

# Marine Case Study

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Ulike Corporation

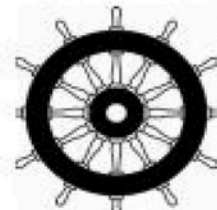




Established in 1987, ULIKE Corporation is an ISO 9001-2015 and IMO MED certified company. Over the years, ULIKE has emerged as a leading manufacturer of aluminum honeycomb core, steel honeycomb core, EMI/EMC shielding ventilation panels, aluminum honeycomb panels, and lightweight modular honeycomb wall panels in China. Our honeycomb materials are extensively used across the construction, rail, marine, aviation, medical, and military industries.

With 10 production lines, ULIKE produces a wide range of aluminum honeycomb cell sizes from 1/25" to 1" with a monthly capacity of 100 km. Additionally, we operate 2 automatic aluminum honeycomb panel production lines with a monthly capacity of 50 km.

ULIKE Honeycomb boasts an engineering center and laboratory that significantly enhance our quality control systems, product development, and cost-reduction strategies. Our commitment to research and development enables us to continually improve and provide the best honeycomb products and application solutions for various industries.



## Technology and testing facilities

### Testing facilities in house tests

- |                      |                           |                             |
|----------------------|---------------------------|-----------------------------|
| Salt spray test      | Node strength             | Flexural strength           |
| Compressive strength | Flatwise tensile strength | Climbing drum peel strength |
| Shear strength       | Freeze/thaw resistance    |                             |

### Technology capabilities

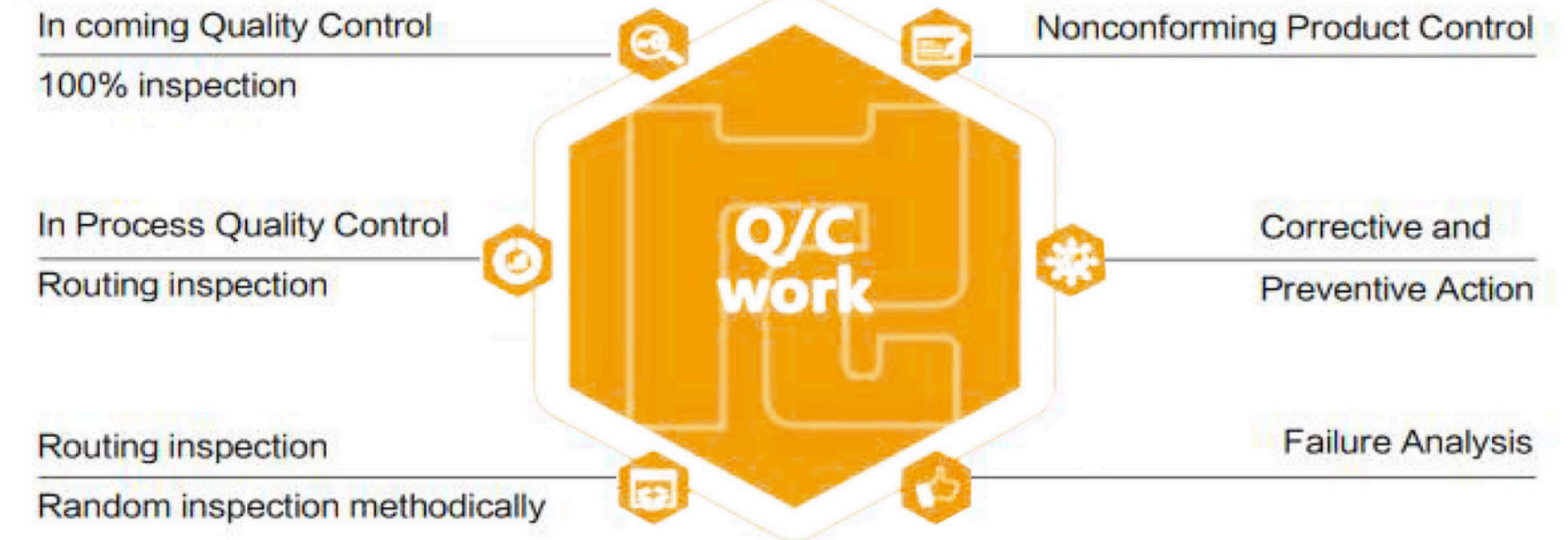
- New product development
- Product structure optimization
- Production process improvement



## Quality control

We have an effective quality management system in place that assures consistent on-time delivery of conforming products.

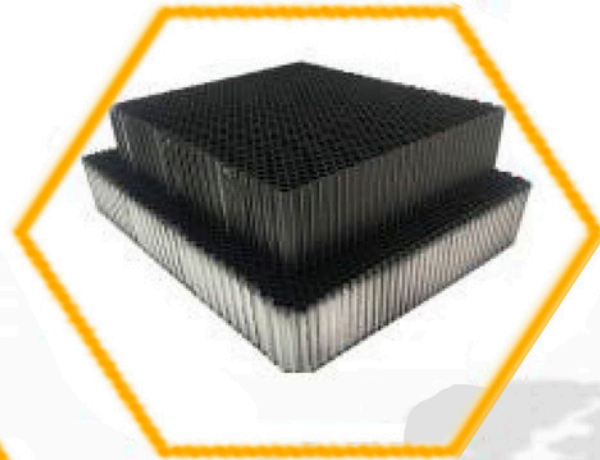
### Q/C work



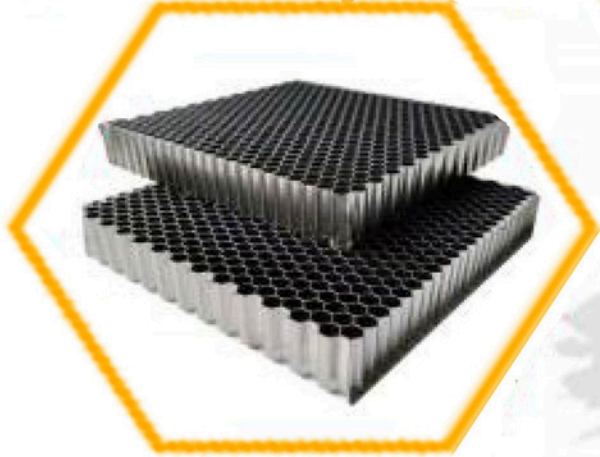
IN PRODUCTION QUALITY CONTROL BY QC DEPT. AND PRODUCTION DEPT.



Aluminum honeycomb



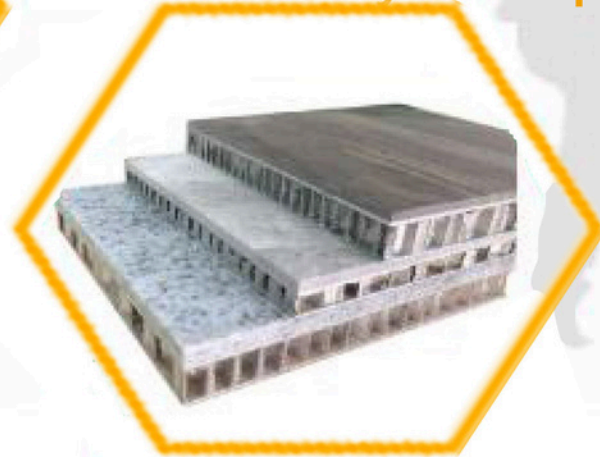
Steel honeycomb



Honeycomb panel



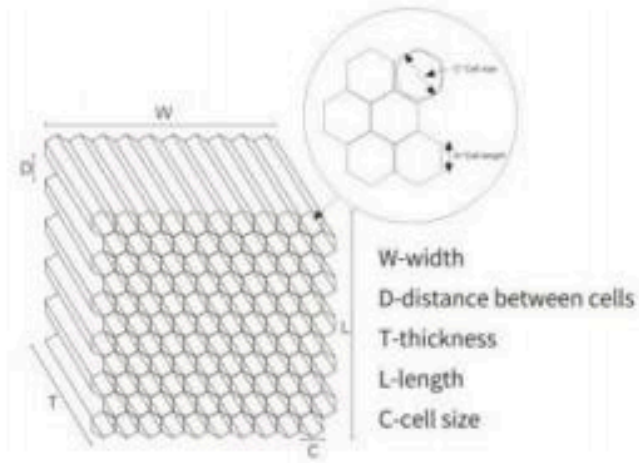
Stone honeycomb panel



Size of production runs	Aluminum Honeycomb	Steel Honeycomb	Honeycomb panels	Stone Honeycomb Panel
Full capacity	120 blocks	500 m <sup>2</sup> /month	2000+500 m <sup>2</sup> /day	3000 m <sup>2</sup> /month
	15mm--400 m <sup>2</sup> /day			
Normal	60 blocks	200 m <sup>2</sup> /month	1500 m <sup>2</sup> /day	2000 m <sup>2</sup> /month
	15mm--400 m <sup>2</sup> /day			
Production line	2 automatic production lines of aluminum honeycomb panel			
	10 production lines of aluminum honeycomb			



Aluminum honeycomb core is adhesively—bonded of the aluminum foil, which have sharp and clear surface. We produce micro-aperture honeycomb core and regular size core.



## Features

- Extremely flatness
- Excellent strength to weight ratio
- Sound and heat insulation
- Lightweight and high strength
- Green material

## Application areas



## Supply Conditions



Aluminum alloy: 3003H18, 5052H18

	Micro-aperture honeycomb						
Cellsize available							
	1/30"	1/25"	1/15"	1/10"	1/8"	1/6"	1/5"
	0.87 mm	1.04 mm	1.73 mm	2.6 mm	3.17 mm	3.47 mm	5.2 mm
Alu foil thk(mm)	0.025 0.03	0.025,0.03	0.04	0.04, 0.05, 0.06		0.04,0.05,0.06 0.07,0.08,0.1	
	Regular honeycomb						
Cellsize available							
	1/4"	1/3"	3/8"	1/2"	3/4"	4/5"	1"
	6.35 mm	8.47 mm	9.53 mm	12.7 mm	19.0 mm	20.32 mm	25.9 mm
Alu foil thk(mm)	0.04,0.05,0.06,0.07,0.08,0.1						

## Accreditations

- Smoke & toxicity tests: DIN 5510-2:2009 & DIN 54837:2007
- China Aviation Industry Standard HB5443-90



## Aluminum Honeycomb Panel

Aluminum honeycomb panels are sandwich-structured composites comprising of aluminum honeycomb core and two skin sheets. Aluminum honeycomb panel is one of the metallicall material available,widely used in the decoration of modern architecture,train,automobile and shipbuilding industries.

### Features

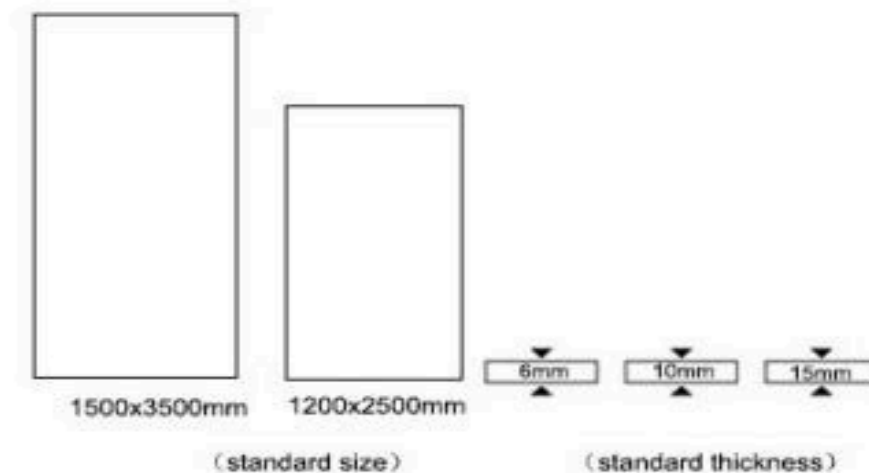
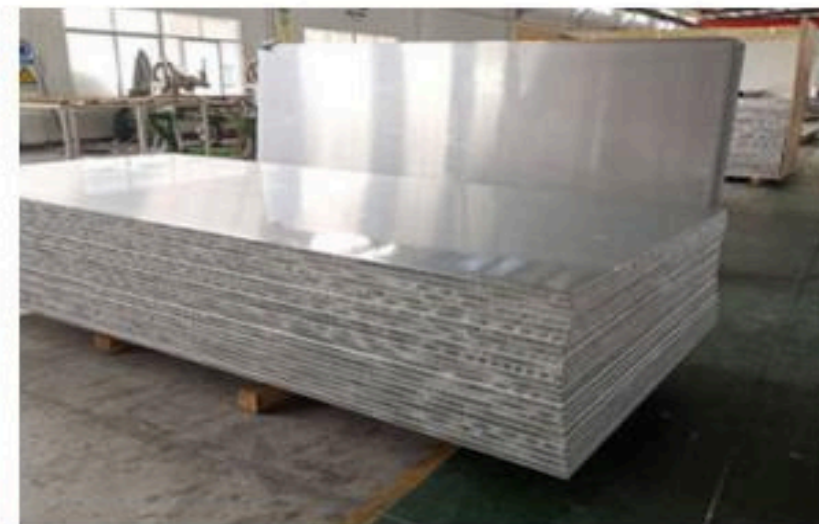
- Super flatness
- Non-combustibility
- Design flexibility
- More color choices,elegant decorative effect
- High resistance to moisture and corrosion

### Applications

- Exterior and interior cladding
- Marine
- Furniture
- Partition

### Accreditations

- ASTM E 84
- Non-combustibility test EN ISO1182
- IMO MED Module B+D,certified by LR



Skin sheet	aluminum sheet AA3000,AA5000	
Finishes	PVDF coating/paint,wood pattern,stone pattern,anodized,mirror	
Core	aluminum honeycomb AA3003H18, AA5052H18	
Adhesive	Standard glue/High temperature glue	
Specification	Standard size	1200x2500mm, 1500x3500mm
	Standard thickness	6mm, 10mm, 15mm, 20mm 25mm
	Max size	1600x 12000mm, 2500x6000mm
	Min/Max thickness	3mm/ 500mm

## HPL honeycomb panel

HPL - ALU honeycomb panel or high pressure laminate honeycomb panel is a sandwich panel bonded with high pressure laminate face material and with an aluminum honeycomb core.

### Features

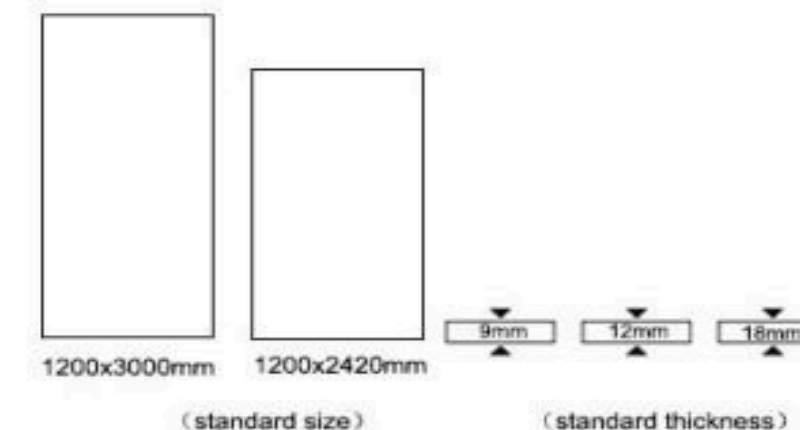
- Super flatness
- Sound insulation
- Light weight and high strength

### Applications

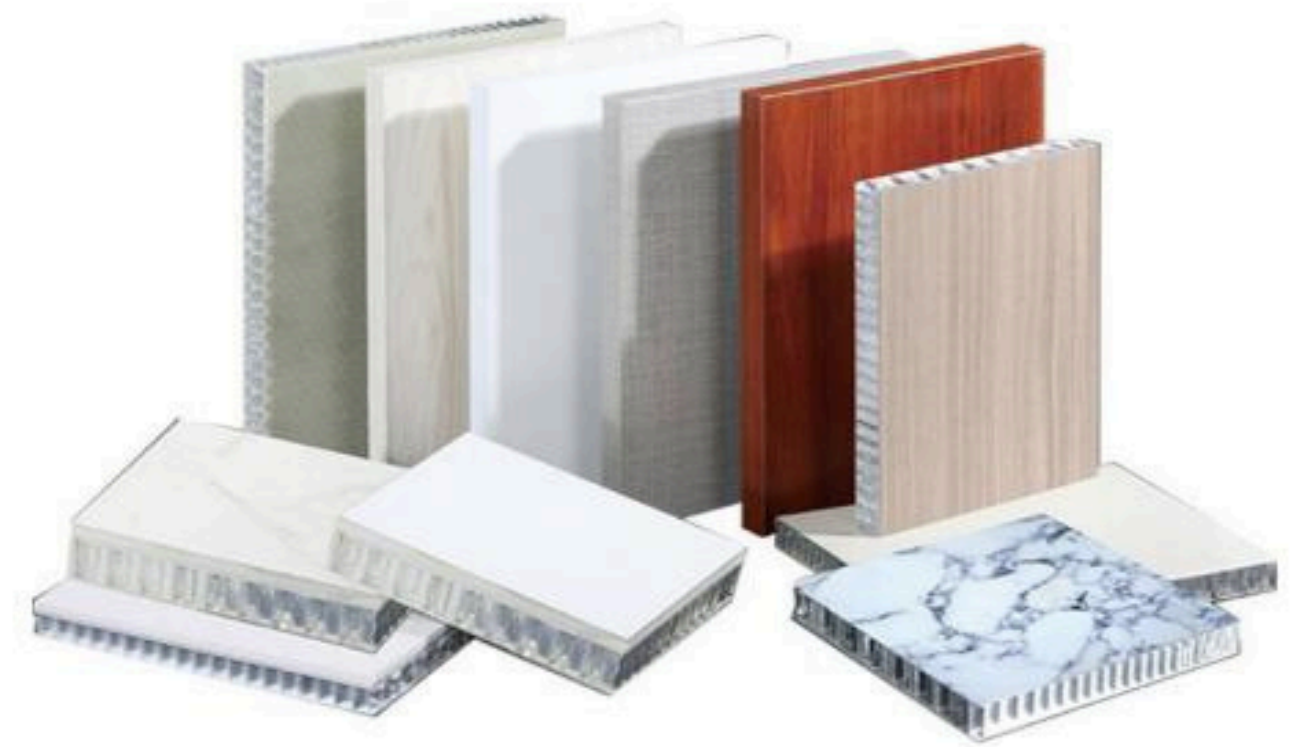
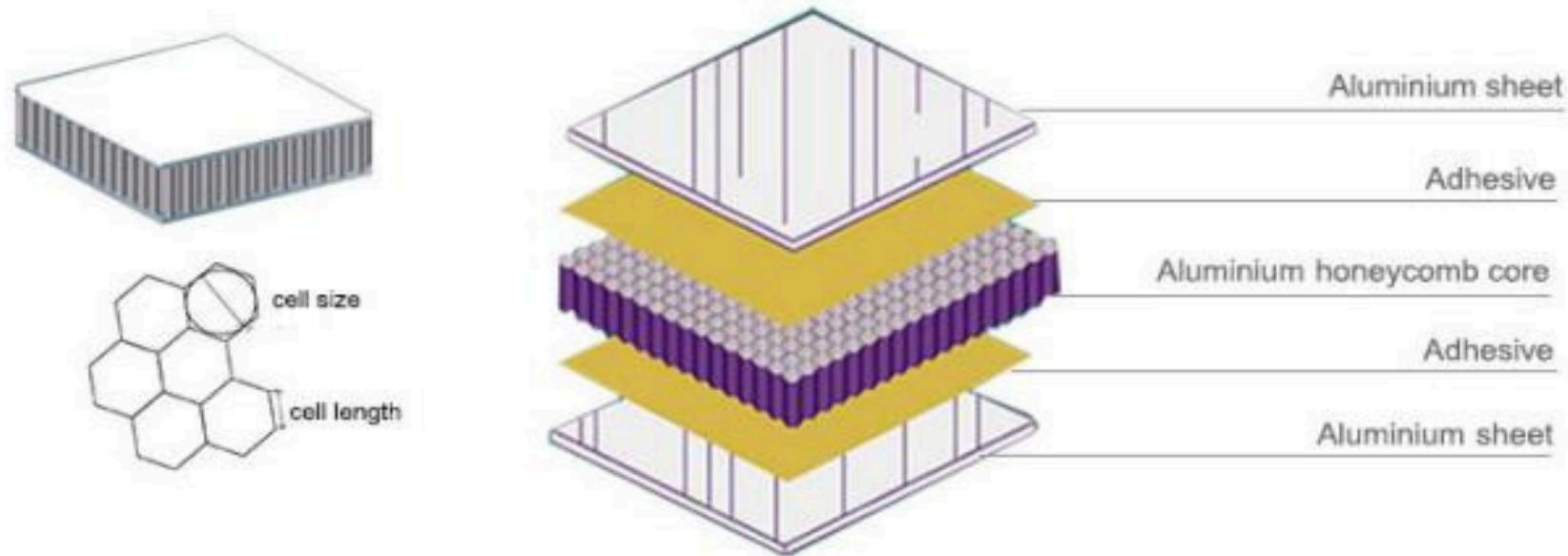
- Office buildings and various commercial buildings
- Hospitals and clinics
- Schools and educational institutions
- Transportation centers
- Industrial buildings
- Culture, sports and various leisure places
- Residential buildings
- Hotels

### Accreditations

- ASTM E 84
- Non-combustibility test EN ISO1182
- IMO MED Module B+D, certified by LR



Skin sheet	HPL-ALU	
Finishes	wood grain, stone grain, coating, solid	
Core	aluminum honeycomb AA3003H18, AA5052H18	
Adhesive	Standard glue/High temperature glue	
Specification	Standard size	1220x2440mm, 1220x3000mm
	Standard thickness	6mm, 10mm, 15mm, 20mm 25mm
	Max size	1500x3000mm
	Min/Max thickness	5mm/500mm



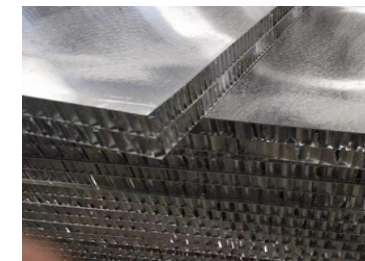
Faced sheets	aluminum, fiberglass, carbon fiber, zinc, HPL, galvanized sheet, stainless steel
Adhesive	Adhesive film, Epoxy, Polyurethane
Honeycomb core	aluminum honeycomb AA3003H18, AA5052H18

standard finishes	PVDF coating/painting, wood pattern, stone pattern, powder coating, anodized, mirror finish, printing
working temperature	1) -40°C to 117°C for general application 2) -40°C to 200°C for high temperature working conditions
standard cellsize	1/4" , 3/8" , 1/2"



"IDA Magic City" Luxury Cruise Ship

## Application



Aluminum Honeycomb Mill Panel



Aluminum Honeycomb HPL Panel



Aluminum Honeycomb Painting Panel

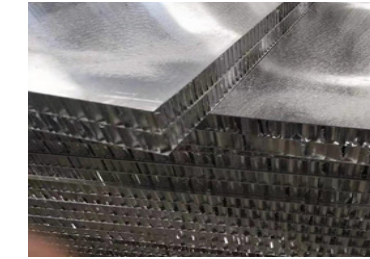


Aluminum Honeycomb HPL Curve Panel

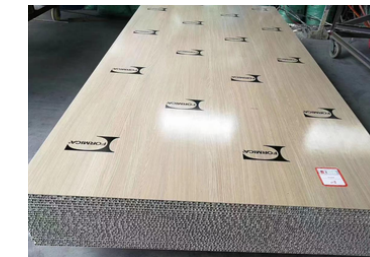
## Application



Finnlines



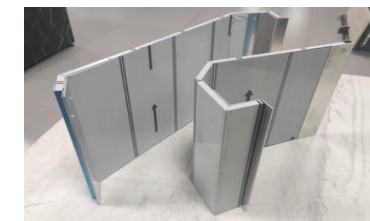
Aluminum Honeycomb Mill Panel



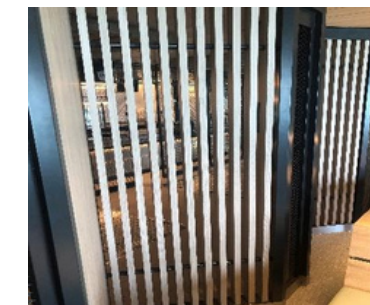
Aluminum Honeycomb HPL Panel



Aluminum Honeycomb HPL Curve Panel



Aluminum Honeycomb Ceiling Beam



Aluminum Partition



Aluminum Honeycomb Window Box

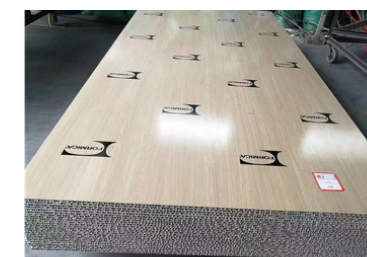


EXPEDITIONS Series

## Application



Aluminum Honeycomb Mill Panel



Aluminum Honeycomb Mill Panel



Aluminum Honeycomb HPL Curve Panel



Aluminum Honeycomb Floor strip

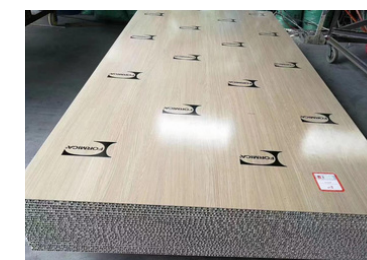
## Application



Horizon Passenger Series



Aluminum Honeycomb Mill Panel



Aluminum Honeycomb HPL Panel



Aluminum Honeycomb PVC Panel



Aluminum Honeycomb Door

# Marine Projects

NO	PROJECT NAME	DATE
1	CSIC 196-2 Antarctic Exploration Cruise Ship for COSCO Shipping Heavy Industry	Apr-23
2	CSIC 196-4 Antarctic Exploration Cruise Ship for COSCO Shipping Heavy Industry	Apr-23
3	CSIC 196-5 Antarctic Exploration Cruise Ship for COSCO Shipping Heavy Industry	Apr-23
4	CSIC 196-6 Antarctic Exploration Cruise Ship for COSCO Shipping Heavy Industry	Apr-23
5	CIMC Raffles Finnline W0276 Luxury Ro-Pax Vessel for COSCO Shipping RORO Ferry	July-23
6	CIMC Raffles Finnline W0277Luxury Ro-Pax Vessel for COSCO Shipping RORO Ferry	Nov-23
7	CIMC Raffles STENA High-end Passenger/Ro-Ro Ship for COSCO Shipping RORO Ferry	2022
8	Shanghai Waigaoqiao "IDA Magic City" Luxury Cruise Ship	Nov-23
9	GSI MOBY RoPax Vessels (2 ships) for Guangzhou Shipyard International	2022-2023
10	CMHI RoPax Vessels (2 ships) for China Merchants Group	2021-2022
11	GSI Algeria Roll-on/Roll-off Vessel for Guangzhou Shipyard International	2019

## **Technical Catalog Description**

Product Name: Aluminum Honeycomb Panel – Marine Grade

Recommended Applications: Shipbuilding / Yacht Interior / Marine Furnishing

### **Structural Features**

Made with a hexagonal aluminum honeycomb core for lightweight yet high strength.

Offers excellent compressive and shear strength for structural stability.

Available with multiple surface skins: Aluminum sheets, FRP, HPL, Stone Veneer, or Custom Laminates.

Customizable in thickness and size (typical width: 1220mm; length: up to 2440mm or more).

### **Fire Resistance & Corrosion Protection**

Non-combustible material, capable of meeting IMO FTP Code and other marine fire safety standards.

Aluminum core is highly resistant to saltwater corrosion, making it ideal for marine interiors, floors, partitions, and enclosures.

### **Processing & Installation**

Easy to machine: can be cut, drilled, edge-banded, or CNC machined.

Compatible with PUR or structural adhesives for strong bonding.

Can be customized with embedded hard spots (solid inserts) at stress points like hinges or locks for enhanced mechanical resistance.