



Product Catalogue

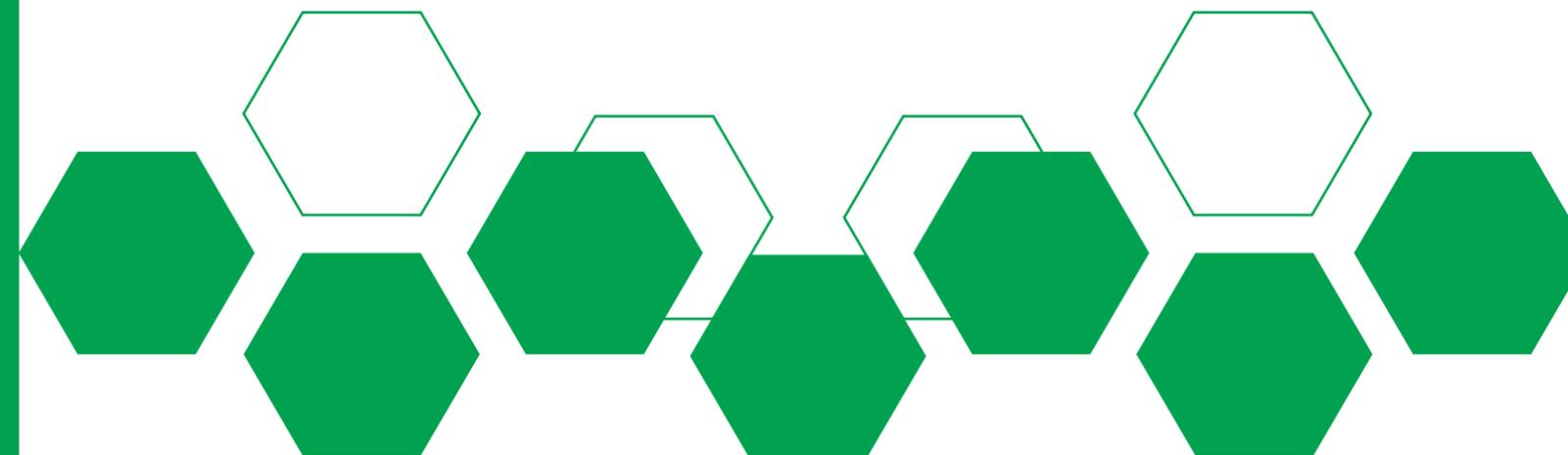
HUARUI HONEYCOMB TECHNOLOGY CO.,LTD

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COMPANY PROFILE



Established in 2009, Huarui Honeycomb is an ISO9001:2015 and IMO MED certified company. Through years' efforts, Huarui has become a leading manufacturer of aluminum honeycomb core, steel honeycomb core, EMI/EMC shielding ventilation panel, aluminum honeycomb panels and lightweight modular honeycomb wall panels in China. Our honeycomb materials are widely used in construction, rail, marine, aviation, medical and military industries.

We have 10 production lines of aluminum honeycomb producing a wide range of cell size from 1/25" to 1" with monthly capacity of 100 km², 2 automatic aluminum honeycomb panel production lines with monthly capacity of 50 km².

Huarui Honeycomb has an engineering center and laboratory that greatly help us to enhance our quality control system, develop new product, improve product structure and search possible methods to reduce the cost. We are constantly improving our own research and development ability, and keep providing best honeycomb products and application solutions for the various industries.



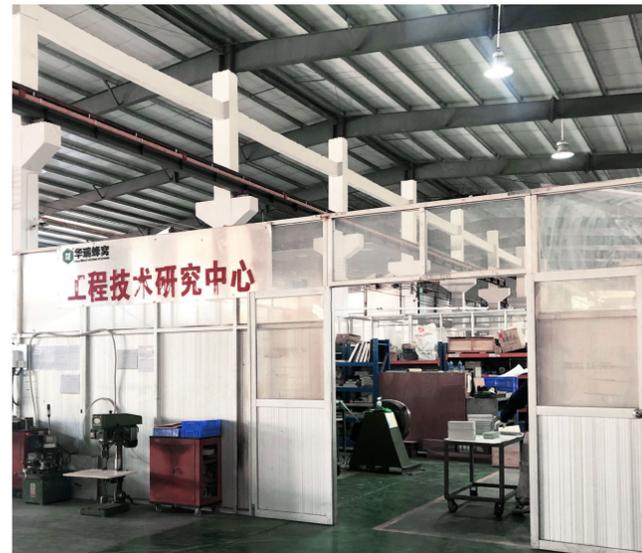
TECHNOLOGY AND TESTING FACILITIES

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

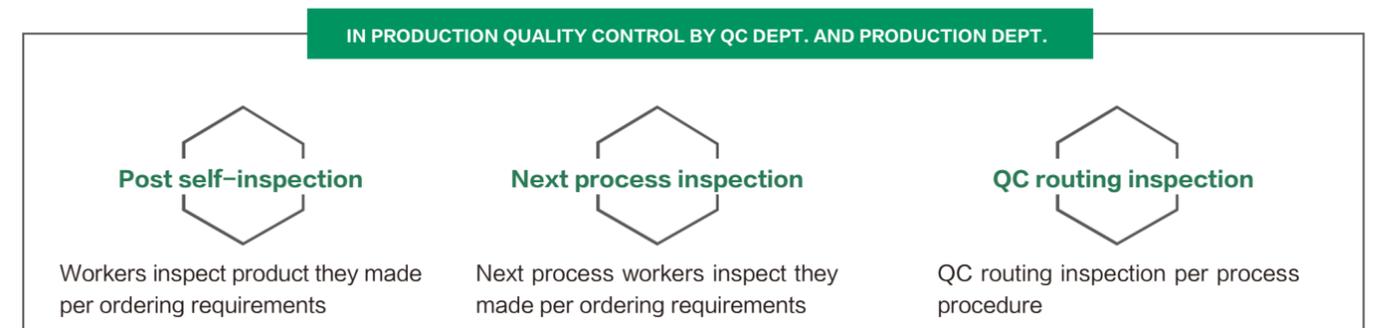
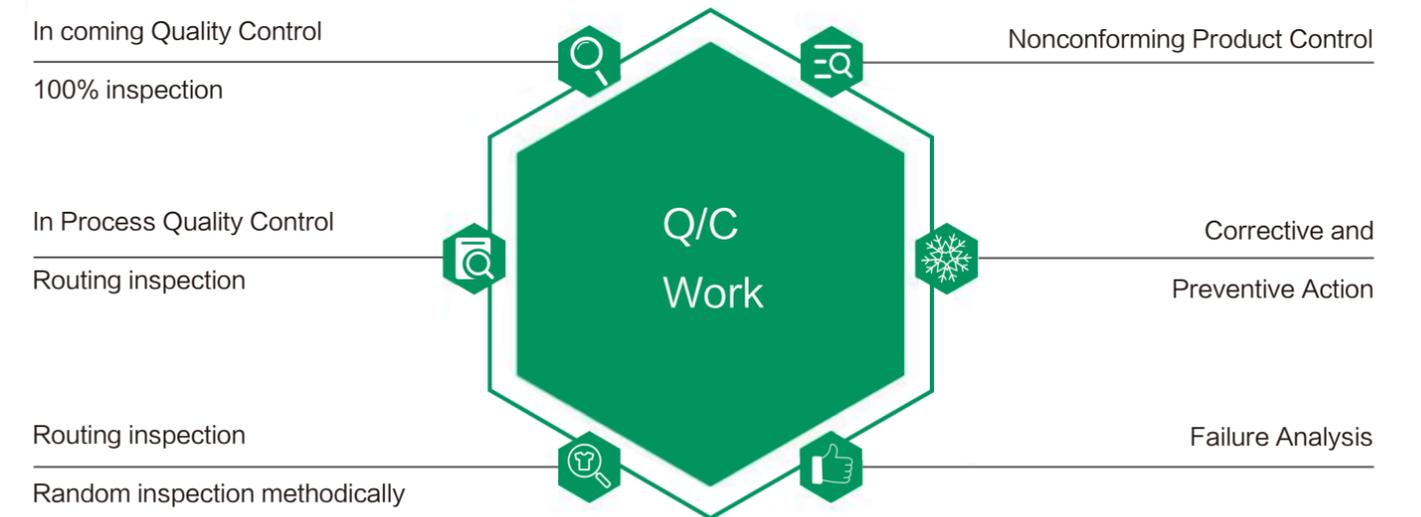
- New product development
- Product structure optimization
- Production process improvement



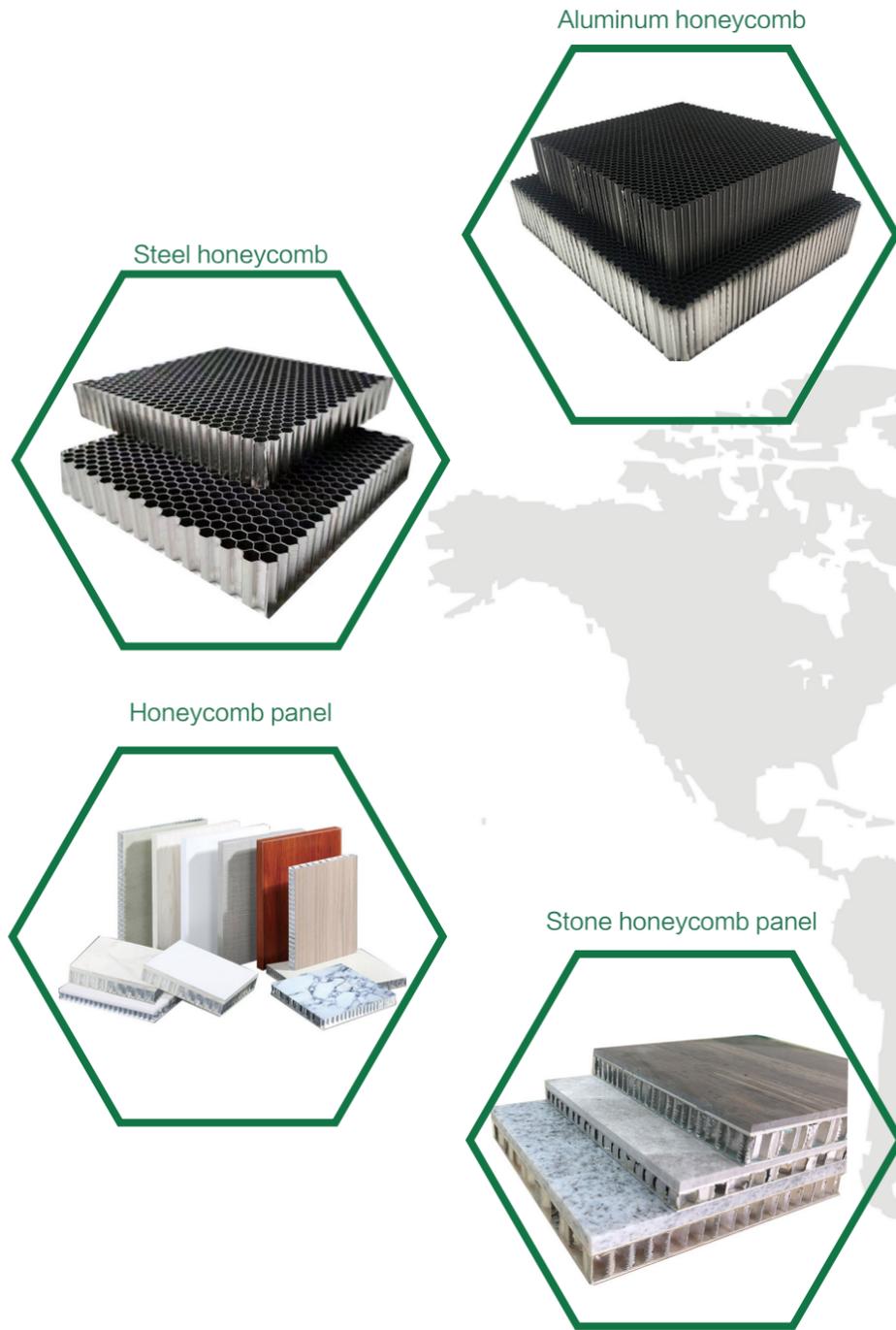
QUALITY CONTROL

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

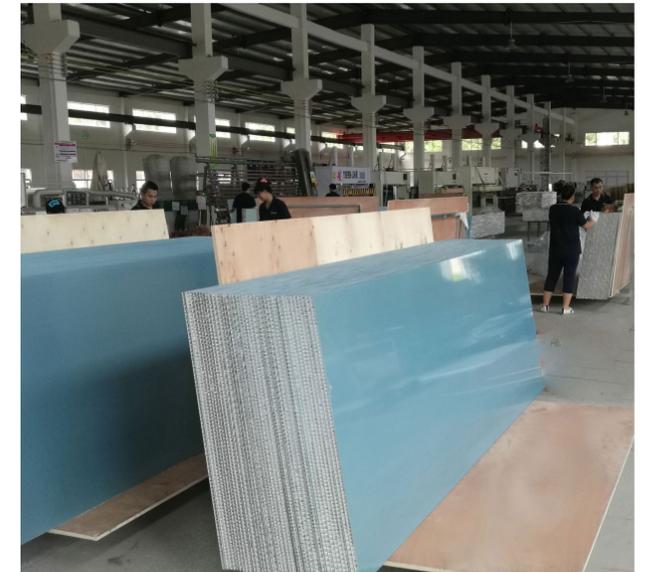
Q/C work



PRODUCTION LINE



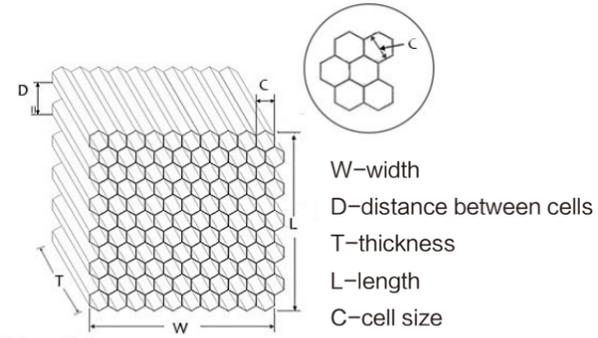
Size of production runs	Aluminum Honeycomb	Steel Honeycomb	Honeycomb panels	Stone Honeycomb Panel
Full capacity	120 blocks	500 m ² /month	2000+500 m ² /day	3000 m ² /month
	15mm--400 m ² /day			
Normal	60 blocks	200 m ² /month	1500 m ² /day	2000 m ² /month
	15mm--400 m ² /day			
Production line	2 automatic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



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

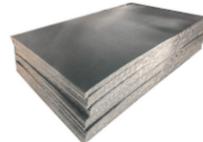
Application areas



Supply conditions



micro—aperture



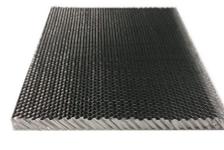
expanded



cut slice



full block



slant

Specification

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

HB China Aviation Industry Standard HB5443—90

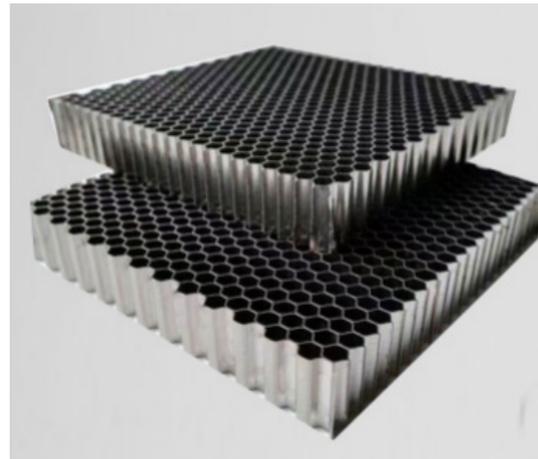
STEEL HONEYCOMB



Steel honeycomb is spot welded, which produce one of important emerging material with excellent performance, unique structure and resources saving. Due to its special structure and performance, it has been widely used in aerospace, power, petrochemical, transportation, electronics and other industries.

Features

- Extremely flatness
- Corrosion and moisture resistance
- Fungi resistance
- Fire resistance



Specification

Material	Mild steel/Carbon steel、SUS304 stainless steel、SUS316 stainless steel、HX
Cellsize	1, 1.6, 3.2, 6.9, 5.2, 10, 20
Core thickness (mm)	5-80
Standard size(mm)	300x300, 600x600, 900x900, 1200x1200, 1200x2400
Standard thickness (mm)	6.35, 12.7, 25.4, 30, 40, 45
Wall thickness (mm)	0.08, 0.13, 0.15

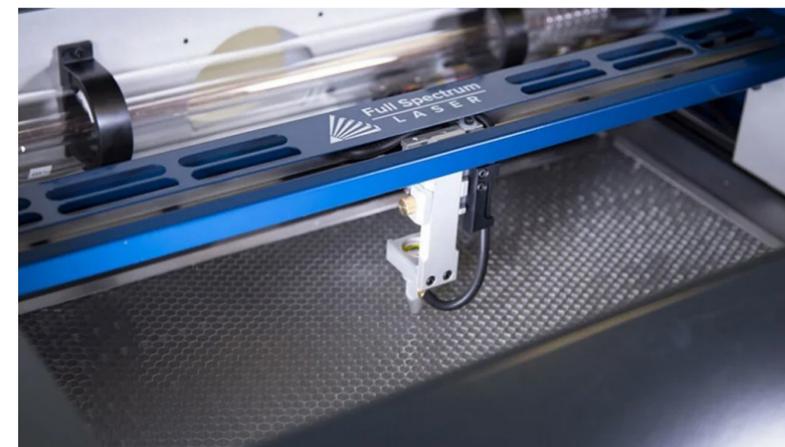
Applications



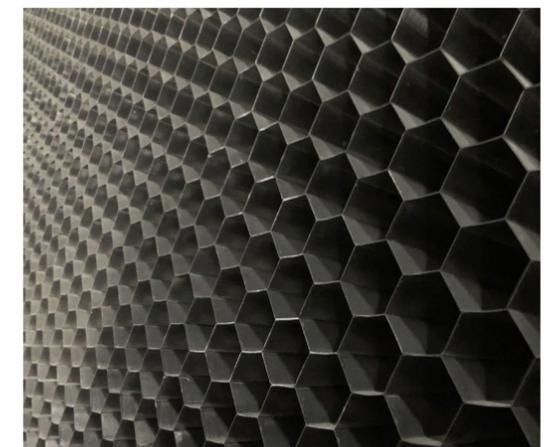
Ventilation



EMI shielding

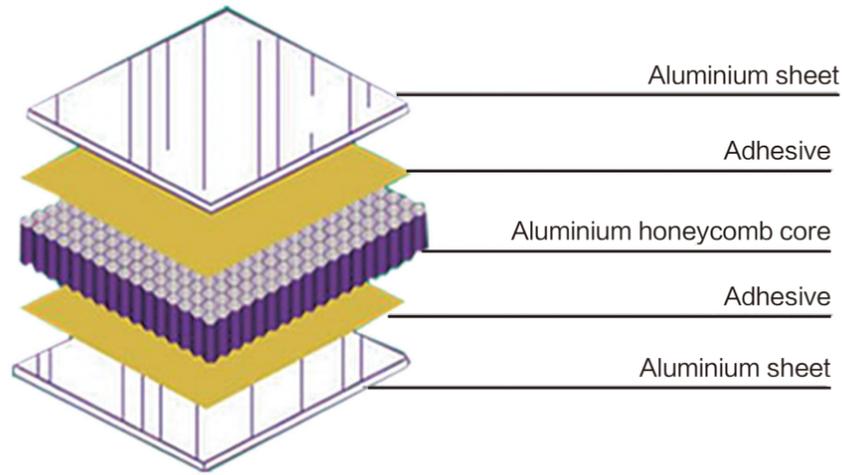
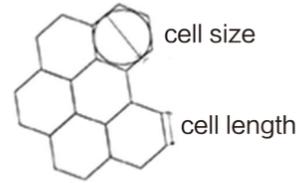
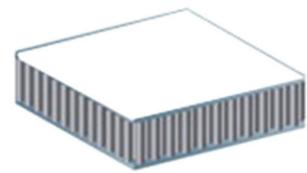


Laser table



Flow straightener

HONEYCOMB PANEL STRUCTURE



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"

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

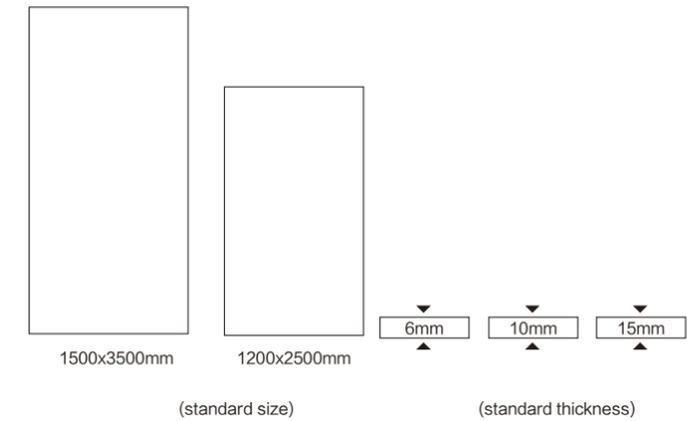
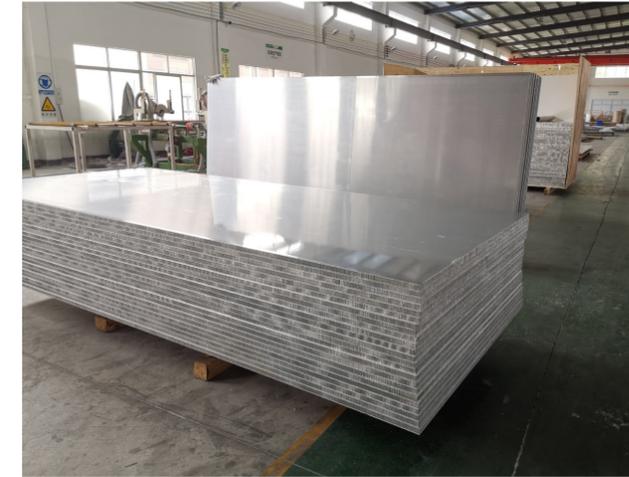
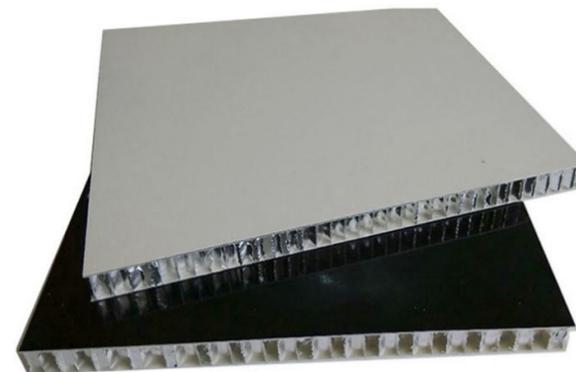
- Super flatness
- Non-combustibility
- Design flexibility
- More color choices,elegant decorative effect
- High resistance to moisture and corrosion

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

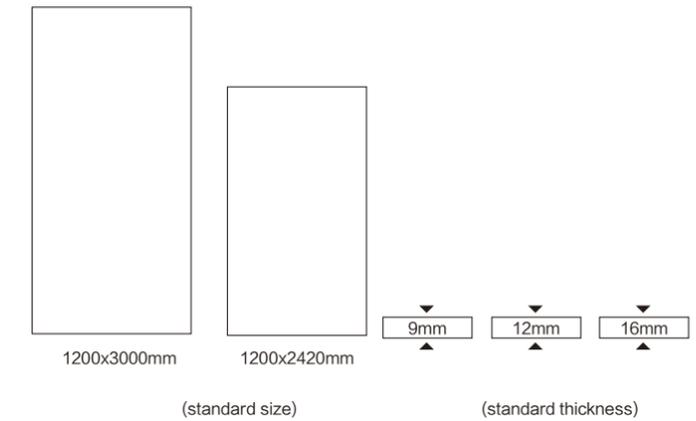
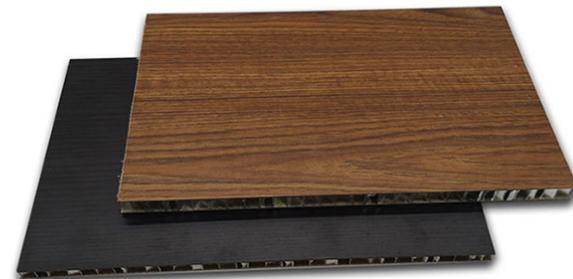
- Super flatness
- Sound insulation
- Light weight and high strength

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

FRP HONEYCOMB PANEL

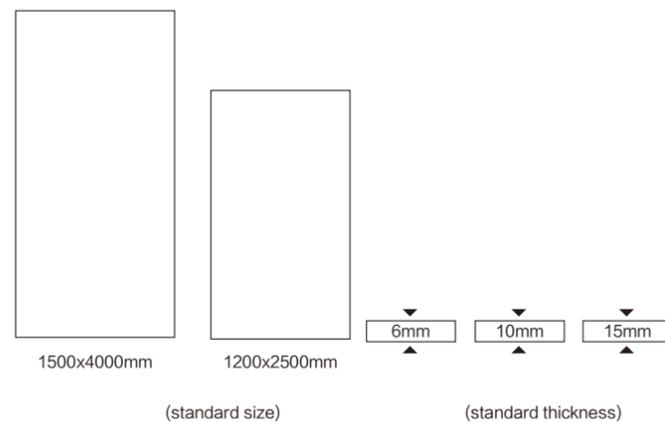
Fiberglass Reinforced Plastic (FRP) honeycomb panel is made of fiberglass skins impregnated with epoxy resin and aluminum honeycomb core between. They have excellent application performance in decorative construction, automotive, marine/yacht industries.

Features

- High mechanical performance
- Abrasion resistant
- Flame retardant
- Good impact strength

Applications

- Substrate panels to composite
- Tri-folding hard truck
- Logistics express vans
- Mobile buildings
- Floor



Specification

Face sheet	0.5–1 mm fiberglass impregnated with epoxy resin	
Face finishes	gel coat, anti-slip, rough	
Honeycomb core	aluminum honeycomb AA3003H18, AA5052H18	
Adhesive	epoxy resin	
Specification	Max size Min size	2300x4200mm 1000x2000mm
	standard thickness	15mm, 20mm, 30mm
Technical Properties	fiberglass type	unsaturation resin base
	modulus of elasticity [N/m ²]	70'000
	tensile strength of cover sheets [N/m ²]	Rm ≥ 220
	0.2% proof stress [N/m ²]	Rp02 ≥ 130
	elongation	A50 ≥ 8%
	linear thermal expansion	1.2 mm/m at 100°C temperature difference
	temperature resistance	-40°C to +90°C

STONE HONEYCOMB PANEL

Stone honeycomb panels are composite panels made up of a thin natural stone veneer reinforced with aluminum honeycomb panel or fiberglass honeycomb panel backing. The stone veneer can be made from almost any stone available on the stone markets.

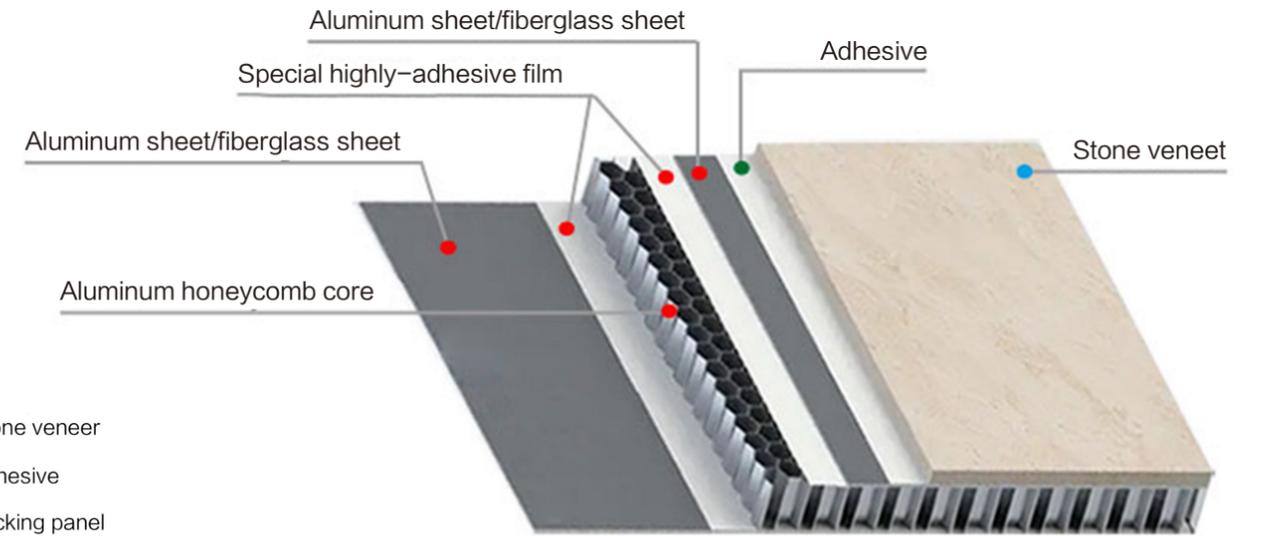
Features

- Lightweight
- Design flexibility
- High thermal insulation
- Incredibly strength and durability
- Resistant to rust and corrosion
- Waterproof and fireproof
- Easy to install for construction
- Insulating and sound proofing properties

Applications

- Building construction,
- Exterior or interior cladding

Accreditation

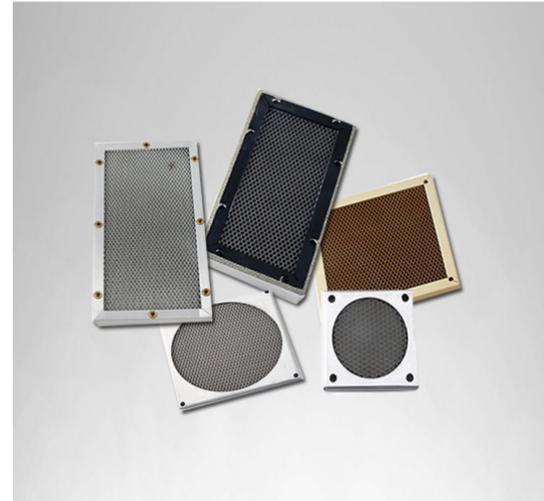


Face sheet	3-8mm natural stone(granite, marble, limestone, travertine, onyx,sandstone)	
Finishes	Polished,honed,flamed,bush-hammered,sandblasted	
Adhesive	Epoxy resin	
Backing panel	Aluminum honeycomb panel / Fiberglass honeycomb panel	
Specification	Max size (marble)	1500x3000mm
	Max size(granite)	1200x3000mm

HONEYCOMB VENTILATION PANEL

Honeycomb vents are used to shield opening for heating and ventilation against undesirable electromagnetic waves.

The honeycomb vent panels are applied in rigid aluminum frames, pre-drilled, or with fasteners made to your specifications with better shielding effectiveness and ventilation characteristics.



Applications

- Civil communication
- Test equipment
- Computer
- Medical equipment

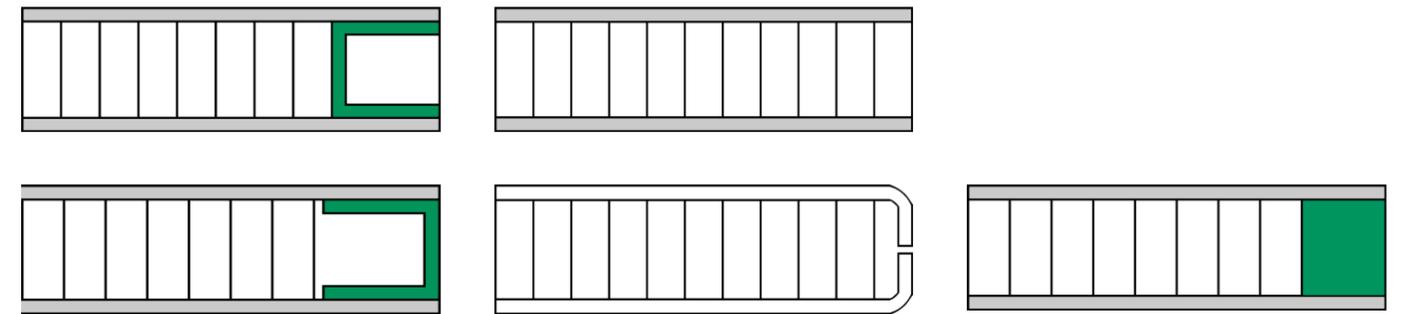
Shielding performance

Aluminum honeycomb shielding performance (cellsize:3.2mm,thickness:12.7mm)		
Frequency	Horizontal Attenuation	Vertical Attenuation
100 MHz	95 dB	90 dB
500 MHz	85 dB	80 dB
1 GHz	80 dB	85 dB
5 GHz	85 dB	85 dB
10 GHz	80 dB	85 dB

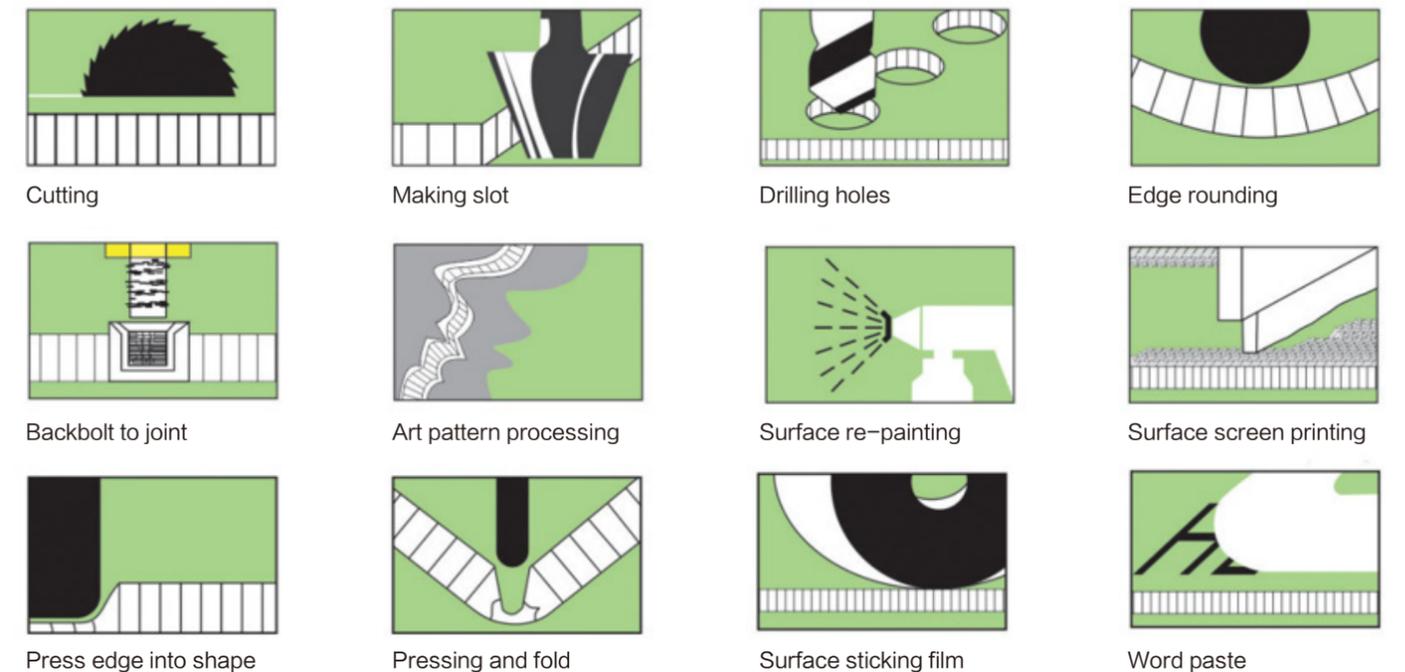
PROCESSING TECHNOLOGY

Edge closure methods

- Provide rigidity to edges
- Support hardware
- Seal edges from outside elements
- Place support for structural members



Processing Methods



APPLICATION

Marine



The shipbuilding industry is constantly seeking products and solutions that achieve a greater degree of efficiency in the manufacturing process and improve business productivity.

Cruise ships, large yachts, patrol boats and even offshore platforms have introduced mill finish/HPL/PVC/stainless steel-aluminum honeycomb panel in their designs.

Standard thickness:

6mm, 10mm, 12mm, 15mm, 20mm, 25mm

HPL honeycomb panel



ELETRIC RAMP



Aluminum honeycomb panel, is suitable for for vehicle, electric ramp.

By using lightweight structural materials, these vehicle can offset the weight of power systems such as batteries and electric motors, improving the efficiency and increasing load capacity.

Standard thickness: 10mm, 12mm

Precoated aluminum honeycomb panel

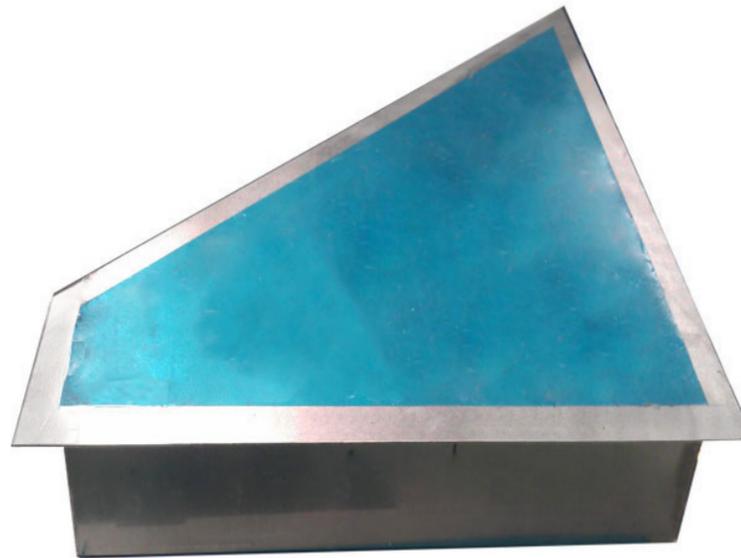


INTERNAL FLOATING ROOF

In petrochemical industry, aluminum honeycomb panels, mainly as internal floating roof, are used in the large oil tanks.

The storage medium is in complete contact with honeycomb internal floating roof, and there is no room for volatilization of oil and gas, which can maximize tank capacity and minimize filling losses, and maintain regulatory compliance for emissions.

Mill finished aluminum honeycomb panel



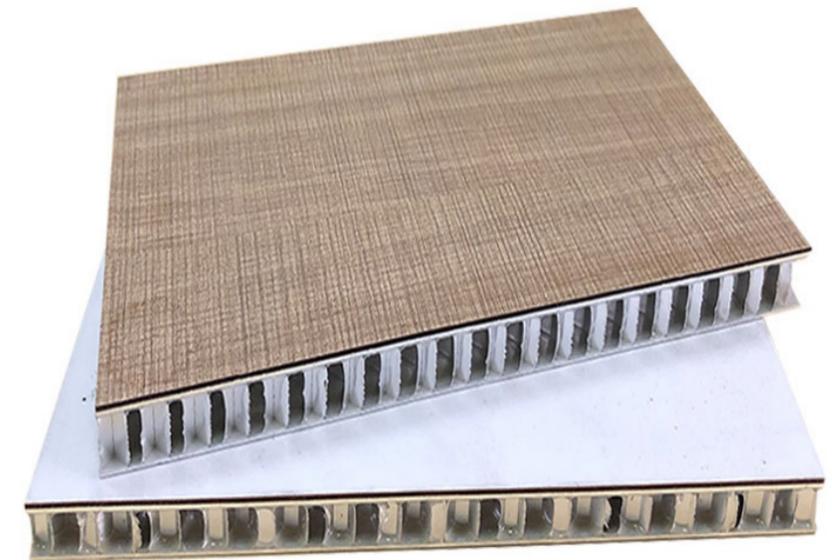
TRAIN



Aluminium honeycomb panels can be created a complex shape and the manufacturing tolerances and appearance quality can meet the requirement.

Now aluminum honeycomb panel is not only applied for partition, door, ceiling wall inside the train, but also for luggage rack.

HPL /aluminium honeycomb panel



RAISED FLOOR

Raised floor, also called raised flooring, access flooring, or raised access computer flooring, is a construction model in which an elevated floor is built above a building's original concrete slab surface, thereby creating a hidden void between the two floors that is used for the passage of mechanical and electrical services.

Aluminum honeycomb panels are suitable for raised floor construction.

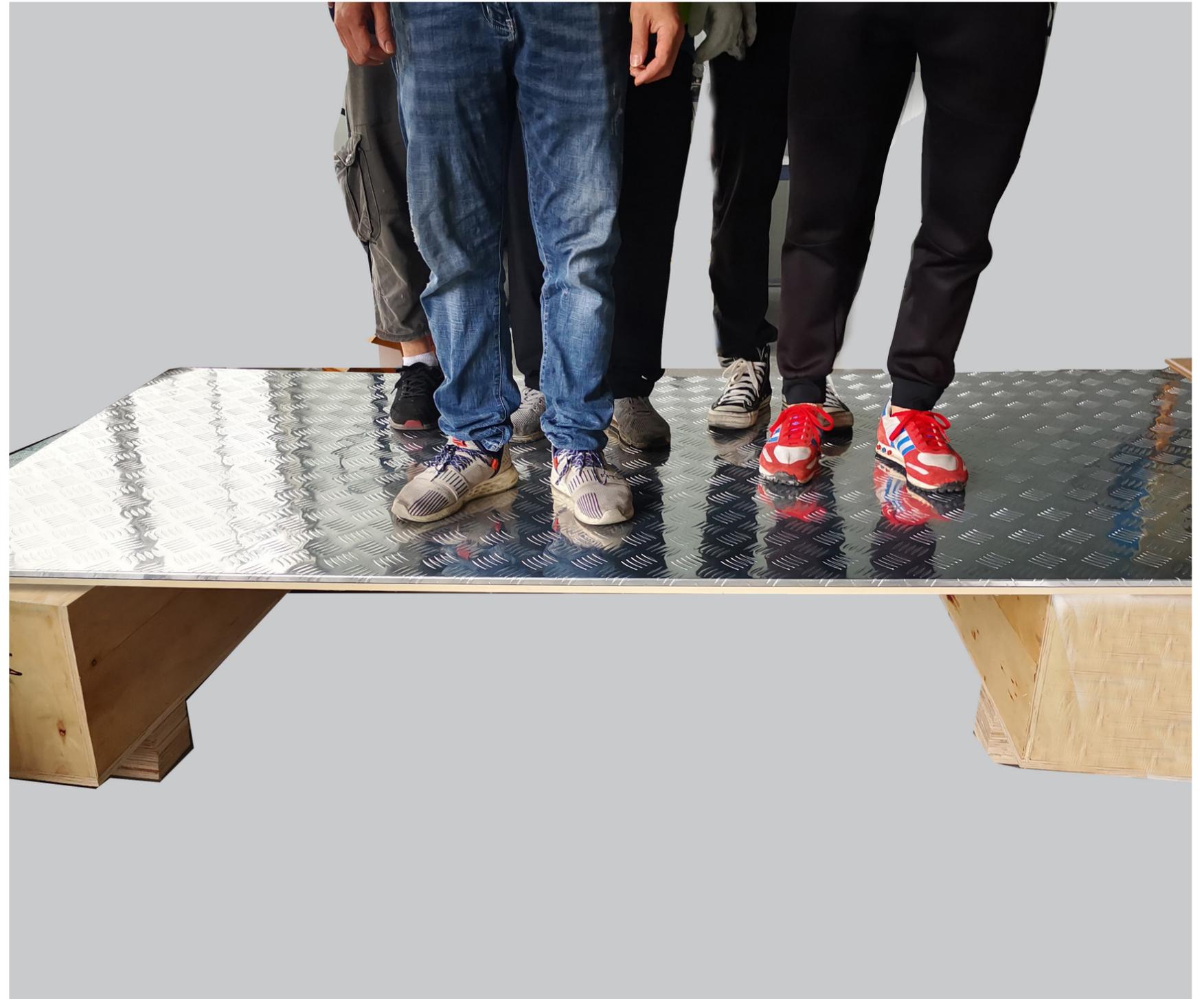
Panel thickness: from 20 to 200mm

Concentrated load: from 500 KG to 20 MT

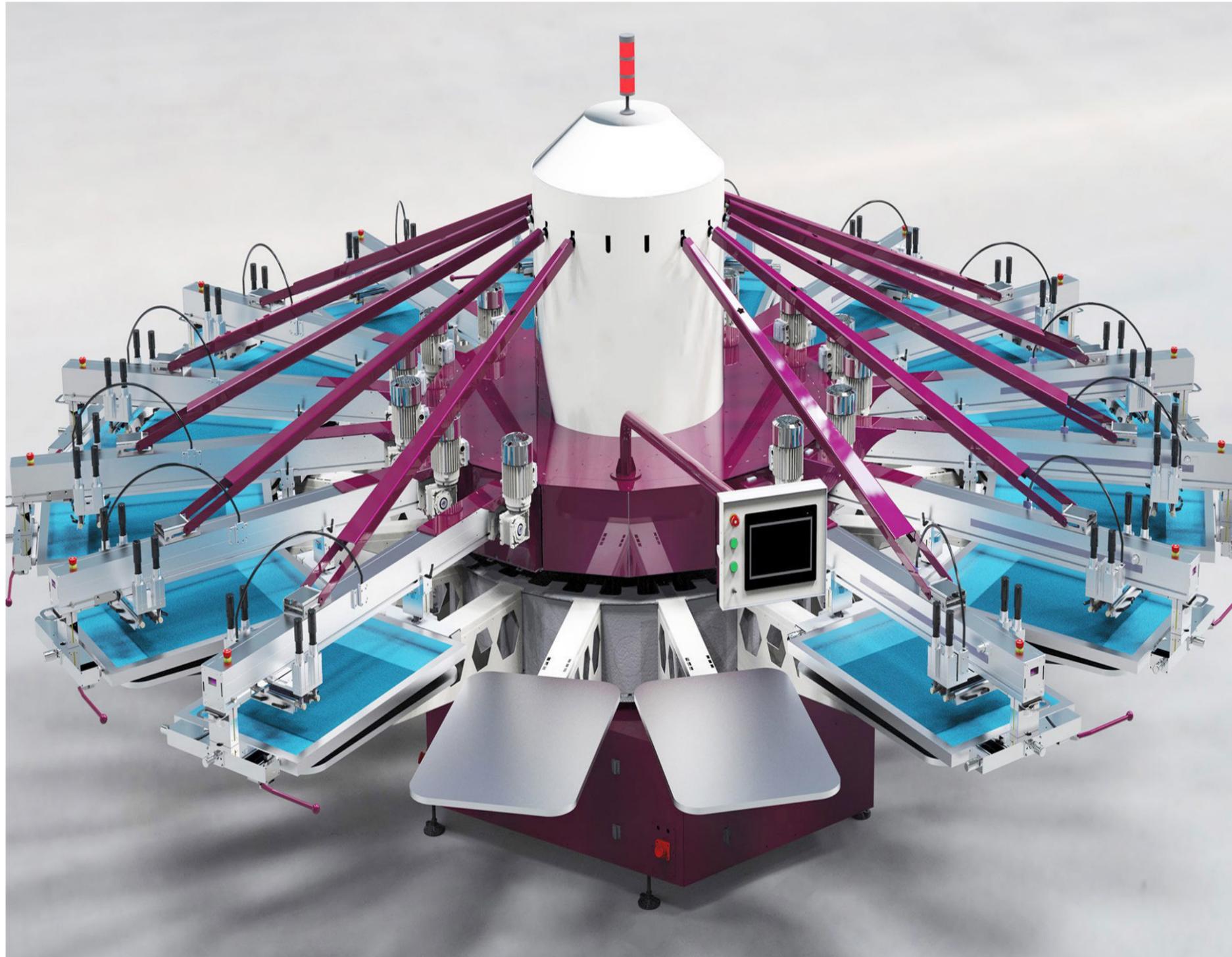
Support: frame support, two side supports, one side support

Span: 600mm to 2000mm

Anti-slip aluminum honeycomb panel



SCREEN PRINTING PLATEN



Specification:

Standard thickness: 6mm to 25mm

Size: upon requested

Features

Anodized finishing

Excellent flatness

Filleted corners

Bevel edge/rounded edge

Light weight

High temperature –resistant up to 200° C

Anodized aluminum honeycomb panel



PROJECT REFERENCE

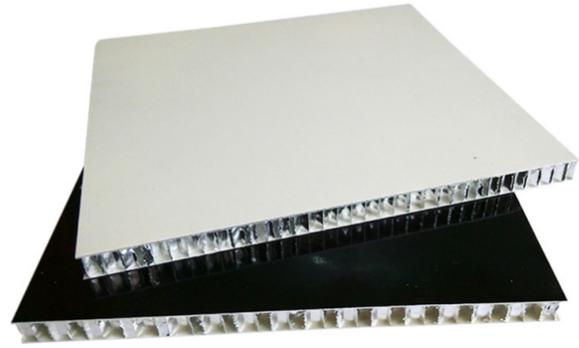
Project: Transportation industry

Application: truck

Product: aluminum honeycomb panel /FRP honeycomb panel



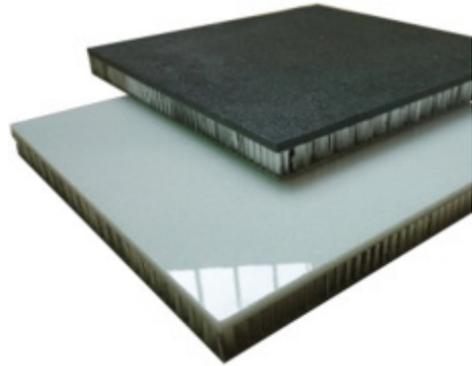
Project: Peacebird Group Building
Application: interior wall cladding
Product: aluminum honeycomb panel



Project: Weihai Building

Application: interior wall cladding

Product: porcelain honeycomb panel





Project: Boise State University
Application: exterior wall cladding
Product: stone honeycomb panel

