

# ALUTECH

## Aluminum Composite Panels



### Variations

Thickness (mm)	Panel Thickness (mm)	Aluminium Thickness (mm)	Type
PE (interior use)	3.0	0.15	4x8, 4x16
		0.30	
PVDF (exterior use)	4.0	0.21	

**Note:** 4 x 16 for special order; inquire for availability

### About Alutech

Alutech has made its mark in the industry by introducing high-quality yet affordable Aluminum Composite Panels (ACP) in both the wholesale and retail market.

In its quest for a competitive edge, it has always maintained the highest level of quality on finished products, passing rigid tests to meet international standards. Alutech is making its mark with its growing satisfied customers and has achieved a level of success.

Alutech is produced by one of the world's largest aluminum cladding factory under ISO 9001:2000 International Quality Management System. Applying advanced technologies, this ACP cladding now stands at the forefront of construction materials.

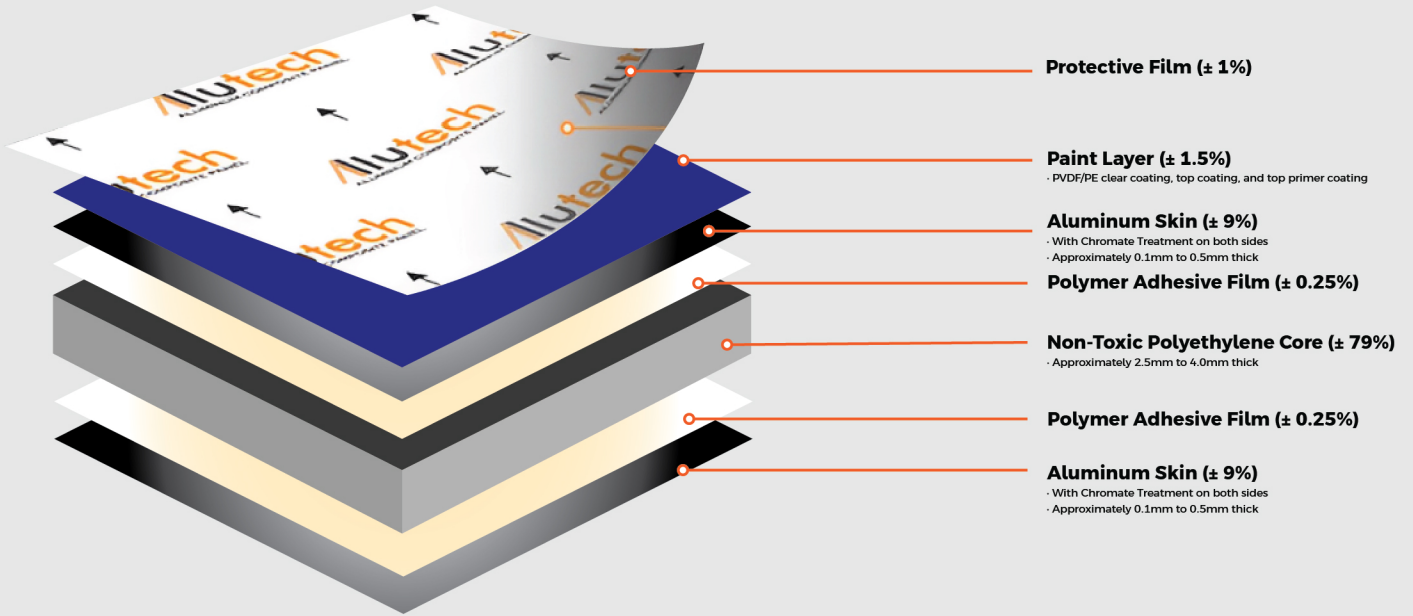
### PVDF or PVDF?

#### PVDF

Polyvinylidene Fluoride (PVDF) is a fluorocarbon coating resin paint, bound by fluorine-carbon bonding with the fluoric acid as base. PVDF ACP's chemical structure stability lasts longer than general coating. The material provides wear resistance and performs well against harsh weather and UV rays. The best applications for ACP with PVDF coating include external cladding, building facade, curtain walls, gutters, etc.

#### PE

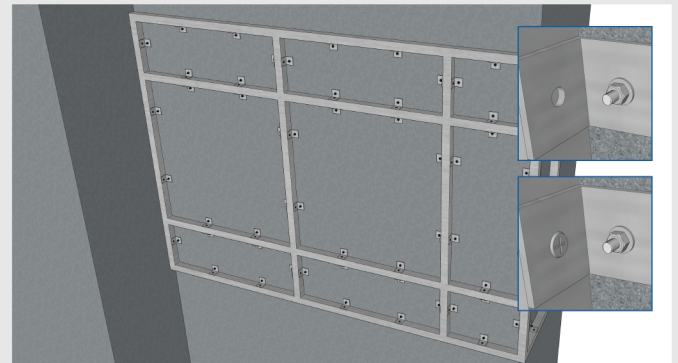
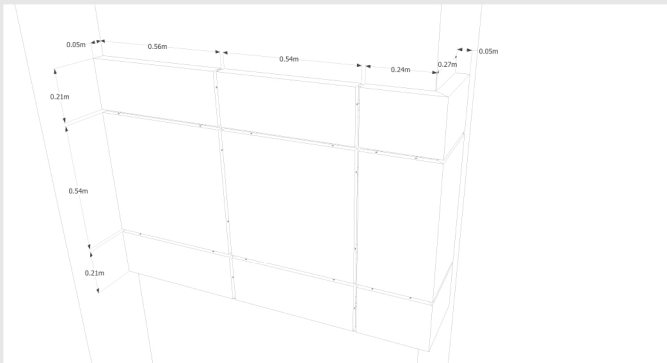
Polyester (PE) panels contains anti-UV coating that protects against ultraviolet rays. PE paint gives the panels high gloss surface, allowing to show vibrant and rich colors. PE coated ACPs are ideal for internal cladding, false ceilings, wall partitions, indoor signage cladding, and indoor column cladding.



**Note:** The percentage of material composition was calculated based on the Aluminum Composite Panel (ACP) weight.

## Installation Guide

### ACP (Aluminum Composite Panel) installation on a flat concrete wall

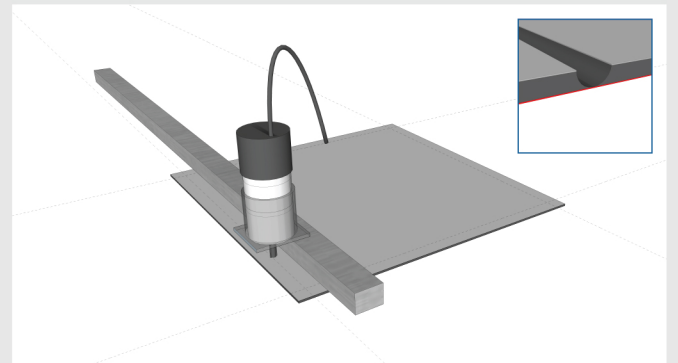
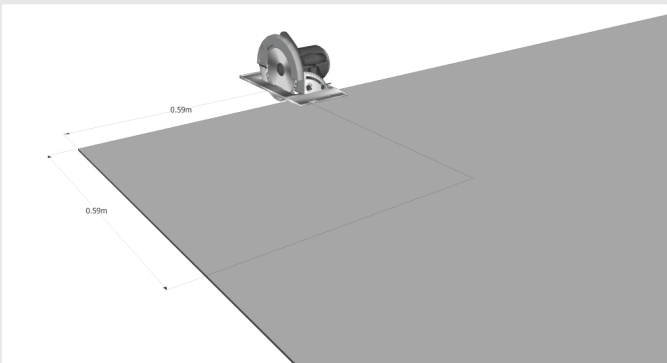


#### Step 1

Determine the precise measurement of the panels to be installed.

#### Step 2

Fabricate the panel frame using rectangular tubes and angle bars. Install the mounting system using expansion bolts and screws.

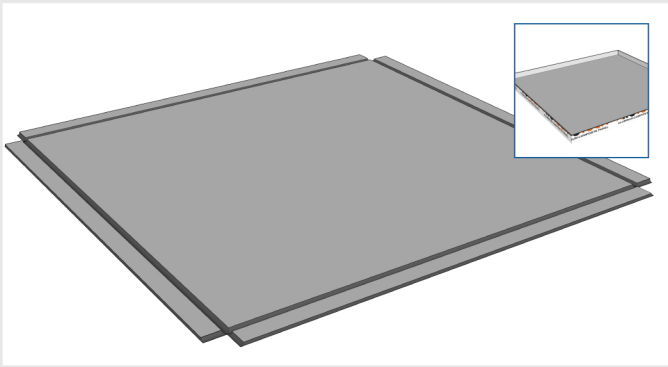


#### Step 3

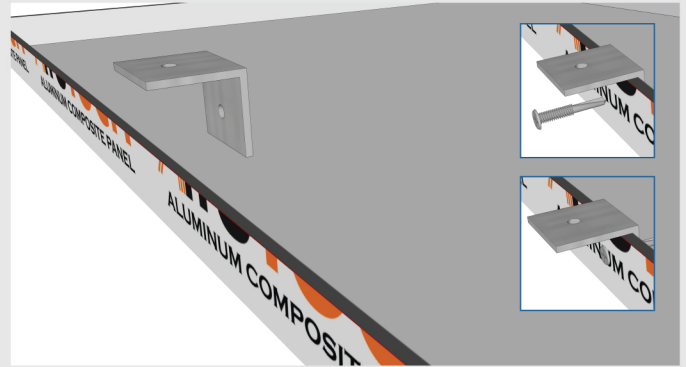
Prepare the panels for cutting, adding 1-2 inches of panel extension on all sides.

#### Step 4

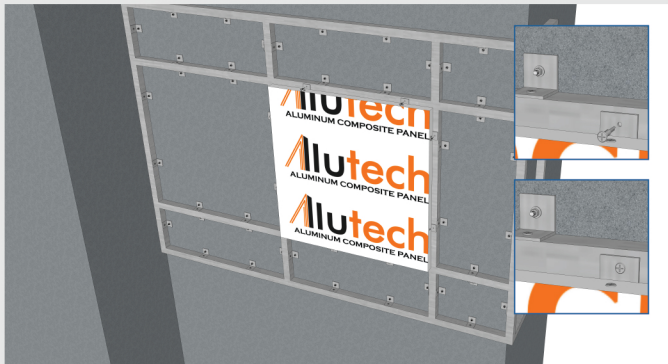
Mark and trim the rear aluminum skin using a hand trimmer. Be careful not to over-trim past the PE core.



**Step 5**  
Fold the panels on each side.



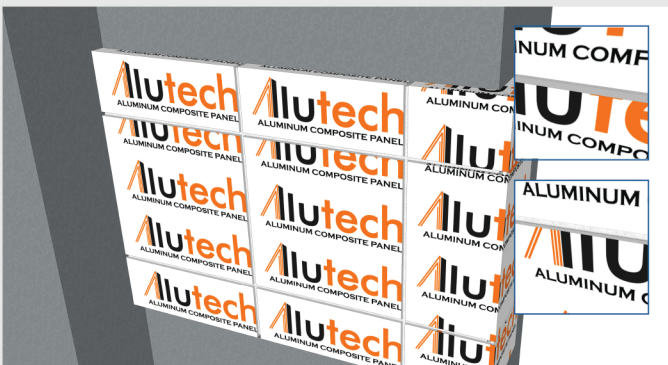
**Step 6**  
Affix the angle bars to the panel using screws.



**Step 7**  
Attach the panel to the sub-frame using screws.



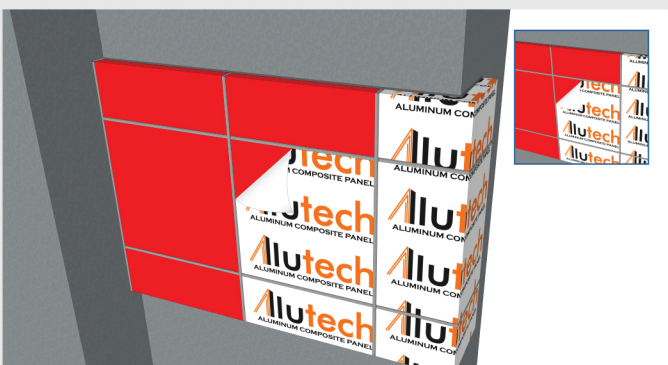
**Step 8**  
Install all panels similarly, following a single direction.



**Step 9**  
Insert backer rods between the panel gaps.



**Step 10**  
Apply sealant along the gaps.



**Step 11**  
Remove the protective film as soon as the sealant is firm and dry.

## ACP

Property	Standard	Value
Impact strength	50kg.cm Without paint off and crack	100 J/cm <sup>3</sup>
Bend strength	≥ 100 MPa	104MPa
Flexuous modulus of elasticity	≥ 2.00 x E04 MPa	3.00 x E04 MPa
Through resistance	≥ 9.0KN	9.50KN
Cutting strength	≥ 28.0 MPa	29.0MPa
Peel strength	≥ 7.0N/mm	>9. 1N/mm
Resistance to change of temperature	-400°C ~ -800°C 20 cycles without change	Unchanged
Coefficient of heat expansion	≥ 4.00 × 10 <sup>-5</sup> 0C-1	2.93 × 10 <sup>-5</sup> 0C-1
Heat deformation temperature	≥ 1050C	1120C
Fire safety ratings (B1 class)		

## PE

Property	Standard	Value
Coating thickness	min. ≥ 16 um	17 um (avg.)
Pencil hardness	≥ HB	3H
Coating flexibility	≤ 3T	2T
Coating adhesive	not lower than class 1	class 1
Impact resistance	50 kg cm; no depainting or crack	50 kg cm; no depainting or crack
Abrasion resistance	no change after 1000 passes	no change after 1000 passes
Bending strength	≥ 60 MPa	74.4 MPa
Bending elastic modulus	≥ 1.5 x E04 MPa	1.9 x E04 MPa
Penetrating resistance	≥ 5.0 kN	5.2 kN
Thermal expansion coefficient	≤ 4.0 x E-05 1/deg C	1.76 x E-05 1/deg C
Heat distortion temperature	≥ 95 deg C	104 deg C

## PVDF

Property	Standard	Value
Gloss (60°)	ASTM D523-89	35
Pencil Hardness	ASTM D3363-00	Scratch hardness: H
Coating Flexibility	ASTM D522-93a	Mandrel diameter: < 3.2 mm
Dry Adhesion	AAMA 2605-02	4B (Less than 5%)
Wet Adhesion	-	4B (Less than 5%)
Boiling Water Adhesion	-	4B (Less than 5%)
Muriatic Acid Resistance	-	No blisters or visible change
Solvent Resistance	-	No blisters or visible change
Mortar Resistance	-	Slight mark
Alkali Resistance	ASTM D1308-02	No blisters or visible change
Abrasion Resistance	ASTM D968-93	40.38 L/mil
Impact Resistance	ASTM D2794-93	Impact failure end point: > 100 kg.cm

*Disclaimer Notice: This information is given in good faith and to the best of our knowledge, but without any warranty. Users of our materials should determine the suitability for a specific application. It is always advisable to do preliminary testing.*