Boundless possibilities.
ALUCORE®

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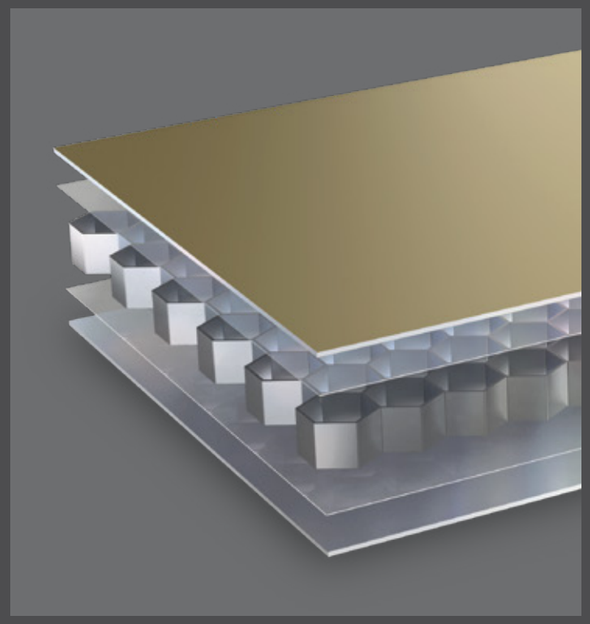
COMPOSITES

OCT2024/SEA.

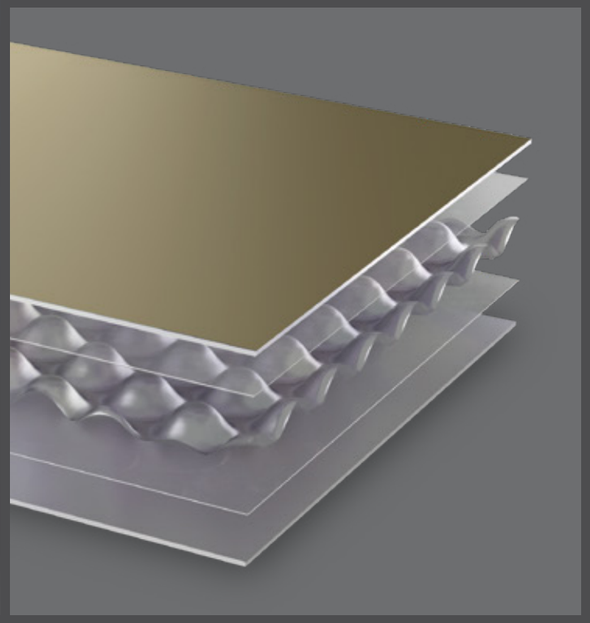
ALUCORE®

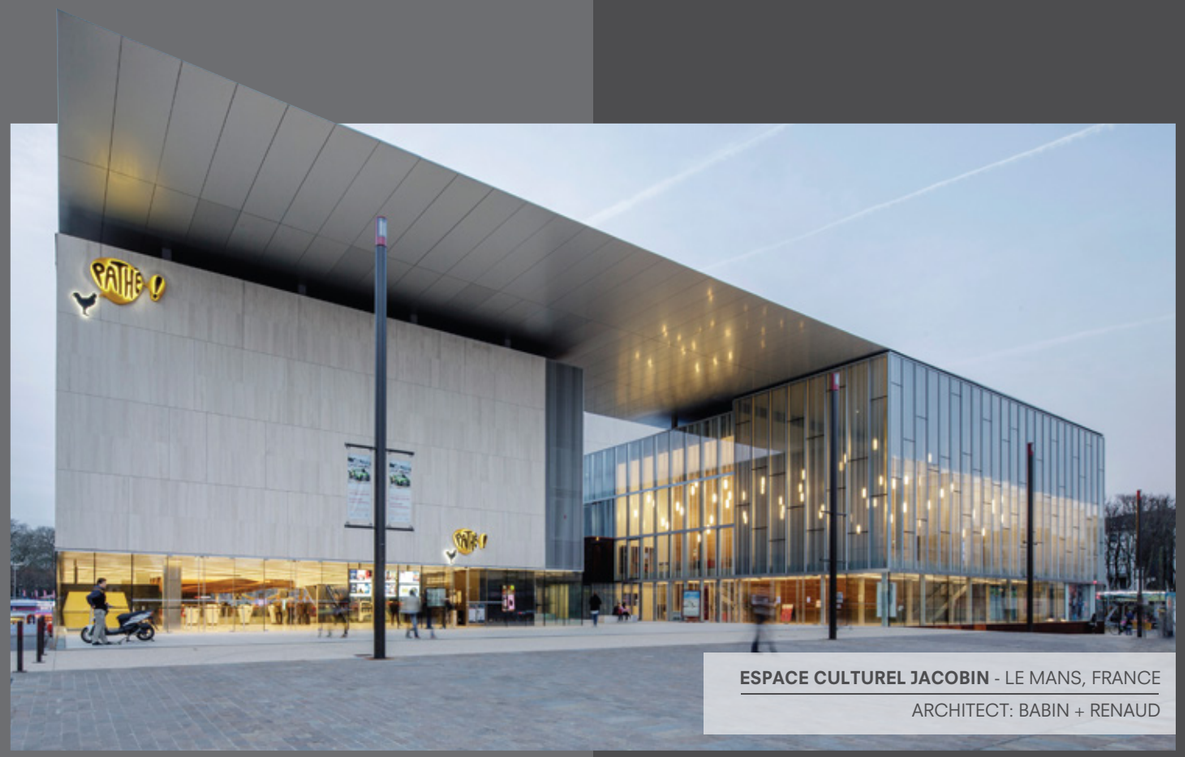
ALUMINIUM CORE PANELS

Lightness meets rigidity



COMPOSITES





ESPACE CULTUREL JACOBIN - LE MANS, FRANCE
ARCHITECT: BABIN + RENAUD

WHY CHOOSE ALUCORE®

ALUCORE® stands out as a premier choice for cladding, offering distinct advantages over both traditional metal cladding options (such as aluminium, steel, zinc, copper) and non-metal alternatives like stone, tiles and High-Pressure Laminates (HPL). Its exceptional properties make it the ideal solution for demanding applications where top-tier performance is crucial.

KEY BENEFITS OF ALUCORE®

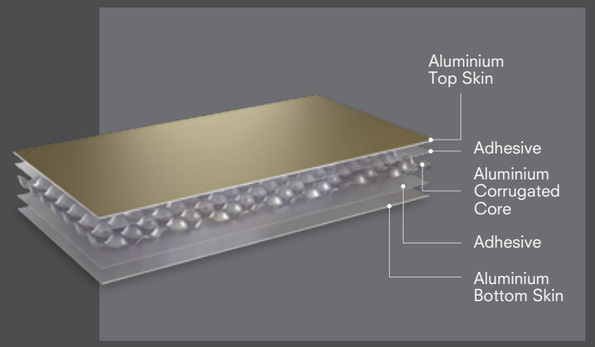
- **Superior Wind Resistance:** Engineered to endure high wind load pressures, ALUCORE® offers an exceptional strength-to-weight ratio, ensuring reliability even in the most challenging conditions
- **Load-bearing Capacity:** Provides strong support for self-supporting roofs, with panel thickness 15mm and above capable of handling human traffic during maintenance, ideal for roofing applications
- **Large Panel Sizes:** Capable of extended panel dimensions offering both design flexibility and cost efficiency
- **Unmatched Flatness:** Features absolute flatness, providing a sleek, modern aesthetic that enhances any architectural design
- **Superior Acoustic and Thermal Insulation:** Offers excellent sound and heat absorption, contributing to a more comfortable and energy-efficient environment

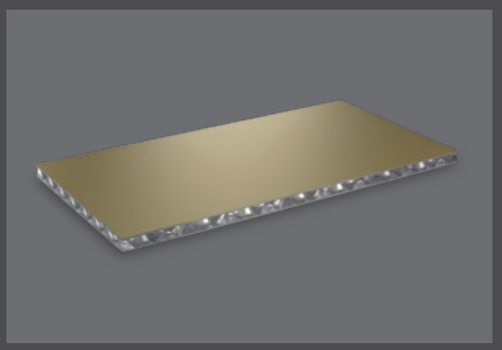
ALUCORE® ACCP

ALUCORE® ACCP, the Aluminium Corrugated Core Panel is a light weight cladding material with a corrugated aluminium core sandwiched between two aluminium skins making it highly rigid. Devoid of any thermoplastic core, it is perfectly suitable for projects with stringent fire regulations. ALUCORE® ACCP offers unmatched flatness enhancing the beauty of buildings. The panels are easily formable using common processing methods giving architects flexibility to execute complex designs.

PRODUCT RANGE:

Panel Thickness: 4mm and 6mm
Width: 1250mm, 1500mm
Length: ≤6000mm





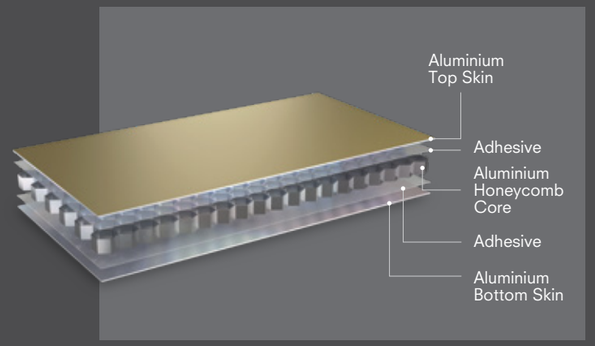
ALUCORE® HONEYCOMB

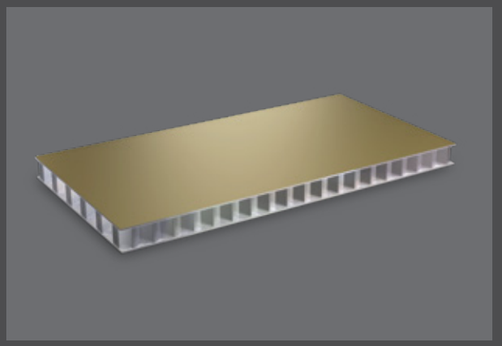
ALUCORE® HONEYCOMB is a unique panel with a honeycomb shaped aluminium core embedded between two aluminium skins. The product is a true representation of an advanced sandwich composite. The ultra-low weight of the core and the increased distance between the cover sheets gives it extra rigidity while keeping its weight extremely low. This results into an unmatched strength-to-weight ratio.

ALUCORE® HONEYCOMB therefore, has a definite advantage when it comes to projects with high demands on material stiffness such as facade cladding or roofing where it is exposed to extremely high wind loads, or for large self-supporting and even walkable roofs.

PRODUCT RANGE:

Panel Thickness: 10mm, 15mm, 20mm, 25mm
(other thicknesses available upon request)
Width: 1250mm, 1500mm
Length: ≤6000mm





MAX TOWERS - NOIDA | INDIA
ARCHITECT: GENSLER

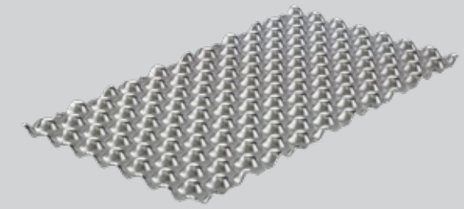
FEATURES & ADVANTAGES OF ALUCORE®

FEATURES	ADVANTAGES
Unmatched Strength-to-Weight Ratio	Used for applications that demand self supporting roofs/structures
High Flexural Rigidity	Superior rigidity makes them ideal for buildings with high wind loads
No Thermoplastic Core	Fire safety
Class A2-s1, d0 as per EN 13501-1 test standards	Superior fire safety performance
Superior Flatness	Enhanced aesthetics
Non corrosive Marine grade alloy 5xxx with H24 temper	Durability
PVDF/FEVE coil coating as per AAMA 2605 standards for superior performance specification in architecture	Ensures Long-term paint/coating performance
Wide range of colours and surface finishes	Enables freedom of design
Can be fabricated using standard tools	Easy to use
Value Added Services (VAS) available with ALUCORE®	Ensures finesse in the end product with peace of mind

FEATURES OF ACCP

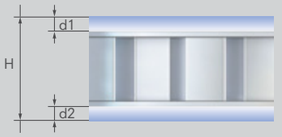
Structure

H: Total thickness (4mm, 6mm)
d1: Thickness of Al front sheet (0.7mm)
d2: Thickness of Al back sheet (0.5mm)

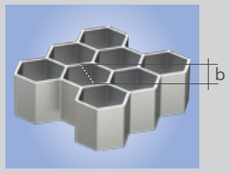


FEATURES OF HONEYCOMB

Structure

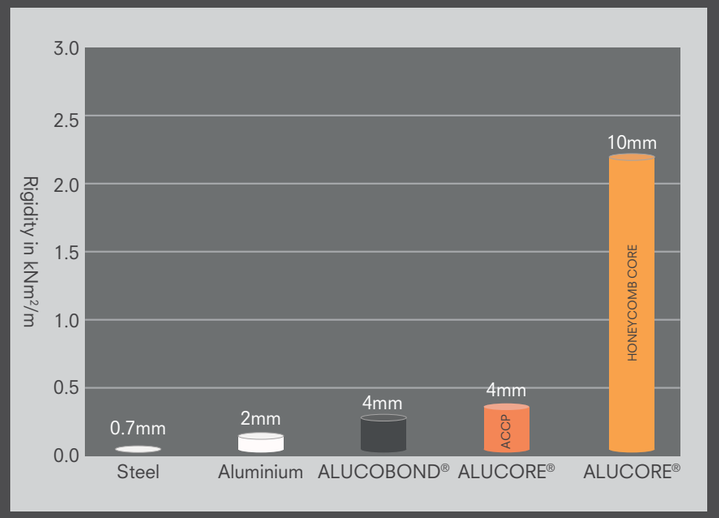


H: Total thickness (10mm, 15mm, 20mm, 25mm)
d1: Thickness of Al front sheet (1mm)
d2: Thickness of Al back sheet (0.5/1mm)



Standard core consists of Aluminium Foils (cell size: 10-19mm)

COMPARATIVE FLEXURE RIGIDITY



The graph illustrates the rigidity of different materials while keeping the weight identical ~5Kg/sqm.

ALUCORE® shows much higher strength-to-weight ratio compared to other materials. By prioritizing materials with low weight and high rigidity, architects can enhance structural integrity while minimizing the load-bearing requirements, thus contributing to more efficient and sustainable building designs.

This strategic approach not only ensures the structural stability of the facade but also enables architects to explore more innovative and aesthetically pleasing designs without compromising on safety or durability.

REPSOL HEADQUARTERS - MADRID | SPAIN

ARCHITECT: Rafael de La-Hoz Arquitectos

APPLICATIONS OF ALUCORE®

ARCHITECTURE APPLICATIONS

Facades, self-supporting even walkable roofs, large canopies, wall cladding, soffits, partitions, louvres/solar shading and false ceilings

SEGMENTS

Airports, railway and metro stations, bus shelters, residential and commercial complexes, stadiums, malls, multiplexes, hotels and hospitals

ART AND CONGRESS HALL LUCERNE - LUZERN | SWITZERLAND

ARCHITECT: JEAN NOUVEL

DAXING (BEIJING) AIRPORT - BEIJING, CHINA
ARCHITECT: Zaha Hadid Architects & ADP Ingenierie

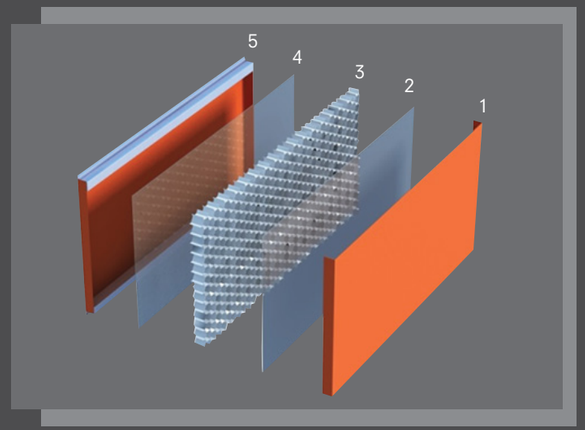
ALUCORE® CLAD

A 'Ready-to-Install Honeycomb Panel System'

ALUCORE® CLAD is a Value Added Solution from ALUCOBOND® which comprises of aluminium honeycomb panels that are pre-fabricated with Ready-to-Install aluminium extrusions.

It comprises of the following:

1. Pre-coated Aluminium front skin
2. Adhesive
3. Aluminium Honeycomb core
4. Adhesive
5. Pre-coated Aluminium back skin and fixing extrusion



PRODUCT SHOT

WHY USE ALUCORE® CLAD

COMPREHENSIVE RESPONSIBILITY

- No split responsibility
  (Comprehensive warranty directly from 3A Composites)
- Ready-to-Install panels, fully fabricated and prepared by the manufacturer in a single facility
- Seamlessly integrates the benefits of honeycomb panels with precise extrusions and fixing systems

HIGH QUALITY FABRICATION

- ALUCORE® is a premium product that demands superior processing, fixing and installation
- 3A Composites delivers comprehensive expertise and complete solutions, particularly for complex panel designs like cranked, curved, double-curved, tapered and triangular panels, through its ALUCORE® CLAD system

RISK MITIGATION

- Lowers application risks by supplying high quality pre-fabricated fixing accessories along with the panels

FEATURES	ADVANTAGES
ALUCORE® CLAD combines best in class industrial grade coating and lamination technology with R2I panel service	Durability and performance with ease and convenience
Fabricated under supervised and controlled factory environment	Delivers high quality
The use of high-quality materials and advanced processing at ALUCOBOND®'s factory minimizes the risk of failure	Risk mitigation. Peace of mind
Panels are available in diverse configurations (finishes, coatings, thicknesses) tailored to meet specific project requirements	Customized solutions
Panel perimeter fixing, anchors both skins to the supporting structure	Better strength to the overall installation
Pre-fixed extrusions helps in easy & quick installation be it horizontal or vertical orientation	Saves time and cost
ALUCORE® CLAD's fixing system enables fast, individual panel replacement without the need to remove all surrounding panels	Easy to replace

TECHNICAL DATA SHEET

ALUCORE® Aluminium Corrugated Core Panel

PROPERTIES	STANDARDS	UNIT	VALUES
Panel Standard Thickness	Nominal	[mm]	4 / 6
Coated Skin Thickness, Front Side	Nominal	[mm]	0.7
Coated Skin Thickness, Rear Side	Nominal	[mm]	0.5
Weight	Nominal	[kg/m²]	4.45
TECHNICAL PROPERTIES:			
Alloy Of Cover Sheets	ASTM B209-04		3105 / 5005
Temper of Cover Sheets	ASTM B209-04		H24
Modulus of Elasticity	ASTM E8	[N/mm²]	70,000
Tensile Strength of Aluminium	ASTM E8	[N/mm²]	$R_m \geq 125$
0.2% Proof Stress	ASTM E8	[N/mm²]	$R_{p0.2} \geq 90$
Elongation	ASTM E8	[%]	$A_{50} \geq 4$
SURFACE:			
Lacquering			Coil coating FEVE / PVDF
Gloss (Initial Value)	ASTM D523		As per the colour shade
Pencil Hardness	ASTM D3363		HB ~ F
THERMAL PROPERTIES:			
Temperature Range		[°C]	-40 to +80
FIRE PROPERTIES:			
Fire Classification	EN 13501-1		Class A2 - s1, d0
ENVIRONMENT & HEALTH ASPECTS:			
Environment Management System			ISO 14001 : 2015
Occupational Health & Safety Management System			ISO 45001 : 2018
Quality Management System			ISO 9001 : 2015
DIMENSIONAL TOLERANCES:			
Panel Thickness		[mm]	± 0.2mm
Thickness of Coated Skins		[mm]	± 0.05mm
Weight		[kg/m²]	± 5%
Width		[mm]	Upto 1250mm + 2mm
Length		[mm]	< 4000mm + 6mm Above 4000mm + 10mm

Specifications are subject to change without prior notice/intimation.

TECHNICAL DATA SHEET

ALUCORE® Aluminium Honeycomb Core Panel

PROPERTIES		STANDARDS	UNIT	VALUES
Panel Standard Thickness		Nominal	[mm]	10 / 15 / 20 / 25
Coated Skin Thickness, Front Side		Nominal	[mm]	1.0
Coated Skin Thickness, Rear Side		Nominal	[mm]	0.5 (10mm) / 1.0
Weight		Nominal	[kg/m²]	5.0 / 6.7 / 7.0 / 7.3
TECHNICAL PROPERTIES:				
Section Modulus	W		[cm³/m]	4.5 / 13.1 / 18.1 / 23.1
Rigidity	E · I		[kNcm²/m]	21,900 / 75,500 / 138,900 / 221,600
Alloy of Cover Sheets		ASTM B209-04		3105 / 5005
Temper of Cover Sheets		ASTM B209-04		H24
Modulus of Elasticity		ASTM E8	[N/mm²]	70,000
Tensile Strength of Aluminium		ASTM E8	[N/mm²]	$R_m \geq 125$
0.2% Proof Stress		ASTM E8	[N/mm²]	$R_{p0.2} \geq 90$
Elongation		ASTM E8	[%]	$A_{50} \geq 4$
Linear Thermal Expansion		ASTM D696		2.4mm/m at 100°C temperature difference
CORE:				
Bare Compressive Strength			[N/mm²]	0.4 ~ 1.0 approx.
Cell Size			[mm]	10 ~ 19
SURFACE:				
Lacquering				Coil coating Polyester coated / PVDF upon request
Gloss (Initial Value)		ASTM D523		As per the colour shade
Pencil Hardness		ASTM D3363		HB ~ F
ACOUSTICAL PROPERTIES:				
Sound Absorption Factor	α_s	ISO 354		0.05 ~ 0.07
Air-borne Sound Insulation Index	R_w	ISO 717	[dB]	21 ~ 25
THERMAL PROPERTIES:				
Temperature Range			[°C]	-40 to +80
CORE FIRE PROPERTIES:				
Fire Classification		BS 476- Part 4 EN 13501-1		Passes Class A2- s1, d0
ENVIRONMENT & HEALTH ASPECTS:				
Environment Management System				ISO 14001 : 2015
Occupational Health & Safety Management System				ISO 45001 : 2018
Quality Management System				ISO 9001 : 2015
DIMENSIONAL TOLERANCES:				
Panel Thickness			[mm]	± 0.2mm (upto 15mm) ± 0.3mm (upto 25mm)
Thickness of Coated Skin			[mm]	± 0.02mm
Weight			[kg/m²]	± 5%

Specifications are subject to change without prior notice/intimation.