



Looks best. Lasts longest.





Aludecor Systems,
a framework and
accessories set-up,
is here to stay. Literally.

With this in place the facade
requires low or even no
maintenance. Get zero stains
or leaks thanks to the lack
of silicone in the grooves.
These Systems also promote
thermal insulation, bring bills
down and save energy
at large. Besides accentuating
the aesthetics of the
facade manifold.

Are you ready for the future?

Aludecor Systems facilitate Rainscreen claddings

Rainscreen cladding provides an exterior surface – a cladding layer – that reduces the force of wind-driven water movement, preventing it from getting into small breaches in the surface of a building. By the time the water reaches the ‘true’ exterior wall, it loses drive and therefore its ability to permeate the wall; hence the origin of the name Rainscreen cladding.

Aludecor Systems create a flat surface giving the specifier the opportunity to develop an aesthetically pleasing facade while providing long-term performance. A multi-layered Rainscreen cladding system will outperform alternative types of construction at an economic lifelong cost.

Aludecor has 3 assembly systems that offer new possibilities and solutions. These systems have been designed in great detail to adapt to the particular needs of each construction.

- Pressure-Equalised Rainscreen Systems (PER)
- Hanging Rainscreen Systems (HR)
- Male Female Rainscreen Systems (MFR)







What is PER system?

This system allows engineers to form ACP as tray using traditional rout and return. ACP strips are inserted in the grooves to provide a seamless finish. It also prevents the entry of water, air, dust and moisture.

Principle behind PER

Water vapour moves through the building envelope in two ways . . .

Vapour diffusion

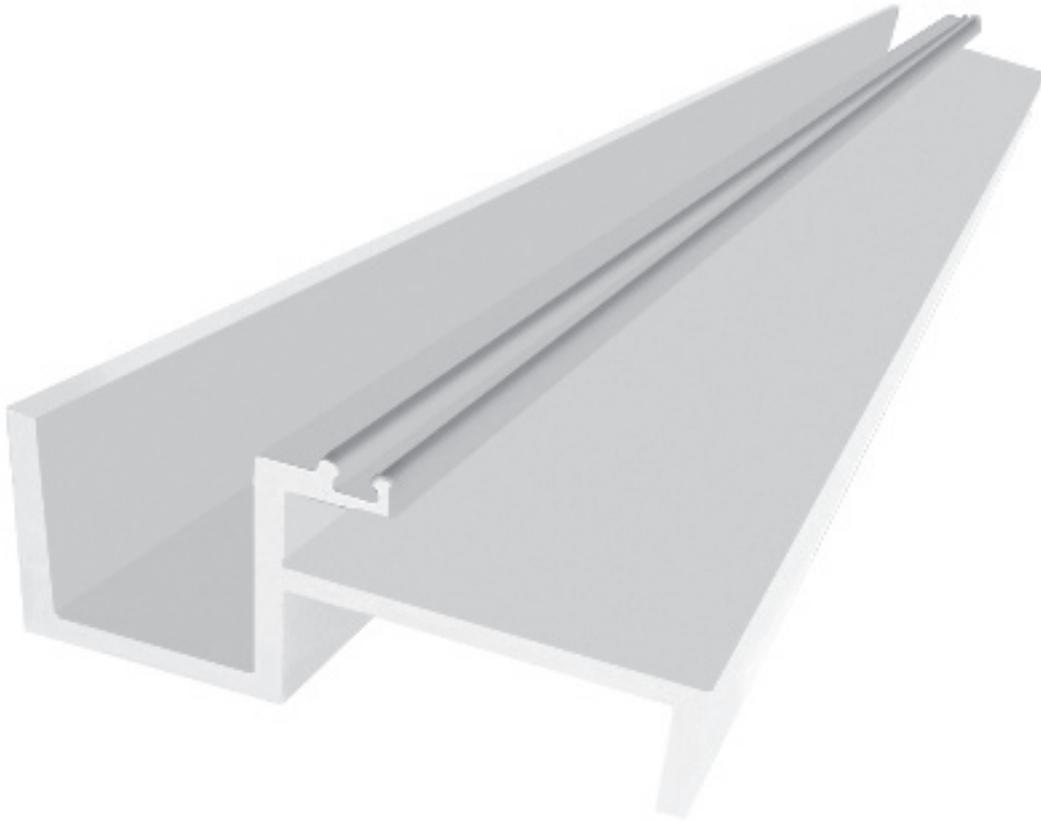
Water vapour travels from areas of high moisture levels to areas with low moisture levels. Typically water vapour moves from the warm side of an envelope to the cold side.

Air transport

Water vapour travels from an area of higher air pressure to an area of lower pressure if moisture is contained in the moving air.

A pressure-equalised Rainscreen cladding is specifically designed with a series of pressurised compartments vented at the top and bottom and closed on the sides. When wind pressure acts on the wall, the compartments fill with air. However because the sides are closed and the airflow through the vents is calibrated, the compartments can only fill to the point where the air pressure matches the pressure of the incoming wind. The air pressure within the compartments in the cladding assembly prevents negative relative pressure inside the cavity from 'pulling' water in to the wall assembly keeping out the bulk of water.



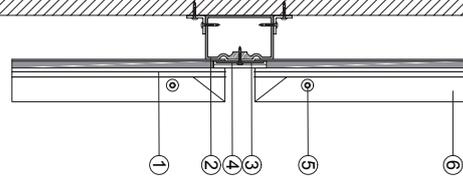
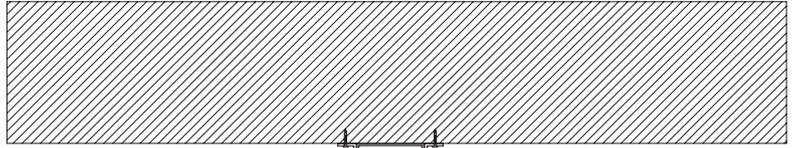
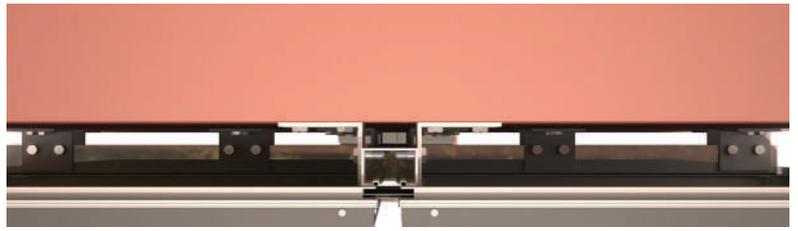


This is Aludecor Profile number ALPL/P/111 which will be placed at the perimeter of the ACP tray.

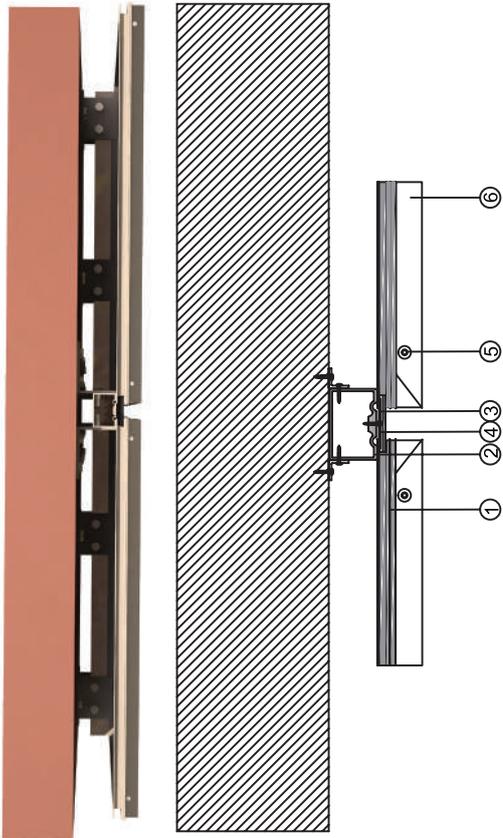


This is Aludecor Profile number ALPL/P/112 which will transfer the structural load to the wall. This goes inside the brackets.



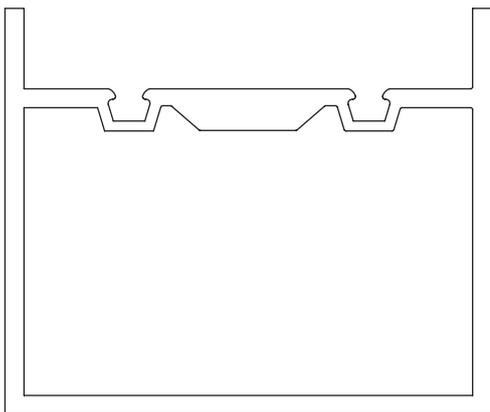


Horizontal Section

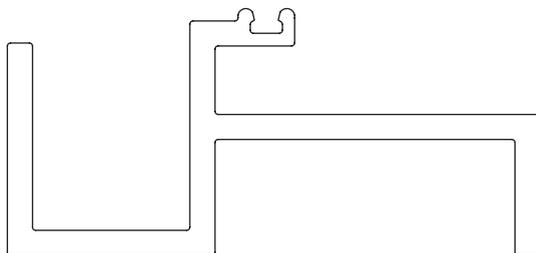


Vertical Section

SL	DESIGNATION
1	Aluminium Profile - ALPL/P/111
2	Aluminium Profile - ALPL/P/112
3	Aludecor ACP Strip
4	Steel Screw
5	POP Rivet
6	Tray made from Aludecor Aluminium Composite Panel

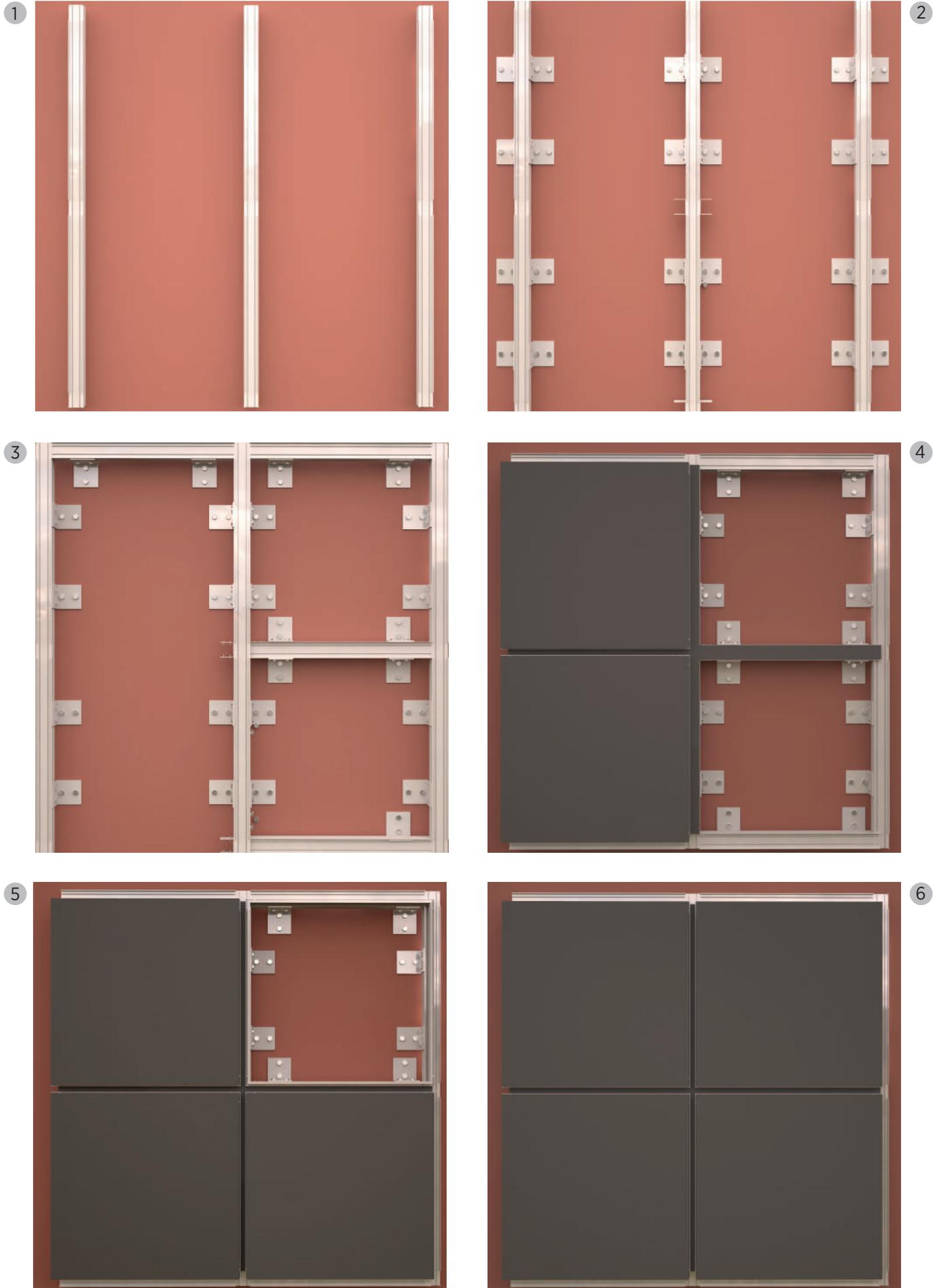


ALPL/P/112



ALPL/P/111

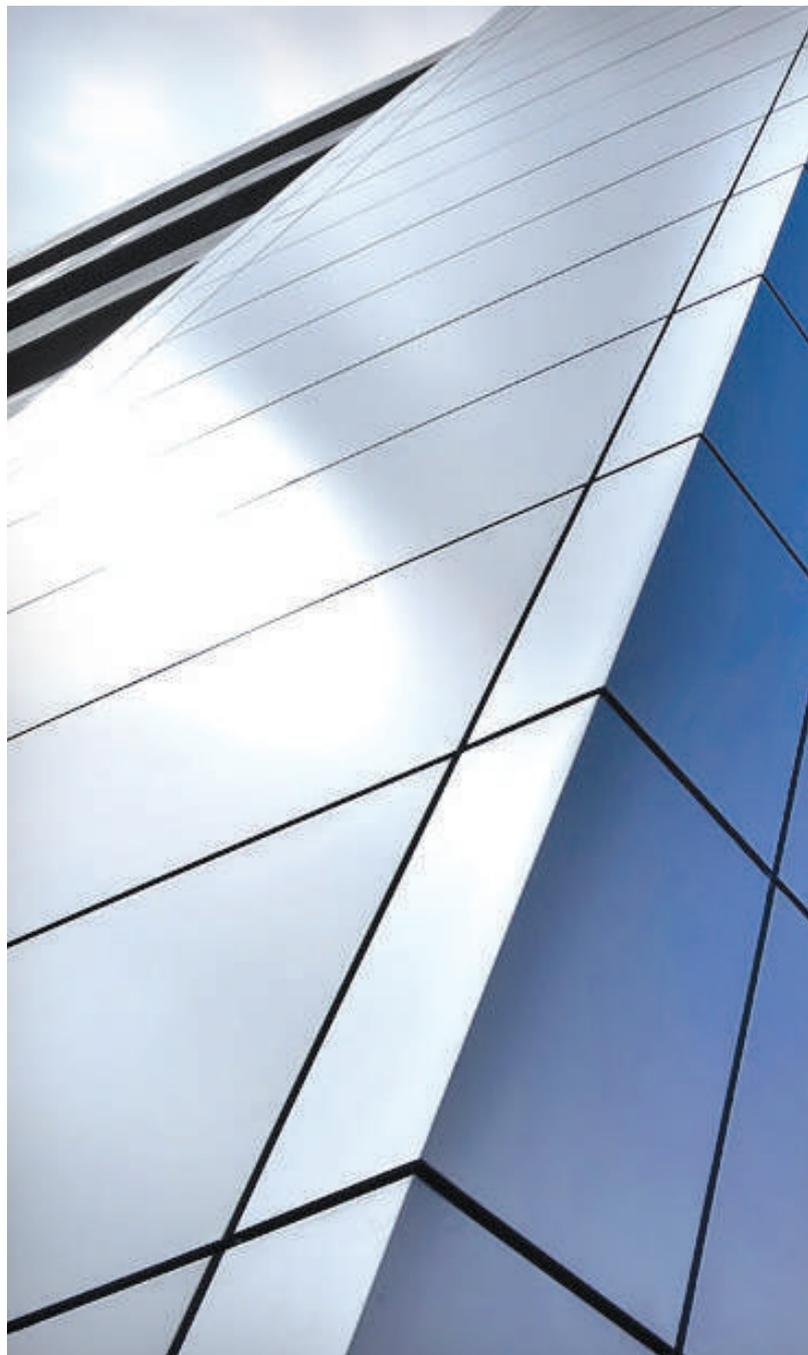
Step-by-step installation



What are ventilated facades?

The ventilated facade is an external finishing system that permits the fitting of Aludecor ACPs, separated from the thermal insulation, by using a loading structure. The distance allows for the flow of air current between the panel and the facade with which an optimum thermal and acoustic insulation is achieved. It also facilitates efficient protection from atmospheric agents. The panel is fixed to the facade using constructive elements that have been designed and fabricated for an easy and efficient fitting of the system.

The main advantage of the ventilated facades is that it helps conserve energy. This is made possible due to the existing chamber between the brick and the composite panel that causes a reduction in thermal transmission and therefore helps save energy inside the building.





Aludecor Hanging Rainscreen System

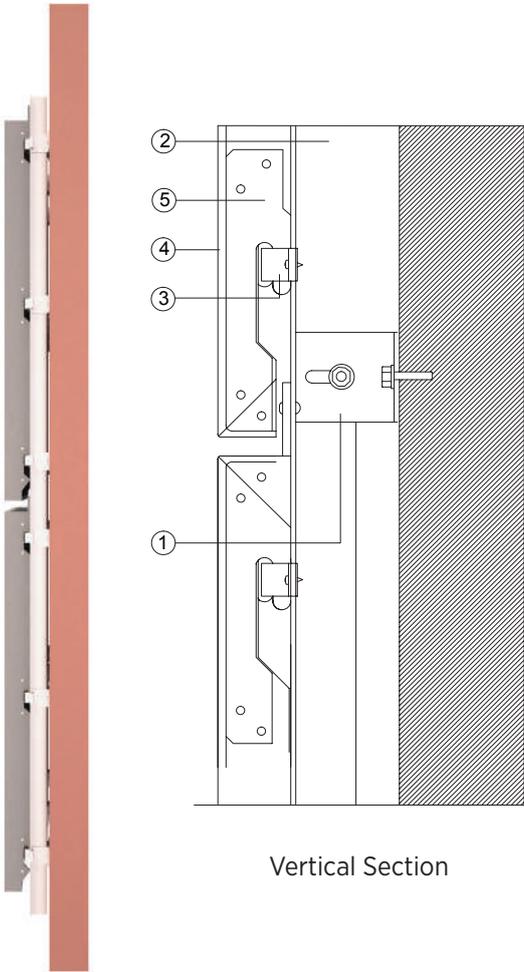
What is HR?

The Aludecor Hanging Rainscreen System (HR) is a concealed fixing mechanism that is versatile and can be assembled quickly. The tray modules here can be both horizontal and vertical. Aludecor HR complies with all of the requirements to carry out the most revolutionary claddings.

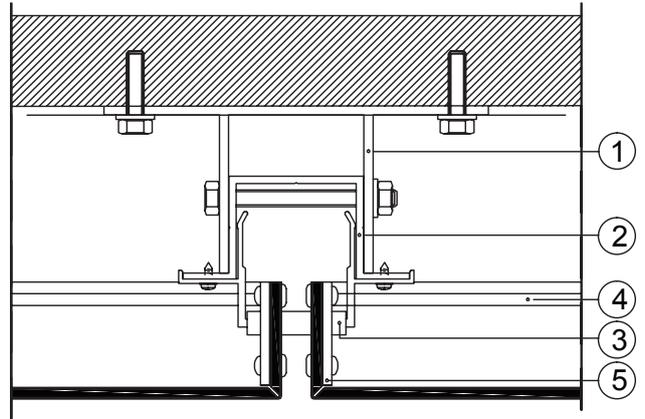
All of the sub-structure is made with an aluminium 6063 T5 profile and formed by double T fixings which have different lengths in order to absorb any irregularities in the facade.

Principle behind HR

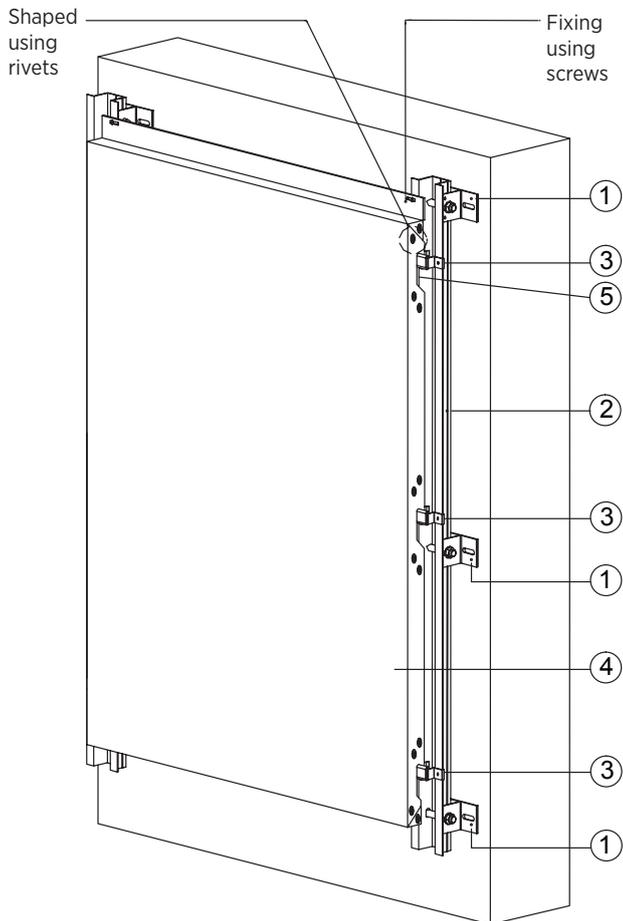
The Aludecor-HR System is based on the back-ventilated facade mechanism.



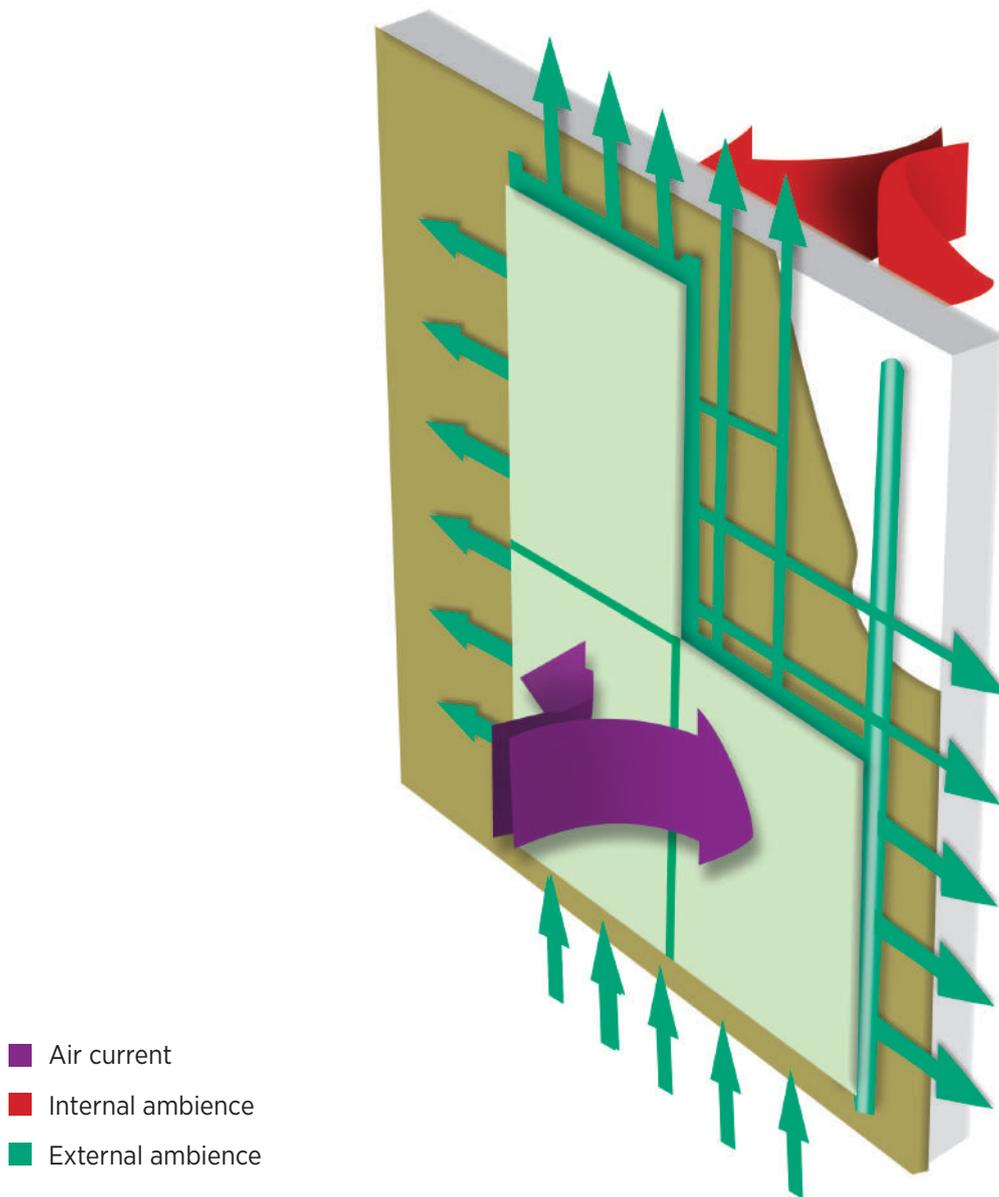
Vertical Section



Horizontal Section



SL	DESIGNATION
1	Double T profile bracket - ALPL/P/210
2	Aluminium Profile - ALPL/P/211
3	Aluminium Profile - ALPL/P/212
4	Tray made from Aludecor Aluminium Composite Panel
5	Concealed groove reinforcement ALPL/P/214



Clear illustration of the principle

The construction system

The ventilated wall is a complex construction system developed in accordance with industrial design criteria. Every detail must be examined and defined in advance to avoid the need for substantial modifications while the works are already in progress. The system is anchored to the building walls, which act as the support, and involves 'superimposed' layers comprising . . .

- insulating blanket.
- load-bearing steel construction structure.
- facing elements.

Between the insulation and the facing elements, an air gap is thus created which, by means of a 'chimney effect', sets up effective natural ventilation, ensuring significant benefits related to the removal of heat and moisture.



Building walls

The perimeter wall of a building must ensure suitable anchoring of the load-bearing structure of the ventilated facade, and must be made of materials (masonry, reinforced concrete, blocks) and systems that ensure suitable resistance to the wind loads allowed for in the design project. A suitable choice of the thickness and type of support material, along with the advantages offered by the ventilated wall in terms of thermal performance, eliminates the need for the traditional inner counter wall made of hollow bricks, thus providing a useful surface for housing. Attention must always be given, however, when positioning wiring and cabling in the walls, so that these do not interfere with the anchoring of the facade covering. To reduce any irregularities in the underlying wall, it is advisable to spread a layer of mortar uniformly over the external surface of the support.

Insulating blanket

The insulating blanket is composed of thermal insulating material of variable thickness depending on the material used and the thermal requirements of the design project. It is anchored directly to walls using mechanical bolts. Mechanical anchoring of the blanket is particularly indicated for facade repairs, as adhesives may not be able to guarantee perfect adhesion on surfaces that are irregular and have deteriorated due to weathering. The insulating blanket must be composed of semi-rigid or rigid panels in mineral fibres or cellular materials. The choice of the insulating material depends on the following performance requirements . . .

- thermal insulation capacity
- waterproofing
- non-flammability
- acoustics
- colour of the surface layer (in some cases the size of the joints between the facing elements might expose the insulating layer).



Ventilated air gap

The air gap between the insulation and the external facing must be suitably sized to guarantee good air circulation and, above all, to set up the 'chimney effect' (upward draught of warm air). The thickness is usually between 50 mm and 100 mm. The functionality of this gap depends on the conditions of its internal air circulation, so it should be kept free of any impediments that might limit the flow (bottlenecks caused by the presence of structural or anchoring elements, surface irregularities of the insulating layer or facing material). To enable the upward movement of air inside the gap ventilation openings of adequate size must be put at the bottom and top with protective grates to prevent the entry of foreign bodies. The presence of a ventilated air gap means . . .

- evacuation of water vapour coming from inside the building.
- heat removal by the upward motion of the air.
- reduction of the heat flow from the outside to the inside of the building.



Load-bearing structure

The load-bearing structure consists of integrated metal elements, generally extruded aluminium profiles, including brackets, uprights, crosspieces, and anchoring devices, which are assembled in such a way as to obtain the necessary modularity of the facade. The small metal accessories for anchoring the facing slabs, with gaskets to separate the elements and prevent vibrations, are either inserted into the extruded aluminium profiles or riveted to them. The load-bearing structure works as follows . . .

- the uprights of the facade are anchored to the building structure by brackets and suitable bolts.
- any crosspieces (used only in certain systems) are anchored to the uprights through slotted holes.
- the facing slabs are anchored to the uprights using special metal accessories.

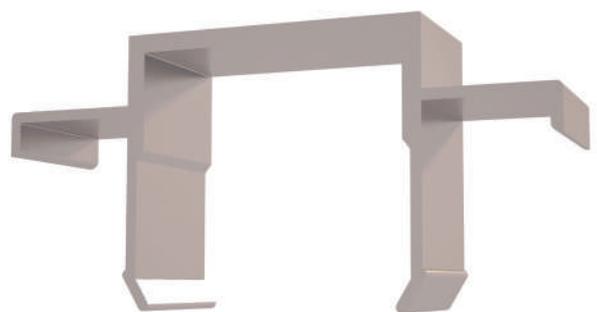
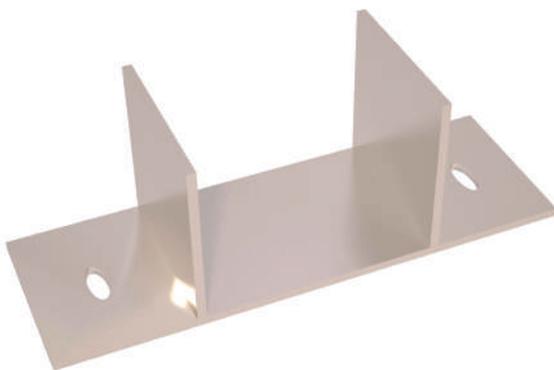
The Aludecor HR System is a fully drained and ventilated facade which forms the external aesthetic element of a multilayer wall. The panels are supported by the extruded aluminium grid which offers a variety of zone widths and excellent adjustability. This system also allows air movement at the bottom and the top of the elevation ensuring air movement in the cavity between the panel and the inner wall. This system protects the structural backing wall against water, wind, and solar damage.

All of the sub-structure is made with an aluminium 6063 T5 profile and length can be customised pertaining to minimum order quantity.

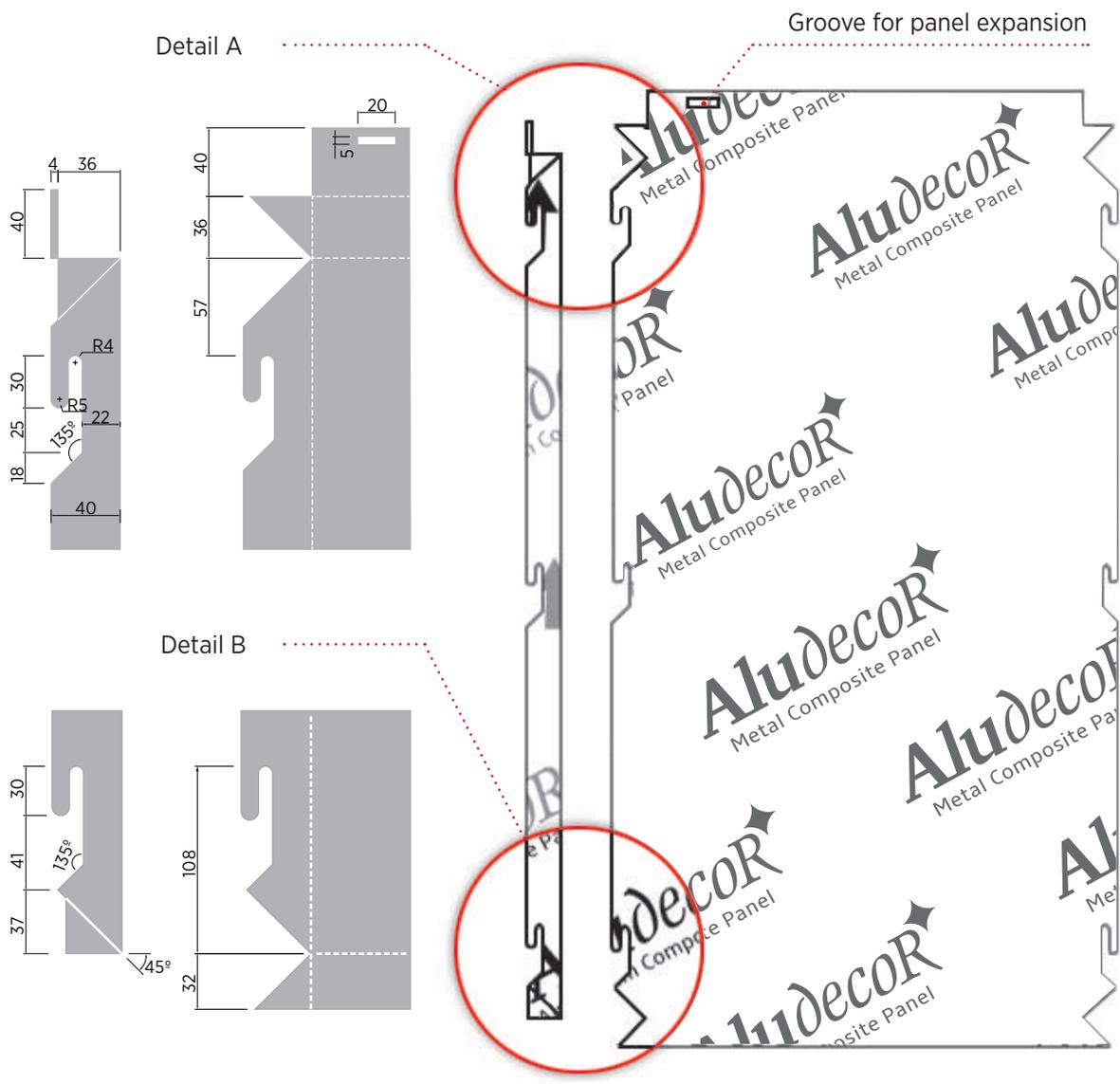
The following explains the assembly order of the Aludecor HR . . .

- fabricate the ACP.
- install fabricated ACP to Aludecor System and wall.

Aludecor Hanging Rainscreen System requires the cutting of the ACP holding edge with a defined shape and this can be achieved either by punching die machine or CNC.

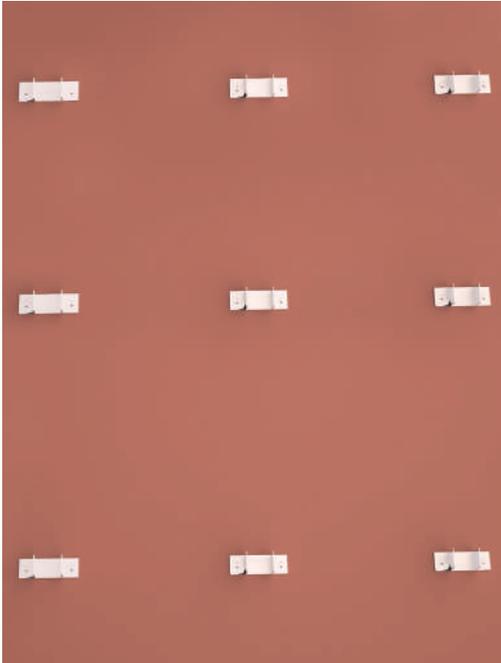


Cut the ACP edge as per the drawing below

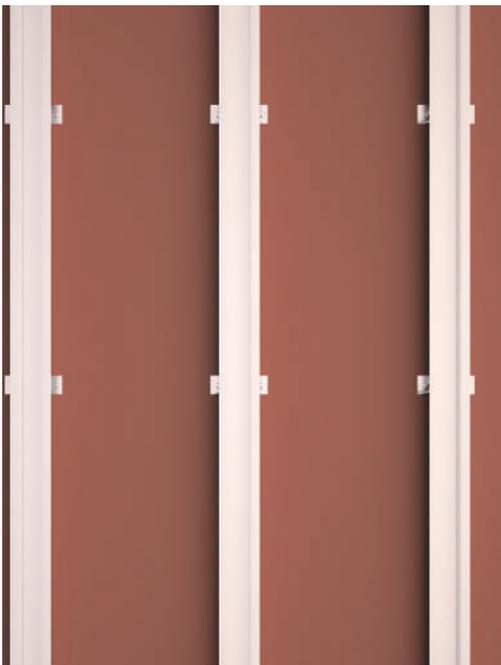


Step-by-step installation

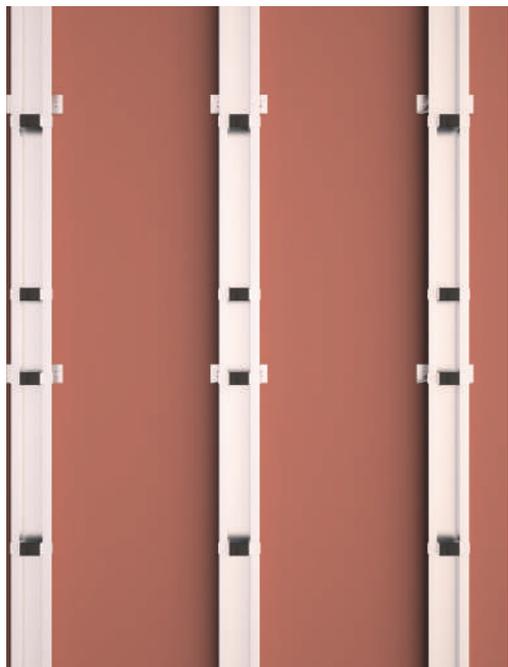
- 1 When fitting any type of ventilated facade, we must take in to account its overhang. The first step is to fit the double T bracket spacers ref. ALPL/P/210. These must be perfectly aligned vertically. The type of spacer to be used will depend on the facade overhang.



- 2 The omega profile (ALPL/P/211) will be screwed to the double T fixings so that they remain perfectly plum with the adjustments that the system allows. The first and last fixing will be fitted at 250 mm from the omega mullion profile end.



- 3 The external hanging parts (ALPL/P/212) or the internal parts (ALPL/P/213) are fitted over the omega. These are height adjusted depending on where the hanging cleats are situated on each tray. They can never be over the maximum distance of 500 mm between each one.



- 4 The Aludecor Composite Panel. The last step will be to fit the trays over the hanging pieces which are then screwed against the omega mullion flaps in the elongated holes that are situated in the top horizontal flange of the tray. The facade is to be executed in a rising direction.



Stiffener Fitting System

1 Area preparation

Dust and dirt is to be removed using mechanical processes but in no case should any dissolvent be used. This cleaning consists of a more or less deep sanding depending on the existing dirt. Afterwards the dust must be blown away with compressed air. Please use the de-greasing cleaner or any similar cleaner and leave to evaporate for at least 10 minutes.

2 Area priming

Once the area is cleaned, the priming is done by using a specific product that strengthens the adherence of the elastic adhesive.

3 Double sided adhesive tape

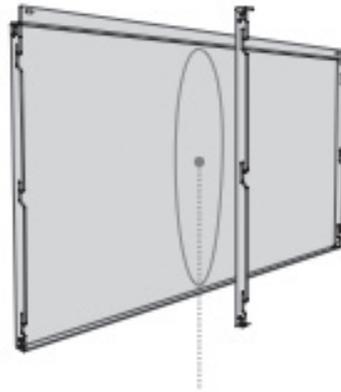
After the wait time and priming (30, 60 min) please proceed to fit the double sided auto-adhesive tape to hold the piece.

4 Adhesive application

The elastic adhesive or similar maybe fitted on to the tray by applying a strip to the double-sided tape.

5 Fitting the Stiffener

The stiffener (ALPL/P/215) must be fitted so that its surface remains impregnated with adhesive. Afterwards the top and bottom parts will be riveted against the horizontal tray flanges.



1 Area preparation



2 Area priming



3 Double sided adhesive tape



4 Adhesive application



5 Fitting the Stiffener





Aludecor Male Female Rainscreen System

What is the system?

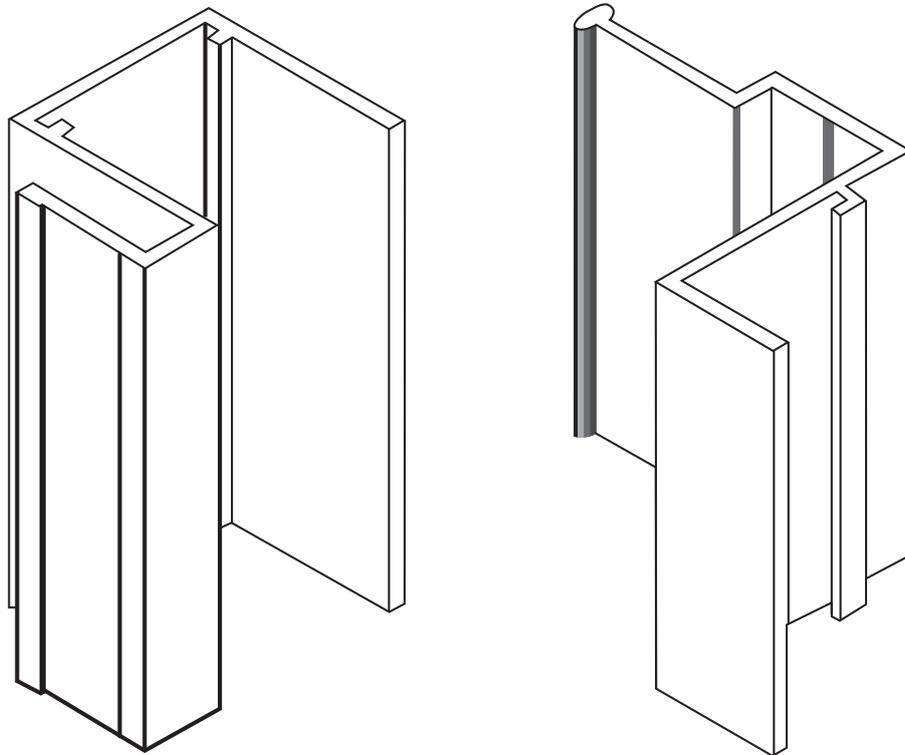
The Aludecor Male Female Rainscreen System (MFR) for assembling the composite panels on ventilated facades comprises Male and Female 6063-T5 aluminium alloy profiles. The system has two profiles over which the shaped trays are fixed.

It is a concealed fixing system that is versatile and can be assembled quickly. Furthermore it has been studied especially in order to develop ventilated facades for Aludecor's composite panels with horizontal adjustment.

The substructure is made entirely of 6063 T5 aluminium profiles. It comprises fixings in a double T-shape with different lengths in order to absorb all irregularities of the facade. In order to avoid vibrations in the Aludecor panels, the male/female profiles have the neoprene protection gasket.

The spacer is fixed to the vertical parameter using special mechanical wedges that are recommended in each case by the fixing suppliers. These double T spacers receive the omega shaped vertical mullions.

The trays are fixed to the vertical mullions using extruded profiles made from aluminium alloy 6063 T5.



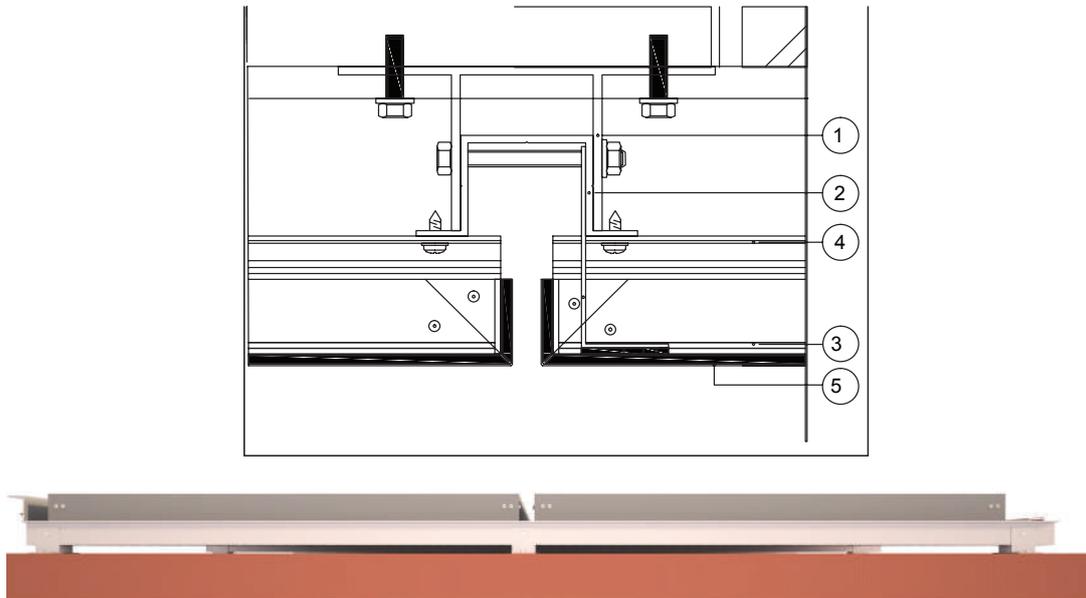
M Profiles and F Profiles

What is the principle behind it?

The back-ventilated facade system is the driving principle behind Aludecor MFR.

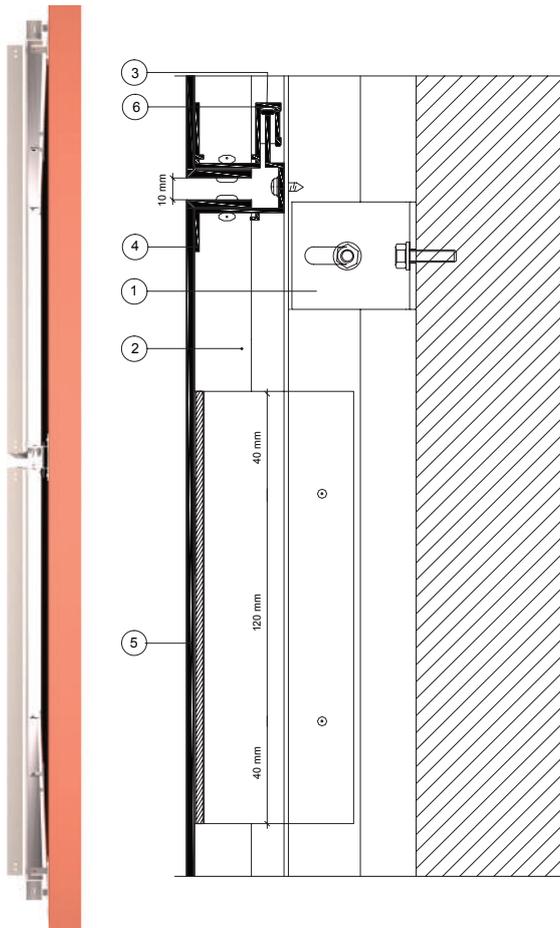
Defining ventilated facade

Spacing out the cladding slabs from the wall also creates a gap, which combined with the action of an insulating layer applied on the building walls, will improve the building's thermal efficiency. Further important advantages of the system include the dispersion of water vapour through the walls, the improvement of sound proofing as well as the reduction of maintenance operations and the possibility to punt some fittings outside the building. The flexibility of the system lends itself to both new constructions and the renovation of old buildings. This system is an excellent means for the latter, as it helps to improve the quality of the existing building. Also in terms of composition, the ventilated facade offers new expressive possibilities by mixing and matching of different options.

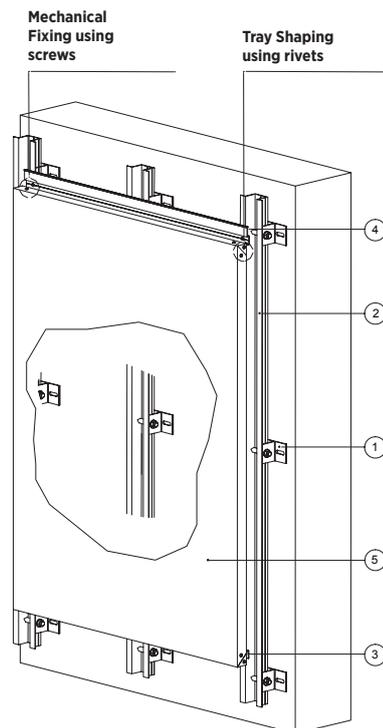


Horizontal Section

SL	DESIGNATION
1	Double T profile bracket - ALPL/P/210
2	Aluminium Profile - ALPL/P/211
3	Aluminium Profile - ALPL/P/311
4	Aluminium Profile - ALPL/P/312
5	Tray made from Aludecor Aluminium Composite Panel
6	Neoprene gasket every 500 mm max

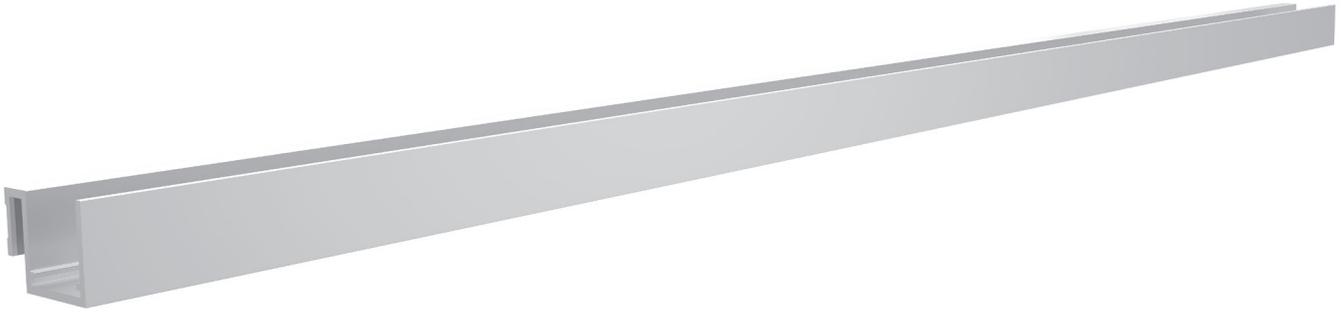


Vertical Section

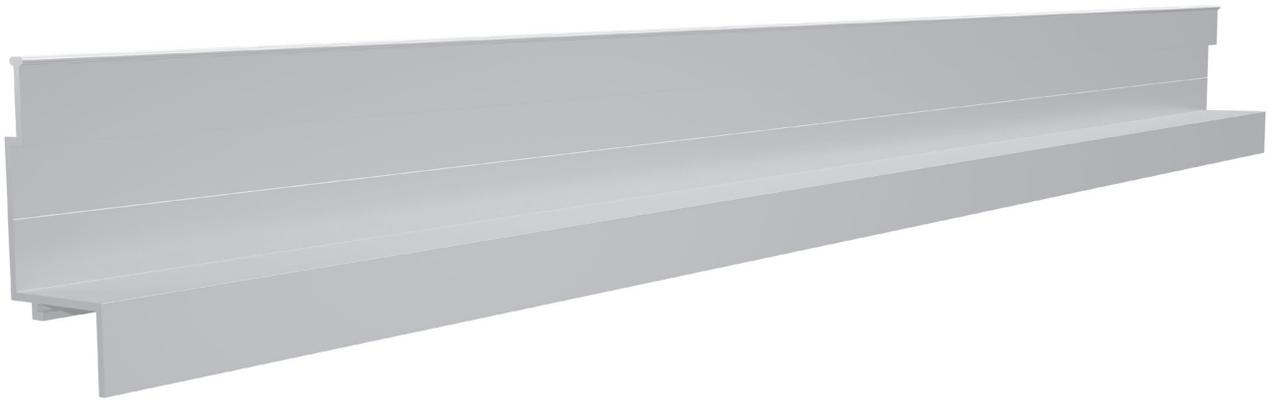








ALPL-P-311



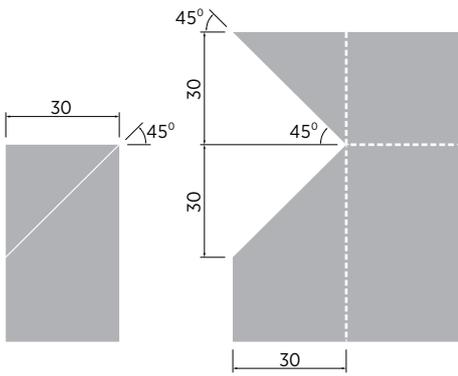
ALPL-P-312

Load-bearing structure

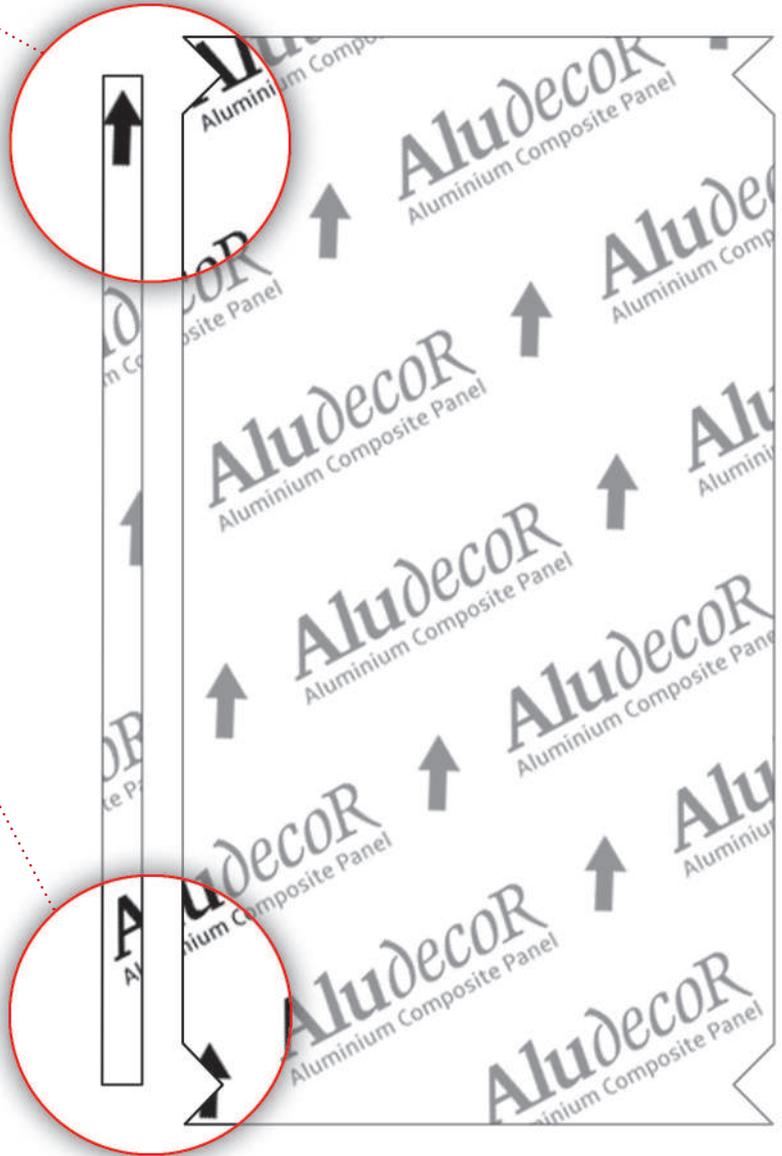
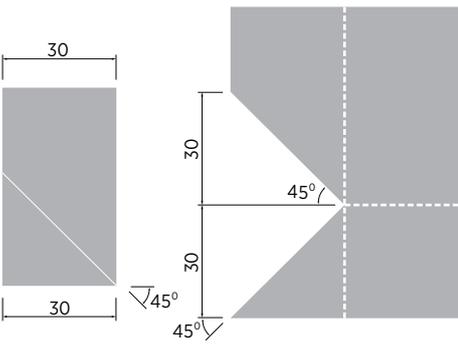
The load-bearing structure consists of integrated metal elements, generally extruded aluminium profiles, including brackets, uprights, crosspieces, and anchoring devices, which are assembled in a certain way to obtain the necessary modularity of the facade. The small metal accessories for anchoring the facing slabs, with gaskets to separate the elements and prevent vibrations, are either inserted into the extruded aluminium profiles or riveted to them. The load-bearing structure works as follows . . .

- the uprights of the facade are anchored to the building structure by brackets and suitable bolts.
- any crosspieces (used only in certain systems) are anchored to the uprights through slotted holes.
- the facing slabs are anchored to the uprights using special metal accessories.

Detail A



Detail B



Step-by-step installation

The Aludecor MFR System is a fully drained and ventilated facade which forms the external aesthetic element of a multilayer wall. The panels are supported by the extruded aluminium grid which offers a variety of zone widths and excellent adjustability. This system also allows air movement at the bottom and the top of the elevation ensuring air movement in the cavity between the panel and the inner wall. This system protects the structural backing wall against water, wind, and solar damage.

The system complies with all the requirements to carry out the most revolutionary architectonic claddings. It must be mentioned here that all of the sub-structure is made with an aluminium 6063 T5 profile and the length can be customised pertaining to the minimum order quantity.

The following explains the assembly order of the Aludecor MFR . . .

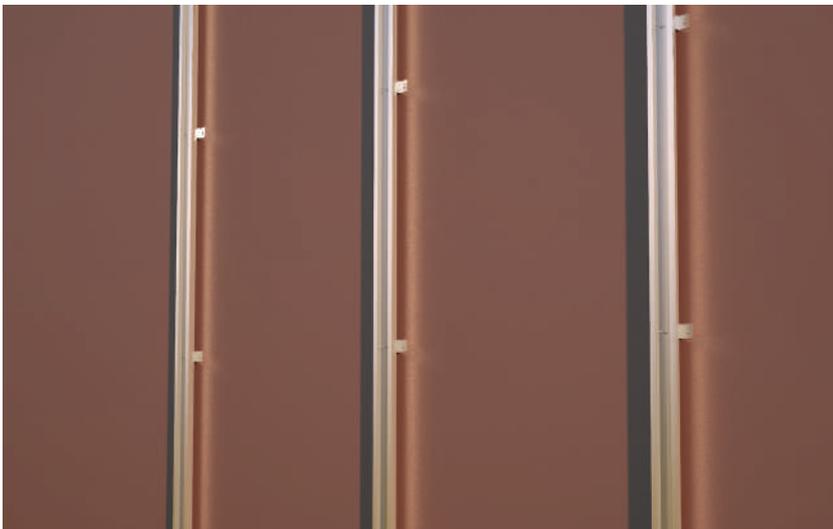
- fabricate the ACP.
- install fabricated ACP to Aludecor System and wall.

The following explains the assembly order of the Aludecor - MFR hanging system . . .

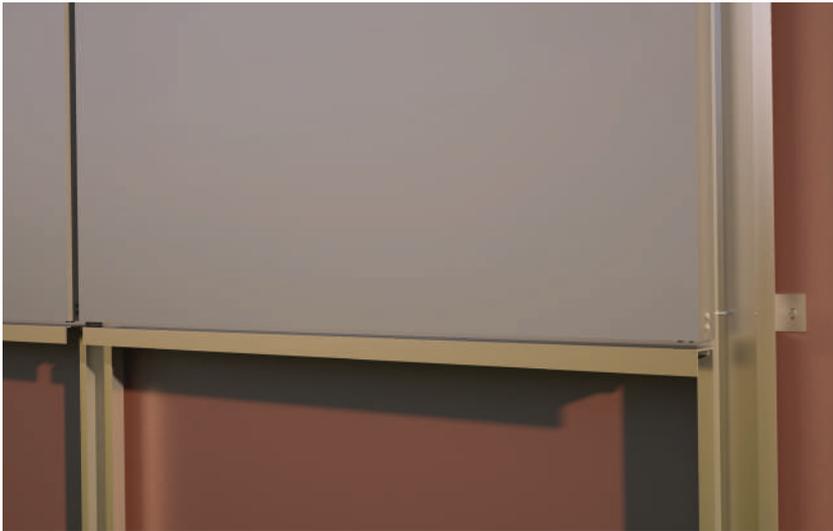
- 1 When fitting any type of ventilated facade, we must take in to account its overhang. The first step is to fit the double T spacers ref. (ALPL/P/210) These must be perfectly aligned vertically. The type of spacer to be used will depend on the facades' overhang.



- 2 The omega profile (ALPL/P/211) will be screwed to the double T fixings so that they remain perfectly plum with the adjustments that the system allows. The first and last fixing will be fitted at 250 mm from the omega mullion profile end.



3 M and F profiles: These profiles reinforce lengthwise the tray both at the top and bottom. The F profile is fitted to the top and has to have an adhesive neoprene tape fitted in such a way that it surrounds the profile vertical flange in order to absorb possible play between the Male and the Female which avoids noises produced from vibrations. These profiles are fixed to the trays with rivets.



4 The Aludecor Composite Panel: These profiles reinforce lengthwise the tray both at the top and at the bottom. The Female profile is fitted to the top part end.



MFR System is ideal for horizontal modulation.

Properties

ALPL-P-312

Chemical Composition EN AW 6063									
Aludecor Profile	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
ALPL/P/312	EN AW 6063	0.20 - 0.60	0.35 max	0.10 max	0.10 max	0.45-0.90	0.10 max	0.10 max	0.10 max
	Aludecor Profile	0.4	0.17	0.0008	0.0186	0.49	0.0011	0.0012	0.008
Mechanical Properties EN AW 6063									
Temper	Wall Thickness	Rm Mpa		Rp0,2 Mpa		A %	A 50 mm %	Hardness	
T or F	mm	min	max	min	max	min	max	HBW	
Standard for T5	≤3	175	-	130	-	8	6	65	
T5	3<t<25	160	-	110	-	7	5	65	
Aludecor	≤25	182	-	163	-	10	-	70	

ALPL-P-311

Chemical Composition EN AW 6063									
Aludecor Profile	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
ALPL/P/311	EN AW 6063	0.20 - 0.60	0.35 max	0.10 max	0.10 max	0.45-0.90	0.10 max	0.10 max	0.10 max
	Aludecor Profile	0.4	0.17	0.0008	0.018	0.5	0.0013	0.0016	0.0087
Mechanical Properties EN AW 6063									
Temper	Wall Thickness	Rm Mpa		Rp0,2 Mpa		A %	A 50 mm %	Hardness	
T or F	mm	min	max	min	max	min	max	HBW	
Standard for T5	≤3	175	-	130	-	8	6	65	
T5	3<t<25	160	-	110	-	7	5	65	
Aludecor	≤25	185	-	165	-	10	-	70	

ALPL-P-212

Chemical Composition EN AW 6063									
Aludecor Profile	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
ALPL/P/212	EN AW 6063	0.20 - 0.60	0.35 max	0.10 max	0.10 max	0.45-0.90	0.10 max	0.10 max	0.10 max
	Aludecor Profile	0.39	0.17	0.0011	0.0171	0.5	0.0014	0.0014	0.0106
Mechanical Properties EN AW 6063									
Temper	Wall Thickness	Rm Mpa		Rp0,2 Mpa		A %	A 50 mm %	Hardness	
T or F	mm	min	max	min	max	min	max	HBW	
Standard for T5	≤3	175	-	130	-	8	6	65	
T5	3<t<25	160	-	110	-	7	5	65	
Aludecor	≤25	198	-	167	-	10	-	70	

ALPL-P-211

Chemical Composition EN AW 6063									
Aludecor Profile	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
ALPL/P/211	EN AW 6063	0.20 - 0.60	0.35 max	0.10 max	0.10 max	0.45-0.90	0.10 max	0.10 max	0.10 max
	Aludecor Profile	0.39	0.17	0.0011	0.0171	0.5	0.0014	0.0014	0.0106
Mechanical Properties EN AW 6063									
Temper	Wall Thickness	Rm Mpa		Rp0,2 Mpa		A %	A 50 mm %	Hardness	
T or F	mm	min	max	min	max	min	max	HBW	
Standard for T5	≤3	175	-	130	-	8	6	65	
T5	3<t<25	160	-	110	-	7	5	65	
Aludecor	≤25	195	-	164	-	10	-	70	

ALPL-P-112

Chemical Composition EN AW 6063									
Aludecor Profile	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
ALPL/P/112	EN AW 6063	0.20 - 0.60	0.35 max	0.10 max	0.10 max	0.45-0.90	0.10 max	0.10 max	0.10 max
	Aludecor Profile	0.4	0.17	0.0008	0.0186	0.49	0.0011	0.0012	0.008
Mechanical Properties EN AW 6063									
Temper	Wall Thickness	Rm Mpa		Rp0,2 Mpa		A %	A 50 mm %	Hardness	
T or F	mm	min	max	min	max	min	max	HBW	
Standard for T5	≤3	175	-	130	-	8	6	65	
T5	3<t<25	160	-	110	-	7	5	65	
Aludecor	≤25	177	-	160	-	10	-	70	

ALPL-P-111

Chemical Composition EN AW 6063									
Aludecor Profile	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
ALPL/P/111	EN AW 6063	0.20 - 0.60	0.35 max	0.10 max	0.10 max	0.45-0.90	0.10 max	0.10 max	0.10 max
	Aludecor Profile	0.4	0.17	0.0008	0.0186	0.49	0.0011	0.0012	0.008
Mechanical Properties EN AW 6063									
Temper	Wall Thickness	Rm Mpa		Rp0,2 Mpa		A %	A 50 mm %	Hardness	
T or F	mm	min	max	min	max	min	max	HBW	
Standard for T5	≤3	175	-	130	-	8	6	65	
T5	3<t<25	160	-	110	-	7	5	65	
Aludecor	≤25	180	-	162	-	10	-	70	





AludecoR[★]

Metal Composite Panel

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