

Honeycomb
Product
Catalog





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About Ulike



世塑有限公司是一家专注于蜂窝材料系统解决方案的公司。主要产品有铝蜂窝芯、各种蜂窝复合板以及自主研发的蜂窝设备。因其质量轻、强度高、防火等特点，铝蜂窝芯被广泛应用于各行各业，从洁净系统、建筑装饰到轨道交通、新能源车、以及电子行业等。世塑一直致力于蜂窝技术的发展和研究，始终以持续技术创新为根基，不断升级、拓展蜂窝芯材料的应用范围和产品实现，成为各应用行业内蜂窝芯系统解决方案的首选企业！

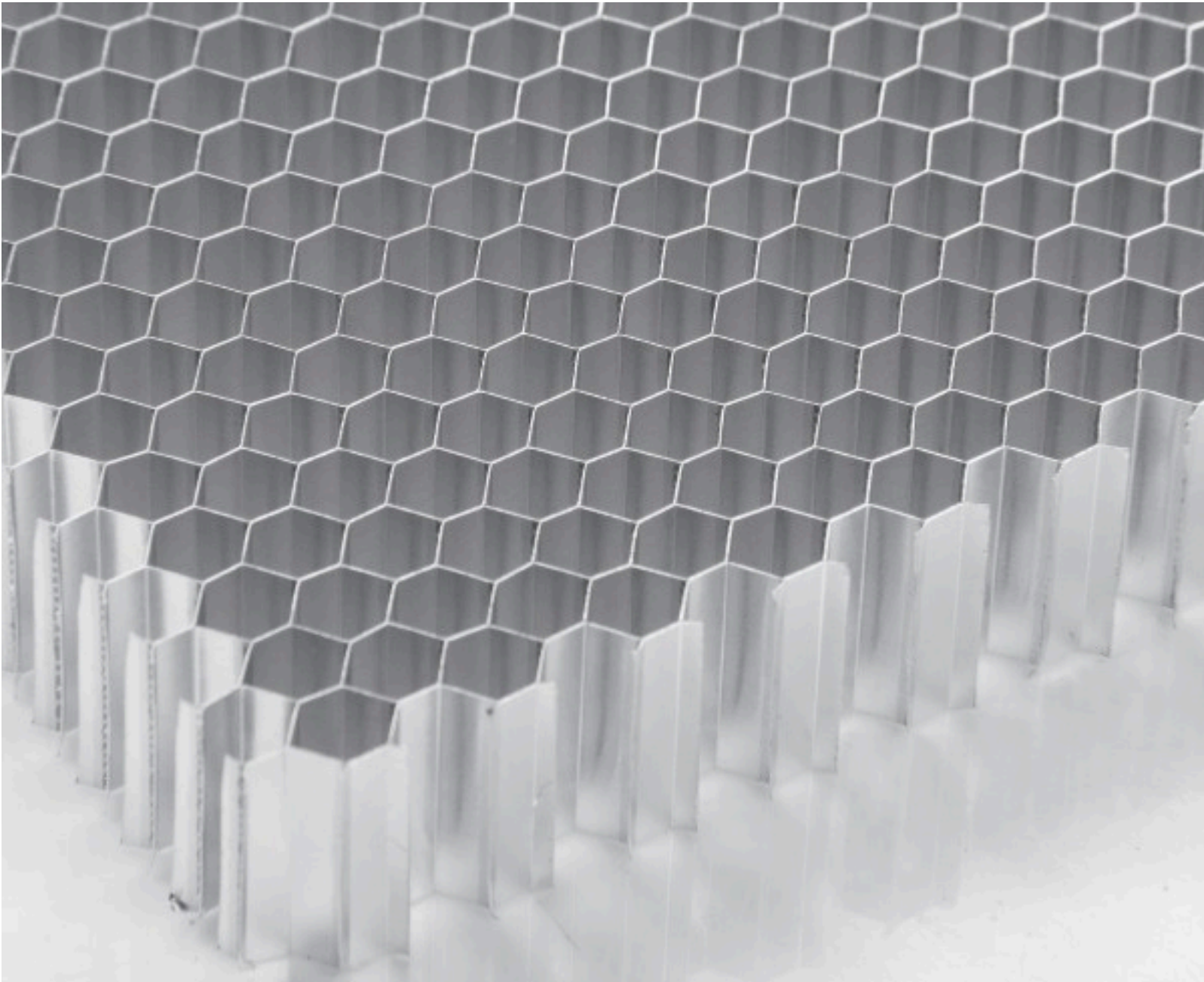
世塑的优势：

- 自动化生产线
- 专业技术支持
- 定制化服务
- 快速的响应能力

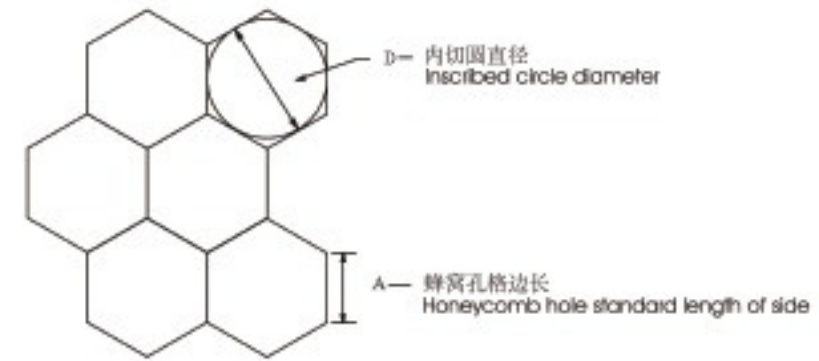
Ulike Corporation is a company which is specializing in systematic solutions with honeycomb materials. The main products are aluminum honeycomb core, variety kinds of honeycomb panels and honeycomb applications. Due to its light weight, high compressive strength, aluminum honeycomb is widely used for many different industries. The fields involved from clean room system, building and decoration, railway transportation, new energy industry, and electronics industry. Ulike is always committing to the research and development of honeycomb technology, sticking to the continuous technological innovation, and constantly upgrade and expand the application range of the honeycomb materials, to be the first choice company of our customers!

Advantages of Ulike:

- Automatic production lines
- Professional technical support
- Customized service
- Quick response



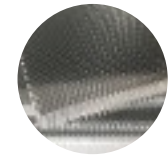
蜂窝芯立体图
Honeycomb stereogram



- 金属制造, 易于回收利用, 绿色环保
Metal-made, easy to recycle, and environmentally-friendly.
- 质量轻、强度高、刚性和抗撕裂性好
Light weight, high strength, good rigidity and tear resistance.
- 优异的耐候性能: 耐高温、耐腐蚀, 耐老化
Excellent weather resistance: high-temperature resistance, corrosion resistance and aging resistance.
- 阻燃、隔音、隔热效果好
Flame-retardant, sound insulation and thermal insulation.
- 装饰性强、易加工、性能稳定
Strong decorative performance, easy processing performance.



产品优势
Advantages



航空铝箔5052系列
Aerospace grade 5052 alloy



铝箔可做防腐处理
Aluminum foil could be anti-corrosion treatment



蜂窝芯开槽加工
Drilled honeycomb



可做无限长度
Continuous form



最薄可切2mm
Minimum thickness is 2mm



出货形式
Shipping form



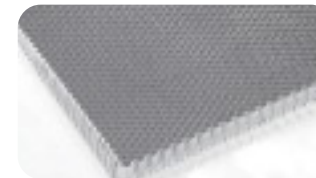
芯块状
Block form



芯条状
Slice form



连续型
Continues form



拉伸状
Expanded form



包装
Package



木箱
Plywood box



托盘
Pallet

铝蜂窝芯

Aluminum Honeycomb Core

铝蜂窝芯是由多层铝箔通过涂胶、热压、裁切、然后拉伸展开成规则的正六边形蜂窝结构。它具有尖锐、清晰的孔壁、没有毛刺, 适合高品质的芯对面材的粘接及其它用途。蜂窝板芯层为六边形铝蜂窝结构, 相互牵制的密集蜂窝有如许多小工字梁, 可分散承担来自面板方向的压力, 使板受力均匀, 保证了面板在较大面积时仍能保持很高的平整度。

Aluminum honeycomb core is made of multiple layers of aluminum foils, processed by gluing, pressing and expanding. It has sharp and clear hole surface, which is suitable for splicing high-quality core-to-core panels and other purposes. The core layer of honeycomb plate is a hexagonal aluminum honeycomb structure; the interactive dense honeycombs are alike a great number of small I-shaped beams which can dispersedly bear the pressure coming from panels, so that the panels can be uniformly stressed, and high flatness of large area of panel can be maintained.

规格表

Specification sheet

| 常规铝蜂窝 (边长 > 3mm) Normal aluminum honeycomb (a/side length > 3mm) | | | | | | | |
|--|--------------------------------------|-------------------|-------------------|-----------------------------|--------------------|--------------------|------------------|
| 类别 Type | 常规铝蜂窝芯 Normal aluminum honeycomb | | | | | | |
| 孔格边长 Side length | 4mm | 5mm | 6mm | 7.5mm | 10mm | 12mm | 15mm |
| 内切圆直径 Cell size | 1/4 inch 6.3mm | 1/3 inch 8.4mm | 3/8 inch 9.5mm | 1/2 inch 12.7mm | 3/4 inch 19.0mm | 4/5 inch 20.3mm | 1 inch 25.9mm |
| 展开最大尺寸 (长×宽mm) Maximum dimension after expansion(mm) | 8000 * 2000 | | | | | | |
| 铝箔型号及厚度 Foil type & thickness(mm) | 3003H18 0.04 0.05 0.06 0.07 0.08 0.1 | | | 5052H18 0.04 0.05 0.06 0.08 | | | |

| 微孔铝蜂窝 (边长 ≤ 3mm) Micro-aperture aluminum honeycomb (a/side length ≤ 3mm) | | | | | | | | | |
|--|---------------------------------|---------------------|---------------------|--|---|--------------------|--------------------|--------------------|-------------------|
| 类别 Type | 微孔铝蜂窝芯 Micro-aperture honeycomb | | | | | | | | |
| 孔格边长 Side length | 0.5mm | 0.6mm | 0.8mm | 1mm | 1.5mm | 1.83mm | 2mm | 2.5mm | 3mm |
| 内切圆直径 Cell size | 1/30 inch 0.87mm | 1/25 inch 1.04mm | 1/18 inch 1.38mm | 1/15 inch 1.73mm | 1/10 inch 2.6mm | 1/8 inch 3.17mm | 1/8 inch 3.47mm | 1/6 inch 4.33mm | 1/5 inch 5.2mm |
| 展开最大尺寸 (长×宽mm) Maximum dimension after expansion(mm) | 300 * 300 | | 500*500 | 1000 * 1000 | 1200 * 1200 | 1500 * 1500 | 1500 * 1500 | 2000 * 1600 | 2000 * 1700 |
| 铝箔型号及厚度 Foil type & thickness(mm) | 3003H18 0.025mm 0.03mm | | 3003H18 0.04mm | 3003H18 0.04 0.05 0.06 5052H18 0.04 0.05 0.06 | 3003H18 0.04 0.05 0.06 0.07 0.1 5052H18 0.04 0.05 0.06 | | | | |

性能参数表

Technical data sheet

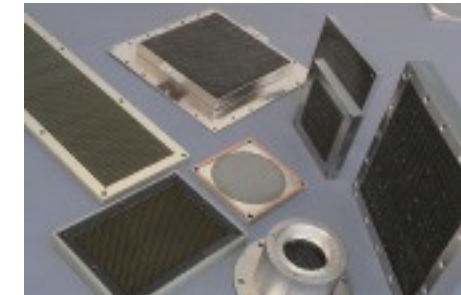
| 芯材规格 Specification | | | 室温 (23±5°C) Room temperature (23±5°C) | | |
|----------------------|---------------------------|---------------------------------|---------------------------------------|-----------------------------|---------------------------------------|
| 边长 mm Side length | 铝板厚度 mm Foil thickness | 密度 kg/m ³ Density | 剪切强度 Mpa Shear strength | 剪切刚度 Mpa Shear stiffness | 平压强度 Mpa Flat compression strength |
| 4 | 0.05 | 52 | 0.6 | 43384 | 1.3 |
| 4 | 0.06 | 62 | 0.7 | 56687 | 1.8 |
| 4 | 0.08 | 83 | 1.3 | 94427 | 2.8 |
| 5 | 0.05 | 42 | 0.5 | 32045 | 0.9 |
| 5 | 0.08 | 67 | 0.8 | 82296 | 1.9 |
| 6 | 0.05 | 35 | 0.4 | 24654 | 0.6 |
| 7.5 | 0.05 | 27 | 0.3 | 21467 | 0.5 |
| 10 | 0.08 | 33 | 0.4 | 17776 | 0.8 |
| 10 | 0.05 | 20 | 0.3 | 12222 | 0.4 |

铝蜂窝芯应用

Application of aluminum honeycomb



汽车碰撞实验
NCAP(New Car Assessment Program)



屏蔽通风板
EMI Shielded Air Ventilation Panels



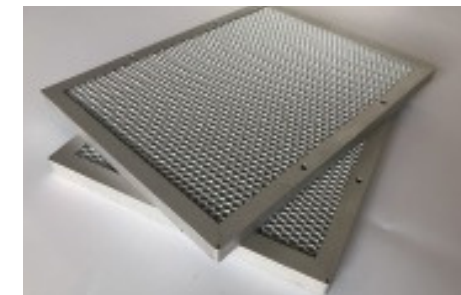
建筑幕墙
Wall cladding



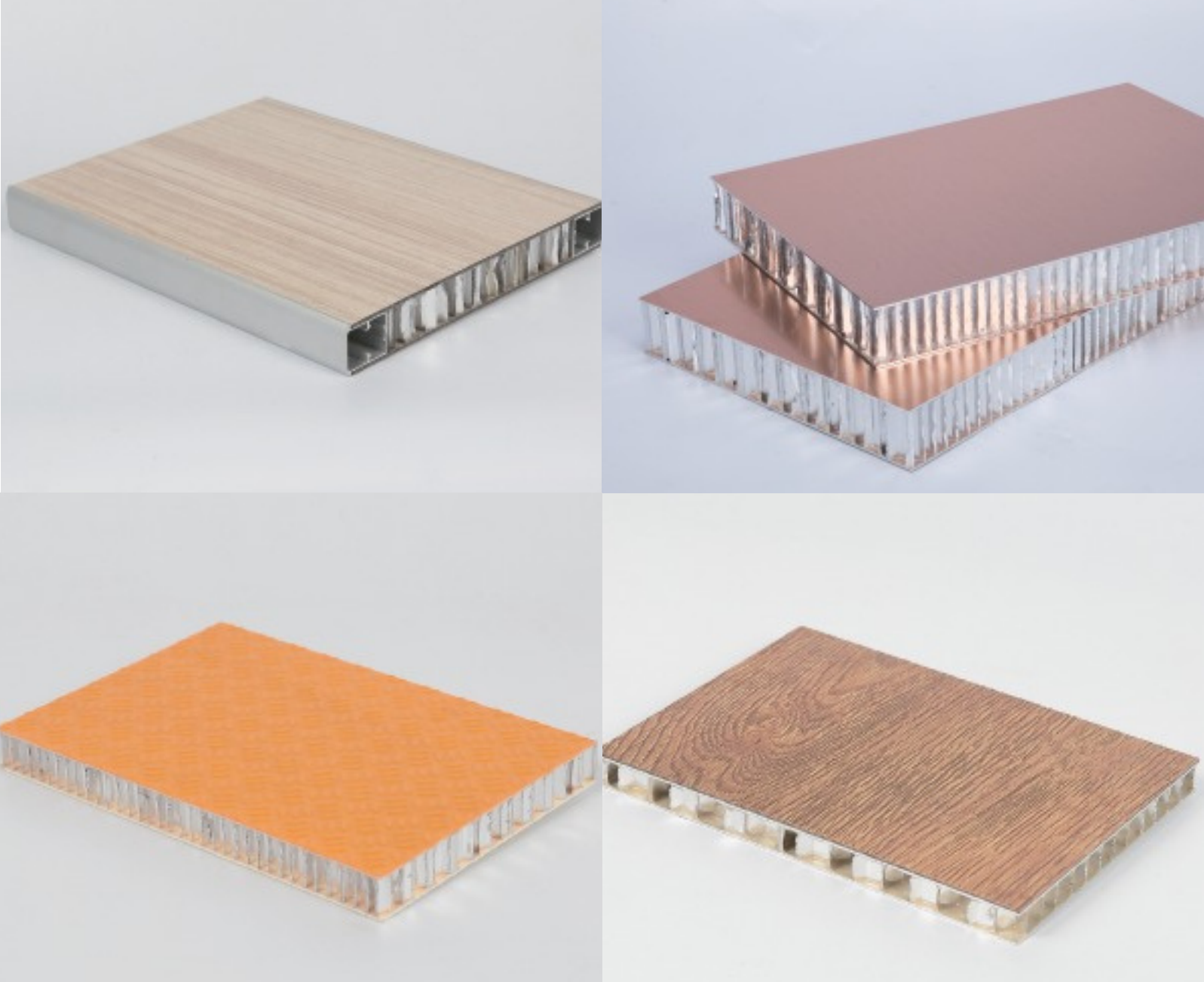
洁净工程
Clean room panels



轨道交通内饰
Railway interior decoration

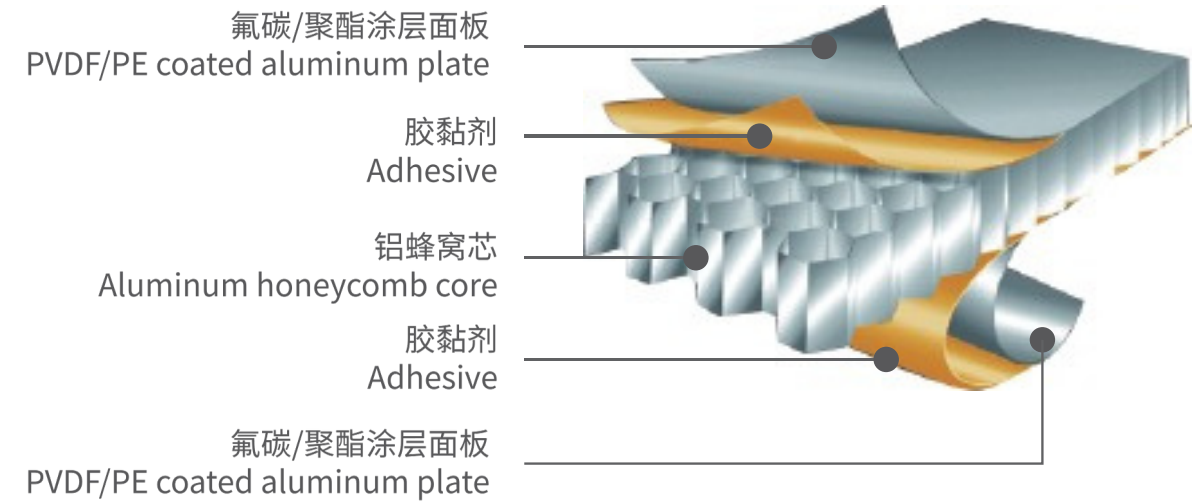


过滤基材
Air filter materials



蜂窝板立体图

Honeycomb panel stereogram



铝蜂窝板

Aluminum Honeycomb Panel

蜂窝板是采用经氟碳辊涂处理的铝合金板材为面板，中间是铝蜂窝芯复合而成的蜂窝式夹层结构板材，具有抗高风压、减震、隔音、保温阻燃等优良性能。蜂窝板最初应用于航空航天以及军事领域，目前已逐步发展应用于民用领域，如建筑装饰、交通运输、新能源等行业。它是目前最好的轻型复合环保材料之一，特别在建筑领域被誉为 21 世纪最佳建筑幕墙科技产品。

Honeycomb panel adopts roller-coated aluminum coil as the surface skins, and aluminum honeycomb as the core, then processing by compound. It has good performance on high wind pressure resistant, impact adsorption, sound and heat insulation, fire resistant etc. It applied to aerospace and military field originally. Nowadays, it has involved in civil field gradually. For example, building and construction, transportation, new energy etc. It is one of best environmental composite materials with perfect strength to weight ratio. In building materials filed, it is known as best option for curtain wall cladding products.

跟普通铝制板材的特征与品质对比
Comparison of features with other aluminum sheets

| 对比内容 | 铝蜂窝板 | 单铝板 | 铝塑板 | Items for comparison | Aluminum honeycomb panels | Aluminum solid panel | Aluminum composite pane |
|------------------|----------------|-----------|--------|---|------------------------------|---|--------------------------|
| 厚度要求 1000mm(5KP) | 20mm | 3mm | >4mm | Thickness requirement | 20mm | 3mm | >4mm |
| 实际上墙成板重量 | 7.5kg | 10kg | 9kg | 1000mm(5KP) Actual plate weight on wall | 7.5kg | 10kg | 9kg |
| 平整度误差 | <1.5mm(厂标±0.5) | <3mm | <3mm | Flatness error | <1.5mm(Company standard±0.5) | <3mm | <3mm |
| 转角,收边方式 | 可实现无断口转折 | 无断口转折但R较大 | 断口转折 | Corner and edge treatment | Folding without fracture | Folding without fracture, but with larger R | Folding without fracture |
| 加强筋固定方式 | 无复合 | 焊接或粘 | 粘合 | Strengthening rib fixing mode | No | Welding or bonding | Bonding |
| 内芯复合方式 | 粘台 | 无合 | 粘合 | Inner core complex method | Bonding | No bonding | Bonding |
| 内应力 | 小,均匀 | 大,不均匀 | 小,不均匀 | Internal stress | Small, even | Large, uneven | Small, uneven |
| 膨胀系数 | 很小,均匀 | 较大,均匀 | 较大,不均匀 | Coefficient of expansion | Very small, even | Larger, even | Larger, uneven |
| 共振 | 无 | 明显 | 无 | Resonance vibration | No | Evident | NO |
| 电磁屏蔽 | 良好 | 良好 | 较差 | Electromagnetic shielding | Good | Good | Poor |
| 表面氟碳涂法 | 辊涂或喷涂 | 喷涂 | 辊涂 | Surface fluorocarbon coating | Roller coating or spraying | Spraying | Roller coating |

铝蜂窝板技术性能指标 Technical Data of Honeycomb Panels

| | | |
|---|---|--------|
| 厚度 Thickness | 20mm | 25mm |
| 正面铝板 Facing Aluminum skin | 1.0mm | |
| 背面铝板 Backing Aluminum skin | 1.0mm | |
| 重量 Weight (kg/m ²) | 7.4 | 7.8 |
| 复合板及面板的复合性能: Mechanics function of complex planking and surface planking | | |
| 惯性矩 Inertia Rectangle I(cm ⁴ /m) | 19.85 | 31.67 |
| 截面模量 Measurement of cutting W(cm ³ /m) | 19 | 24 |
| 复合板刚度 Hardness of complex planking. E.I(KN Cm ² /m) | 139000 | 221700 |
| 面板铝型材 Aluminum profile surface planking | AA5754A(ALMg3) | |
| 弹性模量 Changeable measurement (N/mm ²) | 70000 | |
| 面板抗拉强度 Tensile strength of surface planking (N/mm ²) | Rm≥220 | |
| 0.2%屈服应力 0.2%Power of bending (N/mm ²) | Rp0.2≥130 | |
| 延伸率(EN485-2:1194) Extending rate | A50≥8 | |
| 铝材线性热膨胀 Hot expanding of aluminum materials | 2.4mm/m100°C温差时,when the temperature discrepancy is 100°C | |
| 表面饰层 Surface decoration layer | PVDF喷涂烤漆 PVDF Spray and bake paint | |
| 光泽度 (初始值) Luminosity (original data) | 30-40% | |
| 铅笔硬度 Hardness of pencil | HB-F | |
| 蜂窝芯 Pith of honeycomb | | |
| 蜂窝尺寸 Size of honeycomb | 1/4" (6.3mm) | |
| 铝材容量 Aluminum honeycomb density | 大约80kg/m ³ It's about 80kg/m ³ . | |
| 抗压强度 Strength of pressure-resistant(MIL-STD-401) | 4N/mm ² | |
| 声学性能 Function of Acoustics | | |
| 吸声系数 Data of sound absorption | 0.05 | |
| 隔声系数 Indicator of sound seperating 按照ISO717-RW | 23 | 25 |
| 热工性能 Function of Heating | | |
| 导热系数 Data of heating guiding (w/m ² k) | 2.25 | 2.7 |
| 热阻值 Data of heating preventing R(1/m) (m ² k/w) | 0.0089 | 0.0093 |
| 传热系数 Data of heating passing U(k) (w/m ² k) | 5.59 | 5.575 |

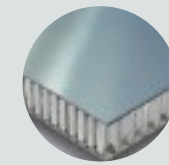
面材选择
Skin materials



防火板
HPL



玻璃钢
Fiberglass



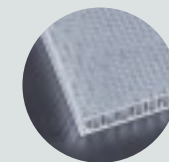
不锈钢
Stainless steel



铝板
Aluminum

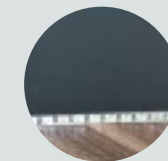


石材
Stone

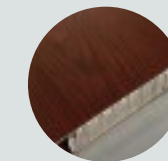


亚克力
Acrylic

表面处理
Surface treatment



喷漆
Spray painting



转印
Transfer



UV打印
UV printing



覆膜
Film



辊涂
PVDF/PE



阳极氧化
Anodize

颜色选择
Color



平色
Plain color



木纹
Wood grain



石纹
Stone

封边方式
Edge close



折弯
Bended



焊接
Welding



铝型材
Aluminum profile

铝蜂窝板的应用

Application of honeycomb panel



石油浮盘
Oil storage tank



石材蜂窝板内装
Stone honeycomb panel



建筑幕墙
Cladding

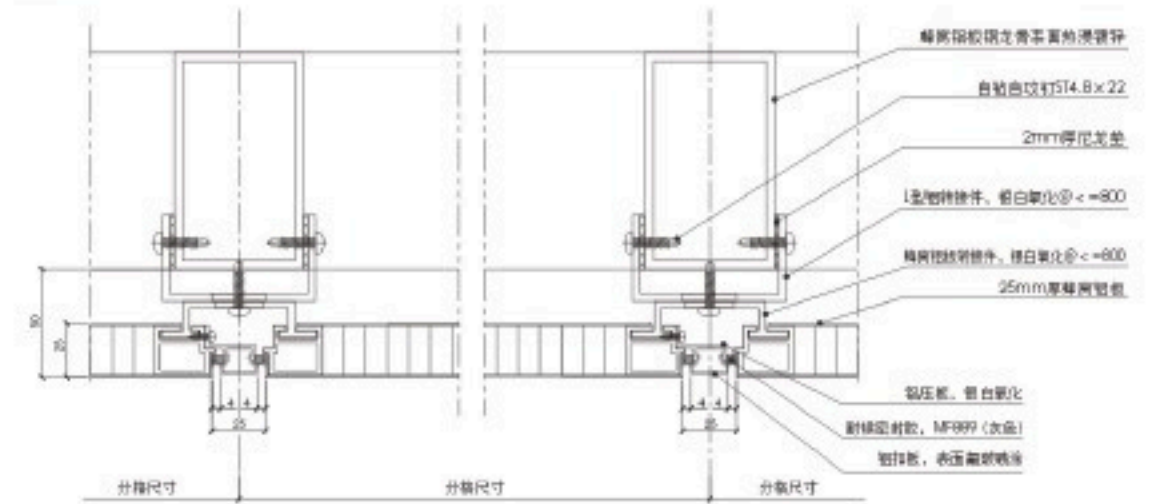


家具/隔断
Furniture/partition

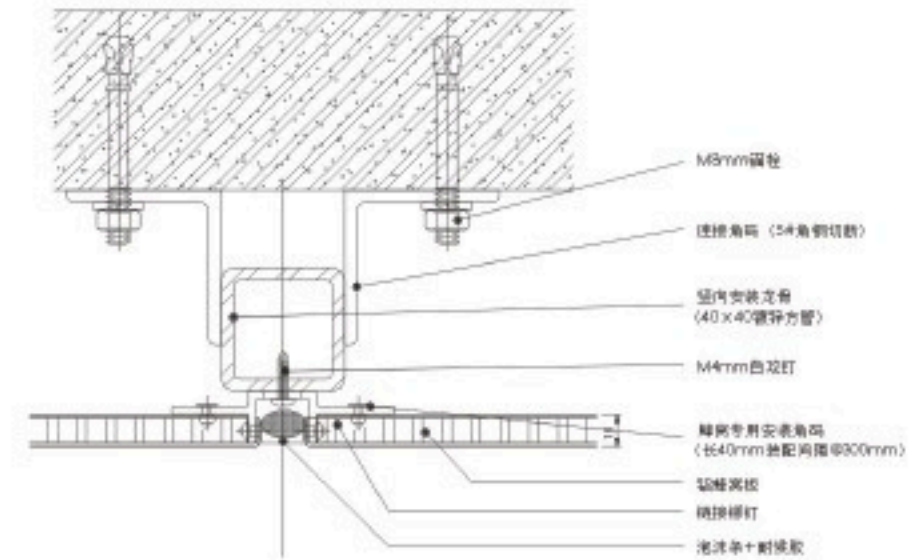
蜂窝板外墙面安装方式

Installation for external wall

蜂窝板节点



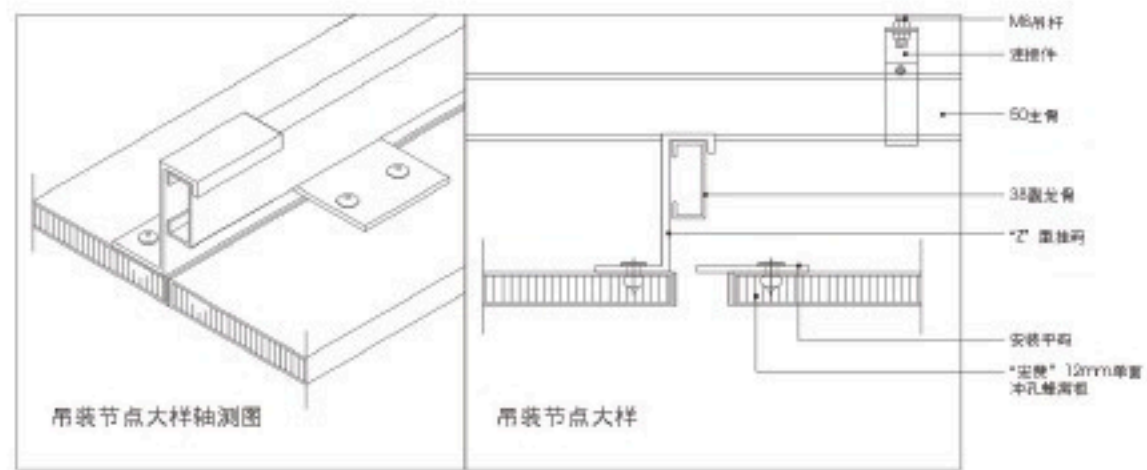
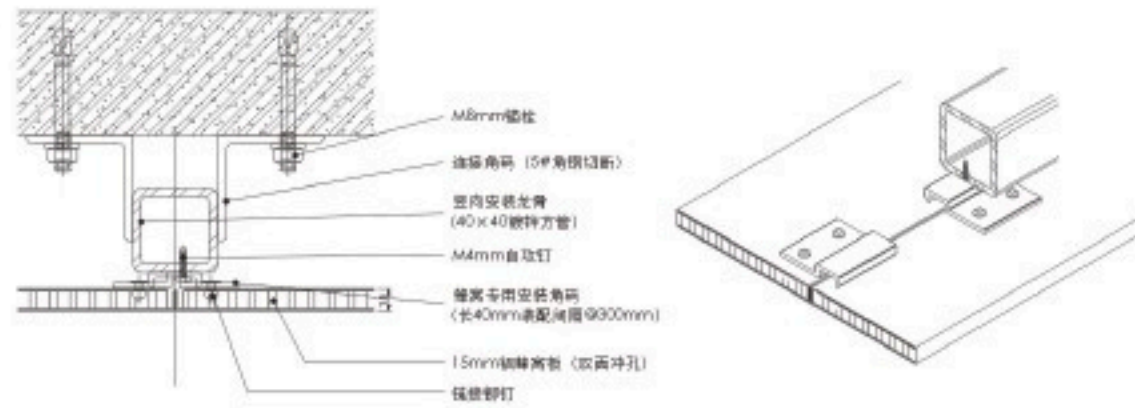
蜂窝板外墙面无缝安装方式



蜂窝板室内墙面安装方式

Installation for internal wall

蜂窝板内墙面无缝安装方式



芳纶蜂窝芯

Aramid Honeycomb Core

芳纶蜂窝芯是由芳纶纸加工经过浸渍阻燃酚醛树脂制成，具有质量轻、强度高、优良的耐环境性和耐腐蚀性、独特的回弹性。可吸收振动能量，良好的电磁波透过性和高稳定性。广泛应用于航空航天，轨道交通，轮船游艇，方舱，体育用品等。

Aramid honeycomb core is made of aramid fiber paper (DUPONT) coated with heat resistant phenolic resin. It offers light weight, high ratio of stiffness, excellent resilience, absorption capacity, high stability, environment adaptability and electric insulating. It is widely used for aerospace, rail transit, ships and yacht, shelter, sports products etc.

| 规格表 Specification | | | | | |
|-------------------|-----------|------------------------------|----------------------------|-----------------------------|------------------------------|
| 孔径 (mm) | | 密度(Kg/ m3) | 抗压强度(N/m) | 横向 (N/mm ²) | 纵向 (N/mm ²) |
| Cell size(mm) | | Density(Kg/ m ³) | Compression Strength (N/m) | L-Shear(N/mm ²) | W-Shear (N/mm ²) |
| 3.2 | 1/8 inch | 48 | 1.9 | 1.16 | 0.62 |
| 3.2 | | 64 | 3.1 | 1.48 | 0.82 |
| 3.2 | | 80 | 4.7 | 1.95 | 1.05 |
| 3.2 | | 96 | 6.6 | 2.45 | 1.42 |
| 3.2 | | 128 | 11.3 | 2.95 | 1.78 |
| 3.2 | | 144 | 13.2 | 3.05 | 1.9 |
| 4.8 | 3/16 inch | 32 | 0.9 | 0.58 | 0.36 |
| 4.8 | | 48 | 2.6 | 0.98 | 0.56 |
| 4.8 | | 64 | 3.4 | 1.7 | 0.92 |
| 4.8 | | 80 | 6 | 1.95 | 1.1 |
| 4.8 | | 96 | 7.3 | 2.26 | 1.32 |
| 4.8 | | 123 | 9.3 | 3.4 | 1.86 |
| 6.4 | 1/4 inch | 24 | 0.54 | 0.34 | 0.18 |
| 6.4 | | 32 | 0.8 | 0.54 | 0.3 |
| 6.4 | | 48 | 2.05 | 1 | 0.56 |
| 6.4 | | 64 | 3.4 | 1.54 | 0.79 |
| 9.6 | 3/8 inch | 24 | 0.52 | 0.32 | 0.16 |
| 9.6 | | 32 | 0.68 | 0.56 | 0.29 |
| 9.6 | | 48 | 9.6 | 1.15 | 0.66 |



产品优势
Advantages

- 质量轻强度高, 抗疲劳
Super light and high strength, anti-fatigue.
- 突出的耐腐蚀性和阻燃性
Outstanding corrosion resistance and flame resistance.
- 优良的耐环境和绝缘性
Excellent environment adaptability and electric insulating.
- 良好的介电性能和稳定性
Good dielectric properties and high stability.

| 机械性能表 Mechanical Properties | | | | | |
|--|---|-----------------------|----------------------|-----------------------|----------------------|
| 蜂窝规格 Honeycomb model NH mm kg/m ³ | 平面压缩芯子强度 Compression Bare Strength Mpa | 平面剪切 Plate Shear | | | |
| | | L Direction 方向 | | W Direction 方向 | |
| | | 强度 Strength Mpa | 模量 Modulus MPa | 强度 Strength Mpa | 模量 Modulus Mpa |
| BH-NH-3.2-32 | 0.64 | 0.68 | 36 | 0.41 | 20 |
| BH-NH-3.2-48 | 1.93 | 1.1 | 54 | 0.7 | 28 |
| BH-NH-3.2-72 | 4.26 | 2.18 | 78 | 1.26 | 51 |
| BH-NH-3.2-144 | 14.96 | 3.35 | 133 | 2.04 | 102 |
| BH-NH-4.8-32 | 0.7 | 0.62 | 24 | 0.37 | 16 |
| BH-NH-4.8-48 | 1.95 | 1.12 | 58 | 0.65 | 26 |
| BH-NH-6.4-48 | 2.35 | 1.18 | 50 | 0.69 | 28 |
| BH-NH-9.5-40 | 1.75 | 0.91 | 40 | 0.53 | 24 |
| BH-NH(OX)-4.8-48 | 1.85 | 0.96 | 48 | 0.92 | 45 |

应用

Application

航空航天
Aerospace



轨道交通
Railway Transit

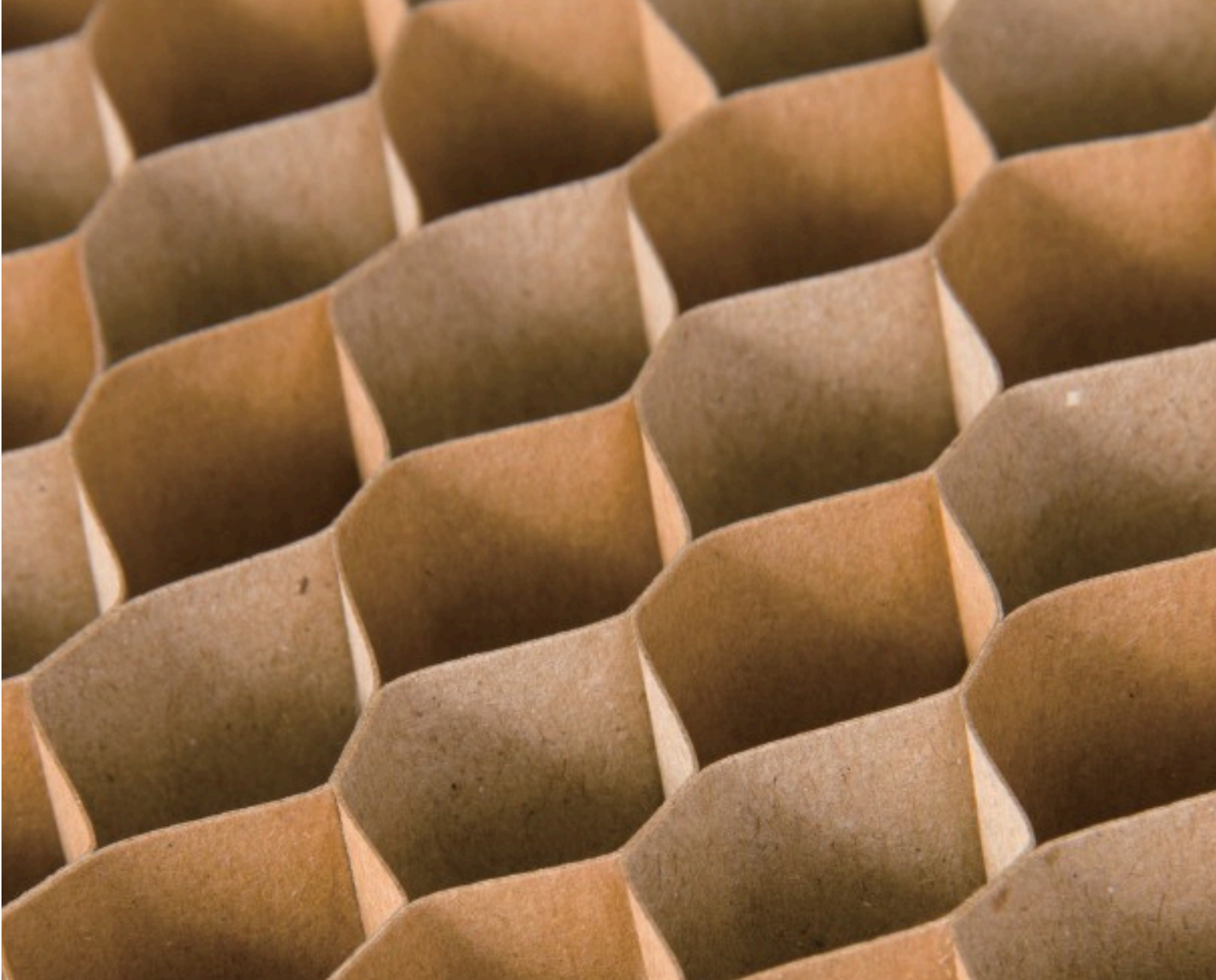


雷达天线罩
Radome



舰船/游艇
Ship/Yacht





规格

Specification

材质: 普通纸/阻燃纸
Material: normal paper/ fire resistant paper

纸的克重: 120g/140g/170g
Paper gram: 120g, 140g, 170g,

孔径: 10mm/15mm/20mm/25mm
Cell size: 10mm, 15mm, 20mm, 25mm

尺寸: 长宽高均可定制
Size: Length,width and height could be customized



产品性能

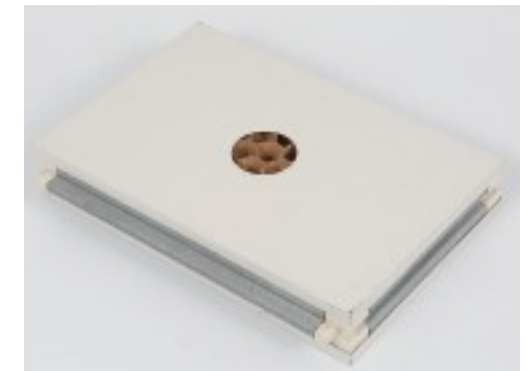
Characteristics

重量轻、强度高
Light specific weight, high strength

隔音、隔热
Sound insulation, thermal insulation

缓冲性能佳
Good shock-resisting performance

绿色环保
Environmental protection



紙蜂窩芯

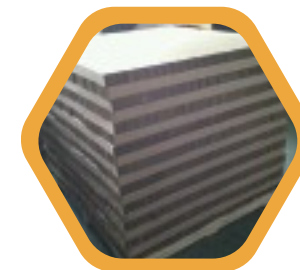
Paper Honeycomb Core

紙蜂窩芯由高強瓦楞紙經過上膠、疊合、壓合、裁切等一系列工藝，拉伸後呈正六邊形的蜂窩，是應用於結構性及保護性領域的一種質量輕、抗壓強度高的新型材料。具有最穩定的力學性能和使用最少材料的特性，廣泛用於家具門、辦公室隔斷、壁櫥等。

Paper honeycomb core is made of high strength corrugated paper which processed through glue printing, stacking, pressing, cutting, then stretched to regular hexagon honeycomb. It is a new resources saving material which has following features, light weight, high compressive strength and stable mechanical property. It is widely used for furniture doors, office partition, cabinets etc.



出货形式
Shipping form



条型
Strip form



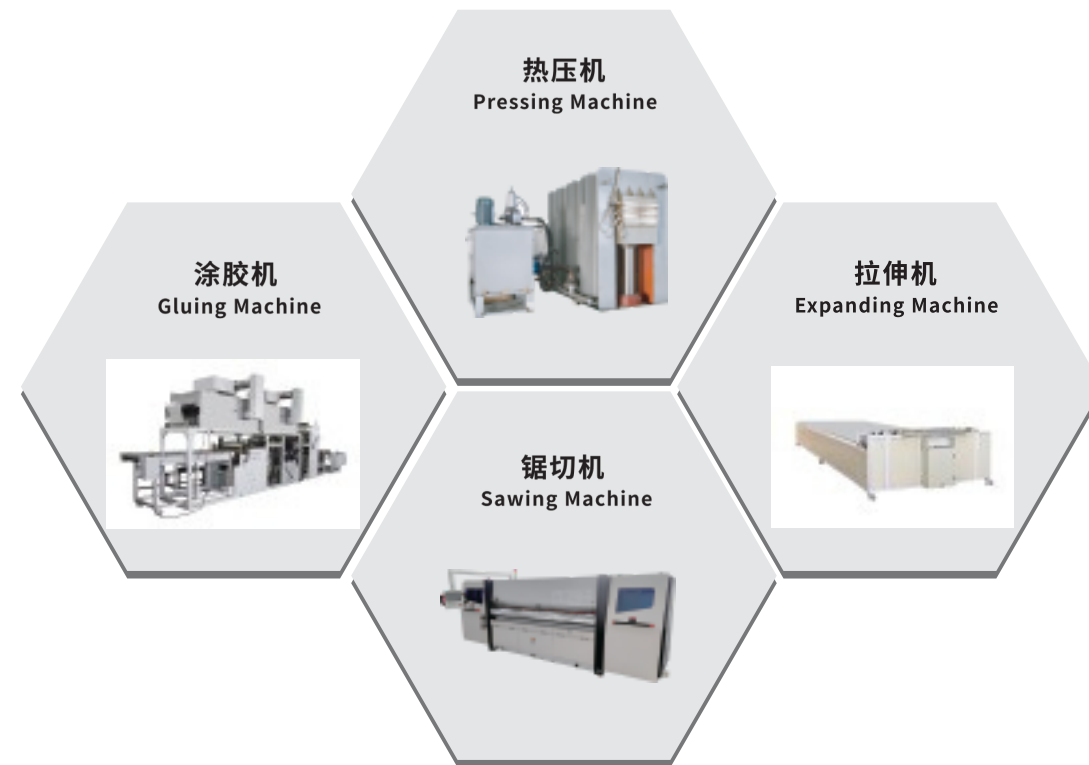
粘连型
Continuous form



拉伸型
Expanded form

蜂窝芯设备

Honeycomb Core Equipment



蜂窝板设备

Honeycomb Panel Equipment



检测中心和证书

Testing Center / Certificate

