



高性能塑料整体解决方案专家
The expert of overall solutions in the field of high performance plastics



株洲宏大高分子材料有限公司
ZHUZHOU HONGDA POLYMER MATERIALS CO.,LTD

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公司简介▶▶▶ Company Introduction

株洲宏大高分子材料有限公司，创建于1999年，2005年通过ISO9001国际质量体系认证，坐落于中国南方交通枢纽株洲市—国家级高新区新马工业园，占地50000平方米。公司专注于高性能塑料半成品及成品的生产，拥有多项高性能塑料成型关键专利技术。公司为国家高新技术企业，中国塑料加工工业协会氟塑料加工专业委员会副理事长单位，国家级专精特新小巨人企业，新湖南贡献奖先进集体企业。

轨道交通产品事业部致力于轨道交通轻量化、绝缘、耐磨等材料的研发与销售。主要产品有轻量化风道材料与地板，高性能管/线卡，出风口，把手，减振密封圈等。

Founded in 1999, Zhuzhou Hongda polymer material Co., LTD.(ISO9001:2008 qualified enterprice), is a national high&new technology enterprise, which located in Zhuzhou city - the transportation hub in Southern China. It covers an area of 50000m² in the XINMA industrial park. Hongda is a professional manufacturer of high-performance plastics in the form of semi-finished products and finished parts.

The rail transit products division is committed to the R&D and marketing of light-weighted, insulating and wear-resistant composite materials. Main products: lightweight tunnel, lightweight flooring panel, high-performance clamps, air outlets, handle and damper rings etc.



轻质复合板▶▶▶ Lightweight Composite Board

①材料特性/Material Properties

轻质复合板系列产品是由热固性树脂和增强纤维经特殊工艺加工而成的一种新型复合材料。作为内部装饰结构材料，为轨道交通（高铁、地铁、城际轻轨、储能式有轨电车等）、新能源汽车、轮船、飞机等交通工具的减重及舒适提供了保障。

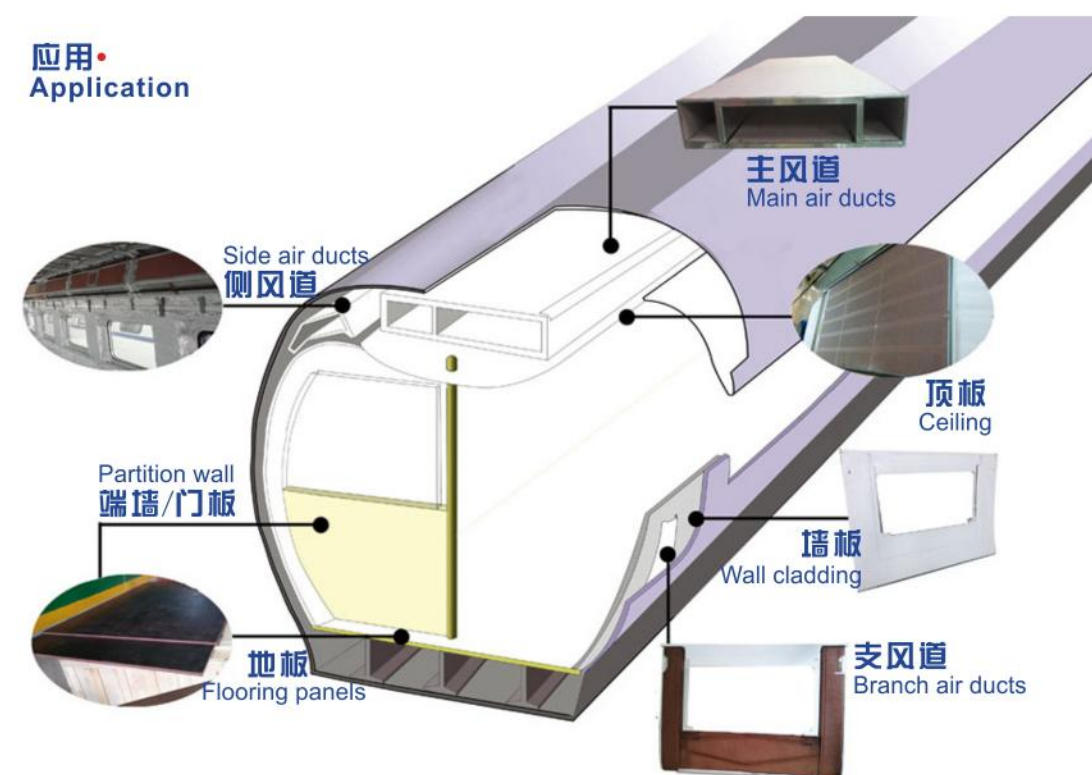
该系列产品具有以下特点：

- 轻质高强、防火阻燃、低烟低毒、隔音降噪、保温；
- 耐腐蚀性好、防止细菌滋生、耐候性好；
- 可复合不同的面层，能够满足不同场合对外观的要求，同时面层的使用可以优化产品的性能；
- 可以3-D成型，制成不同形状的产品，安装方便并节省空间。使设计更加合理，提高了乘坐的安全性；
- 配合特殊的结构设计可以提高产品的力学性能，比如：产品可以做成蜂窝状，提高力学性能和隔水性能。

The lightweight composite board is a new kind of composite material, which is made from thermosetting resin and reinforced fiber by special processing technology. As a kind of interior decoration material, it provides light-weighted and comfortable guarantee for rail transport (high-speed rail, metro vehicle, light rail, energy-reserved tram etc.), new energy vehicles, ships, aeroplane and other vehicles.

Properties:

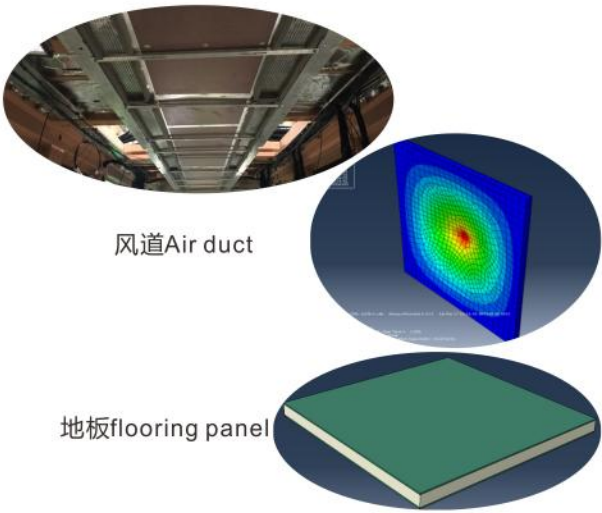
- Lightweight & high strength, Fire retardant, Low smoke & Low toxicity, Sound insulation & Noise reduction, Heat Preservation.
- Good corrosion resistance and weather resistance.
- It can be combined with different surface layer, to meet the requirements of different occasions and optimize the product performance.
- Products can be made into different shapes by 3D forming technology. It's easy for installation, saving space and improving the safety performance as well.
- The mechanical properties can be improved by special design. For example, the product can be designed as honeycomb, to enhance the mechanical property and waterproof property.



轻质复合板
Lightweight Composite Board

②风道/Air duct

项目 Item	实测数据 Testing data
表现密度 Apparent density	113
阻湿因子 Moisture-resistance factor	2.8×10^3
导热系数 Thermal conductivity	0.035
阻燃性能 Flame retardant property	S4 SR2 ST2 FED(15min)=0.028
防霉抗菌性 Antifungal & Antibacterial Performance	0级(无霉生长) 0 Grae (no mycete)



③地板/Flooring panel

项目 Item	面密度 Surface density (Kg/m²)	抗弯强度 Flexural strength (Mpa)	弯曲模量 Flexural modulus (Mpa)	蒙皮抗拉强度 Tensile strength (skin panel) (Mpa)	蒙皮拉伸模量 Tensile modulus (skin panel) (Mpa)	平压强度 In-plane compression strength (Mpa)	平拉强度 In-plane tensile strength (Mpa)	落球冲击 Ball-falling impact	载荷试验 Load testing	防火试验 Fire retardant test	导热系数 Thermal conductivity (W m ⁻¹ .K ⁻¹)
数值 Value	8.2	136	7.9	256.3	21.1	3.5	3.0	合格 Qualified	合格 Qualified	DIN5510/ EN45545	0.035

④轻质板材与常见材料的对比/Comparison of light board and common materials

对比项目 Contrastive item	轻质板材 Lightweight board	铝蜂窝板 Aluminum honeycomb panel	胶合板 Plywood	芳纶蜂窝 Aramid honeycomb	对比结论 Conclusion
重量 Weight	8.2 kg/m²	11 kg/m²	19.5kg/m²	6.2kg/m²	减重效果明显 Good damping effect
导热系数 Thermal conductivity	<0.04 W/(m·K)	<0.15 W/(m·K)	<0.11 W/(m·K)	<0.10 W/(m·K)	保温性能最优，加之本身阻燃，因而最大限度隔离火焰带来的危险 Best heat preservation performance and fire retardant, maximum isolated the fire risk
减振效果 Damping effect	优 Excellent	差 Bad	良 Good	良 Good	减振效果最优，脚感舒适 Best damping effect and comfortable foot feeling
平均隔声量 Average sound insulation	28dB	25dB	26dB	25dB	隔音效果最优 Best sound insulation
安装速度 Installation speed	快 Fast	较慢 Relatively slow	快 Fast	拼接麻烦 Inconvenient for splitting joint	安装较方便 Convenient for installation
阻燃性能 Flame resistance	不燃级 No burning	不燃级 No burning	难燃级 Fire retardant	不燃级 No burning	最高防火等级 Highest fire retardant level
结构稳定性 Structural stability	稳定 Stable	易鼓包 Easy to expanded	易吸水翘曲 Easy to absorb water and warp	易剥离 Easy to strip	结构稳定性最优 Optimal structure stability
吸水后质量增加量 (24h@23°C) Weight increase after water absorption	0.14%	0%	9.57%	0.16%	尺寸稳定 Stable dimension

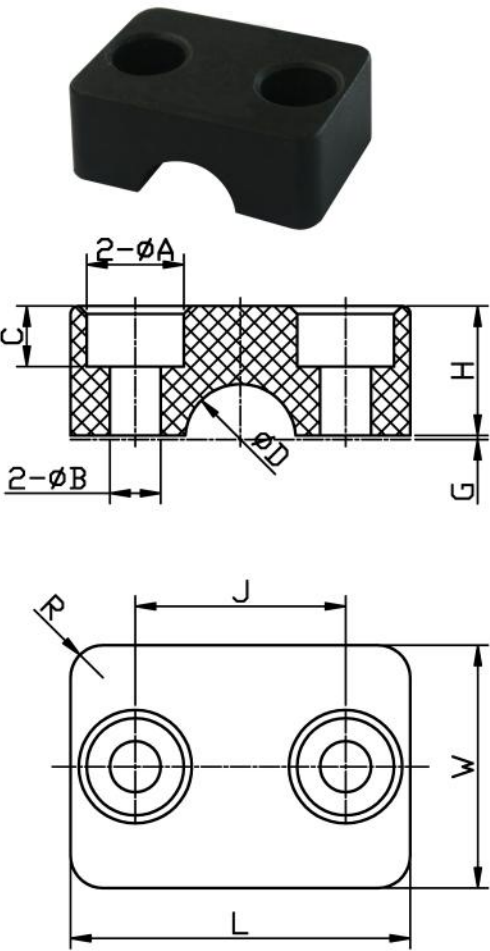
高性能管卡
High Performance Clamps

- ①材料：阻燃纤维增强复合材料
②颜色：黑色（可选）
③产品性能及应用：
• 管卡有高强度、高刚度的特征；
• 管卡有良好的绝缘性，优异的阻燃性能；
• 管卡质量轻，综合性能优越。
④应用范围：
该管卡在电源线夹、电力机车线缆线夹、风电线缆线夹、工程机械线缆线夹等领域得到广泛应用。



Material: Flame retardant composite material
Colour: Black (optional)
Properties:
• High strength and High stiffness.
• Good insulation and excellent flame retardant performance.
• Light weight and excellent comprehensive performance.
Application:
The clamps are widely used as fixture in power cable, electric locomotive cable, wind wire cable, mechanical engineering cable etc.

单管卡 Clamp for single cable



双管卡 Clamp for double cables

