RHI

人禾电子
产品目录册

RHI PRODUCT CATALOGUE

浙江人禾电子有限公司 · RHI ELECTRIC

关于我们
About US

浙江人禾电子有限公司是中国铜排和铝排制造领先企业，拥有超 30,000m^2 现代化厂房，专注新能源电池连接方案。

企业引入自动化生产线，配备 CCD 自动化检测设备，实施多阶段质量控制流程，确保产品严格符合国际质量标准。企业已通过 IATF16949、ISO14001 和 ISO45001 等认证，产品满足 RoHS、REACH 和 UL94 V-0 等标准要求。

为契合新能源行业快速发展的技术需求，企业积极推进数字化转型，引入 ERP、PLM 和 MES 系统，全面提升母排制造效率与管理水平，持续引领行业发展。

Zhejiang RHI Electric Co., Ltd. is a leading Chinese manufacturer of copper and aluminum busbars, with 30,000 m^2 of modern facilities, specializing in new energy battery connections.

RHI has automated production lines and CCD inspection gear, with multi - stage quality control. It's certified under IATF16949, ISO14001, ISO45001, and its products meet RoHS, REACH, UL94V-0 standards.

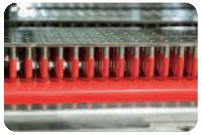
To meet new energy's growing tech needs, RHI promotes digital transformation via ERP, PLM, MES systems, boosting efficiency and management, and leading industry development.

发展历程
Development History

2010 企业前身 Early Stage

位于白鹭屿村，占地90m²。

Began production of PVC dipping products in a 90m² facility.



2011 人禾成立 RHI Founded

成立“乐清市人禾电子有限公司”，专注为五金、家电和汽车行业提供PVC配套产品。

"Yueqing RHI Electric Co., Ltd." established, focusing on PVC supporting products.

2013 拓展国际业务 Oversea Markets

迁址东蒙工业区，设立外贸事业部，拓展国际市场。

Moved to Dongmeng Industrial Zone, setting up export division to expand internationally.

2016 新能源转型 New Energy Industry

战略转型至新能源连接系统，迁至温州大桥工业区（4000m²），更名为“浙江人禾电子有限公司”。

Relocated to Wenzhou Daqiao Industrial Zone (4,000m²), renamed "Zhejiang RHI Electric Co., Ltd.", with a shift to new energy connection systems.

2018 扩张与创新 Expansion & Innovation

搬迁至象阳工业区（7500m²），引入自动化生产线，服务新能源主机厂。

Moved to Xiangyang Industrial Zone (7,500m²), introduced automated production lines for new energy OEMs.

2020 一级供应商 Tier 1 Supplier

投产挤塑生产线，成为雷诺、一汽、小鹏汽车合格供应商。

Commissioned extrusion production line, became a qualified supplier for Renault, FAW, and Xpeng Motors.

2021 持续扩产发展 Continuous Progresses

盐盘工厂投产，生产面积扩至20000m²，引入MES系统，实现生产物料全程可追溯。

Saltpan factory launched, expanding to 20,000m² and implementing MES systems for full material traceability.

2022 智造升级 Smart Upgrade

加速自动化、数字化升级，成为宁德时代合格供应商。

Accelerated automation and digital upgrades, became a qualified supplier for CATL.

2023 飞速发展 Develop Rapidly

企业飞速发展，并将三号厂房投入使用，同年取得“专精特新”企业认定。

Rapidly grew in 2023, opening its third factory and receiving "Specialized, Refined, Characteristic, and Innovative" recognition.

2024 持续扩产升级 Continuous Expansion

持续扩产升级，厂房总面积超过30,000m²，生产能力进一步提升。

Continues to expand and upgrade production, with over 30,000m² of factory space and enhanced capacity.

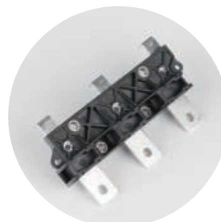
目录

Contents

硬排系列
Rigid Busbars

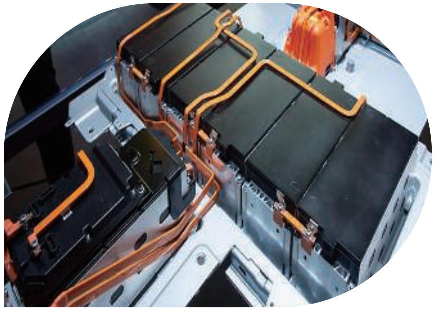
硬排系列产品涵盖冲压、3D 折弯及挤塑等多种类型工艺，导体采用高纯度铜或铝材质，并可选配镀锡、镀镍等表面处理工艺。产品选用优质绝缘材料包括 PE/PVC/PA12/EP/PI 等多种高分子材料，具有优异的电气绝缘性能。产品设计结构紧凑，导电性能卓越，抗蠕变特性突出，符合标准化安装要求，可广泛应用于各类电气连接场景。

Our rigid busbars utilize stamping, 3D bending, and extrusion, with high-purity copper or aluminum conductors and optional tin or nickel plating. Insulated with high-performance polymers like PE/PVC/PA12/EP/PI, they offer excellent insulation, strong conductivity, and creep resistance.
Compact and standard-installation-ready, they suit diverse electrical connection needs.



硬排优势

Advantages of Rigid Busbars



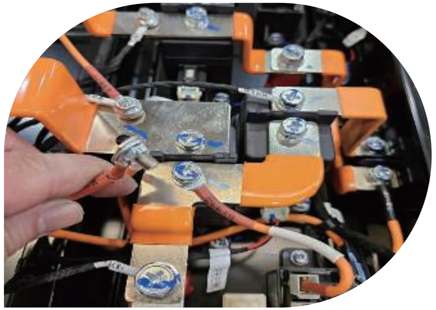
电气性能 Electrical Performance

载流能力强: 硬排多选用高导电率的纯铜、铝材质，横截面积大，能在高功率电池模组中承载大电流，实现高效输电并降低能耗。

电阻低： 相较软排，硬排在同等电流下电阻更低、产热少，可提升电池模组整体效率，减轻散热负担。

High Current Capacity: Made of high-conductivity copper or aluminum, rigid busbars have large cross-sections, allowing for efficient power transmission with low energy loss in high-power scenarios.

Low Resistance: Rigid busbars have lower resistance and generate less heat compared to flexible busbars, improving overall efficiency and reducing cooling demands.



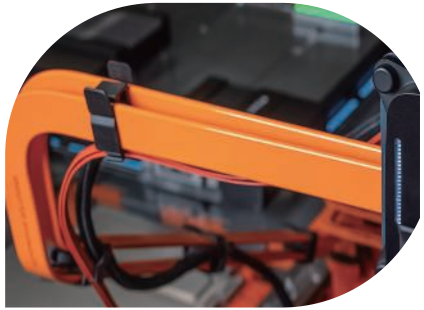
机械性能 Mechanical Performance

刚性好： 硬排刚性佳，在电池模组中能维持形状，抗振动、冲击，避免连接松动造成接触不良。

安装便捷： 其形状、尺寸固定，便于标准化安装，可提高生产效率。

Rigidity: Rigid busbars maintain shape, resist vibration, and minimize contact issues caused by loosening.

Easy Installation: Fixed dimensions allow for standardized, efficient installation.



稳定性 Stability

抗环境干扰： 硬排受温度、湿度等环境因素影响小，材质和结构能抗氧化、腐蚀，保证长期稳定运行。

可靠性高: 硬排连接点固定，减少连接松动故障风险，在电池模组全生命周期内提供可靠电气连接，降低维护成本。

Environmental Resistance: Rigid busbars are resistant to oxidation, corrosion, and environmental factors like temperature and humidity, ensuring long-term reliability.

High Reliability: Fixed connections reduce the risk of loosening, providing stable electrical performance throughout the battery module's lifecycle and lowering maintenance costs.

挤塑硬排

Extruded Rigid Busbars

挤塑硬排是采用挤压成型工艺，生产过程中，通过精确控制模具形状和挤压参数，可制成不同规格与截面形状的产品，满足多样化的工业需求。

The extruded hard row is produced by the extrusion molding process. During the production process, by precisely controlling the shape of the mold and the extrusion parameters, products of different specifications and cross-sectional shapes can be made to meet diverse industrial needs.

产品材质：T2 紫铜 / 铝

Material: T2 copper/aluminum

产品优点： 绝缘、耐磨性好、良好的抗震和抗冲击性、多维成型，节省空间。

Advantages: Good insulation and abrasion resistance, excellent anti-seismic and anti-shock performance, multidimensional molding to save space.

PA12挤塑铜排
PA12 Extruded Copper Bar

PVC挤塑铜排
PVC Extruded Copper Bar

激光去皮
Laser Peeling

厚度 Thickness	绝缘材质 Insulating material	耐压 Withstand voltage	耐温 Temperature resistance
0.4-0.8mm	PA12	2700V	150℃
0.5-2mm	PVC	3500V	-40~125℃

浸塑硬排

PVC Dipping Rigid Busbars

硬排表面覆以聚氯乙烯（PVC）绝缘层，专为高安全等级的电气连接与传输场景设计，在提升外观质感的同时，大幅增强产品的耐久性，有效满足严苛电气环境的应用需求。

The hard busbar, surfaced with a PVC insulating layer, is engineered for high - safety electrical connections and transmissions. It enhances aesthetics, boosts durability, and performs reliably in harsh electrical environments.

产品材质：T2 紫铜 / 铝

Material: T2 copper/aluminum

表面处理： 镀锡、镀镍、镀银

Surface treatment: Tin Plating, Nickel Plating, Silver Plating

产品优点： 良好的绝缘性能、耐腐蚀、外观平整具有较好的美观性，应用广泛。

Advantages: Good insulation performance, corrosion resistance, smooth appearance with good aesthetics, widely used.

厚度 Thickness	绝缘材质 Insulating material	耐压 Withstand voltage	耐温 Temperature resistance
0.8-2mm	PVC	3500V	-40~125℃

3D折弯硬排

CNC Bending Rigid Busbars

采用先进三维折弯工艺成型的导电排，打破传统平面限制，可在立体空间中灵活排布，精准契合各类复杂安装场景 。

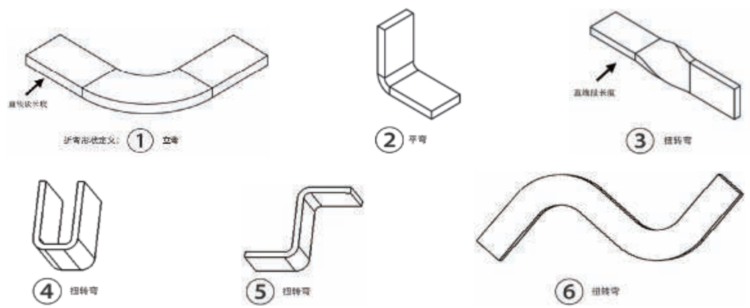
Conductive busbars, precision-crafted with advanced 3D bending techniques, transcend flat designs. They adeptly navigate complex 3D spaces, ensuring seamless fitment in intricate installations.

产品材质：T2 紫铜 / 铝

Material: T2 copper/aluminum

产品优点：自动化，精确度高，可满足各类角度定制。

Advantages: Automation, high accuracy, can meet all kinds of Angle customization.



厚度 Thickness	宽度 Breadth	轴数 Number of axes	折弯系数 Bending coefficient
1.0-5.0mm	10-25mm	6	0.8

热缩硬排

Heat Shrink Rigid Copper Busbars

热缩绝缘套管凭借优异的绝缘性能，为母排构筑可靠防护屏障，同时显著增强母排的机械强度与抗震能力，有效抵御机械冲击与环境震动，确保电气系统稳定运行。

Heat-shrinkable insulating sleeves offer excellent insulation, fortify busbars mechanically, enhance seismic resistance, and ensure stable electrical system operation by withstanding impacts and vibrations.

产品材质：T2 紫铜 / 铝

Material: T2 copper/aluminum

表面处理：镀锡、镀镍、镀银

Surface treatment: Tin Plating, Nickel plating, Silver Plating

EVA 绝缘因柔韧性和耐候性出色，多用于低电压系统；而 PE 绝缘凭借高机械强度和硬度，更适合应用于需承受较大机械应力的场合。

EVA insulation features flexibility and weather resistance, suited for low-voltage systems.

PE insulation, with high strength and hardness, is ideal for high-stress applications.

优点：成型速度快、易于安装、能够有效提高连接系统的安全性和可靠性。

Advantages: Fast to mold, easy to install, effectively improving the safety and reliability of the connection system.

厚度 Thickness	绝缘材质 Insulating material	耐压 Withstand voltage	耐温 Temperature resistance
1.0-1.5mm	EVA	3500V	-50~125℃
	PE	1000V	-50~105℃

浸粉硬排

Epoxy Powder Coating Rigid Busbars

硬排表面均匀涂覆环氧树脂（EP）绝缘材料，构建高效绝缘防护层，显著提升母排绝缘性能，从根源上杜绝短路风险，为电气系统安全稳定运行提供坚实保障 。

The rigid busbar's surface is evenly coated with epoxy resin (EP) to form a high - efficiency insulating layer, boosting insulation, eliminating short - circuit risks, and ensuring stable electrical system operation.

产品材质：T2紫铜/铝

Material: T2 copper/aluminum

表面处理： 镀锡、镀镍、镀银

Surface treatment:Tin plating, Nickel plating, Silver plating

产品优点：涂层附着力好，表面平整美观
防潮、绝缘性好、耐高低温
适用于异型及不同规格母排，节省空间

Advantages: Excellent adhesion, neat and clean surface
Good moisture resistance and insulation
High and low temperature resistance
Suitable for irregular shape and busbars of all specifications, space-saving.

厚度 Thickness	绝缘材质 Insulating material	介电强度 Dielectric strenggth	耐压 Withstand voltage	耐温 Temperature resistance
0.4-0.8mm	Epoxy	20KV/mm	5000V	150℃

PI硬排

PI Rigid Busbars

PI(聚酯亚胺)是一种高性能工程塑料，硬排表面包覆该材料通常可用于电子、航空航天、汽车等领域，厚度一般为 0.15-0.25mm。
PI (Polyimide) is a high-performance engineering plastic that is commonly used for rigid surface coating in fields such as electronics, aerospace, and automotive, typically with a thickness of 0.15-0.25mm.

产品特点

- 在 280°C 下有足够高的抗拉强度和弯曲模量
- PI具有较轻的重量，适用于对重量较严格的应用场合
- 具有优秀的耐压性能，优秀的绝缘电阻能力

Features

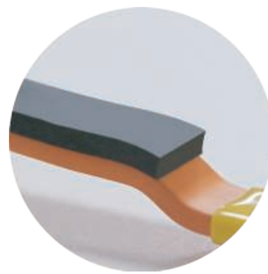
- High enough tensile strength and bending modulus at 280°C
- Light material weight and suitable for applications with stricter weight requirements
- Excellent voltage withstand and excellent insulation resistance

产品可带配件（扎带/标签/激光打标/贴防撞泡棉等）

Components are available (cable ties/labels/laser marking/anti-collision foam, etc.)



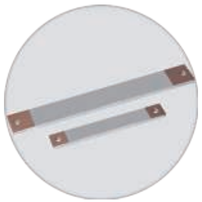




软排系列
Flexible Busbars

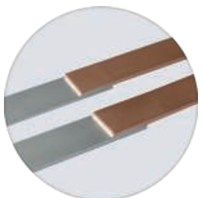
软排分为软连接和柔性母排，软连接更注重柔软性和导电性能，适用于特定的连接需求；柔性母排则更注重灵活性和绝缘性能，适用于弯曲连接和复杂布局，材质为铜材或铝材的卷料材质。

Flexible busbars can be divided into flexible busbars with welding & flexible busbars without welding. Welded ones focus more on flexibility and conductivity, making it suitable for specific connection needs; Unwelded ones fit better for bending connections and complex layouts, They are made of coiled copper and aluminum materials.



对焊 Butt welding

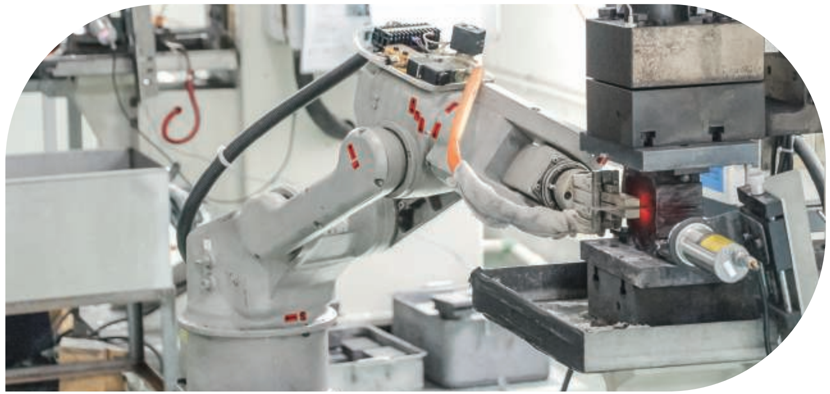
激光焊 Laser welding



叠焊 Lap welding

摩擦焊 Friction welding

● 高分子焊接设备 Polymer diffusion welding equiments



● 自动化焊接设备 Automated welding equipment

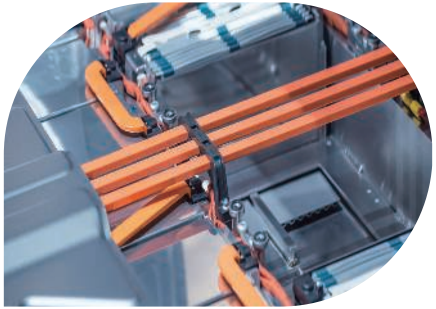
软排优势

Advantages of Flexible Busbars

高柔韧性 High Flexibility

耐挤压、耐弯曲、抗冲击，可手动弯折，适应设备振动和复杂安装环境，并具备应力补偿能力。

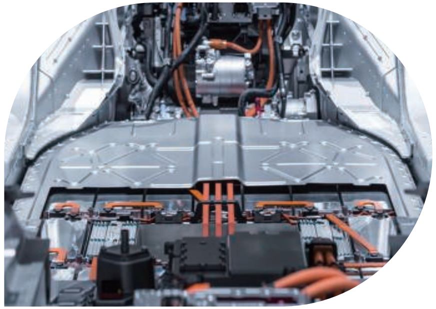
Resistant to compression, bending, and impact. Manually bendable, adapts to vibrations and complex installations, with stress compensation capability.



安装便利 Easy Installation

截面小、弯折灵活，便于布线安装，能补偿设备安装误差，具备减震缓冲功能。在电力连接中，可适应位置偏差与震动。

Small cross-section and flexible bending for convenient wiring. Compensates for installation errors and absorbs vibrations, ensuring reliability in power connections.



电气性能 Electrical Performance

低电阻率，高导电性，降低能耗，提高能效。耐腐蚀、抗氧化、散热快，确保长期稳定运行，减少维护成本。

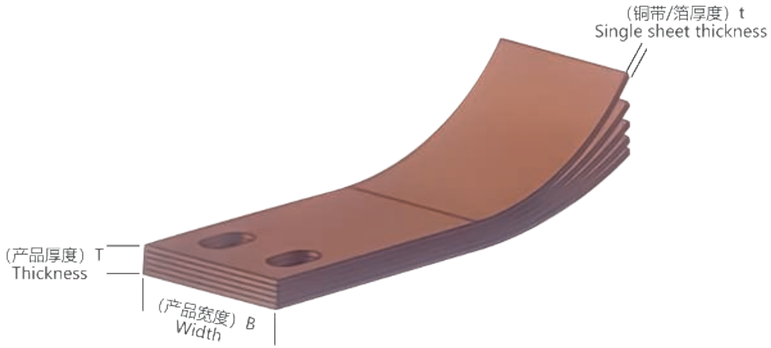
Low resistivity and high conductivity cut energy loss, boost efficiency. Resistant to corrosion, oxidation, and with fast heat dissipation, it ensures long - term stable operation with little maintenance.

产品特点

- 材料：铜（铝）带/箔
- 良好的导电性、柔韧性、散热性、抗震性
- 安装适配性强
- 表面处理有贴铜银（镍）片、镀锡、镀银等多种方案
- 绝缘处理有套热缩管、浸塑等工艺，具备耐高低温、环保、绝缘

Features

- Material: Cu/Al strip or foil
- Excellent electrical conductivity,flexibility,heat dissipation and vibration resistance
- High installation adaptability
- Surface treatment: nickel laminate, tin plating, silver plating, etc.
- Insulation material: Polyene hydrogen heat shrink tubing is used for insulation, which is resistant to high and low temperatures, environmentally friendly, and insulated



材质 Material	层厚 Single Sheet thickness（t）	产品宽度 Width(B)									产品厚度 Thickness(T)
铜带 Cu strip	0.1	13	14	15	16	17	18	20	23	25	1~10
铝带 Al strip	0.2	18	22	28	30	35	40	45	48	60	1~10

软连接
Flexible busbars

浸塑软排
PVC dipping busbars

热缩软排
Heat shrink flexible busbars

柔性母排

Flexible Busbar

又称叠片式绝缘软母排，是由多层铜(铝)箔导体叠加，外层采用挤塑方式包覆绝缘层制作而成，是高效导电的优选方案。

Also called laminated insulated flexible busbars, they're made by stacking copper/aluminum foil layers and extruding an insulating cover, offering an optimal solution for efficient conductivity.

产品特点

- 导体采用铜或铝带，滑动自如，柔性与弯曲性优异
- 具有良好的绝缘性能，有效防止短路
- 可定制以满足高效连接与灵活布局需求

Features

- The conductor uses copper or aluminum tape, ensuring flexibility and smooth sliding
- Good insulation performance, prevents short circuits efficiently
- Customizable for efficient connections and flexible layouts

参数名称 Parameter	铜导电率 Copper conductivity	绝缘材质 Insulating material	介电强度 Dielectric strength	工作温度 Operating temperature	工作电压 Operating voltage	阻燃等级 Flame retardant rating	环保 Environmental protection
参数值 Values	≥57MS/m	PVC	20KV/mm	-40℃~105℃	DC 1500V	UL94 V-0	RoHS

注塑系列

Injection Molding Busbars

通过注塑工艺将母排材料注入模具中，经过加热和压力成型，制成具有特定形状和尺寸的产品。
The raw material is injected into the mold through the injection molding process, and then molded under heat and pressure.

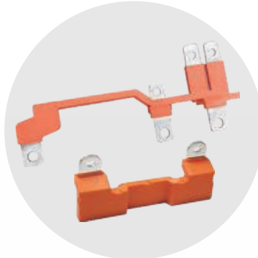
产品特点

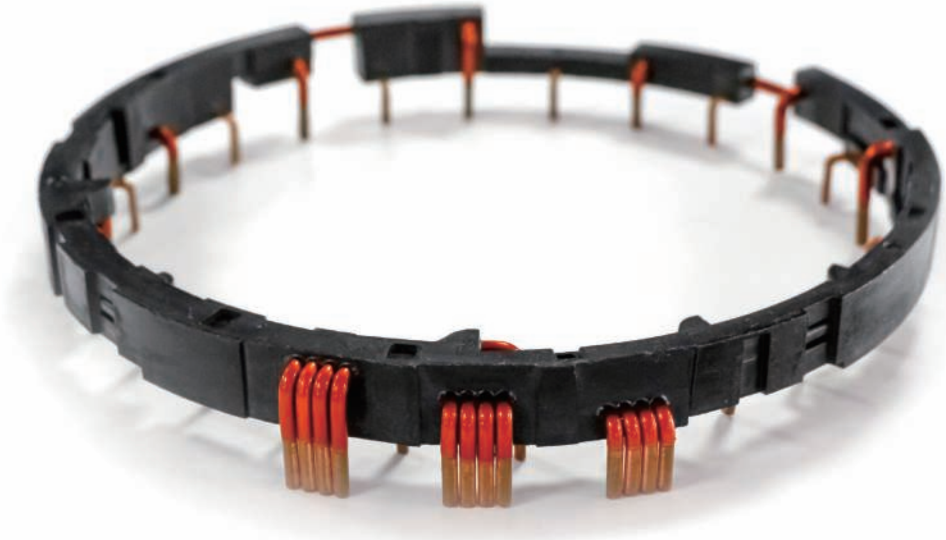
- 精密度高，可制造各类复杂形状
- 实现批量生产，提高生产效率，节省生产时间和成本
- 表面光滑平整无气泡瑕疵，具有良好的外观质量
- 材料利用率高，具有较高的设计灵活性

Features

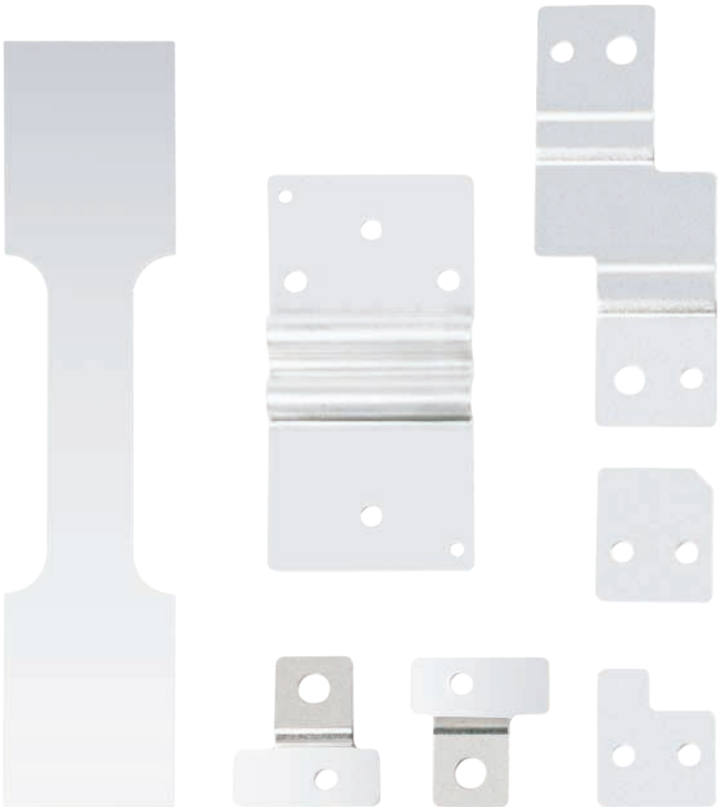
- High precision, capable of manufacturing various complex shapes
- Realize mass production, improve production efficiency, save production time and costs
- Smooth and flat surface without bubble defects, with good appearance quality
- High material utilization and high design flexibility






参数名称 Parameter	高温耐受性 Resisitance to High Temperature	绝缘耐压能力 Insulation Withstand Voltage	RoHS	阻燃等级 Flammability Rating	工作温度 Working temperature	绝缘材料 Insulation material	导体材料 Conductor material
参数值 Values	158℃/168小时 (h)	AC 1000V	符合质量 Qualified	UL94 V-0	-40~105℃ 125℃/180℃	PA66/PA6T/PPS	T2铜/铝 T2 Copper/Aluminum



铝巴系列
Aluminum Busbars

广泛用于电动汽车和储能系统的电池模组，连接电池单体以构成电池组。其导电性优良、重量轻，有助于提升电池能量密度并降低成本。

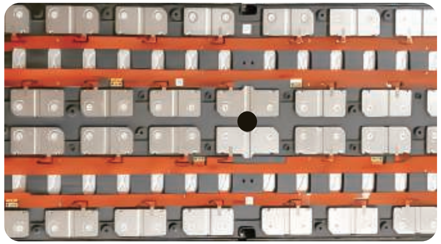
Widely used in EV and energy storage battery modules, connecting cells to form a pack. They provide good conductivity, reduce weight, and lower costs, improving energy efficiency.

产品特点

- 重量轻
- 高导电性
- 散热快
- 集成化安装
- 成本优化
- 加工性能出色

Features

- Light weight
- High conductivity
- Efficient heat dissipation
- Integrated installation
- Cost optimized
- Excellent processability



铜排护套系列
Copper Busbar Covers

有效防止机械碰撞、刮擦导致的物理损伤；隔绝酸碱等化学物质的侵蚀，避免氧化与腐蚀；同时形成绝缘屏障，阻断与其他金属的直接接触。

Effectively prevents physical damage caused by mechanical collisions and scratches; isolates the erosion of chemical substances such as acids and alkalis to avoid oxidation and corrosion; and simultaneously forms an insulating barrier to block direct contact with other metals.

性能参数 Performance Parameter		
测试项目（Item）	测定值（Value）	单位(Unit)
引张硬度 Extension Hardness	150	kg/cm^2
伸张率 Elongation	302	%
引裂强度 Tear Strength	17.5	Mpa
耐压要求 Voltage	DC、3000V、60s	<1mA
绝缘要求 Insulation	DC、1000V、60s	>1000MΩ
耐热冲击 Thermal shock resistance	UL224 250℃× 4hr	不龟裂/不粘贴 (No cracks/No paste)
热老化后拉伸强度 Tensile strength after thermal aged	UL224 158℃ × 168hr	>7.3Mpa
耐油性（抗张力惨率） Oil Resistivity	90	%
环保等级 ECO Grade	RoHS/REACH	-

独立式保护套
Individual Covers

连体式保护套
One-piece Covers

线缆式包含套
Cable End Covers

人禾特规母排定制方案

RHI Custom-Spec Busbar Solutions

自动化缠绕机精准控制张力和角度，将复合带均匀紧密地缠绕在母排上，防止松动，提升效率。

An automatic winding machine precisely controls tension and angle to tightly and evenly wrap composite tape around busbars, preventing loosening and enhancing efficiency.

外缠云母带产品

Mica Tape Outside Products

陶瓷复合带产品

Ceramic Composite Tape Products

内缠云母带产品

Mica Tape Inside Products

采用复合云母带、陶瓷复合带或陶瓷化硅橡胶复合带作为耐高温层，以满足 EV 动力系统对耐高温、绝缘性及机械强度的严格要求。
经 1000℃火焰燃烧 10 分钟测试，产品耐压 3500V DC/60s，漏电流 <1mA，绝缘性能 1000V DC/60s，绝缘电阻 >500MΩ。
产品分为硬排与软排：软排结合柔性母排与复合带或陶瓷复合带，硬排采用云母带包覆并经 PVC 浸塑处理。

The high-temp-resistant layer uses composite mica, ceramic composite or ceramifiable silicone rubber tapes for EV power systems' heat resistance, insulation and strength.
In a 10-minute 1000°C flame test, it withstands 3500V DC/60s (leakage current <1mA), and has 1000V DC/60s insulation performance (insulation resistance >500MΩ).
Available in rigid and flexible types. Flexible busbars combine laminated structures with composite tapes; rigid busbars have mica wrapping and PVC dip coating.

轻量化方案

Cost Optimizing Solutions

1. **优化设计**：优化设计减少不必要的结构冗余和材料使用，以达到轻量化的目的。

2. **材料替代**：使用密度较低但具有良好导电性能的材料替代部分铜排，降低整体重量而不影响电气性能。

3. **空心结构**：考虑采用空心结构设计，减少材料使用同时保持强度和导电性能。

4. **采用高强度材料**：使用强度高的材料制造铜排，减少材料厚度，达到轻量化的效果。

5. **结构优化**：对铜排的结构进行优化设计，减少材料浪费和冗余，提高材料利用率。

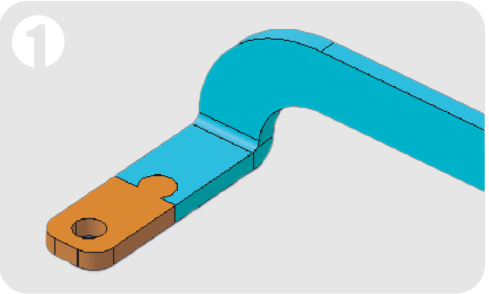
1. **Optimized Design:** Eliminating unnecessary structural redundancy and material usage to achieve lightweight objectives.

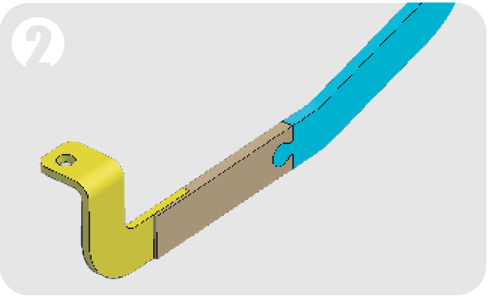
2. **Material Substitution:** Substituting copper with materials of lower density but good conductivity to reduce overall weight without compromising electrical performance.

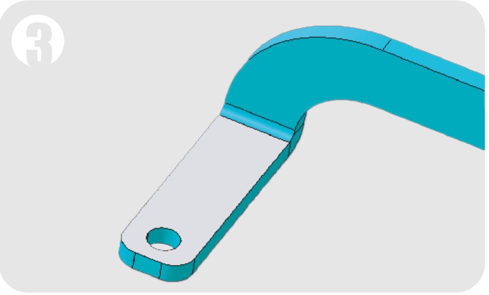
3. **Hollow Structure:** Considering the use of hollow structural design to reduce material usage while maintaining strength and conductivity.

4. **Use of High-Strength Materials:** Manufacturing copper busbars using high-strength materials to reduce material thickness and achieve lightweight effects.

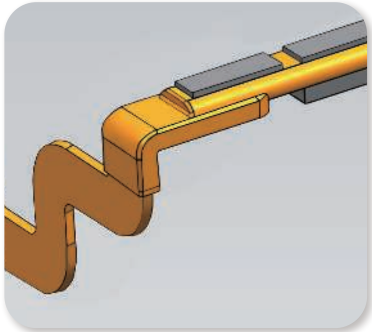
5. **Structural Optimization:** Optimizing the structure of copper busbars to minimize material waste and redundancy, thereby improving material utilization.



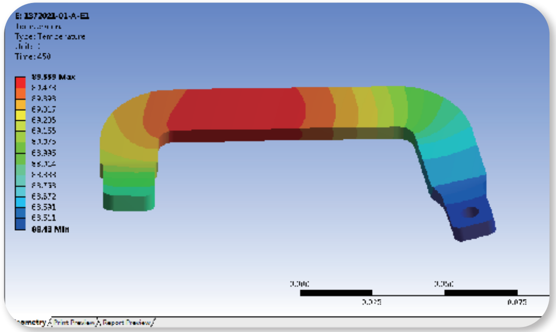




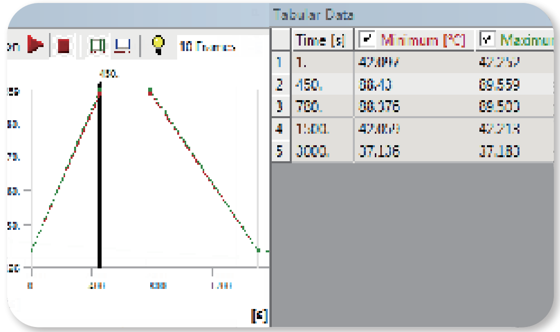
研发能力
R&D Capabilities



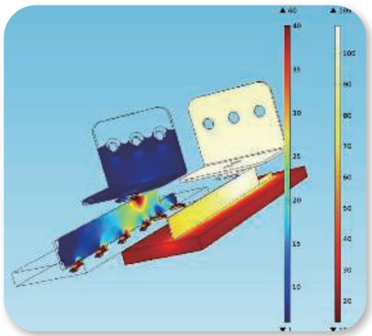
三维结构设计
3D Structural Design



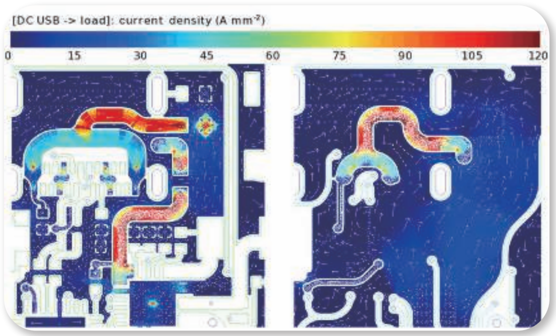
电热仿真
Electrothermal Simulation



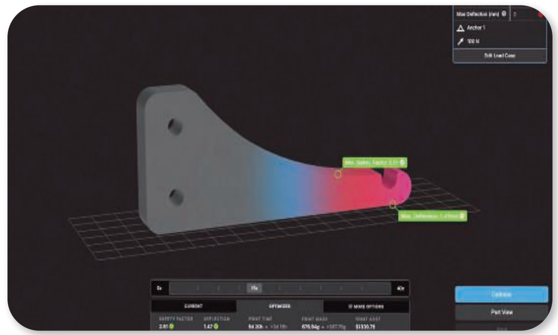
散热分析
Heat Dissipation Analysis



模流分析
Mode Flow Analysis



电流密度模拟仿真
Current Density Simulation



电力负荷仿真
Current Load Simulation

实验设备
Experimental Equipment


三坐标测量仪
Coordinate measuring machine


金相测试仪
Metallographic Tester


盐雾试验机
Salt Spray Tester


冷热冲击试验箱
Thermal Shock Test Chamber


温度冲击箱
Temperature Shock Chamber


恒温恒湿试验箱
Constant T&H Test Chamber


影像测量仪
Video Measuring Instrument


多功能电解测厚仪
Multi-Electrolytic Thickness Meter


线材弯折试验机
Wire Bending Tester


电阻测试仪
Resistance Tester


漏电起痕试验机
Leakage Tracking Tester


显微硬度计
Microhardness Tester

制造实力
Manufacturing Capability

自动化焊接车间
Automated Welding Workshop

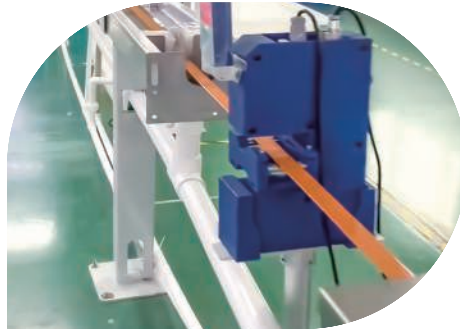
拥有超 50 台高分子焊接设备
配备多条产线，适配不同焊接材质
自动化焊接，稳定运行，确保质量
为软排焊接、铜铝及软硬复合母排制造提供保障

Over 50 polymer welding machines
Multiple production lines for various materials
Automated welding ensures stability and quality
Reliable for flexible, copper-aluminum, and hybrid busbar welding

模具开发中心
Mold Development Center

人禾模具开发中心自 2016 年投产，数十台线切割机等高精度设备，并拥有多名资深工程师，每月可开发 100 余副模具及 200 余套工装检具，能够快速响应产品迭代与定制需求。

RHI Mold Center, operational since 2016, with dozens of wire-cutting machines and precision equipment, develops 100+ molds and 200+ jigs monthly for rapid iteration and customization of new energy busbars.

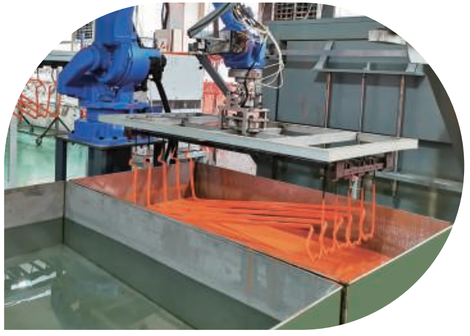


自动化挤塑车间
Automated Extrusion Workshop

引进 5 条独立标准自动化挤塑生产线，覆盖原材料筛选检测、挤出温控与牵引精控，实现高效批量化生产，严格保障产品的一致性与品质稳定。

Equipped with five automated extrusion lines for raw material inspection, extrusion temperature, and traction control, ensuring efficient production and consistent quality of new energy busbars.

制造实力
Manufacturing Capability



自动化浸塑车间
Automated Dipping Workshop

十余年浸塑工艺技术积累，独特的 PVC 绝缘塑胶配方与成熟的工艺控制标准。配备多套全自动浸塑生产线，能够精准控制塑层厚度与均匀度，确保产品表面光洁、绝缘性能稳定。为客户提供高效可靠的硬排绝缘解决方案。

With over a decade of dip-coating expertise, we offer a proprietary PVC formula and robust process controls. Our automated lines ensure uniform coating thickness, smooth surfaces, and stable insulation—delivering reliable, efficient solutions for rigid busbars.

自动 3D 折弯车间
3D Bending Workshop

采用高精度伺服控制系统，折弯角度公差可控制在 ±0.5°以内

配备智能模具库，可快速切换不同折弯需求

具备三维模拟功能，可预先验证折弯工艺方案

加工厚度可达 12mm，满足各类硬排的成型要求

Equipped with a high-precision servo control system, our bending process achieves angle tolerances within ±0.5°.

An intelligent die library enables fast switching between bending requirements.

while 3D simulation verifies process feasibility in advance.

Supports thicknesses up to 12mm to meet diverse rigid busbar forming needs.

CCD 自动检测
CCD Automated Inspection

采用 CCD 自动检测与多阶段质控，确保铜排尺寸精确、绝缘性能稳定。严格执行行业标准，优化工艺，实现全流程质量追溯。人禾凭卓越品控获多家主机厂免检认可。

Utilizing CCD inspection and multi-stage quality control for precision and insulation stability. Adhering to industry standards and ensuring full-process traceability, RHI busbars are OEM-certified for exemption.

企业资质
Enterprise Qualification


ISO45001

职业健康安全管理体系认证证书

证书编号：20222S20397R0M

兹证明

浙江人禾电子有限公司

统一社会信用代码：913303825862754304

职业健康安全管理体系符合：

GB/T45001-2020 idt ISO45001:2018 标准

证书覆盖范围：

铜铝连接排、绝缘保护套的设计、生产和销售及相关管理活动

注册地址：浙江省乐清市柳市镇象阳工业区(乐清市德合电子科技有限公司内)
审核地址：浙江省乐清市柳市镇象阳工业区德宇路 23 号

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证书签发人

中国认可
国际互认
管理体系
MANAGEMENT SYSTEM
CNAS C197-M

组织必须按照规定每年接受监审，并配合监审合格通知书，注册的有效性才能延续
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浙江全品认证有限公司

中国·浙江·杭州市滨江区浦沿路74号1幢603室（310053）


ISO14001

ENVIRONMENTAL MANAGEMENT
SYSTEM CERTIFICATE

Zhejiang RHI Electrics Co., Ltd.

GB/T24001-2016 idt ISO14001:2015


qualityaustria
Succeed with Quality

CERTIFICATE

Quality Austria - Trainings, Zertifizierungs und Begutachtungs GmbH awards this qualityaustria certificate to the following organisation:

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Zhejiang RHI Electric Co., Ltd
No.23, Deyu Road, Xiangyang Industry Zone,
Liushi Town, Yueqing City,
Zhejiang Province, P.R.C.

QUALITY MANAGEMENT SYSTEM
complying with the requirements of standard
IATF 16949:2016
with product design

Design and manufacturing of metal connection

Registration No.: 09268/0
IATF-Registration No.: 0449741
Issue Date: 11 May 2022
Expiration Date: 10 May 2025

Vienna, 11 May 2022

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AT-1010 Vienna, Zelinkagasse 10/3

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CTI 华测检测

检测报告
Test Report


CTI 华测检测

检测报告
Test Report


CTI 华测检测

检测报告


实用新型专利证书


实用新型专利证书


CTI 华测检测

检测报告
Test Report


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检测报告
Test Report


CTI 华测检测

检测报告
Test Report


外观设计专利证书

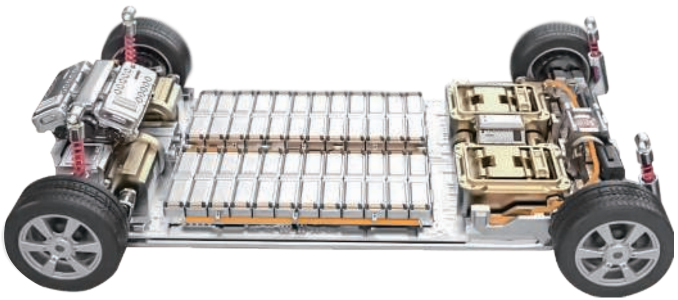

外观设计专利证书

合作伙伴
Partners

本着互惠互利合作共赢的商业原则，我们对以下全球著名公司的合作伙伴感到自豪。
Following the principle of mutual benefit, we take pride in our partnerships with these global leading companies.

以上公司排名不分先后。
Companies are listed in no particular order.

客户合作案例
Client Partnership Case



客户案例1
VREMT Customer Case

威睿作为人禾的重要合作客户，在其与奔驰、吉利合资的Smart项目中，选用了人禾高性能电气连接件。通过优化电气连接结构，显著提升了Smart主力车型电池系统的性能。

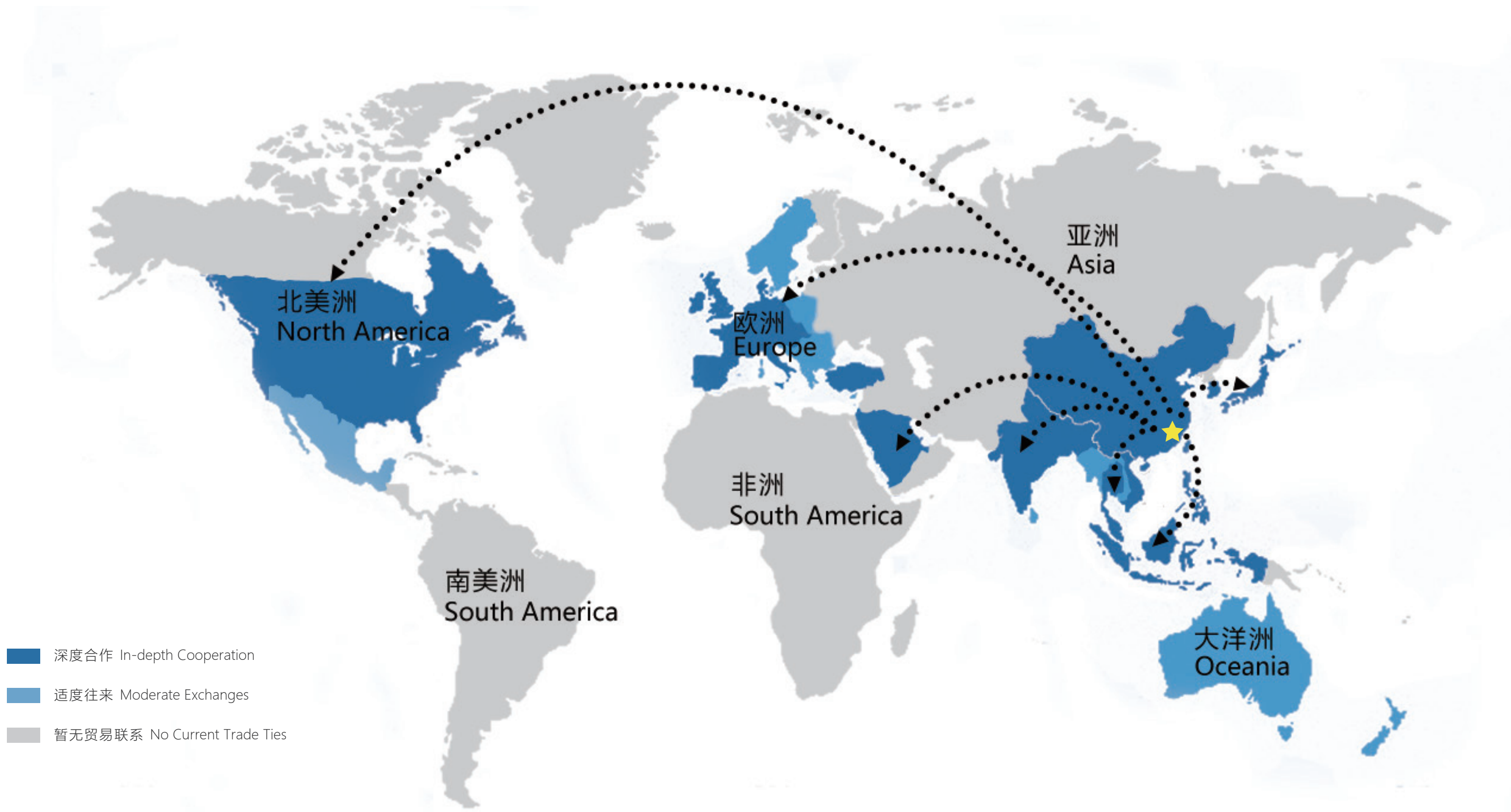
针对Smart车型的定制需求，人禾依托新能源母排领域的技术积累，优化结构设计与材料工艺，在保障性能的基础上实现母排轻量化，提升电池能量密度，助力整车向高性能、轻量化方向升级。

VREMT, a key partner of RHI, chose RHI's high-performance electrical connectors for its Smart project, a joint venture with Mercedes-Benz and Geely. By optimizing the connection structure, RHI helped improve the battery system performance of the main Smart model. RHI applied its expertise in new energy busbars to optimize design and materials, achieving lightweight busbars that enhance battery density while supporting the vehicle's shift towards high performance and cost-optimized design.

客户案例2
CATL Customer Case

人禾于2022年正式成为宁德时代的合格供应商，为其提供定制化铜排与铝排产品。基于专业技术积累，针对其动力与储能电池系统的应用需求，提供高效能的电气连接解决方案。产品在保障导电性与热管理性能的同时，优化连接结构，降低制造成本，有效提升电池系统的整体性能与可靠性。

RHI became a qualified supplier of CATL in 2022, providing customized copper and aluminum busbars. Drawing on its technical expertise, RHI delivers high-performance connection solutions for CATL's power and energy storage systems, ensuring high conductivity, efficient thermal management, and optimized structures to boost system performance and reliability while lowering costs.



www.chinarhi.com

www.rhielectric.com

ZHE JIANG RHI ELECTRIC CO.,LTD.
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