\sim$ 6300A (according to size) (400A $\sim$ 6300A (根据规格而定))

Core Advantages / 核心优势:

Solve Galvanic Corrosion — Eliminate electrochemical reaction caused by direct copper-aluminum connection, prevent joint heating, oxidation and failure.

根治电化学腐蚀——杜绝铜铝直接连接产生的电化学反应，防止接头发热、氧化及失效。

High Cost-Effectiveness — Compared with full copper busbar, it saves 30%-50% material cost, while maintaining excellent electrical performance.

高性价比——相较于全铜母线，节省 30%-50% 材质成本，同时保持优异的电气性能。

Stable Performance — Seamless bonding, low contact resistance, stable current transmission, no delamination or shedding even under long-term vibration.

性能稳定——无缝结合，接触电阻极低，电流传输稳定，长期震动下也不会分层、脱落。

Lightweight & Easy Installation — Lighter than full copper busbar, reducing installation labor intensity and transportation cost. 轻量化易安装——比全铜母线更轻便，降低安装劳动强度及运输成本。

Wide Applicability — Adapt to various harsh industrial environments, with strong anti-aging and corrosion resistance.

适用性广——适配各类恶劣工业环境，抗老化、耐腐蚀性能强。

Standard Sizes & Customization / 常规规格及定制服务

1. Standard Sizes (W×T, mm) / 常规规格 (宽×厚, 毫米)

3×30, 4×40, 5×50, 6×60, 8×80, 10×100, 12×120, 10×150, 12×200, 12×250;

Standard Length: 2-6m, can be cut freely. (标准长度: 2-6 米, 可自由切割)

2. Customization Service / 定制服务

English: Non-standard width, thickness and length customization; Special shape processing (L-type, Z-type, U-type bending); Punching, drilling, chamfering; Surface treatment customization; Logo printing and OEM packaging; Assembled busbar system customization.

中文: 非标长宽厚定制; 特殊形状加工 (L 型、Z 型、U 型折弯); 打孔、钻孔、倒角处理; 表面处理定制; logo 印刷及 OEM 贴牌包装; 组装式母线系统定制。

Surface Treatment / 表面处理

- ① Bare (original metal surface); 裸排 (金属原表面)
- ② Tin-Plated (standard, anti-oxidation, anti-corrosion); 镀锡 (常规标配, 抗氧化、防腐蚀)
- ③ Nickel-Plated (enhanced corrosion resistance); 镀镍 (增强耐腐蚀性能)
- ④ Silver-Plated (for high-precision power equipment, lower contact resistance). 镀银 (用于高精度电力设备, 降低接触电阻)

Application Fields / 应用领域

Switchgear & Distribution Boards; (开关柜、配电柜;)

Transformer & Reactor Winding; (变压器、电抗器绕组;)

UPS & Data Center Power Distribution; (UPS 电源、数据中心配电;)

EV Battery Packs & Motor Controllers; (新能源汽车电池包、电机控制器;)

Renewable Energy (Solar/Wind Inverter); 可再生能源 (光伏/风电逆变器);

Industrial Control Panels; High-Rise Buildings & Factory Power Distribution. (工业控制面板; 高层建筑、工厂配电)

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Aluminum Flexible Busbar(铝箔柔性母线)



Product Overview (产品概述)

Aluminum Flexible Busbar (Aluminum Foil Flexible Connector) is a high-flexibility, lightweight conductive component made by multi-layer laminated aluminum foils with integral diffusion welding at both ends. It features excellent electrical conductivity, superior flexibility, vibration absorption, and thermal expansion compensation, widely used for flexible connection in battery systems, power distribution equipment, and electrical engineering.

铝箔柔性母线（柔性铝母线）由多层超薄铝箔叠片经分子扩散焊一体成型，两端为刚性连接端、中间为柔性段，具备高导电率、高柔韧性、减震缓冲、热胀补偿特性，是新能源电池、电力设备、工控电气领域的核心柔性导电部件。

Material & Structure(材质与结构)

Conductor Material (导体材质):

1060-O / 1350 High-conductivity Pure Aluminum Foil (1060-O 态 / 1350 高纯铝箔)

Single Foil Thickness (单片厚度):

0.05mm–0.3mm (standard 0.1mm/0.2mm)

Structure (结构):

Multi-layer laminated, two ends welded (solid), middle flexible (unwelded) 多层复合结构，两端焊接（整体密封），中间部分柔性（未焊接）

Welding Technology (焊接工艺):

Molecular diffusion welding / 分子扩散焊

Surface Treatment (表面处理):

Bare, Tin-plated, Nickel-plated, Silver-plated (customizable) 裸铝、镀锡、镀镍、镀银（可定制）

Technical Parameters / 技术参数

Parameter(参数名称)	Specification (参数)
Conductivity / 导电率	≥61% IACS
Working Temperature / 工作温度	-50℃ ~ +125℃
Rated Voltage / 额定电压	Up to 1000V AC / 1500V DC
Withstand Voltage / 耐压	2500V AC (5min, no breakdown) (2500 伏交流电 (5 分钟, 无击穿现象))
Insulation Resistance / 绝缘电阻	≥100 MΩ @1000V DC
Bonding Strength / 焊接强度	≥70 MPa
Flexibility / 弯曲性能	Minimum bending radius ≥ 10×thickness (最小弯曲半径 ≥ 10×厚度)

Standard Specifications & Customization / 常规规格与定制

Standard Sizes (W×T) / 常规尺寸 (宽 × 厚) :

10×1mm, 15×1.5mm, 20×2mm, 25×2.5mm, 30×3mm, 40×4mm, 50×5mm, 80×6mm, 100×8mm

Length (长度) : 50mm–1000mm (customizable)

Custom Service (定制) :

Non-standard width, thickness, length 宽度、厚度、长度 (可定制)

Hole punching (position, quantity, diameter) 打孔 (位置、数量、直径)

Bending (L-type, Z-type, arc) 弯曲 (L 型、Z 型、弧形)

Insulation color (orange, black, red, blue) 绝缘颜色 (橙色、黑色、红色、蓝色)

Logo printing, OEM package (Logo 印刷, OEM 包装)

Core Advantages (核心优势)

Ultra Flexibility & Vibration Damping Excellent flexibility to absorb mechanical vibration, thermal expansion and contraction, avoid connection loosening and fatigue failure.

超强柔韧性与振动阻尼性能优异, 可有效吸收机械振动、热胀冷缩, 避免连接松动和疲劳失效。

Low Resistance & Low Heat Smooth welding surface, low contact resistance, stable current transmission, small temperature rise. (低电阻与低发热 平滑的焊接表面, 低接触电阻, 稳定的电流传输, 温升小。)

Easy Installation Flexible routing, adapt to installation error, save space, suitable for compact equipment.

(安装简便: 路由灵活, 可适应安装误差, 节省空间, 适用于紧凑型设备)

High Safety: Insulated with flame-retardant sleeve, anti-electric shock, anti-short circuit, safe for high-voltage systems.

(安全性高: 采用阻燃套管绝缘处理, 防触电、防短路, 适用于高压系统, 使用安全可靠。)

Application Fields / 应用领域

New Energy Vehicles: EV battery packs, motor controllers, BMS systems

新能源汽车: 电动汽车电池组、电机控制器、电池管理系统

Energy Storage: Lithium battery modules, UPS, photovoltaic/wind power inverters

储能: 锂离子电池模块、不间断电源 (UPS)、光伏/风力发电逆变器

Power Equipment: Switchgears, transformers, distribution cabinets, rectifiers

电力设备: 开关设备、变压器、配电柜、整流器

Industrial Electric: Industrial furnaces, generators, welding equipment, railway traction

工业电气: 工业炉、发电机、焊接设备、铁路牵引设备

Electrical Engineering: Busbar compensation, cable transition, anti-vibration connection

电气工程: 母线补偿、电缆过渡、防振连接

Special-shaped Copper Busbar Processing (异型铜排加工)



Product Overview / 产品概述

The special-shaped copper busbars are precision-processed with high-quality copper materials, suitable for high-current transmission scenarios. They can be customized into various non-standard shapes according to customer drawings, meeting the diverse needs of different industries.

异型铜排采用优质铜材精密加工而成, 适用于大电流传输场景, 可根据客户图纸定制各类非标造型, 满足不同行业的多样化需求。

Material Grade (铜材材质牌号)

Common grades: T2, T3, C1100, C1020 (customizable according to requirements);

Features: high conductivity, good ductility, strong corrosion resistance.

常用牌号: T2、T3、C1100、C1020 (可按需定制);

特点: 导电性强、延展性好、耐腐蚀性能优异。

Product Types(产品类型)

1. Standard types: L-shaped, T-shaped, U-shaped, trapezoidal, I-shaped copper busbars;

标准类型: L 型、T 型、U 型、梯形、工字型铜排;

2. Custom types: Polygonal, irregular-shaped, knife-shaped liquid-cooled copper busbars (support drawing customization).

定制类型: 多边形、不规则造型、刀型液冷异型铜排 (支持来图定制)。

Processing Technology(加工工艺)

Integrated processing: Cutting & Sizing, Bending & Punching, Drilling & Tapping, Chamfering & Deburring, Welding & Riveting; Precision control, smooth surface, no burrs.

一体化加工: 切割定尺、折弯冲压、钻孔攻丝、倒角去毛刺、焊接铆接; 精度可控, 表面光滑无毛刺。

Surface Treatment (表面处理)

Optional: Bare copper (original color), tinning, nickel plating, plastic dipping/spraying insulation, heat shrinkable coating, polishing & passivation.

可选工艺: 裸铜本色、镀锡、镀镍、浸塑/喷塑绝缘、热缩绝缘包覆、抛光钝化。

Technical Advantages (技术优势)

1. Conductivity: Excellent electrical conductivity, low energy loss;

(导电性: 导电性能优异, 能量损耗低;)

2. Size Tolerance: Strictly controlled within $\pm 0.05\text{mm}$, meeting international standards;

尺寸公差: 严格控制在 $\pm 0.05\text{mm}$ 内, 符合国际标准;

3. Current-carrying Capacity: High current-carrying capacity, stable operation in high-temperature environment.

载流量: 载流量高, 高温环境下运行稳定。

Application Fields / 应用领域

New Energy (EV, energy storage, charging piles), 新能源（车企、储能、充电桩）、
Power Transmission & Distribution, Rail Transit, (输配电、轨道交通)
5G Base Stations, (5G 基站)
Industrial Control (工控设备)
UPS Power Supply. (UPS 电源)

Custom Service (定制服务)

Support drawing customization, OEM/ODM, sample order and mass production; Professional engineering team provides technical support.
支持来图定制、OEM/ODM 代工、样品定制及批量生产；专业工程团队提供技术支持。

Special-shaped Aluminum Busbar processing(异型铝排加工)



Product Overview (产品概述)

The special-shaped aluminum busbars are precision-processed with high-quality aluminum materials, suitable for medium and high-current transmission scenarios. They can be customized into various non-standard shapes according to customer drawings, meeting the diverse needs of different industries with light weight and cost-effectiveness.

异型铝排采用优质铝材精密加工而成，适用于中高电流传输场景，可根据客户图纸定制各类非标造型，兼具轻量化、高性价比优势，满足不同行业的多样化需求。

Material Grade (铝材材质牌号)

Common grades: 6061, 6063, 1060, 3003 (customizable according to requirements);
Features: good conductivity, light weight, excellent ductility, strong corrosion resistance and cost-effectiveness.

常用牌号：6061、6063、1060、3003（可按需定制）；
特点：导电性能良好、重量轻、延展性优异、耐腐蚀强且性价比高。

Product Types (产品类型)

1. Standard types: L-shaped, T-shaped, U-shaped, trapezoidal, I-shaped aluminum busbars;
标准类型：L 型、T 型、U 型、梯形、工字型铝排；
2. Custom types: Polygonal, irregular-shaped, knife-shaped liquid-cooled aluminum busbars (support drawing customization). 定制类型：多边形、不规则造型、刀型液冷异型铝排（支持来图定制）。

Processing Technology (加工工艺)

Integrated processing: Cutting & Sizing, Bending & Punching, Drilling & Tapping, Chamfering & Deburring, Welding & Riveting; Precision control, smooth surface, no burrs, suitable for aluminum material processing characteristics.

一体化加工：切割定尺、折弯冲压、钻孔攻丝、倒角去毛刺、焊接铆接；精度可控，表面光滑无毛刺，适配铝材加工特性。

Surface Treatment / 表面处理

Optional: Bare aluminum (original color), anodizing, tinning, nickel plating, plastic dipping/spraying insulation, heat shrinkable coating, polishing & passivation.

可选工艺：裸铝本色、阳极氧化、镀锡、镀镍、浸塑/喷塑绝缘、热缩绝缘包覆、抛光钝化。

Technical Advantages / 技术优势

1. Conductivity: Good electrical conductivity, low energy loss, suitable for medium and high-current transmission;

导电性：导电性能良好，能量损耗低，适配中高电流传输；

2. Size Tolerance: Strictly controlled within $\pm 0.05\text{mm}$, meeting international standards;

尺寸公差：严格控制在 $\pm 0.05\text{mm}$ 内，符合国际标准；

3. Comprehensive Performance: Light weight, easy installation, strong corrosion resistance, cost-effective, stable operation in complex environments.

综合性能：重量轻、易安装、耐腐蚀强、性价比高，复杂环境下运行稳定。

Application Fields (应用领域)

New Energy (EV, energy storage, charging piles), (新能源（车企、储能、充电桩）

Power Transmission & Distribution, Rail Transit, (输配电、轨道交通)

5G Base Stations, (5G 基站)

Industrial Control, (工控设备)

UPS Power Supply, (UPS 电源)

Electrical Equipment, (电气设备)

Custom Service / 定制服务

Support drawing customization, OEM/ODM, sample order and mass production; Professional engineering team provides technical support for aluminum busbar processing.

支持来图定制、OEM/ODM 代工、样品定制及批量生产；专业工程团队提供异型铝排加工技术支持。

OEM & ODM SERVICE

We have been dedicated to customizing copper bar flexible connections for over 20 years. We have a professional R&D and production team and offer dual-mode services including OEM contract manufacturing and ODM full-case customization.

OEM service:

Customer-led design, we are responsible for precise mass production (processing according to drawings, quality controllable)

01:Demand Matching

The customer provides detailed drawings (dimensions, copper foil parameters, surface treatment, insulation requirements, etc.)

02:Sample confirmation

Small-batch sampling (1-10 pieces). After the customer verifies the dimensions and performance, mass production is confirmed

03:Mass production

Production is scheduled based on order quantity, and quality control and inspection are carried out throughout the process

04:Quality Inspection and Delivery

Issue inspection reports (resistance, tensile strength, coating thickness), and package and ship as required.

ODM Service:

We take the lead in the overall design. Customers can put forward their requirements (customized as needed, quick implementation).

01:Demand communication

The customer explains the application scenario, equipment parameters (current/voltage), installation space, and working condition requirements

02:Scheme Design

Provide CAD drawings /3D models, clearly define materials, processes, performance parameters, and offer cost quotations

03:Sample trial production

Produce 1-3 samples, provide test reports, and have the customer install and test them

04:Scheme Optimization

Adjust the design based on test feedback until the requirements are met

05:Mass production + after-sales service

Delivery based on orders, providing installation guidance, troubleshooting, and product iteration support

Our Customer:

