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**ALUMINIUM SOLID PANEL**  
Enlight Your Inspiration

**A1**



# ALUMINIUM SOLID PANEL

Whether it is a Facade, Roof or ceiling for renovation or a new building, a material that offers unlimited possibilities to design your dream. Alucosun SOLID® is a fantastic solution with longevity, value of money, safety, strength and flexibility at a low operating cost.

With Alucosun SOLID® you are not spending but investing on metal over a period of time moreover it is an Ecofriendly product as aluminum is regarded as most recycled metal.

Alucosun SOLID® is a pre-painted solid aluminum alloy sheets available in various colors and finishes to chose with.

- Protective film
- Color Coating(PE, PVDF)
- Pretreatment
- AA 3003 or AA5005 Aluminium Sheet



## PRODUCT DESCRIPTION

Alucosun SOLID® is Aluminum Solid pre-painted flat panels of major aluminum alloys with various thickness and finishing options well suited for facade, roof, ceiling applications. It is regarded as one of the most durable, safe, economic and ecofriendly cladding available nowadays.

Alucosun SOLID® is classified as Class A1 Fire Resistant facade tested against EN13501 and its durability attributed to PVDF coating properties with a wide range of colors and finishes suits to variety of applications.

## IDEAL PRODUCT FOR FACADES AND ROOFING

- Excellent Fire Resistance – Class A1 (EN13501)
- Extremely Flat
- High Strength
- Wide Span width
- Durable (Corrosion Resistance & PVDF Finish)
- Low maintenance Cost

## DIMENSIONS

DESCRIPTION	RANGE	STANDARD
Panel thickness	2-5 mm	2mm,3mm
Width	1000-1500mm	1250mm, 1500mm
Length	1000-5800mm	2440mm, 3050mm, 3200mm
Alloy Type	AA 1000, AA 3003, AA 5052	AA 1100, AA 3003
Weight	8.2kg/m for 3mm	

## PANEL TOLERANCE

DESCRIPTION	TOLERANCE
Width (mm)	0 to -0.4mm
Length (mm)	±3mm
Thickness (mm)	±0.2mm
Diagonal Line Difference (mm)	≤5mm
Edge Straightness (mm)	≤1mm

## MECHANICAL AND PHYSICAL PROPERTIES

Tensile Ultimate	185 MPa
Tensile Yield	165 MPa
Elongation @ Break	1-4%
Modulus of Elasticity	68.9 GPa
Shear Modulus 25	GPa
Shear Strength	110 MPa
Thermal Conductivity	154 W/mk
Melting Point	643 - 654 C
Annealing Temperature	413 C
Specific Gravity	2.73 G/CC



## SOLID ALUMINUM PVDF COATING

S.No	PARAMETERS	UNIT	TEST STANDARD	RESULT
1	Coating Type	/	/	PVDF based fluorocarbon coating
2	Coating warranty	/	/	15-20 yrs
3	Gloss @ 60 degree	%	ASTM D 523	20-80
4	Formability (T-bend)	T	ASTM D1737-62	2T, no cracking
5	Reverse impact- crosshatch	/	NCCA II-5	No pick off
6	Hardness-pencil	min	ASTM D3363	Min. F
7	Adhesion Dry Wet Boiling water	/	ASTM D3359, method 8 37.8°C, 24 hrs. 100°C, 20 min.	No pick off No pick off No pick off
8	Abrasive resistance	litres/mil	ASTM D968-93(Falling sand)	40
9	Chemical Resistance 10 % HCL (15 Minutes Spot Test) 20% H2SO4 72 Hours 20% NaOH 18 Hours Mortar Pat test 24 Hours Detergent, 3% solution, 38°C, 72hrs	/	ASTM D1308-87 ASTM D1308-87 ASTM D1308-87 AAMA2605 ASTM D2248-93	No change No change No change No change No change

## WEATHERABILITY

10	Weather-o-meter test : Colour retention Gloss retention Chalk resistance	/	ASTM D2244-93 ASTM D523-89 ASTM D4214-89	Max. 5 units after 10 years Min 50% after 10 years Max. 8 units for colors & 6 for white after 10 years
11	Salt spray resistance	Hrs	ASTM B117-90	Blister-10, scribe-8, after 4000 hrs, 35°C salt fog
12	Humidity resistance	Hrs	ASTM D2247-94	No blisters After 4000 hrs, 100 % RH, 38°C



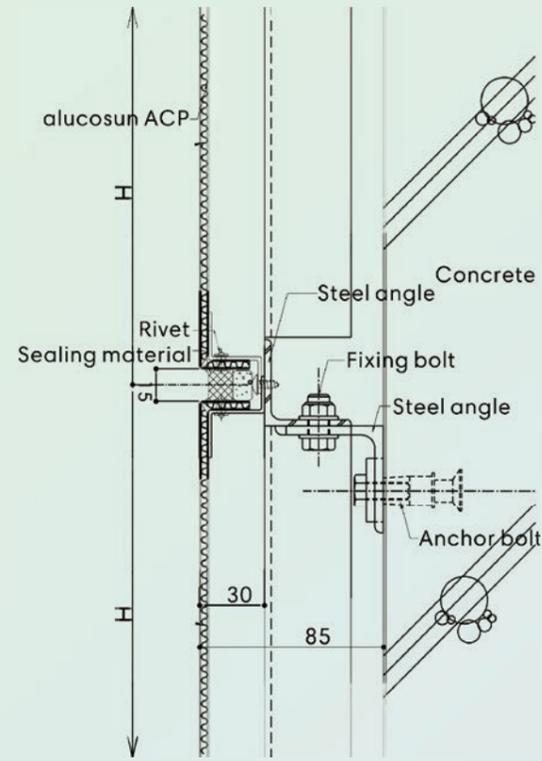
## FIRE SAFETY

Alucosun SOLID® is tested in accordance with EN13501 it is classified in the class A1 which is literally non-combustible product. In compliance with NFPA life safety code and various regulatory authorities non-combustible claddings are allowed in all type of building without restriction. In this regard, Alucosun SOLID® with class A1 can be installed in buildings of any height and type .

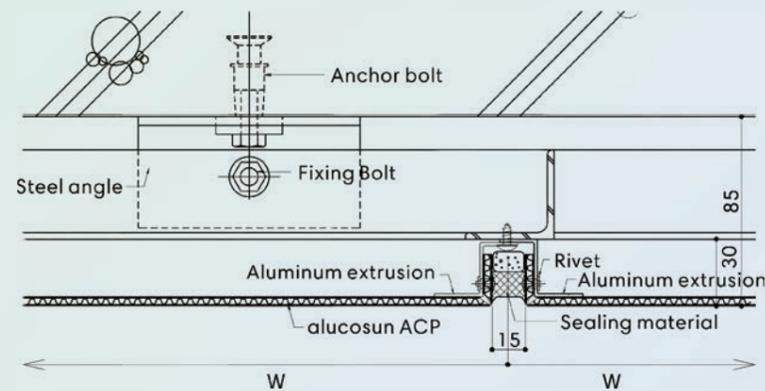
Testing Item	Result
EN13501-1	Class A1
AS1530.1	Non-combustible



# TYPICAL FIXING SYSTEM



VERTICAL SECTION



HORIZONTAL SECTION

## INSTALLATION

All conventional and contemporary techniques for installation of Facades can be adopted to the installation of SOLID panels. More option for Concealed fixing makes it different from composite cladding products. Any shapes concave, convex, corner, column covering, soffits, canopy etc. can be easily fabricated and installed. In order to get uniform thermal expansion it is recommended to use sub-structure made of Aluminum. It is recommended to use panels from single use and uniform fixing direction for excellent finish.

## ADHESIVE BONDING

Alucosun SOLID® is produced with a thin layer of lacquer on the rear side to ensure the strong bonding with adhesives therefore it can be directly bonded to the substructure without any visible fixing accessory.

## STUD WELDING

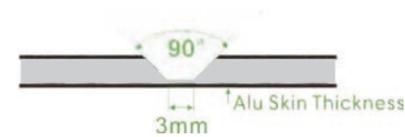
Panels of 3 mm thickness and above are safe to weld (ISO 14555:2017) with stud bolts in the back of panel for concealed fixing. Alloy 3003 and 5005 used for panels are good for welding purpose. Welding on the rear side of the Panels with 3 mm and above will not make impact on the finished surface.



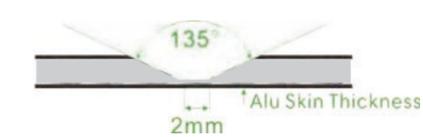
90°V-groove for folds up to 90°

135°V-groove for folds up to 135°

Rectangular(U-) groove for folds up to 150° depending on panel thickness



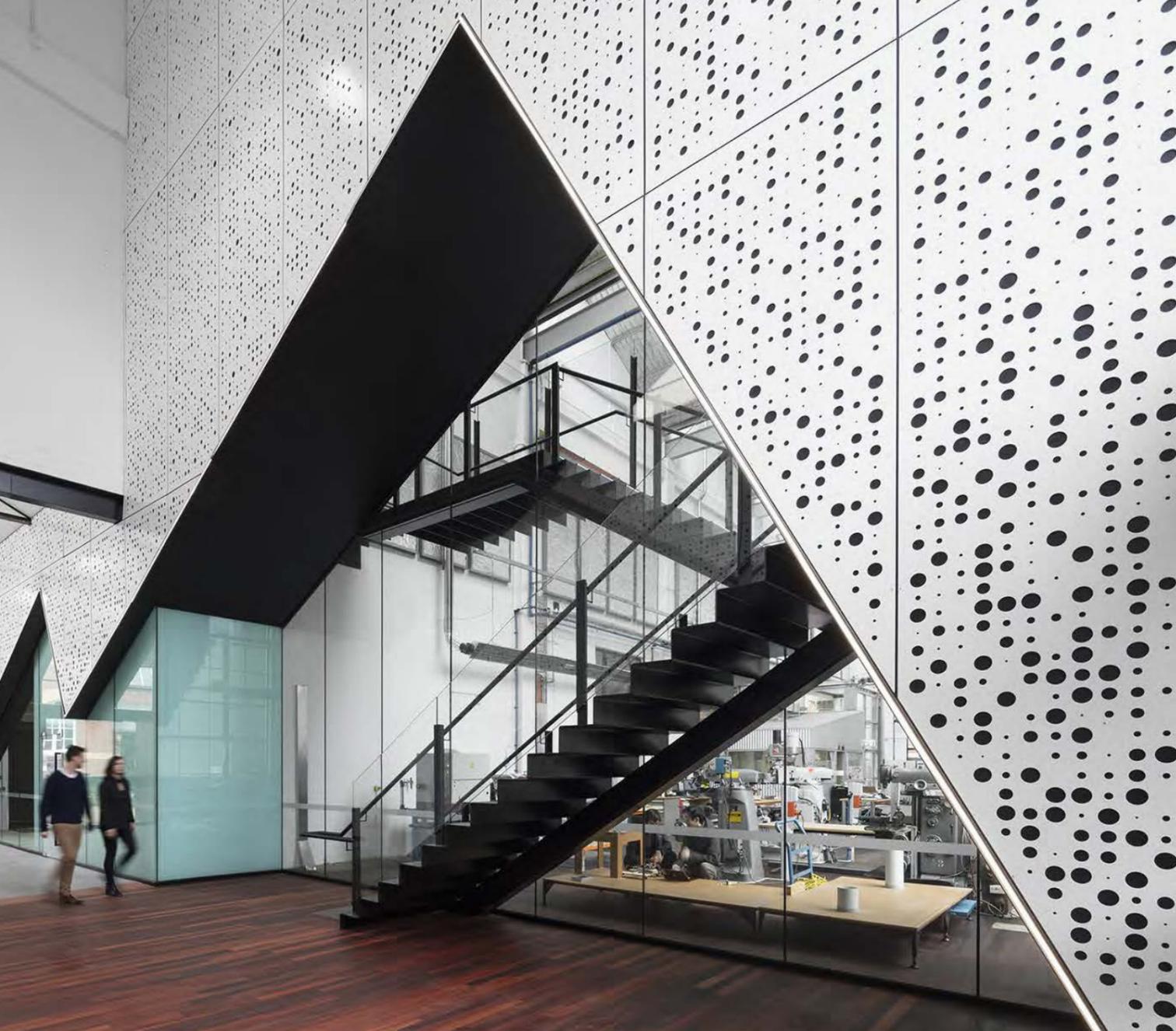
r~3mm



r~2mm



r~7mm



## ECOFRIENDLY

Aluminum is considered as most recycled industrial metal; it is free from Heavy metal erosion. Aluminum can be recycled without quality variation. Recycled aluminium is indistinguishable from virgin aluminium, process does not produce any change in the metal, so aluminium can be recycled indefinitely. Recycling aluminium saves 95% of the energy cost of processing new aluminium.

Pigments used in the paint system during production of Alucosun Solid® is non-hazardous. While coating the Solid panels the technology used for processing that allows the solvents released from the paints are combusted and fed back to the process.



### COLORS and FINISHES

Alucosun SOLID® is surface finished with PVDF and Nano paint system in continuous coil coating process which ensure quality and consistency in compliance with AAMA 2605 specification. Solid Colors are generally two coats (26+/-1 µm) while metallic is three (3) coats (32 +/-1 µm).

**PVDF** paint system with composed of minimum 70% PVDF resin is known for high resistance to UV rays and environmental effects, therefore Alucosun SOLID® is durable and consistent performance in extreme weather conditions.

**NANO PAINT** system provides an additional clear topcoat with highly cross-linked Nano particles on PVDF finish; which ensures smooth surface. Smooth and clear surface makes dirt and dust difficult to stick on which gives the building an always clean look. Nano PVDF is a self-cleaning paint system.

**PVDF and NANO** paint systems are highly durable assures 15-20 years of finish warranty.

**ANODIZED** panels with various finish options are available in Alucosun SOLID® however it is subject to certain time and size limitations. Naturally protected by anodized layer SOLID panels are highly durable scratch resistant provides warranty about 30 Years.





**20**  
YEARS

**MORE POSSIBILITIES FOR THE FUTURE**

Alucosun® a venture of Wisdom Metal Composites Ltd that brings out ultimate products in collaboration with our celebrated manufacturing facility located at Jiangsu, having about two decades of rich experience in Aluminum Panel Industry.

Alucosun® a brand that caters all your architectural panel needs, whether it is Facade, Roof, Ceiling, Advertising, Corporate Identity. Equipped with all in-house facilities to ensure the quality product and delivery commitments.

We offer best products with ultimate perfection; achieved by an ideal blend of industry experts, latest technology and sophisticated machinery.

Established facility to produce more than 10 Million M2 per annum, with three (3) plants for various Panel Production, Color Coating along with well equipped In-house Laboratory.

Alucosun® operates throughout Far East, Middle East, Europe and Americas. Our regional offices, trade associates, agents and distributors all over the region enable us to meet your requirements for our architectural materials and support services wherever you need it.