

Photo: Incheon Asiad Main Stadium



 **Alucomb**TM

ALUMINUM HONEYCOMB PANELS

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Photo: Horim Art Center, Gangnam, Seoul
using Alucomb Aluminum Honeycomb Panels





Horim Art Center



Samsung Lacville Apartments



Yongsan Station

Consistent Accuracy, Service and Quality with Every Order

Uniwell International Enterprises Corp. was founded in 1996 as a niche market specialty manufacturer, product innovator and pioneer. Included among Uniwell's notable successes is the launch and development of the brand Alucomb. With annual volumes over \$100,000,000 USD, hundreds of employees or affiliates globally, state-of-the-art ISO 9002 manufacturing, and a national network of shipping logistics experts, customers can rest assured that Alucomb is a quality brand backed by a strong management team and covered by a solid warranty.

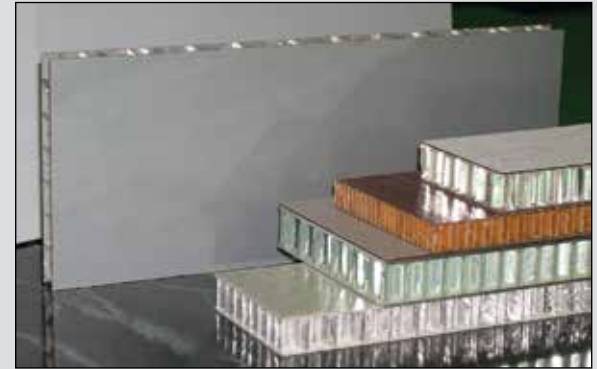
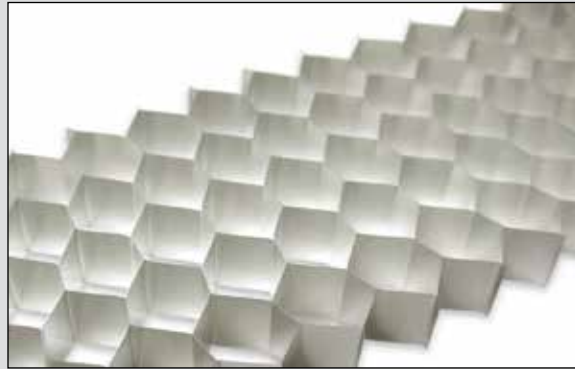
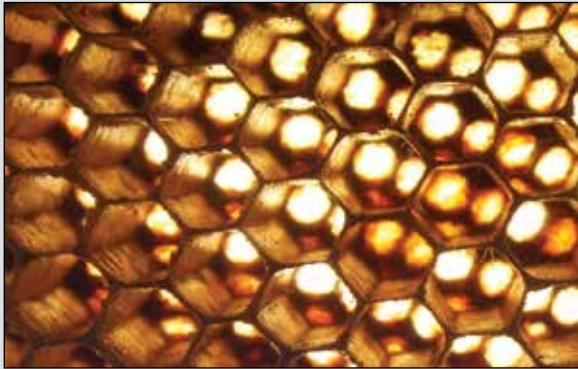
Alucomb brand is built on trust. We take pride in fulfilling orders of exceptionally high quality product, consistent specification, concise delivery, and offer full order progress reporting and tracking support services. Honoring our commitments is our priority number one.

As a market leader, Alucomb's diverse applications extend from architectural construction markets to marine, shipping, aerospace, light rail, defense, energy, and signage.



Aluminum honeycomb panels are best suited for applications where light weight and high strength materials are critical. The honeycomb design occurs in nature as an insulated structural air pocket giving substance and strength without added weight and cost. Various cell sizes, aluminum grades, skin thicknesses, surface colors, skin materials, and cell wall thicknesses can be specified depending on your individual project requirements. For more information on Alucomb or how we can help with your project, visit www.alucomb.com

Alucomb raises the bar with 50% higher performing adhesives, high grade aluminum, and advanced manufacturing process.



Honeycomb & Alucomb

Alucomb's product line consists mainly of hexagonal shape aluminum core material representative of the honeycomb. The honeycomb core is laminated with a front and back surface skin consisting of standard 0.5mm or optional 0.8mm, 1.00mm thickness coated coil aluminum. Alternative surface skin materials are available including stainless steel, galvanized iron, and other non-ferrous materials. The core cell size and surface can be selected by the specifier. The structural core provides strength and consistent rigidity at extremely low density. When bonded to similarly light weight face materials every honeycomb cell wall acts as an I-Beam forming an extremely strong and stiff yet remarkably lightweight composite panel.

Applications of honeycomb

Alucomb panels are commonly used as a light weight high strength construction material on ships, trains, building interior ceilings, exterior cladding, and soffit. Below are some examples of past projects including aircraft, cruise ships, high speed trains, and even wind turbines.





Photo: Al Maktoum International Airport, Dubai



Automated Manufacturing System

The automation of the manufacturing facility has advanced the production process beyond manual hand-laid assembly of the core to the skins. This upgrade has increased production capacity tenfold and reduced imperfections in our products to nearly non-existent. Alucomb's fully automated system is tooled for production of maximum large format panels of an impressive 62" x 244" launching Alucomb ahead as an industry pioneer.

Industry Advanced Technology

The Alucomb research and development department consists of a focused team dedicated to streamlining process and improving efficiency. Alucomb's revolutionary automated system is pending international patents as an original system. This innovation has removed any capacity limitations where extended lead times are an industry-wide problem. These developments have made production capacity limitations a problem of the past for Alucomb.



Photo: Yongsan KTX Station, Major High-Speed Transit Hub & Shopping/Entertainment Center, Seoul using Alucomb Aluminum Honeycomb Panels

A panel design based on nature's strongest building block, the honeycomb

Alucomb's revolutionary, fully automated, state of the art manufacturing system

Provides confidence to our customers in quality as compared to the product deficiencies experienced with our competitors who still use manual production processes.



Photo: BEXCO Exhibition & Convention
Center, Busan



Long Span Panels

Alucomb's fully automated industry-leading manufacturing facility can make a uniquely long honeycomb panel span without any irregular curvature, surface imperfections, nor core inconsistencies. The largest available size is 62" width by 244" length. Our large format is arguably the largest plank available on the world market using automated manufacturing process.

Fast Track Delivery System

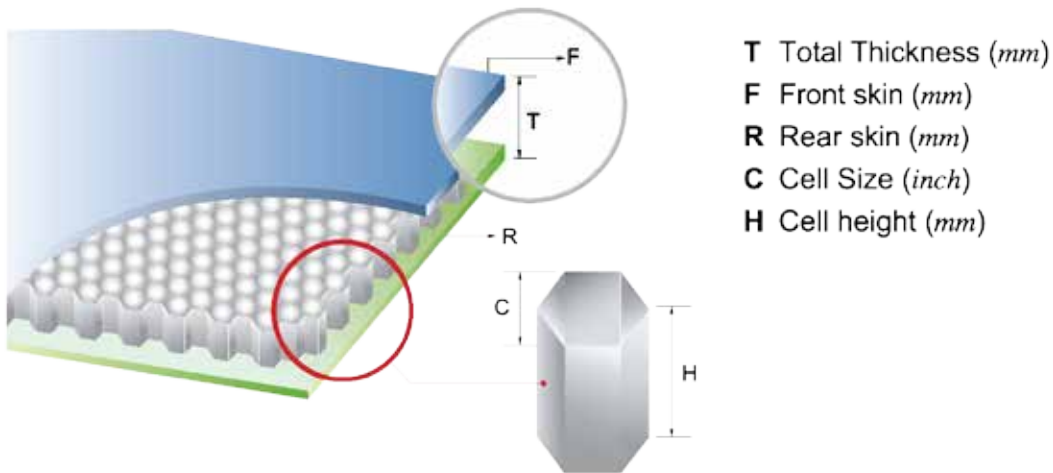
Understanding the importance of managing rigorous project schedules, we developed the Fast Track Delivery System to not only ensure efficient and on time delivery but also provide you with the most updated logistics reports consistently. Please ask your local sales representative for more information.

Fully Tested Adhesives

The most important factor when producing honeycomb panels is the adhesion strength from laminating the cellular core to the outer surface skins. Regular testing proves that Alucomb's durabond adhesive produces an enhanced bond which makes Alucomb a safe choice for reliability and longevity. Please see drum peel test results on page 11.

Standardized Color System

From metallics to solid color finish, all exterior applications use Kynar-500 series PVdF (Polyvinylidene fluoride) resin providing everlasting durability for even the most adverse environmental conditions.



* When ordering please provide the following information : T (total thickness), F (Front Skin) R (Rear skin), C (Cell Size), H (Cell Height), Panel Width, Panel Length, and Quantity

4 Key Reasons

Why Alucomb is the industry leader for Honeycomb panel manufacturing



Photo: King Kanko 1000 Pachinko Imaiike, Nagoya



Photo: Hyundai Motor Company, Beijing

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can produce honeycomb cell panels with various surface materials to serve our customers.

Standard Production Dimensions

Alucomb Honeycomb Panel Dimensions				
T Total Thickness (mm)	5, 10, 15, 18, 20			
F Front Thickness (mm)	0.5, 0.8, 1.0			
R Rear Thickness (mm)	0.5, 0.8, 1.0			
C Cell Size (inch)	3/8", 1/2", 3/4"			
Panel Weight (1/2", kg/m ²)	3.7	3.9	4.6	4.8

- Panel Width: 49" or 62"
- Panel Length: Standard up to 177" - Longspan up to 244"
- Panel Color: Standardized Colors with Kynar-500 series PVdF resin.

General Properties

Test Item	Result	Unit	Methods	Allowance
Thickness	10.0	mm	KS B 5002	± 0.2
Weight (10T)	3.9	kg/m ²	KS F 4737	
Diagonal (1M)	0.8	mm	KS F 4737	± 0.2
Drum Peel Strength	11.0	kgf•mm/mm	ASTM D 1781	
Bending Strength	582	kgf/cm ²	ASTM C 393	
T-Peel Strength	566.0	gf/mm	KS F 4737	
Shear Strength	8.44	kgf/cm ²	ASTM C 273	
Plane Compressive Strength	24.3	kgf/cm ²	ASTM C 365	
Thermal Conductivity (20°C)	0.18	kcal/mh°C	KS L 9016-95	

- Alucomb is available with perforated surface(s) for the purposes of sound deadening and increased acoustic performance.

Surface Material Type

Product Name	Type of Surface
Alucomb	Aluminum surface standard
Alucomb SUS	Stainless steel surface
Alucomb GI	Galvanized iron surface

- Aluminum surface material standard as the lightest weight option available. Other available surface material options include stainless steel or galvanized steel.

Bonding Strength Comparison (ASTM D 1781)

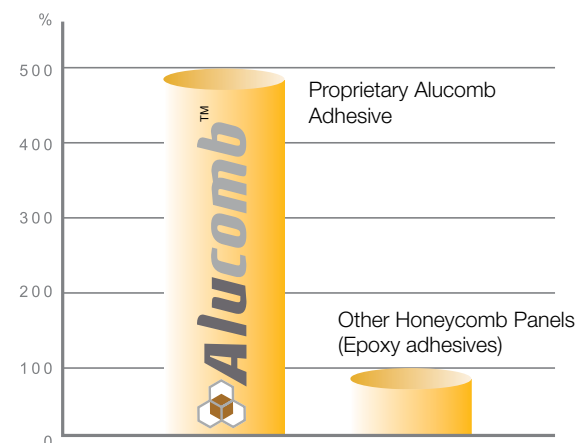


Photo: Busan Gwangandaegyo (Diamond Bridge)
Second longest bridge in South Korea



 **Alucomb**TM

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