

larcore[®] A2

Aluminium honeycomb panels for
lightweight architectural envelopes

NOW AVAILABLE IN
fluorlac[®]



MANUFACTURER OF ADVANCED BUILDING MATERIALS

larcore® A2 6 mm

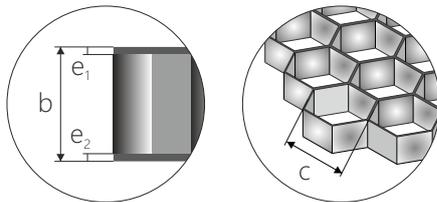
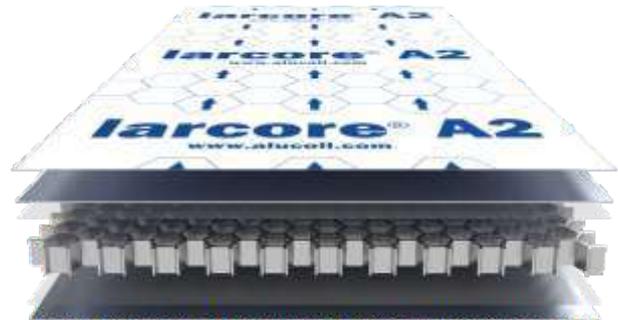
Hidetech® LIGHT

6 mm aluminium honeycomb panels with cassette installation system.

Features of the panel

Total thickness "b" Width tolerance ≤ 1600 mm: ±0,2 mm Width tolerance > 1600 mm: -0,1 / +0,5 mm	6 mm
External skin thickness "e₁"	0,7 mm
Internal skin thickness "e₂"	0,5 mm
Weight	4,19 kg/m ²
Standard width Tolerance -0 / +2 mm	1250 mm 1500 mm 1575 mm 2000 mm
Panels of 2000 mm width the aluminium sheets are of 0,7mm thickness.	
Length Tolerance -1 / +6 mm a) min. b) max.	a) 2000 mm b) 14000 mm

Protective film
0,7 mm coated aluminium 5005 EN 573-3
 Bonding layer
Aluminium honeycomb core
 Bonding layer
0,5 mm aluminium 5005 EN 573-3



Mechanical features of the panel

The purpose of the mechanical values is to be able to compare different product configurations. Specific calculations for each project must be requested to the **Alucoil®** technical department.

Rigidity (EI) DIN 53293 a) Transversal axis b) Longitudinal axis	a) 2825 kNcm ² /m b) 2386 kNcm ² /m
Acoustic insulation (R_(A)) ISO 10140-2	19,54 dBa
Thermal resistance (R)	0,0067 m ² K/W

Coated aluminium skin features

Aluminium alloy (ext. int.)	5005 ^(*) EN 573-3
Ultimate tensile strength (R_m)	125 < R _m < 185 N/mm ²
Yield strength (R_{p0,2})	> 80 N/mm ²
Elongation (A)	> 4%

^(*)Other alloy availables.

Core features

Aluminium alloy	3005 ^(*) EN 573-3
Cell size	1/4" ≈ 6,35 mm
Foil thickness	50μ
Compressive strength	2,20 MPa DIN 53291
Density (ρ)	56 kg/m ³

Note: When the **larcore® A2** is used for exterior façades it must be installed with a system approved by **Alucoil®** (**Hidetech® PRO** or **Hidetech® LIGHT** systems) or with any other solution that do guarantee the panel watertightness under the customer's responsibility. For more information, request a product technical sheet or visit www.alucoil.com

Alucoil® has developed the **Hidetech® LIGHT** installation system for 6 mm thick **larcore® A2** panel. An innovative solution that reduces the substructure on the façade by 30%, but can be fabricated with traditional tools. Extremely light, rigid, non-combustible and with the best flatness on the market.

Certification: EPD® Environmental product declaration

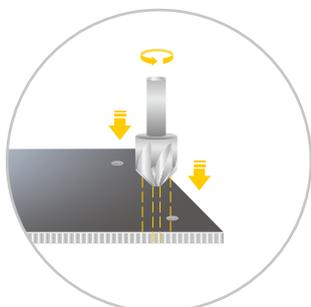
Testing: Large scale test BS 8414-1 & BS 8414-2, with **Alucoil® Hidetech® LIGHT** installation system.

Classifications: Same composition and quantity of adhesive as **larcore® A2 14 mm + Hidetech® PRO** installation system by **Alucoil®**, classified A2-s1, d0 according to EN 13501-1.

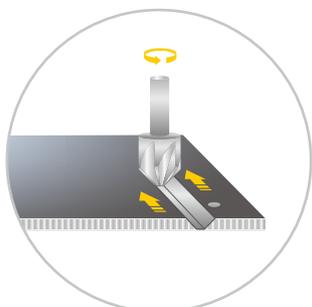
Machining of the larcore® A2 6 mm panel for installation with the Hidetech® LIGHT system.

The **Hidetech® LIGHT** allows the installation of **larcore® A2 6 mm** panels transformed into trays by means of cuts and milling made in the panel. Subsequently, it is sealed perimeter with a profile through which some clips slide that will serve to fix the cassette on the vertical profiles.

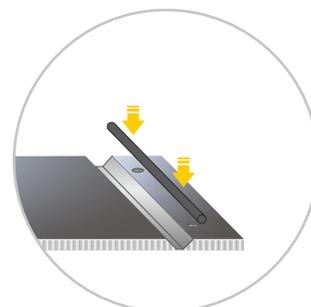
How to shape a cassette?



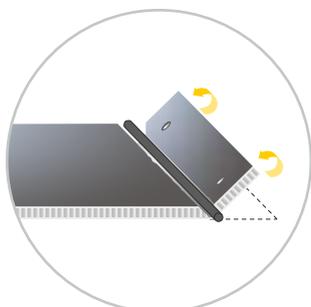
1. Machinig of the panel



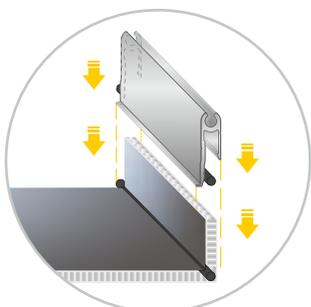
2. Routing of the 4 sides of the panel



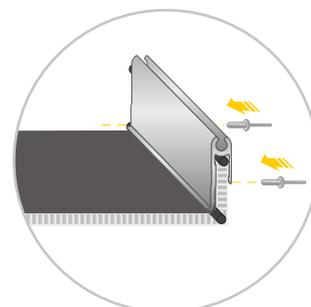
3. Sealing the panel with cellular cord



4. Bending to 90° of the panel



5. Placement to the LT-4 profile with cellular cords



6. Fiixing of the rivets



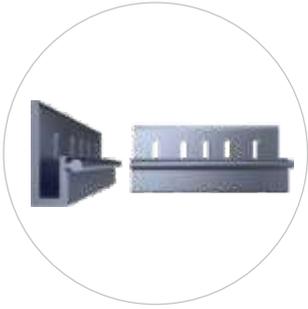
Accessories of **Hidetech® LIGHT** installation system



LT-1A Wind weight bracket



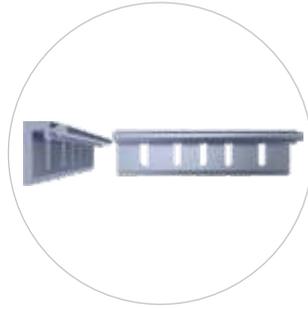
LT-1B Wind bracket



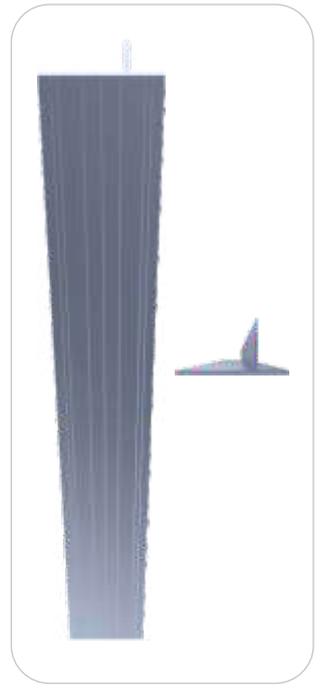
LT-31M Mobile clip (right/bottom)



LT-31F Fixed clip (top/left)



LT-32M Short mobile clip



LT-2 Vertical profile

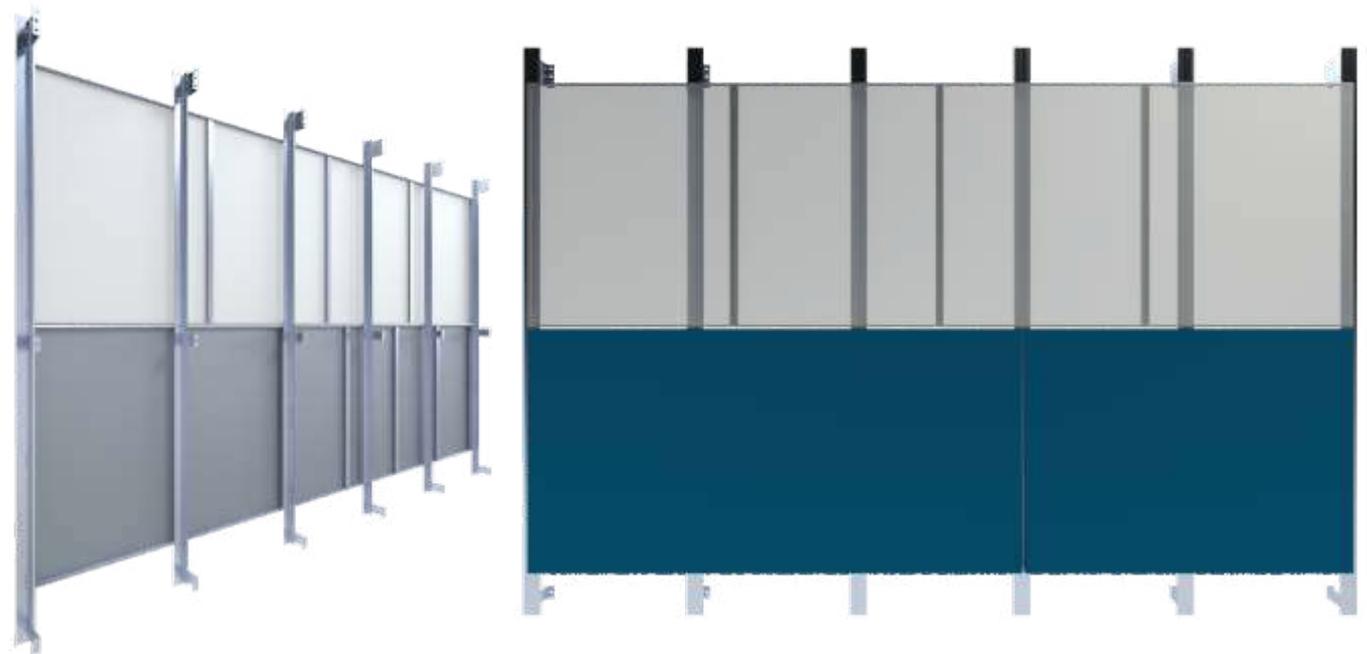


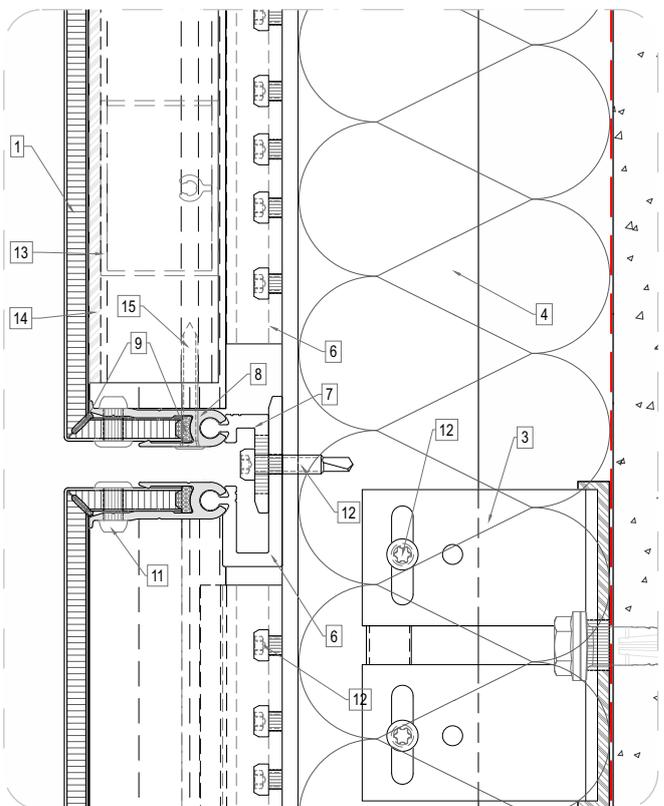
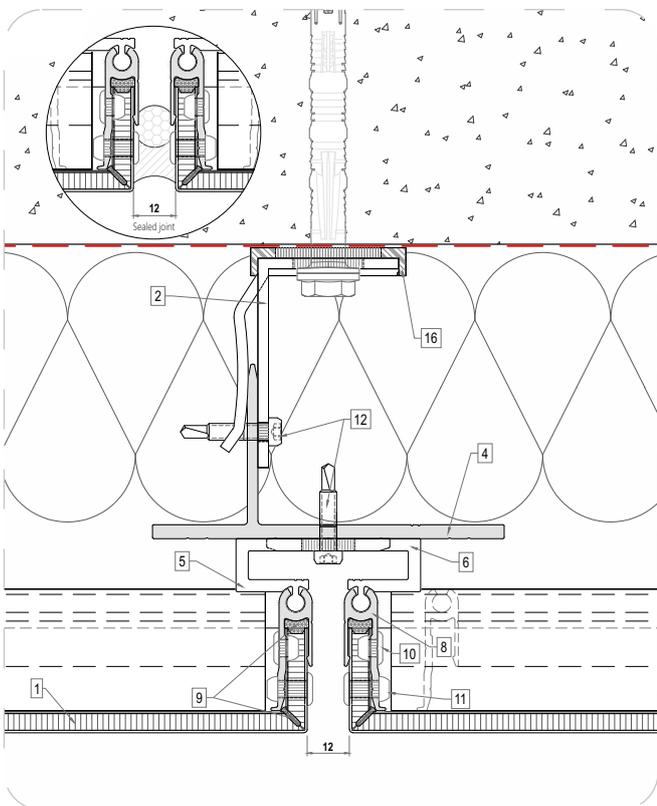
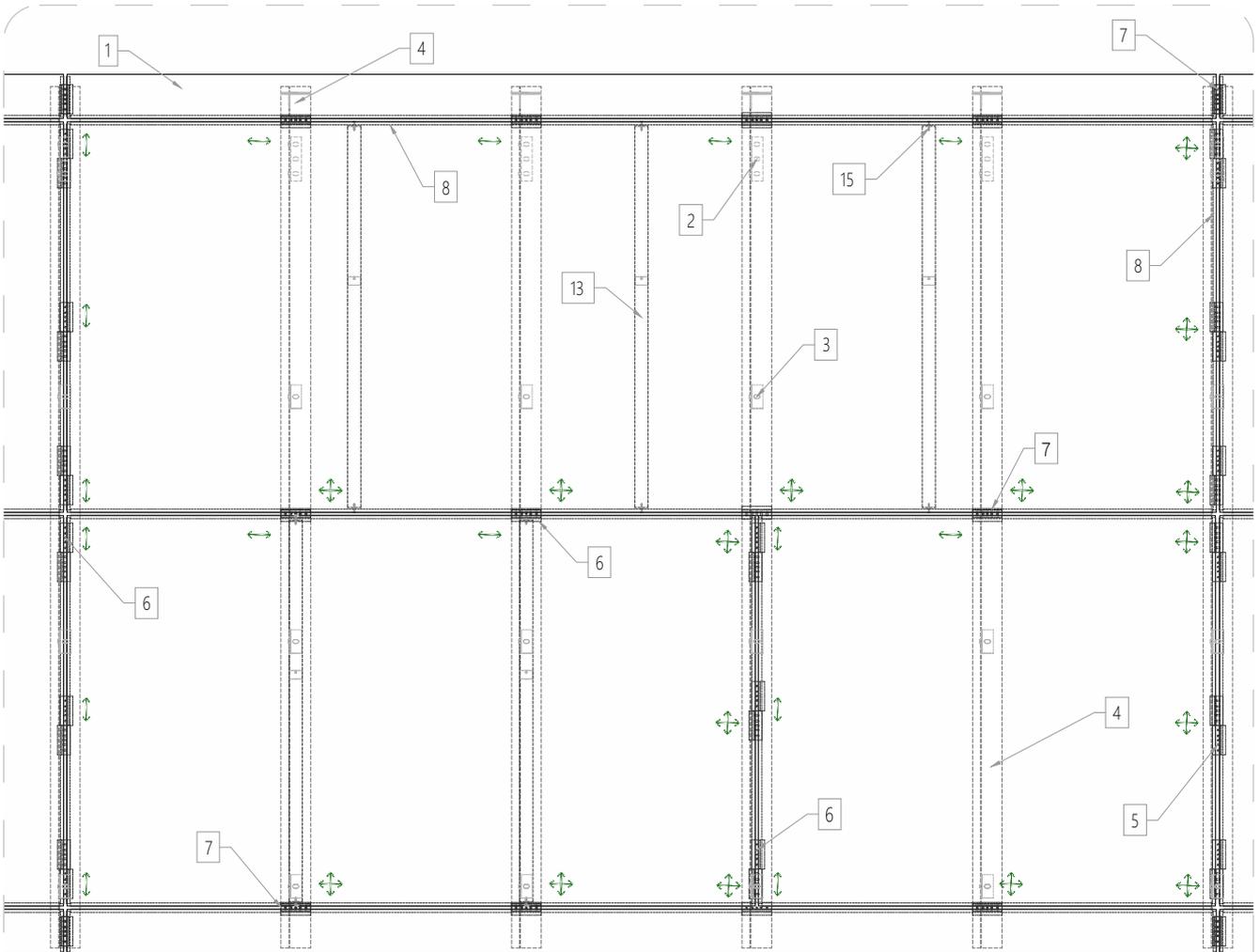
LT-4 Perimetral profile



LC-RH Perfil refuerzo intermedio

Elevations of **Hidetech® LIGHT** installation system





- 1. **larcore® A2** 6 mm panel
- 2. LT-1A Wind weight bracket
- 3. LT-1B Wind bracket
- 4. LT-2 Vertical profile
- 5. LT-31M Mobile clip

- 6. LT-31F Fixed clip (top/left)
- 7. LT-32M short mobile clip
- 8. LT-4 perimetral profile
- 9. Cellular cord
- 10. Waterproofing rivet

- 11. Standard rivet
- 12. EJOT TORX T25 special screw
- 13. LC-RH stiffener
- 14. Sika Tack Panel 50 adhesive
- 15. INDEX flat head screw

larcore® A2 14 mm

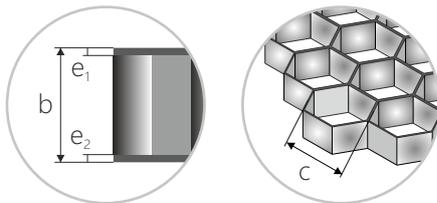
Hidetech® PRO

14 mm **aluminium honeycomb panels** with double edge closed panel installation system

Panel features

Total thickness "b" Tolerance $\pm 0,2$ mm	14 mm
External skin thickness "e₁"	1,0 mm
Internal skin thickness "e₂"	1,0 mm
Weight	6,75 kg/m ²
Standard width Tolerance -0 / +2 mm	1000 mm 1250 mm 1500 mm 2000 mm
Length Tolerance -1 / +6 mm a) min. b) max.	a) 2000 mm b) 14000 mm

Protective film
1,0 mm coated aluminium 5005 EN 573-3
 Bonding layer
Aluminium honeycomb core
 Bonding layer
1,0 mm aluminium 5754 EN 573-3



Mechanical features of the panel

The purpose of the mechanical values is to be able to compare different product configurations. Specific calculations for each project must be requested to the **Alucoil®** technical department.

Rigidity (EI) (kNcm ² /m) DIN 53293	TOP VALUE^(*)
*Extra rigid premium panel for use with Hidetech® PRO system. All necessary calculations are provided by our technical department.	
Acoustic insulation (R_(A)) ISO 10140-2	21,56 dBA
Thermal resistance (R)	0,0086 m ² K/W

Coated aluminium skin features

Aluminium alloy a) External skin b) Internal skin	a) 5005 ^(*) EN 573-3 b) 5754 ^(*) EN 573-3
Ultimate tensile strength (R_m) a) External skin b) Internal skin	a) 125 < R _m < 185 N/mm ² b) > 280 N/mm ²
Yield strength (R_{p0,2}) a) External skin b) Internal skin	a) > 80 N/mm ² b) > 220 N/mm ²
Elongation (A) a) External and internal skin	> 4%

Core features

Aluminium alloy	3005 ^(*) EN 573-3
Cell size	1/4" ≈ 6,35 mm
Foil thickness	50μ
Compressive strength	2,20 MPa DIN 53291
Density (ρ)	56 kg/m ³

^(*)Other alloy available.

Note: When the **larcore® A2** is used for exterior façades it must be installed with a system approved by **Alucoil®** (**Hidetech® PRO** or **Hidetech® LIGHT** systems) or with any other solution that do guarantee the panel watertightness under the customer's responsibility. For more information, request a product technical sheet or visit www.alucoil.com

For those who demand a perfect flat panel solution with a very high rigidity, **Alucoil®** has developed the **Hidetech® PRO** system from **larcore® A2** panels with a total thickness of 14 mm. A proposal based on clips that fix the edged panels to a very reduced substructure. A new concept that is extraordinarily light, non-combustible and with perfect flatness.

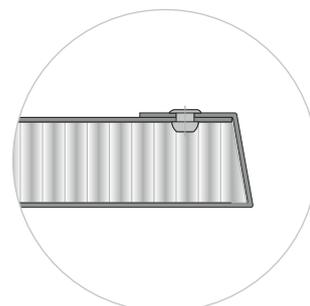
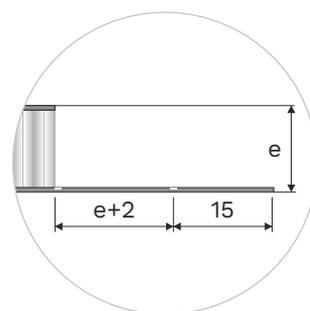
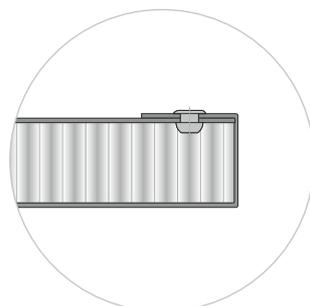
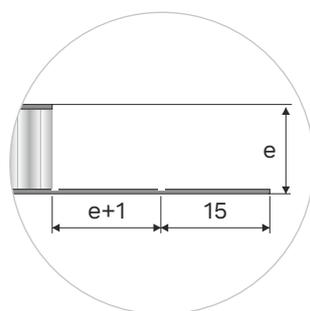
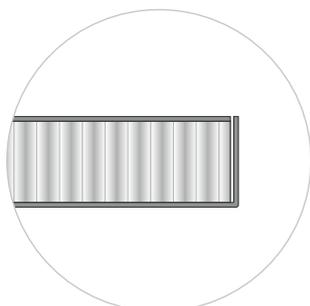
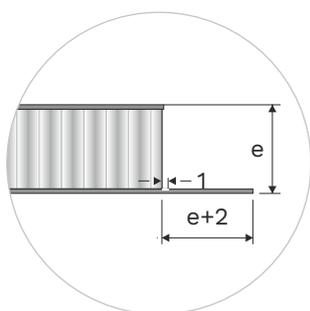
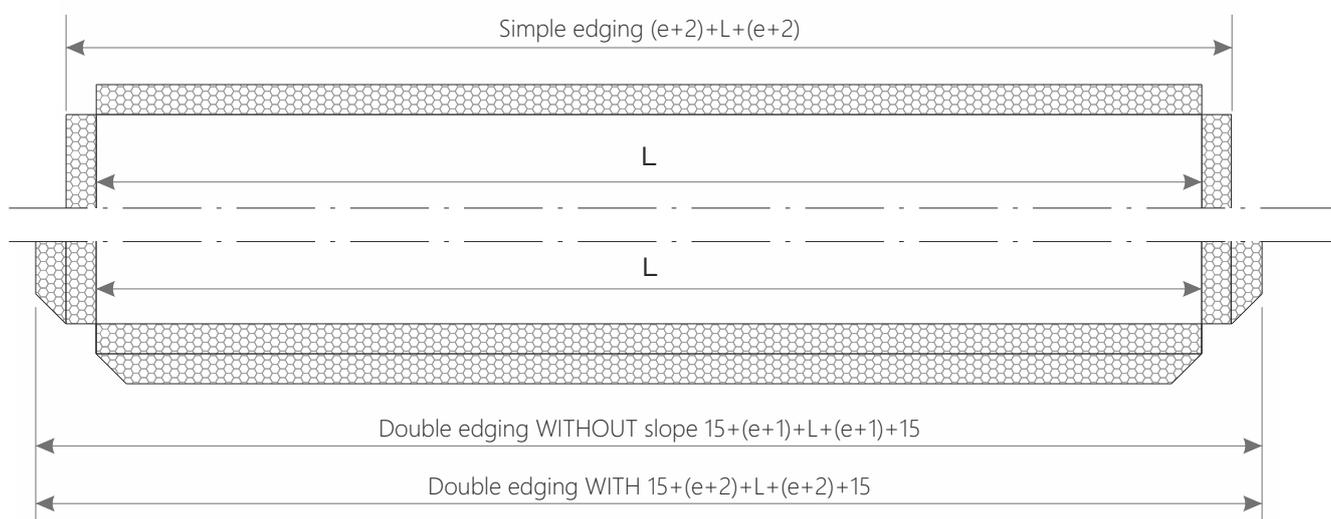
Certification: EPD® Environmental product declaration

Classifications:

a) Fire classification **A2-s1, d0**⁽¹⁾ EN 13501-1

⁽¹⁾Not specifically tested under EN 13501-1. Same adhesive quantity and composition than larcore® A2 14 mm + Alucoil's Hidetech® installation system, classified A2-s1, d0 EN 13501-1.

Hidetech® PRO installation system allows installing **larcore® A2** panels with a total thickness of 14 mm. These panels must be edged around the perimeter to ensure their sealing and they will be hung to the vertical profiles of the system by means of aluminum hangers that are mechanically fixed by rivets on the internal face of the panel.



1. Simple edging

2. Double edging WITHOUT slope

3. Double edging WITH slope

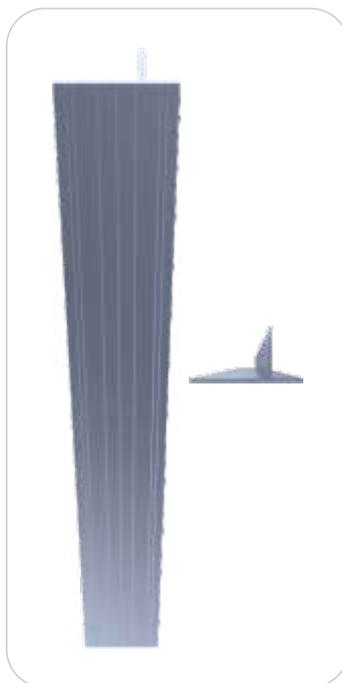
Accessories of Hidetech® PRO installation system



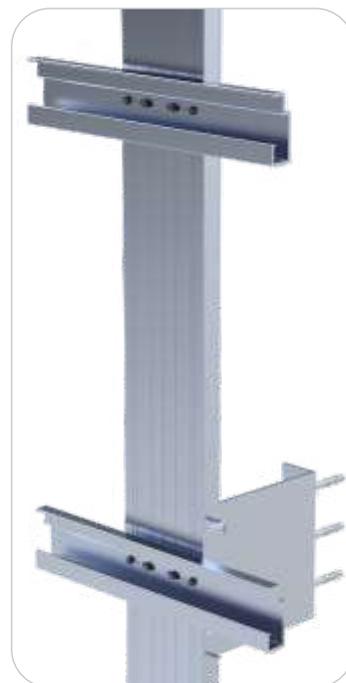
LT-1A Wind weight bracket



LT-1B Wind bracket



LT-2 Vertical profile



LT-1A + LT-2 + PRO-5



PRO-5 long hanger



PRO-5 short hanger



PRO-6R clip (regulation)



PRO-6 clip



PRO-6 clip riveted in the panel

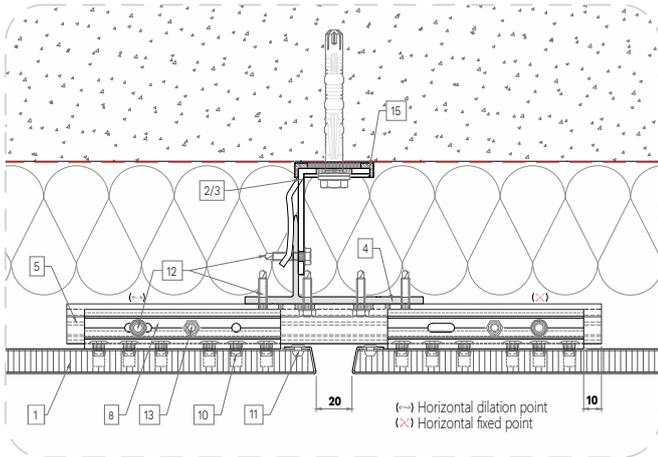


larcore® A2 14 mm panel with double and simple edging and placement of PRO-6 and PRO-6R clips

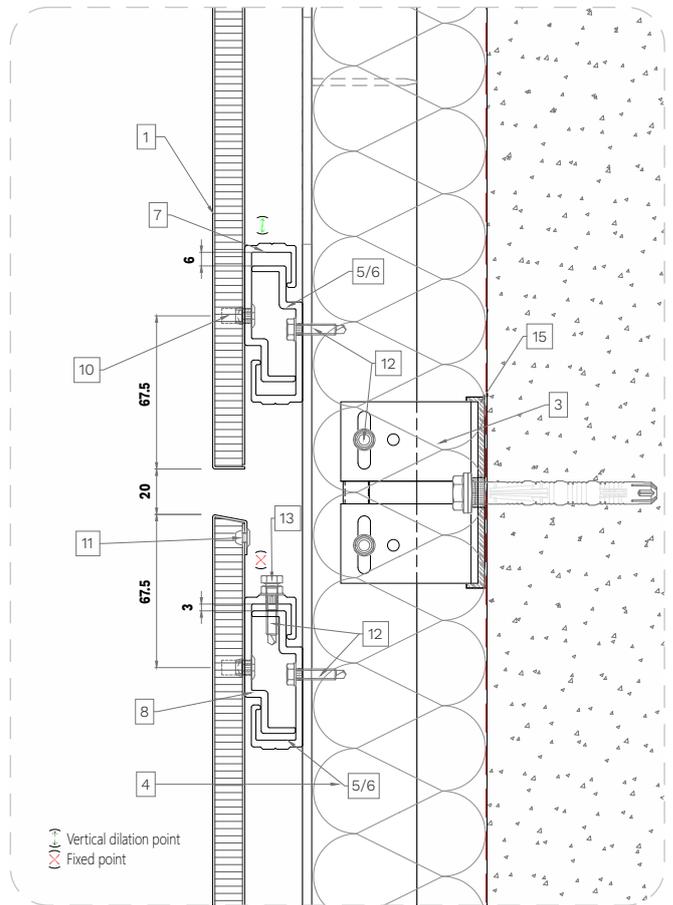


Mock up of **larcore® A2 14 mm** & **Hidetech® PRO** installation system

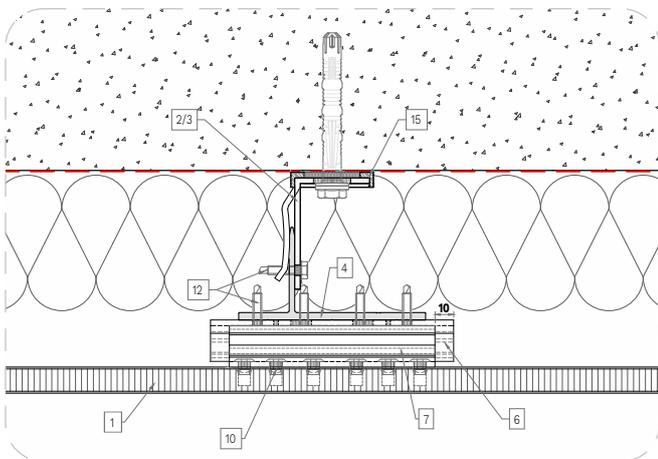
- 1. Iarcore® A2 14 mm panel**
- 2. LT-1A wind-weight bracket**
- 3. LT-1B wind bracket**
- 4. LT-2 vertical profile**
- 5. PRO-5A long hanger**
- 6. PRO-5B short hanger**
- 7. PRO-6 standard clip**
- 8. PRO-6R regulation clip**
- 9. DOWSIL™ 7092 High adhesive and Sealant silicone**
- 10. Hidefix 64090 rivet**
- 11. NeoSpeed Ø4.8x5.8mm (ref. 57121-14805) rivet**
- 12. DIN 7504-K Ø4.8x22mm A2/50 self-drilling screw**
- 13. DIN 933 M5x12mm A2/50 hex head screw**
- 14. SikaTack Panel 50 adhesive**



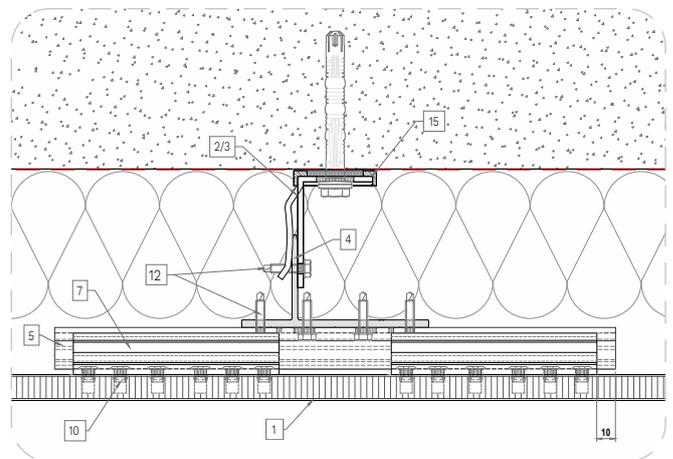
Vertical joint



Horizontal joint



Intermediate short hanger



Intermediate long hanger



larcore® A2 panels with 0,7 mm aluminium skins

larcore® A2 20 mm panel only available with 1 mm aluminium skins

Panels developed for systems present in the market such as glued, riveted or screwed.

Panel features

Total thickness Tolerance $\pm 0,2$ mm	8 mm	10 mm	14 mm	20 mm
External skin thickness	0,7 mm			1,0 mm
Internal skin thickness	0,7 mm			1,0 mm
Weight	4,83 kg/m ²	4,94 kg/m ²	5,19 kg/m ²	7,05 kg/m ²
Standard widths Tolerance -0 / +2 mm	1250 mm / 1500 mm / 1575 mm / 2000 mm			
Lengths Tolerance -1 / +6 mm	Desde 2000 mm hasta 14000 mm			

Mechanical features of the panel

The purpose of the mechanical values is to be able to compare different product configurations. Specific calculations for each project must be requested to the **Alucoil®** technical department.

Rigidity (EI) kNcm ² /m DIN 53293	Transversal/Longitudinal	Transversal/Longitudinal	Transversal/Longitudinal	Transversal/Longitudinal
	9421 / 7217	24458 / 22519	49915 / 45958	143868 / 121726

Coated aluminium skin features

Aluminium alloy (ext. int.)	5005 ^(*) EN 573-3
Ultimate tensile strength (R_m)	125 < R _m < 185 N/mm ²
Yield strength (R_{p0,2})	>80 N/mm ²
Elongation (A)	>4%

^(*)Other alloy available.

Core features

Aluminium alloy	3005 ^(*) EN 573-3
Cell size	1/4" \approx 6,35 mm
Foil thickness	50 μ
Compressive strength	2,20 MPa DIN 53291
Density (ρ)	56 kg/m ³

For more information, request a product technical sheet or visit www.alucoil.com

Certificates and classifications

larcore® A2 6 mm Hidetech® LIGHT & larcore® A2 14 mm Hidetech® PRO

Appréciation Technique d'Expérimentation (ATEX)

Numéro de référence CSTB : 3096_V1

larcore® Hidetech® PRO



CM40198

Coating possibilities

PVDF (Polyvinylidene Fluoride). Coating based on PVDF resins (Kynar and Hylar as main brands) with extraordinary performance.

Nominal paint thickness:

- a) **PVDF 2L Coastal:** 31 μ approx.
 - Gloss levels from 20 to 40 g.u.
 - Excellent colour stability, almost no chalking and very good chemical resistance.
 - Great protection against weathering, UV radiation and atmospheric contaminants.
 - Outstanding flexibility for profiling, bending and roll forming.
 - Recommended for demanding environments like industrial and coastal areas, airports, etc.

DG5 (High Durable Polyester). Coating based on HDP resins.

Nominal paint thickness:

- a) **DG5 2L Coastal:** 35 μ approx, (depending on the colour)
- b) **DG5 3L Coastal:** 55 μ approx, (depending on the colour)
- c) **DG5:** 25 μ approx.
 - Gloss levels from 10 to 90 g.u.
 - Outstanding protection against weathering, UV radiation and atmospheric contaminants.
 - Excellent hardness and flexibility for profiling, bending and roll forming.

PUR/PA (Polyurethane/Polyimide). Coating based on polyurethane resins.

- Very flexible and good formability.
- Good chemical resistance.
- Outstanding scratch resistance and high abrasion resistance.
- Good substrate adhesion: also used in primer systems.

NEW fluorlac® Coating for Iarcore® A2 panels

FEVE LUMIFLON™ 2 LAYERS. LUMIFLON™ fluoropolymer resins based coating with a nominal thickness of 30 μ , (depending on the colour).

COLOURS:

- RAL & NCS colour charts with matt, satin and high gloss finishes.
- Matched colours.

QUANTITIES:

- **Orders from 75 sqm.**
- Panel dimensions:
 - a) **Iarcore® A2 6 mm 0,7/0,5:**
 - 1500x5000 mm / 1500x4000 mm
 - 1250x5000 mm / 1250x4000 mm
 - b) **Iarcore® A2 14 mm 1,0/1,0:**
 - 1500x6000 mm / 1500x5000 mm
 - 1250x6000 mm
- Custom manufacturing by width and color, **orders > 400 sqm.**

SERVICES:

- Very short delivery times, **2-3 weeks.**
- One face coated with a protective film of 100 μ thick.

Other characteristics:

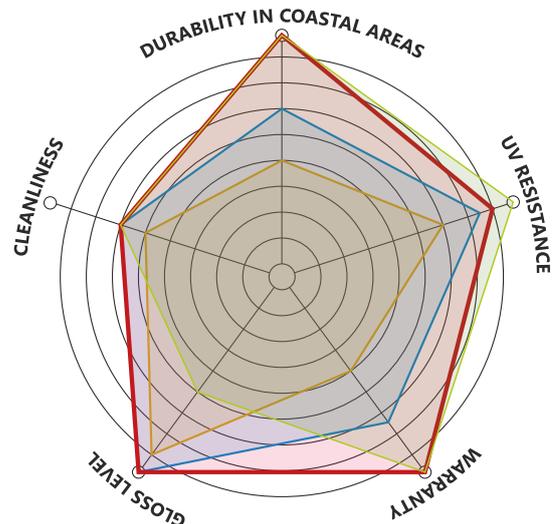
- Excellent weatherability and chemical resistance.
- High abrasion resistance.

PVDF 2L Coastal: 31 μ

fluorlac® FEVE LUMIFLON™ 2L: 30 μ

DG5 2L Coastal (HDP): 35 μ

PUR/PA: 16 μ (alunatural finishes)



larcore® A2



Marriott Courtyard. Batumi (Georgia)
larcore® A2 10 mm & 8 mm Traffic white 9016
Architects: Alliance Group

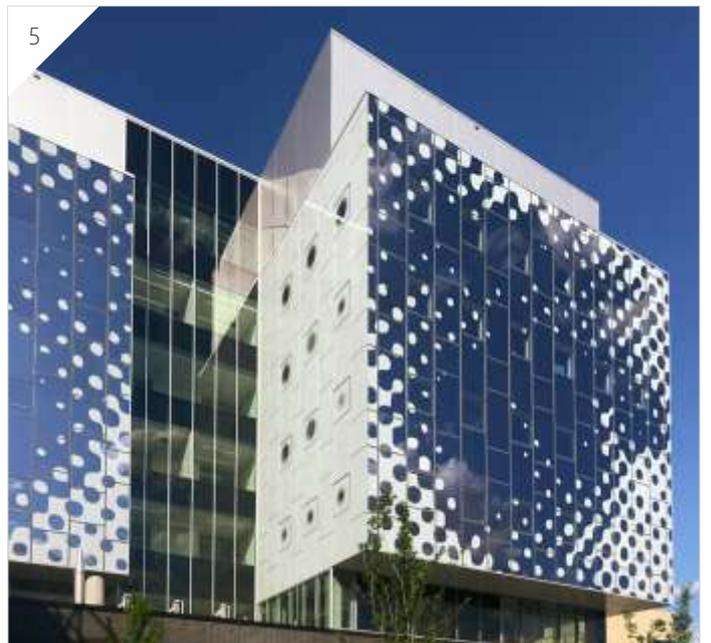


larcore® A2

1. Banco Santander. Madrid. **larcore® A2**. Alunatural anodic brushed gloss / 2. Housing Building "EL GOLF". Madrid. **larcore® A2**. Holo white gold. Architects: La Finca / 3. MVM DOME (Arena Stadium). Budapest Hungary. Architect: KÖZTI - György Skardelli. **larcore® A2** RAL 9006-9007-7048 / 4. E18HT South Esplanade. Glenelg Australia. Architect: Chassecrown. **larcore® A2**. Traffic white / 5. Toorak Park. Vic. Armadale Australia. Architect: Denton Corker Marshall. **larcore® A2**. Pure white, silver, champagne, 7035 and Anodized Look dark grey

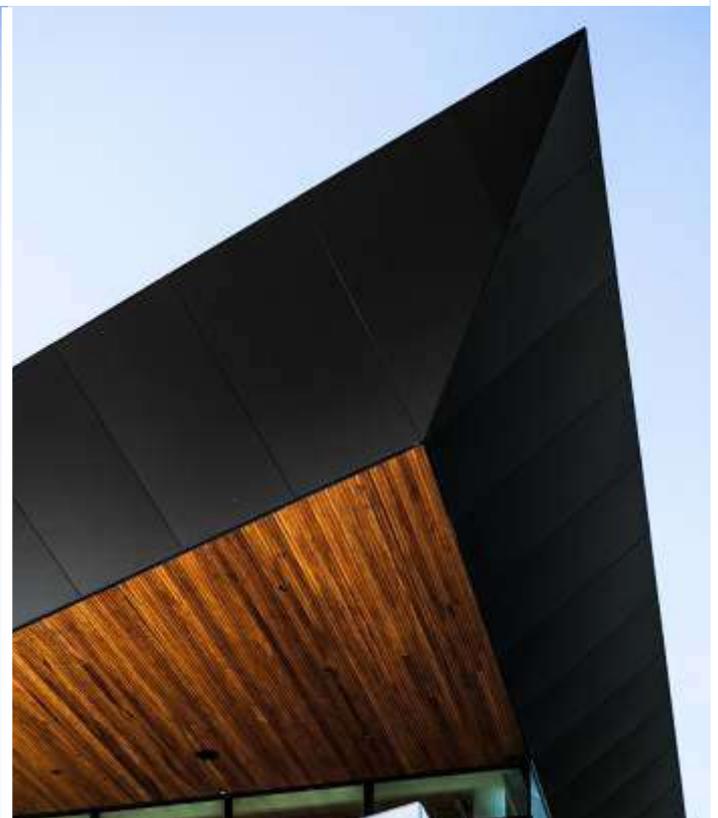


ALBAN TOWER. Tirana (Albania)
larcore® A2 14 mm. RAL 5001 - 5003 - 5009 - 6004 - 6005 - 6011 - 6020 - 7006 - 7013 - 7022
Architect: Archea Associati (Marco Casamonti)



larcore® A2

1. Omega Farma. Tirana (Albania). **larcore® A2**. NCS S1010-R80B. Architects: X-Plan Studio Tirana Albania. / 2. Housing building Zafiro Valdebebas Madrid (Spain). **larcore® A2**. RAL 9010 fast clean. Architects: Morph studio. / 3. Zurich airport (Switzerland). **larcore® A2**. RAL 9016. Architects: Burckhardt+Partner AG. / 4. Housing buildings Torres Neinor Homes. Valencia (Spain). **larcore® A2**. RAL 9016. Architects: NAC - Francisco Bagues. / 5. STEM complex "Science Technology Engineering Mathematics" - University of Ottawa (Canada). **larcore® A2**. Architects: Perkins + Will.



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