

Product information



Architecture

Industry



Transport



Display

ALUCORE[®]

Honeycomb composite panels for architecture: more than just a wall cladding



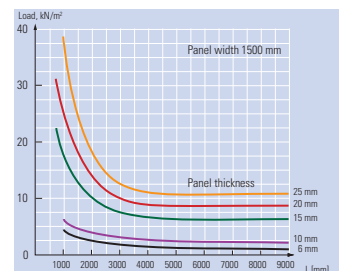
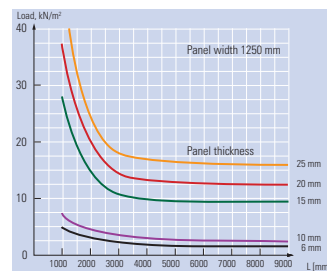
Planners, architects and designers appreciate and favour ALUCORE because it combines mechanical properties such as the tensile strength of the cover sheets with outstanding aesthetic features.

Clean, easily fabricated with perfect details, a great variety of applications is possible with the use of ordinary tools.

ALUCORE is also becoming increasingly successful in interior design.

ALUCORE is a decorative material with excellent properties and is therefore ideal for innovative and artistic ceiling and wall claddings. A comprehensive range of standard and special colours are available.

Lacquer qualities are in accordance with the European **Coil Coating Association (ECCA)** standards.



Loads and panel dimensions:

The above diagrams indicate the available ranges of panel thickness and permissible panel lengths at a given panel width (1250 or 1500 mm), depending on the loads applied.

The diagrams apply to panels supported on four sides (corners fixed).

Dimensional values for other systems are available on request.

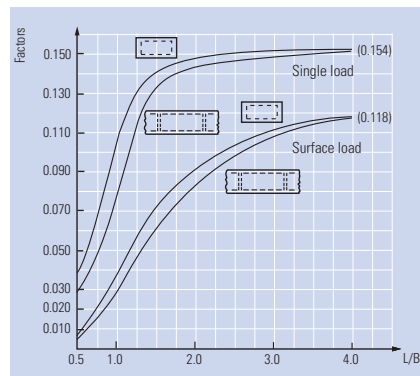


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Honeycomb composite panels for industrial use: construction made simple

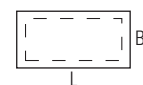


Lightweight containers, machine tool cabins and wind tunnels, platform lifts and elevators... ALUCORE provides an enormous variety of industrial applications. We offer back-up service for builders and construction companies even in the planning phase by providing samples, detailed technical information and individual testing procedures. Our ultimate aim is total customer satisfaction through efficiency and economy.



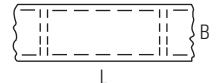
Type of support

1st type



Panel is supported at all sides (corners fixed).

2nd type



Intermediate support of an endless panel strip at equal distances L.

Determining maximal bending load in [mm] by:

Surface load:

$$f = \alpha \frac{p \times B^4}{E \cdot J}$$

Single load:

$$f = \alpha \frac{P \times B^2}{E \cdot J}$$

p/P = surface load/single load

B = relevant panel width

α = non-dimensional factor according to diagram

E·J = bending strength of ALUCORE panels

[kN/cm², kN]
[cm]

[kNm²/cm]





ALUCORE[®]

Honeycomb composite panels for transport: popular connections

In view of the strict financial and ecological restrictions, the transport industry is increasingly calling for materials which are light, stable and fully recyclable. ALUCORE, for example, is often selected in shipbuilding because composite panels for walls, doors and ceilings are easily processed and offer optimum strength. ALUCORE composite panels are also highly suitable for use in transport vehicles

such as superstructures for lorries, special interior cladding, doors and flap systems. Owing to the variety of possible alternative surfaces, designers have a vast range of options. Another plus point is that the panels are highly suitable for lacquering.



ALUCORE®

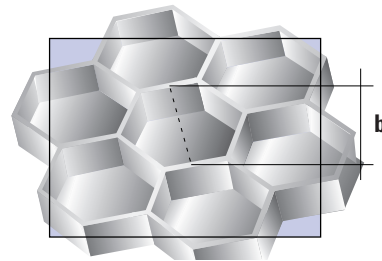
Honeycomb composite panels for display areas: shape determined by function

Public design as an expression of contemporary communication in public buildings and rooms... wherever aesthetic properties are called for, functional and practical properties are also a must. ALUCORE provides a limitless range of applications for signs, display panels or large information systems which are subject to high wind

pressure. We supply the complete custom-made solution to your problem. Take vandalism, for example: a problem, almost taboo in the past but of increasing significance to planners of public buildings. The solution: ALUCORE, with all its construction advantages and a stable, hard-wearing and easy-to-clean surface.

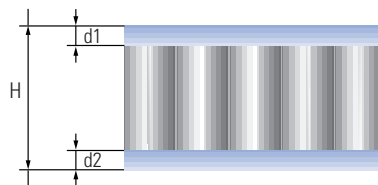


ALUCORE is an aluminium sandwich-type panel with high rigidity and extremely low weight. In contrast to conventional honeycomb composite panels, the system components - the "aluminium core" and the coilcoated "aluminium cover sheets" are bonded in a continuous process. The advantages: product quality and surface evenness; the material does not become brittle-hard but shows tough and resilient properties and excellent peel strength. Following in the footsteps of the ALUCOBOND trademark, ALUCORE is the ideal material for a host of applications in transport, architecture or industrial production. ALUCORE, the first lightweight panel with a special claim to fame: joined for life.



The standard core consists of aluminium foils from AlMn alloys (EN AW 3003).

Cell size b approx. 6.3 mm.
The cover sheets of the ALUCORE panels consist of corrosion-resistant Peraluman alloys (AlMg) and may be used in a decorative or functional manner, depending on the purpose of application.



Structure

H: total thickness

d1: thickness of Al front sheet

d2: thickness of Al back sheet

Standard types

	Type	H	d1	d2	Weight	Rigidity* E-I	Section modulus W
	06	6.0 mm	1.0 mm	0.5 mm	4.9 kg/m ²	0.71 kNm ² /m	2.6 cm ³ /m
	10light	10.0 mm	0.5 mm	0.5 mm	3.3 kg/m ²	1.73 kNm ² /m	4.7 cm ³ /m
	10	10.0 mm	1.0 mm	0.5 mm	5.3 kg/m ²	2.19 kNm ² /m	4.6 cm ³ /m
	15	15.0 mm	1.0 mm	1.0 mm	7.0 kg/m ²	7.55 kNm ² /m	14.0 cm ³ /m
	20	20.0 mm	1.0 mm	1.0 mm	7.4 kg/m ²	13.90 kNm ² /m	19.0 cm ³ /m
	25	25.0 mm	1.0 mm	1.0 mm	7.8 kg/m ²	22.17 kNm ² /m	24.0 cm ³ /m

* Ratings: $\nu = 0.3$ (Poisson's ratio)

Standard type ALUCORE panels for industrial use are supplied with high-grade polyester lacquering on both sides, which renders them highly suitable for additional coating, laminating or printing.

On request, ALUCORE panels for facades can be supplied with a high-grade PVDF-fluoride polymer lacquer finish.

Technical specifications / standard formats

ALUCORE is available in various standard thicknesses of 6, 10, 15, 20 and 25 mm and is supplied ex warehouse at standard widths of 1250 or 1500 mm and lengths of 2050, 2500, 3050, 5150 and 6250 mm. The production of lengths between 2000 and 13500 mm are possible.

Standard thickness	Standard width	Standard length
6, 10, 15, 20, 25 mm 10 light	1250 mm	2050 mm 2500 mm 3050 mm 5150 mm 6250 mm
6, 10, 15, 20, 25 mm 10 light	1500 mm	2050 mm 2500 mm 3050 mm 5150 mm 6250 mm

Special thickness: 5,5 - 50,0 mm on request
 Special lengths: 2000 - 13500 mm on request
 Special widths: on request

Dimensional tolerances:

Thickness: +/- 0,2 mm
 Length: 1000 to 4000 mm -0/+4 mm
 4001 to 9000 mm -0/+6 mm
 Width: -0/+2 mm

Temperature resistance:

approx. -40°C to +80°C
 Higher temperature resistance: on request

Storage:

ALUCORE should be stored on pallets or shelves.
 The stacking height per pallet should not exceed 2 m.
 The maximum total stacking height is 6 m. Store in a dry place.

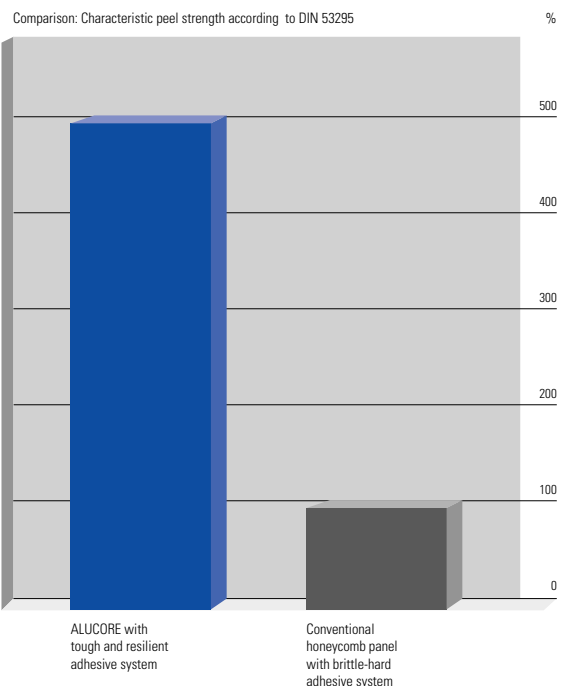
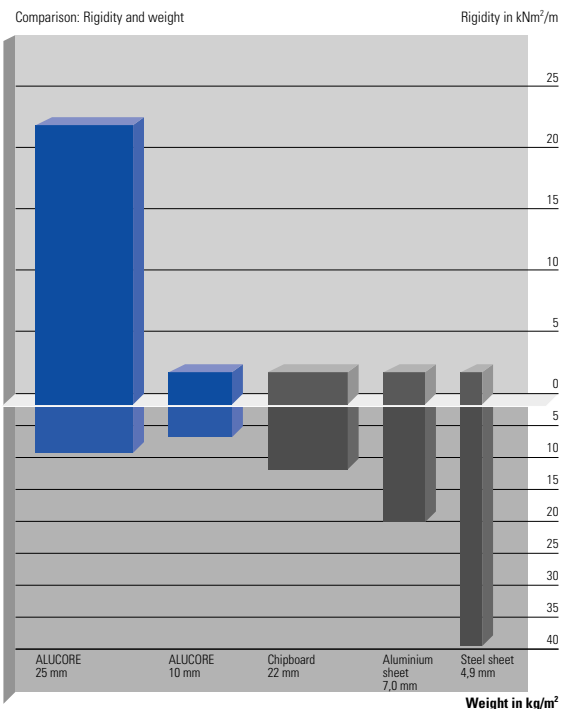
Recycling:

ALUCORE can be fully recycled with any other aluminium without prior separation or sorting (Scrap value).

Fire conformance:

- D** Flame-retardant B1 (DIN 4102-B1)
- CH** Klasse 5.3 VKF Fire Protection Directives
- GB** BS 476 Part 7 Class 1
BS 476 Part 6 I=0,3, i₁=0 (Singapore Approval)
- JPN** QNC
JIS A 1321, not. 1231
- F** Classe M.1 – non inflammable (CSTB)

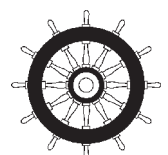
More information and fire conformance on request

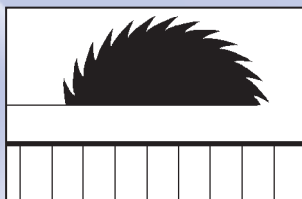


IMO

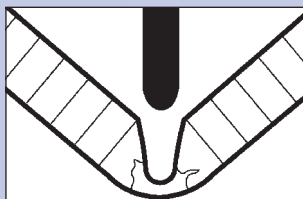
Tested according to the IMO resolution A.653(16) and IMO resolution MSC 61(67) annex 1 parts 2 and 5. And also according to the IMO resolution MSC 90(71) / MSC 40(64).

MED approval as a surface material with low flame-spread characteristics and a fire restricting material according to the directive 96/98/EC (Marine Equipment) as amended by directive 2002/75/EC.

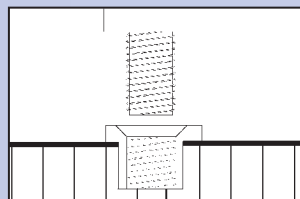




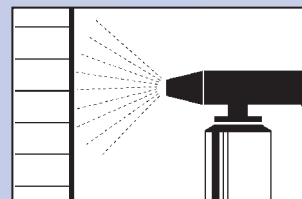
Cutting, e.g. with panel saws



Bending on brake press



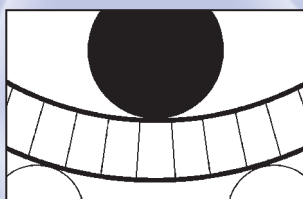
Joining, fixing



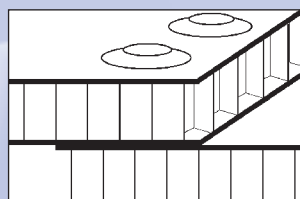
Lacquering, spraying



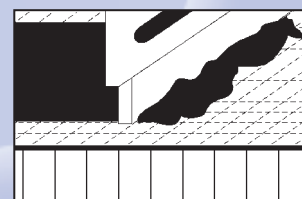
Routing



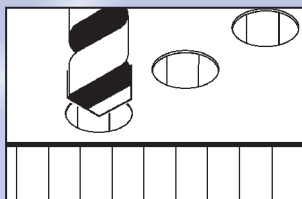
Bending with roll bending machines



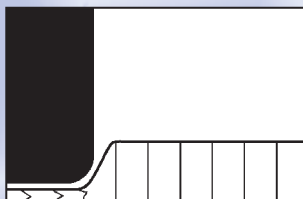
Riveting



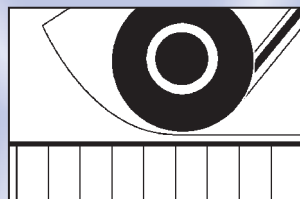
Printing (screen printing)



Drilling



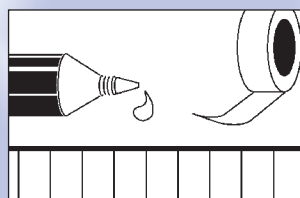
Press forming



Laminating, photomounting

On the surface...

- ✘ A wide range of varnish and paint systems – polyester, PVDF or fluoride polymer – of ultimate quality
- ✘ Scratch resistant decorative foils for interior design purposes
- ✘ Self-adhesive surfaces for individual surface lamination
- ✘ Other surfaces on request



Gluing

www.alucore.com



ALCAN COMPOSITES – a global organisation

- Alcan Airex AG, Sins, Switzerland
- Alcan Kapa GmbH, Osnabrück, Germany
- Alcan Singen GmbH, Singen, Germany
- Alcan Thermoplastics, Chelmsford, UK
- Alcan Composites USA Inc., St. Louis
- Alcan Composites Ltd., Shanghai, China
- Alcan Composites Brasil S.A., São Paulo

ALCAN COMPOSITES – a truly global player

- Sales offices and production sites in Europe, the Americas and Asia
- Widest selection of sheet materials
- Partnerships with leading distributors
- Shortest delivery times
- Professional sales team

ALUCOBOND® DIBOND® ALUCORE®

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