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ALUMINIUM COMPOSITE PANEL

Enlight Your Inspiration

A2 B1

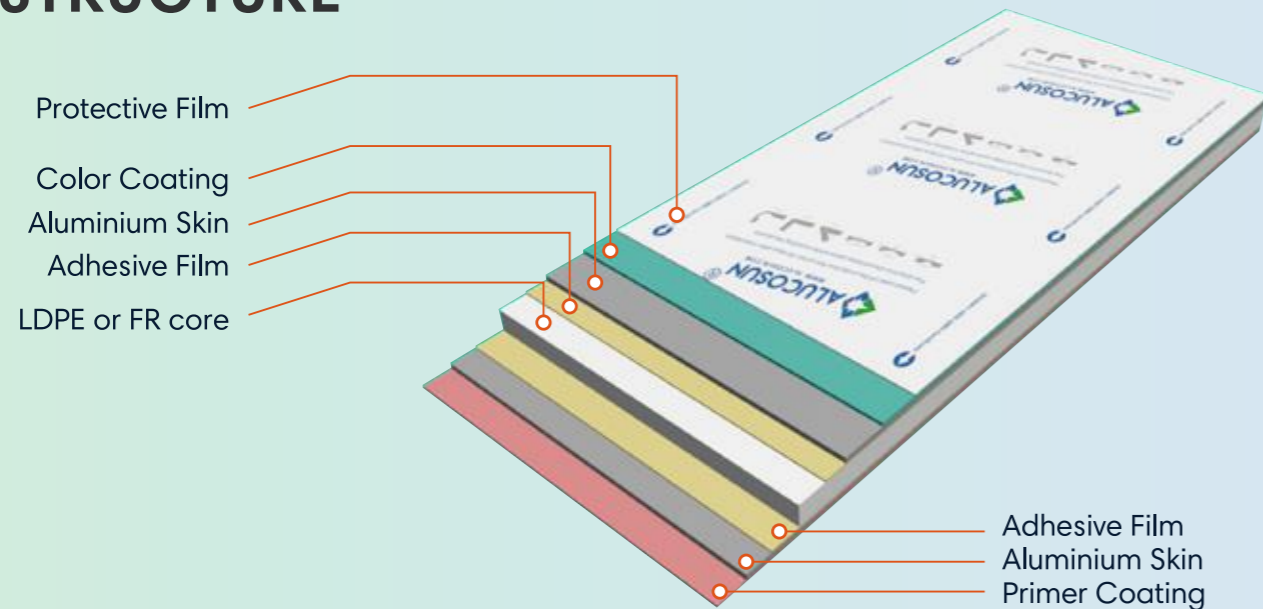
I PRODUCTS SERIES

Alucosun FR A2

Alucosun FR B1

Alucosun PE

STRUCTURE



ALUMINIUM COMPOSITE PANEL

Aluminum Composite Panels (ACP/ACM) are versatile products combines the qualities of metals with versatility plastics, it is a product flexible yet rigid at comparatively lower cost suitable for various applications like Facade, Roof, Ceiling and various similar engineered applications renovation or a new building. A material that offers unlimited possibilities to design your dream.

There is a wide range of Aluminum cladding products, Alucosun® offers to the industry. Most prominent is composite products ACP / ACM we are well regarded as a firm capable to create world class products. Additional to the quality of products we offer our signature is commitment towards our promises and professional service strategy.

PRODUCT ADVANTAGE

Alucosun® Aluminum Composite Panel is our excellent presentation to the global construction industry. Aluminum Composite panels are regarded as a constructive alternative several aspects to Aluminum Panels. there are several features which makes it unique.

SAFETY

Alucosun FR® is tested and certified by world renowned Labs. FR Panels Class A2 and B (EN 13501) Certified while and PE core panels are Class A (ASTM E84) and Class 0 and 1 (BS 476 Part 6, Part 7). Additionally, Alucosun FR is certified to comply with NFPA285 and ASTM E-119.

LIGHT WEIGHT

Alucosun® composite products are Light Weight materials comparing to solid metallic sheets, glass or similar façades available in the contemporary market.

FLAT

Alucosun ACP® are excellent flat products with uniform thickness generated out of high-tech machinery and strict Quality Assurance practices; provides an even flat and fantastic appearance to the surface of building it envelops.

RIGID

Aluminum Sheets on either sides and standard 3 MM thick mineral or thermoplastic core are thermally bonded together forms a rigid panel capable to withstand external forces on a typical non-load bearing wall structure.

ECO FRIENDLY

ACP is a recyclable product. Aluminum as well as the core materials are recycled and reused, thus ACP is regarded as Eco-Friendly product.

COST EFFECTIVE

Aluminum composite panels are cost effective building envelop products comparing sheet metal aluminum, stainless steel or glass, it provides a wide range of excellent finishes and durable colors to chose with.

FLEXIBLE

Versatile product which can be fabricated to any design or shape easily makes Aluminum Composite panels unique and favorite choice of Architects to create their dream designs out of it.



Alucosun® - A2

A2 panels consist of a core with a compound having 90% non-combustible mineral to ensure high fire and safety standard.

Our A2 is composite product composed of highest proportion of non-combustible mineral filled core in which combustible component is less than 10%. A2 Panels pass every stringent criteria of reaction to fire tests available. It is used in any building envelop application whether it is exterior and interior roof, cladding, ceiling or façade.

Alucosun® A2 complies with EN-13501 requirements of product fire safety classification A2, NFPA 285 and ASTM E-119.

Alucosun® A2 is an ideal material for several applications in the building construction industry such as Building Envelopes, Wall Assembly, Roof, Cladding, Ceiling, Canopies, Soffits, several unique creative architectural designs etc.

Alucosun® A2 is regarded as a composite product with highest Resistivity to Fire in the industry class, it can be used in any type of residential, commercial and public buildings whether it is High Rise Towers, Stadiums, Malls, Airports, Train Stations, Cinemas, Schools, Hospitals etc.

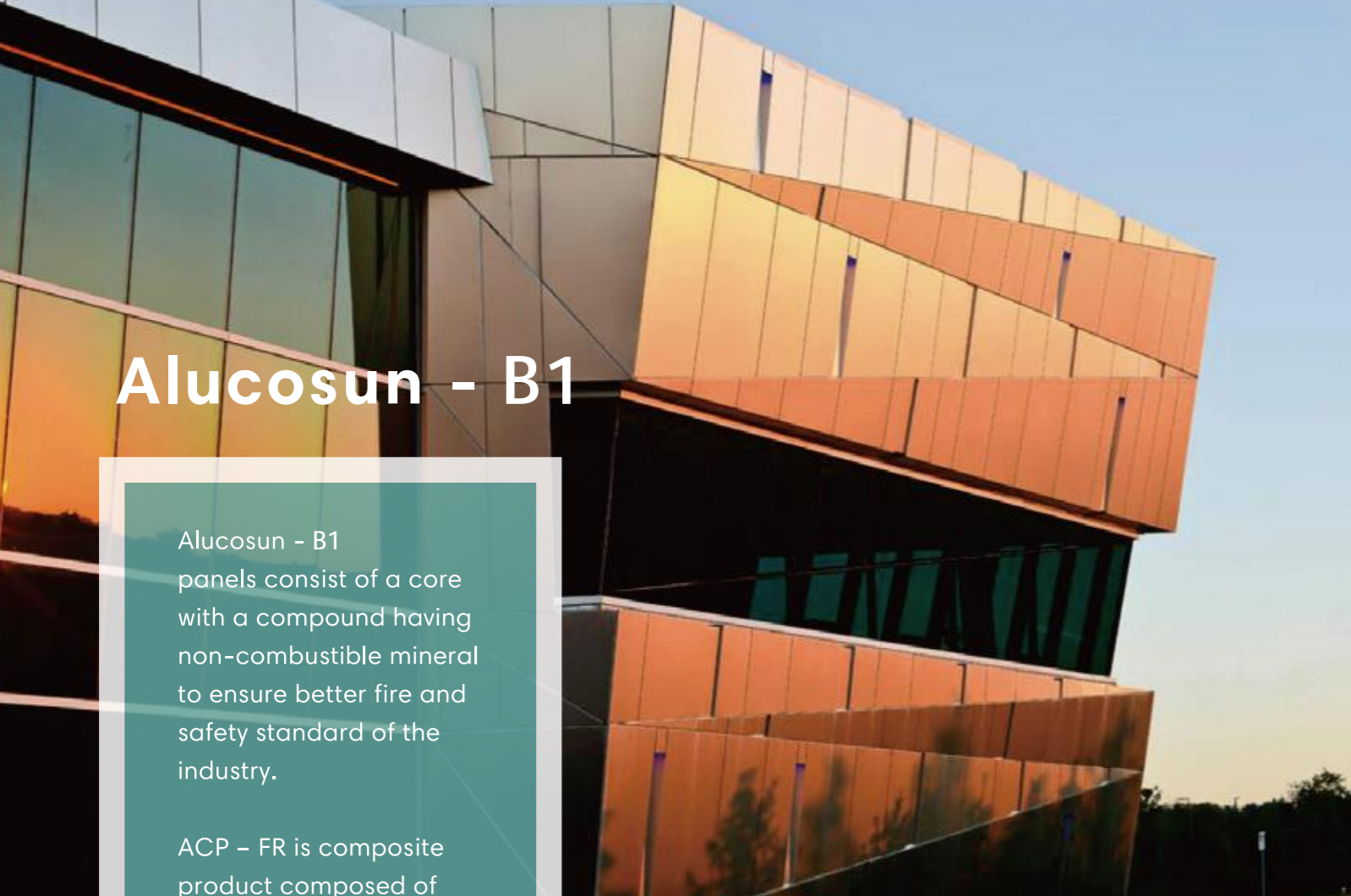
DIMENSIONS

Dimension	Unit	Standard	Available
Width	mm	1250,1500	1000-1500
Length	mm	3050	≤6000
Thickness	mm	4	3-6
Aluminium thick	mm	0.50	0.30-0.70



TEST PROPERTIES

	Criteria	Test Method	Unit	Value
Physical Properties	Thickness	---	mm	4
	Specific Gravity	---	Kg /M ³	2050
	Weight	---	Kg /M ²	8.4
	Therm. Conductivity	ASTM C 518	W/(m.K)	0.45
	Therm. Expansion	ASTM D 696	X 10 ⁻⁶ /°C	19
Mechanical Properties	Tensile Strength	ASTM E8	MPa N/mm ²	43
	Elongation	ASTM E8	%	3.8
	2% Proof Stress	ASTM E8	MPa N/mm ²	41
Sound Transmission Loss	Noise Reduction	ASTME413	STC	27



Alucosun - B1

Alucosun - B1 panels consist of a core with a compound having non-combustible mineral to ensure better fire and safety standard of the industry.

ACP - FR is composite product composed of High proportion of non-combustible mineral filled core Panels which meet requirements of EN-13501 to be classified under category B. Qualified product to be used as cladding and facade for building exterior residential or commercial buildings low rise and high rise. Additionally it complies with NFPA-285 and ASTM E-119 requirements.



Alucosun FR is a highly flexible composite product which is a perfect solution in various building construction applications require flexibility such as envelopes, claddings, roof, punching and perforations for sound attenuation as well as interior or exterior decoration, wall assembly, creative designs structures etc.

Alucosun FR Fire retardant composite product categorized as safer product and is compatible to use in various High Rise Towers, Stadiums, Malls, Airports, Train Stations, Cinemas, Schools, Hospitals etc. as long as it is designed and installed in compliance with certified system assembly.

DIMENSIONS

Dimension	Unit	Standard	Available
Width	mm	1250,1500	1000-1500
Length	mm	3050	≤8000
Thickness	mm	4	2-6
Aluminium thick	mm	0.50	0.15-0.70

TEST PROPERTIES

	Criteria	Test Method	Unit	Value
Physical Properties	Thickness	---	mm	4
	Specific Gravity	---	Kg /M ³	1900
	Weight	---	Kg /M ²	7.5
	Therm. Conductivity	ASTM C 518	W/(m.K)	0.45
	Therm. Expansion	ASTM D 696	X 10 ⁻⁶ /°C	24
Mechanical Properties	Tensile Strength	ASTM E8	MPa N/mm ²	49
	Elongation	ASTM E8	%	5%
	2% Proof Stress	ASTM E8	MPa N/mm ²	44
Sound Transmission Loss	Noise Reduction	ASTME413	STC	27





Alucosun-PE core

Conventional Aluminum Composite Panels consist of a thermoplastic core of LDPE bonded to Aluminum sheets on either sides.

Alucosun-PE core is highly flexible with better bonding strength product. Attributed to its comparatively low resistivity to fire it is currently used primarily in advertising and signage industry as a preferred medium of work. However, it is still used as facade cladding in low rise buildings where fire risk is less.



DIMENSIONS

Dimension	Unit	Standard	Available
Width	mm	1220,1500	1000-2000
Length	mm	2440,3050	≤8000
Thickness	mm	3 and 4	2-15
Aluminium thick	mm	0.50	0.12-0.70



TEST PROPERTIES

	Criteria	Test Method	Unit	Value
Physical Properties	Thickness	---	mm	4
	Specific Gravity	---	Kg /M ³	1350
	Weight	---	Kg /M ²	5.6
	Therm. Conductivity	ASTM C 518	W/(m.K)	0.43
	Therm. Expansion	ASTM D 696	X 10 ⁻⁶ /°C	24
Mechanical Properties	Tensile Strength	ASTM E8	MPa N/mm ²	49
	Elongation	ASTM E8	%	17%
	2% Proof Stress	ASTM E8	MPa N/mm ²	44
Sound Transmission Loss	Noise Reduction	ASTME413	STC	25

FIRE PERFORMANCE

In Aluminum Composite Panels Core materials play a major role in determining the fire property of the building . Without sacrificing any of its basic properties Ocean Panels ACP - A2, ACP-FR are products designed to cover the fire and safety norms across the world.

FIRE PERFORMANCE COMPARISON

	Alucosun FR -A2	Alucosun FR	Alucosun PE
Thickness	4	4	4
Combustible Material in Core	<10%	<30%	<100%
BS / EU standards	EN13501-1 (A2 s1 d0)	EN13501-1 (B s1 d0)	---
US Standards	NFPA 285 (Passed), ASTM E119 (Passed)	NFPA 285 (Passed), ASTM E119 (Passed)	---
Australia / New Zealand	AS/NZS 1530.3 (No ignition)	AS/NZS 1530.1 (No ignition)	---
Germany	En1187 (Passed) DIN41027 (Passed)	En1187 (Passed) DIN41027 (Passed)	---
Singapore	EN13501-1 (A2 s1 d0)	EN13501-1 (B s1 d0)	---
UAE	EN13501-1 (A2 s1 d0) NFPA 285 (Passed)	EN13501-1 (B s1 d0) NFPA 285 (Passed)	---



Class A2 no influence and no flame



Class B flame has generated



Normal PE core ACP(combustible)



COLORS & FINISHES

Various color and finish options make Alucosun ACP a favorite choice of building envelope. Variety of spectra, durability of the paint systems, quality of the finish, etc., makes it suitable for any application of cladding, whether it is a commercial building, iconic structure with unique identity, or an established brand. Alucosun ACP offers a variety of standard and custom finishes from its in-house coil coating facility. Alucosun ACP is surface finished with PVDF and NANO paint systems in a continuous coil coating process which ensures quality and consistency in compliance with AAMA 2605 specification.

PVDF

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

FEVE

FEVE paints are known for their excellent durability. The superb chemical and physical properties of these quality paints have been well recognized and proved by the worldwide users and architects during the past forty years and now this is still continuing every day.

NANO-PVDF

NANO-PVDF is a self-cleaning paint system. Such paint system provides an additional clear top coat with highly cross-linked NANO particles on PVDF finish; which ensures a smooth surface. Smooth and clear surface makes dirt and dust difficult to stick on, which gives the building an always clean look. PVDF and NANO paint systems are highly durable, assuring 15-20 years of finish warranty.

ANODIZED

ANODIZED panels with various finish options are available in Alucosun®; however, it is subject to certain time and size limitations. Naturally protected by anodized layer panels are highly durable, scratch resistant, and provide a warranty of about 30 years.

PE AND HDPE

PE and HDPE paints are used widely in many applications thanks to the extensive ranges of colors and economy-consideration; now the guarantee years can be extended from 5 years to 8 years with the different types of coating. HDPE finishes are also available as a custom paint system.



MULTI - FINISHES

Though traditionally used for Aluminum Composite panels in wall cladding and advertising applications, nowadays it is widely used in various sectors like decoration, exhibition, vehicles like container trucks, trains, airplanes, ships, furniture, architectural elements, etc. as ACP is a flexible material which can be used in conjunction with the imagination of the designer and architect to visualize magnificent creations. Versatility in applications encourages us to search and develop unconventional finishes to fuel the passion of providing unlimited options. Some of the major finishes available in our Aluminum products are as below; however, it is not limited here; if you can imagine, we can create it.

- ◆ SOLID
- ◆ METALLIC
- ◆ SPECTRA
- ◆ GLOSSY
- ◆ MATTE
- ◆ BRUSH
- ◆ MIRROR
- ◆ TIMBER
- ◆ STONE
- ◆ NATURAL – COPPER, ZINC, TITANIUM STAINLESS STEEL



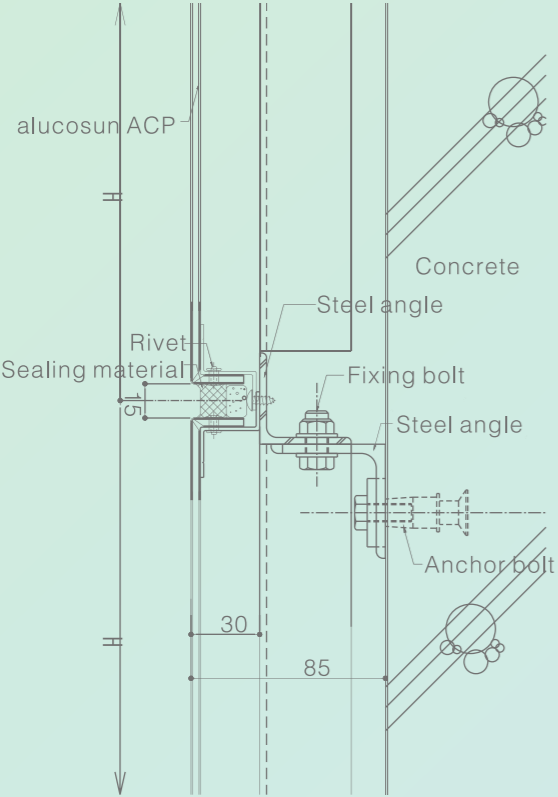
PVDF PAINTING PROPERTIES

ALUMINUM PVDF COATING

S.No	Parameters	Test Standard	Result
1	Gloss @ 60 degree	ASTM D 523	20-80
2	Formability (T-bend)	ASTM D1737-62	2T, no cracking
3	Reverse impact- crosshatch	NCCA II-5	No pick off
4	Hardness-pencil	ASTM D3363	≥2H
5	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
6	Paint Thickness(um)	AAMA2604	25-36 um depends on the coating layers
7	Abrasive resistance	ASTM D968-93	40 l/mil
8	Chemical Resistance Acid Resistance Alkali Resistance Solvent Resistance Cleaning Resistance	ASTM D1308-87 ASTM D1308-87 ASTM D1308-87 AAMA 2605-05	No change No change No change No change
9	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
10	Salt spray resistance	ASTM B117-90	Pass (400hrs X5% NaCl)
11	Humidity resistance	ASTM D2247-94	No blisters After 4000 hrs, 100 % RH, 38°C

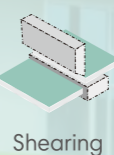
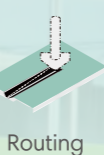
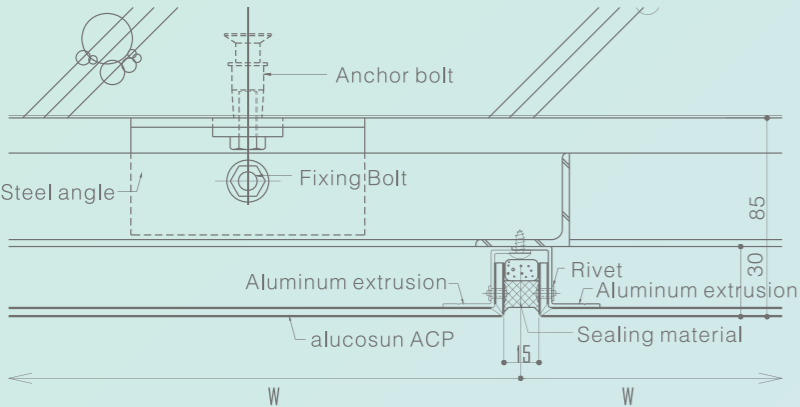
TYPICAL FIXING

VERTICAL SECTION

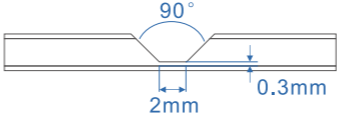


Alucosun FR® and PE core are suitable for plain or perforated applications whether system requires Tray or flat panel, it can be easily processed. It can be easily punched, bend, trimmed, drilled, stamped, grooved and adhesive bonded without causing damage to finished surface.

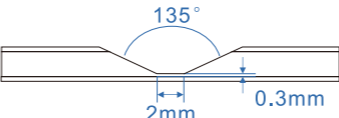
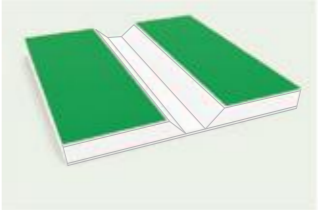
HORIZONTAL SECTION



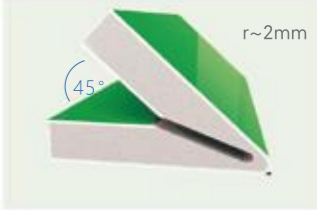
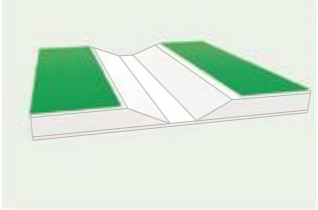
FABRICATION



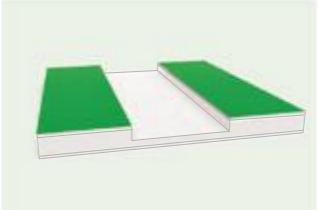
90°V-groove for folds up to 90°



135°V-groove for folds up to 135°



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



RECOMMENDED METHOD OF CLEANING



The extent and nature of the building wash will depend on the material or system, its geographical location and position within the building, and the degree of cleaning that's required. Normal maintenance is work generally recognized as necessary to achieve the expected durability.

Adhere to the manufacturers or suppliers maintenance recommendations. During cleaning, all access equipment such as ladders, staging, mobile scaffold, cherry pickers or similar, should be prepared with pads to protect the panels from impact. Improper cleaning resulting in coating damage shall not be covered by terms and conditions of product warranty.

Do not use strong organic solvents.
Do not use strong alkali, strong acid or abrasive cleaners. If these solvents and cleaners were used, the paint may swell, flake or crack.
Do not use high-pressure water to clean as this may cause damage to the joint sealant or cause paint to be removed. Water blasting is not recommended.
Do not mix different cleaners. If cleaners needed to be mixed, please follow the manufacture's instructions.

Avoid extreme temperature to clean the coated surface. Sun-heated surfaces (above 40°C) may accelerate chemical reactions and may evaporate the water from solution leaving residue and stains. On the contrary, extremely low temperature may give poor cleaning effects.

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, 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 and Warehouse.

Alucosun® operates throughout Far East, Middle East, Latin America, 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.