ALMAXCO®

ALUMINIUM COMPOSITE PANELS

The Greener Way

www.almaxco.com

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COMPANY PROFILE

Maxgrow Pte Ltd is leading manufacturer of Aluminium Composite Panels (ACP) with its headquarters in Singapore and its production facility in Jiangsu China. Maxgrow has been producing ACP under the brand name of **ALMAXCO®** since 1997. With exports to over 42 countries and 27 distributors across four continents, Almaxco is one of the leading global players in the Aluminium Composite Panel Industry.

Priding itself on eco-friendly production processes and operations, we continuously strive to produce the best products that meets the ever-changing demands of the International Construction & Signage Industries, with a focus on servicing our customers with prompt, honest and hassle-free professionalism.

Our dedicated team of R&D engineers and chemists are continuously researching new technologies and developing newer and better production techniques, so that we are able to offer up-to-date products to our customers.

Our production facility is spread over in excess of 40,000 m2 and with the employment of over 380 employees and a daily production capacity of 14,000m2; we can produce over 3.5 million m2 of panel sheets per annum.

Operating four precision roller-coating lines, five compositing lines and three degreasing line gives us the capacity to produce all of our Panels Sheets in-house, without relying on any third party suppliers. This also allows us to maintain high quality control throughout production, differentiating our stand in the market place.

By having our own paint coating lines and in-house paint laboratory, we can offer our customers, in addition to our own standard colors, the capability to match any special and custom colors, such as those from the Pantone or RAL color charts.

Produced with the best materials of the industry, we can supply aluminium coils in varying alloys and specifications from Alcoa, Chinalco Ruimin and South West Aluminium; paint from PPG, Valspar, Beckers Industrial Coatings and AkzoNobel; protective films from Poli-Film and Novacel and adhesive polymer film with Dupont technology.

Our Panel sheets have been tested to ASTM, British Standard (BS) EN, NFPA, and AS/NZS standards, by leading independent testing bodies around the world, such as TUV SUD PSB, SGS, Intertek, AWTA, and CSIRO.

Accredited with an ISO 9001 and ISO 1400 certification, our factory is also LEED Compliant as awarded by Ecospecifier (Australia). Moreover, our Panel Sheets are certified under Singapore Green Label.

Our success stems not only from the trust that we have built with our customers over the years, but also to the tenacious efforts of our dedicated Management, Production, R&D, Quality Control, and Sales teams. Each order is treated with utmost care, ensuring that no effort is spared to meet the satisfaction of our customers.

MISSION STATEMENT

Our Goals

" We at Almaxco, will always strive to produce a high quality and an environmentally sustainable product. We will always endeavor to uphold ourselves to the best ethical business practices and to provide our customers with the highest level of customer service and product quality.

We will continue to invest in the upgrading of the skills of our employees, so as to keep their capabilities relevant in order to better serve the interests of our all stakeholders".

We achieve our goals by:

- Embracing Eco-friendly production and operations processes throughout our organization and only dealing with Suppliers with similar objectives.
- Using at least 50% recycled materials to produce our Panel Sheets.
- Serving our customers with integrity, honesty, transparency, competency and objectivity.
- Treating our customers with respect and courtesy.
- Supporting and servicing our customers with prompt communications, actions and deliveries.
- Continuing to invest in our R&D initiatives to source better equipment, technology and the use of new materials, which can then be incorporated to produce a better range and quality of products for our customers.
- Continuing to invest in the upgrading of the skills of our employees so that they can better serve our customers and engender greater company loyalty.

THE GREENER WAY

Go Green, Build Green!
Choose Almaxco Aluminium Composite Panels

Almaxco continuously strives to improve its operations and production process to reduce its carbon foot print. We do this by:

- Choosing to deal with raw material suppliers who are certified and accredited with environmentally friendly practices.
- Choosing to deal with raw material suppliers who are located within a 500 miles radius of our factory, so as to reduce the emissions of CO^2 from transport vehicles which deliver the raw materials to us.
- Embracing manufacturing processes that do not emit any green house gases.
- Recycling all our waste production by selling our aluminium waste to special smelter plants who recycle the aluminum using environmentally friendly procedures.
- Recycling the waste core materials by selling them to special recycling facilities.
- Recycling of waste water.
- Installing a regenerative catalytic thermal oxidizer on our paint coating lines to reduce the release of Volatile Organic Compounds (VOC) during the paint coating process.
- Using energy saver bulbs to light all areas of our manufacturing facility and administrative buildings.
- Using raw materials which are bio-degradable and non toxic.

These may be just some small steps which we have consciously decided to embrace and we will always strive to implement more ways to reduce our impact on the world's fragile environment. Almaxco Composite is certified by Singapore Green Label and Ecospecifier Australia, and meets their criteria so as to be classified as a "Green Building Material". Our products proudly contribute to LEED points for buildings to be sustainable and environmentally friendly.

Achieving our Sustainability Goals

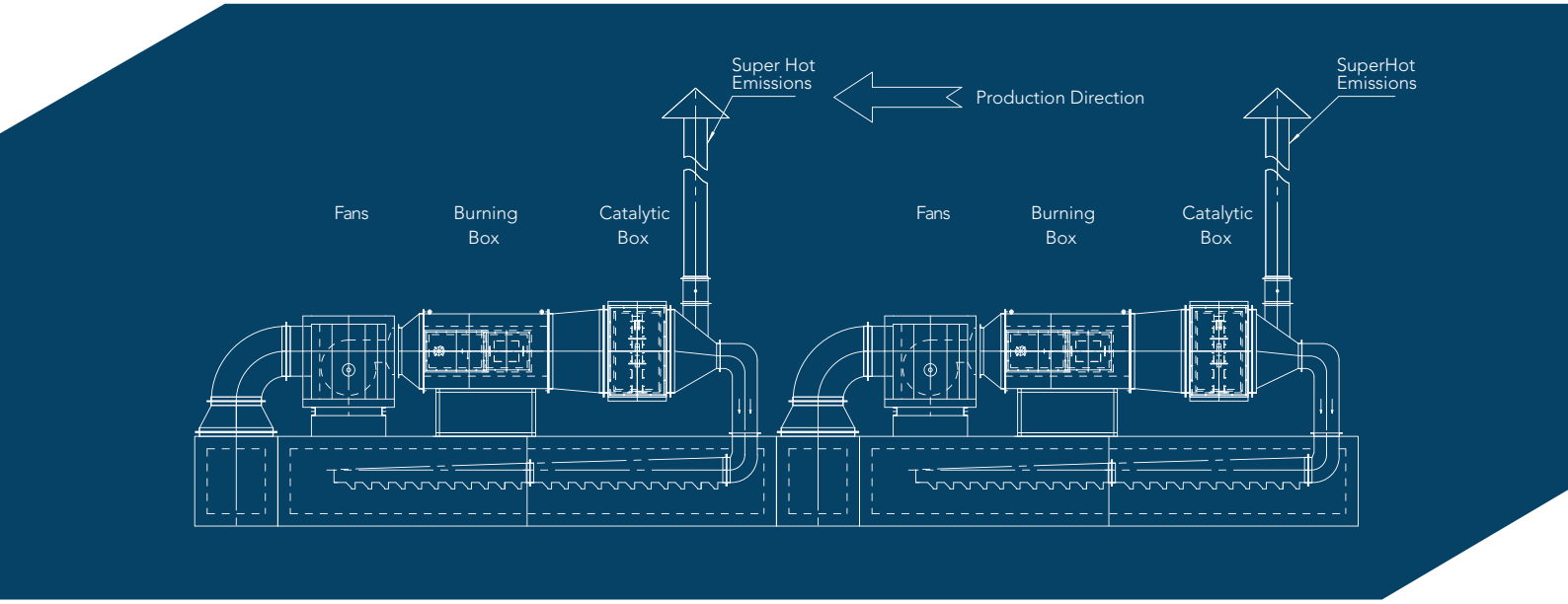
In-line Regenerative Catalytic Thermal Oxidizer (Paint Coating)

As part of our on going efforts to achieve our Sustainability Goals, we have invested in an In-line Regenerative Catalytic Thermal Oxidizer, which during the coating process reduces the release of the Volatile Organic Compounds (VOC) that are known to be a cause of Ozone depletion.

A regenerative thermal oxidizer (RTO) is an industrial process for the treatment of exhaust air. The system uses a bed of ceramic material to absorb heat from the exhaust gas and use the captured heat to preheat the incoming process gas stream.

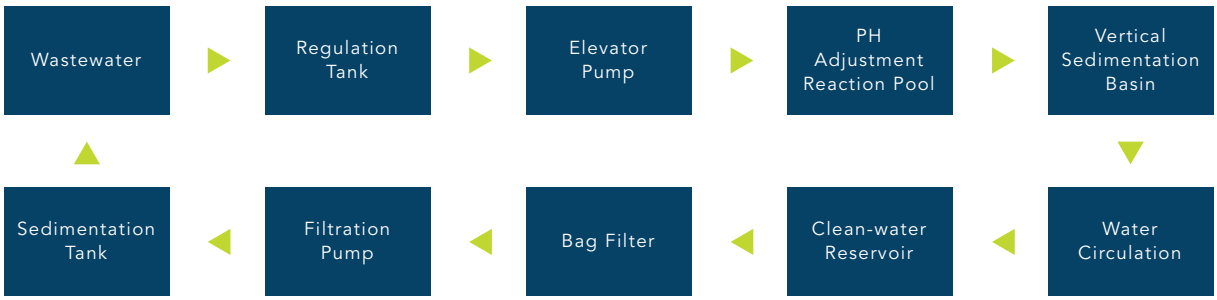
The basic operation of an RTO consists of passing a hot gas stream over a heat sink material in one direction and recovering that heat by passing a cold gas stream through that same heat sink material in an alternate cycle.

They are used to destroy air toxics and VOCs that are discharged in industrial process exhausts.



Re-Cycle of Waste Water

Water and chemicals are used during the degreasing process of the aluminium coils. This produces acidic wastewater, which goes through a re-cycling process and neutralizes the PH content before being re-cycled back into the degreasing process. The sedimentation which is a by-product of the degreasing process, is removed by a specialist company who will dispose off the sediment in an environmentally friendly & sustainable manner.



CERTIFICATIONS

Almaxco Panel Sheets are produced using high quality raw materials under stringent Quality Assurance (QA), Quality Control (QC) and Management standards, which has earned us various certifications such as ISO 9001 and ISO14001.

Our Panel Sheets are tested to ASTM, BS, EN, NFPA, and AS/NZS standards, by leading testing bodies around the world, such as TUV SUD PSB, SGS, Intertek, AWAT and CSIRO.

A large part of our success can be attributed to producing Panel Sheets of the highest quality standards, in an environmentally friendly and sustainable fashion.

PRODUCTION PROCESS

The production of Almaxco Panel Sheets includes the following four critical steps:

1. Chemosynthesis

Chemosynthesis, commonly known as the "Degreasing Process", is the first and most important step in the production process.

Following the delivery of the aluminium coils from our suppliers, the coils are uncoiled and undergo a vigorous quality control inspection.

Once the coils are found to be of an acceptable quality by our Quality Control Department, we will degrease the coils using approved non toxic industrial chemicals from either Henkle Co Ltd (Germany) and GE Betz (USA) to remove the antioxidative grease and other impurities such as silicon, magnesium, iron and copper that might be deposited on the coils.

The final step of the degreasing process is the application of a honeycomb high-density oxidative coating, which ensures that the paint and aluminium firmly adhere to each other in the next step of production, which is the coating of the coils.

2. Three-Roller Continuous Precision Coil Coating

We have four precision coil coating lines in our factory, which can coat coils up to 2000mm width.

Having our own in house coating lines gives us an added advantage over our competitors, as we can quality control the coating process, without having to rely on third parties to carry out the coating on our behalf, with the associated potential quality control issues.

Our three-roller precision coating lines operate within a mechanically ventilated self-contained room, which ensures a clean and dustless environment, so that the coating surface is free from any foreign particles.

In addition, each coating line is divided into four temperature-controlled areas to achieve the required hardness, flexibility, gloss levels, adhesive force and corrosion and solvent resistance.

3. Composite and Film Transfer Line

The Compositing and Film Transferring process is the penultimate step of the production process. In this step of the production the critical layers come together to form a panel sheet with the required thickness and size as ordered by our clients.

The top and bottom of coated aluminium coils get composited (sandwiched) with a LDPE or Fire Resistant Core, which is extruded from a pelleted form at the time of the compositing.

In this step of the production, the protective film, which bears the Almaxco brand, is transferred onto the Panel Sheets before they are cut to the required sizes, using a digitally controlled cutting system.

4. Packing & Palleting

Finally, the cut Panel Sheets are carefully stacked on pallets for last Quality Control Check and Quantity Verification before packing and palleting for dispatch.

ALMAXCO® PE ALUMINIUM COMPOSITE PANEL SHEETS

ALMAXCO® PE Panel sheets are composed of a Light Density Polyethylene (LDPE) core sandwiched between two skins of 0.50mm, 0.40mm or 0.30mm aluminium.

ALMAXCO® PE Panels are lightweight, highly durable, eco-friendly, rigid and quick and easy to fabricate and install. It is a versatile and economical solution for wide range of applications across various industries.

Most commonly used as an architectural interior and exterior wall panel, Almaxco-PE panel sheets are also widely used in the sign industry as corporate identities, directional signs, canopies and monoliths in gas stations. Besides these applications, the sheets are also a perfect solution for various applications in D.I.Y and Transportation industries.

The Panel Sheets are available in thickness ranging from 2mm to 6mm, with 3mm and 4mm being the most common. The panel surface is roller coated with durable paint options such as PVDF, FEVE, HDPE or PE paint.

IMPORTANT NOTICE

Almaxco PE core Panels are NOT FIRE RATED
Therefore, should not be used as façade or cladding panel on any building.

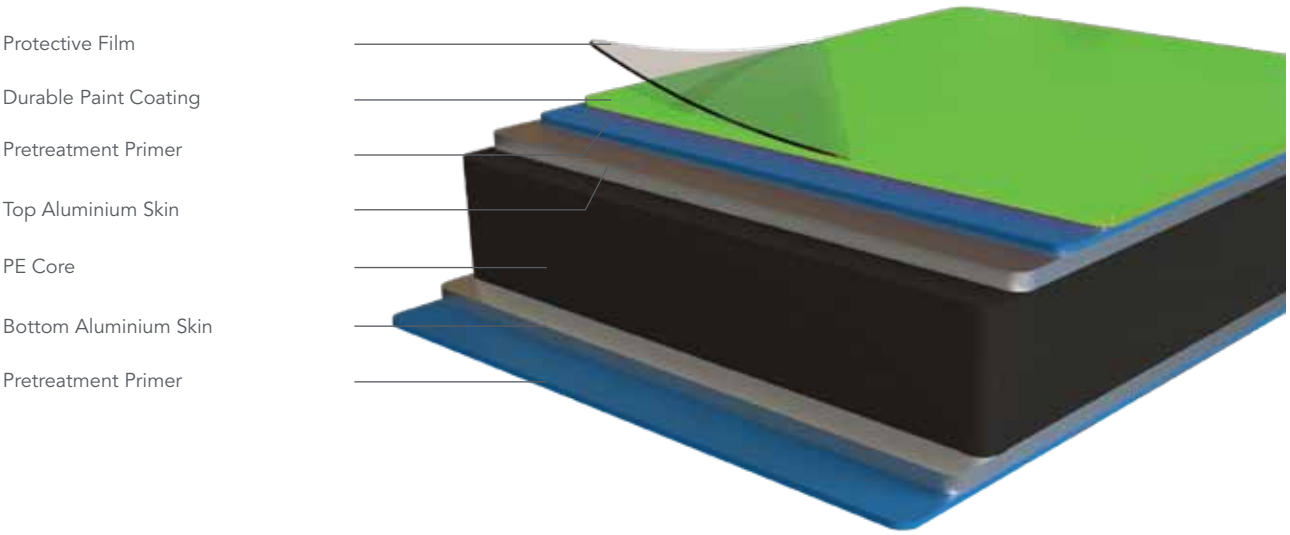
It is the responsibility of the architect, client, builder, fabricator and or the installer to ensure that panels they order from Almaxco meet local fire safety regulations.

We strongly advice the use our Fire Resistant FR (B1) core or A2 core panels for façade and cladding applications.

Almaxco disclaims any liability or damages such as injuries, loss of life, loss of panels, loss of profits, loss of goodwill or any tangible or intangible loss, arising from, the Buyers or any other third parties, not complying with local fire safety regulations in their respective countries.

ALMAXCO® PE Core Panels, Mechanical & Technical Properties

NO	Test item	Test method	Test result
1	Flexural Strength & Flexural modulus	ASTM D790-10	Flexural Strength 116MPa Flexural Modulus: 14698MPa
2	Shear Strength	ASTM D732-10	28.2MPa
3	Tensile strength & Elongation at Break	ASTM E8/E8M-13a	Tensile strength : 45.2MPa Elongation at break:12.9%
4	Core shear Stress & Core Shear Modulus	ASTM C273/C273-11	Core shear stress: 6.32MPa Core shear Modulus: 55.3MPa
5	Flexural Shear Strength – 3 point Mid-span loading	ASTMC393/C393M-11	Flexural Shear Strength (longitudinal):1.36MPa Flexural Shear Strength (Transverse): 1.52MPa
6	Flatwise Compressive Strength & Compressive Modulus	ASTM C365/C365M-11a	Stress at 10% Deflection: 2.0 MPa Compressive modulus:20.1MPa
7	Impact test	ASTM D2794-93(2010)	Impact failure end point: 3.13kg m



NO	Test item	Test method	Test result
8	Peel torque	ASTM D1781-98(2010)	Peel torque (Longitudinal): 15.4mm.kgf/mm Peel torque (Transverse): 16.6mm.kgf/mm
9	Deflection Temperature Under Load	ASTM D648-07	Deflection Temperature Under Load: 98.4 °C
10	Mean Coefficient of linear Thermal Expansion	ASTM E831-2014	Mean Coefficient of Linear Thermal Expansion: 430.4 μm/(m.°C)
11	Pencil Hardness	ASTM D3363-05(2011)	Scratch hardness: H
12	Thermal Conductivity and Thermal resistance	ASTM C518-10	Thermal conductivity: 0.104 W(m.K) Thermal resistance:0.039 (m2.K)/W
13	Conductance of Linear thermal expansion	ASTM D696-08	-30°C~30°C : 68.38x10^{-6} 1/°C

ALMAXCO® FR ALUMINIUM COMPOSITE PANEL SHEETS

ALMAXCO® FR is a high performance fire resistant Aluminium Composite Material used in a wide range of interior and exterior architectural applications.

FR panels are composed of a mineral-filled fire-resistant core laminated between two aluminium skins of 0.5mm (0.020") thickness.

When fire safety is of utmost importance, Almaxco FR has been the trusted choice of architects and project owners around the world, having a global reputation for reliability and quality.

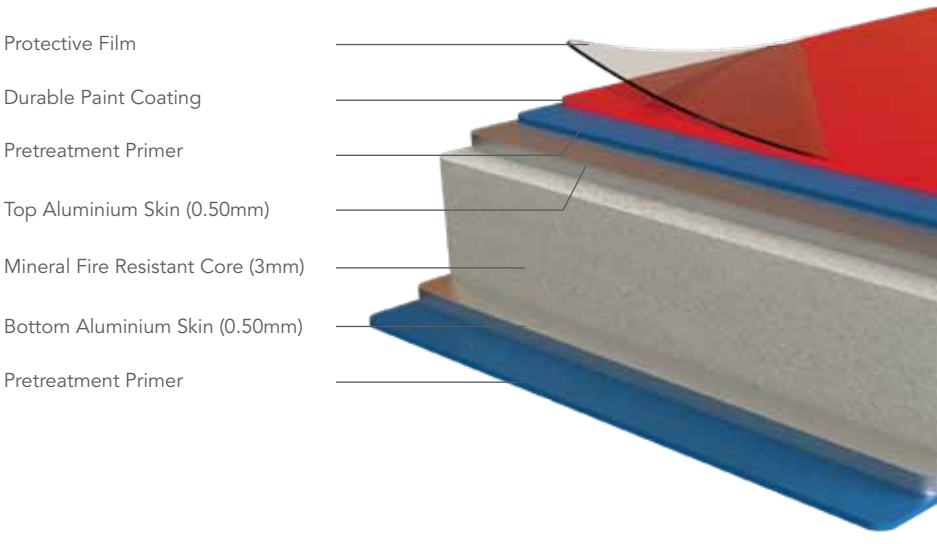
It has passed the most stringent fire safety tests demanded internationally such as NFPA 285, BS 476 P6 & P7, ASTM E84, EN-13501 and AS/NZ 1530.3.

Almaxco FR is most commonly used as an architectural facade panel for wall cladding, roofing coverings and canopies, besides this it is also used in the transportation industry for interiors of RV's, caravans and buses.

There are many applications across a wide range of industries where Almaxco-FR is preferred over other materials due to its superior flatness, formability, fire resistance, lightweight, and ease of processing.

ALMAXCO® FR Core Panels, Mechanical & Technical Properties

NO	Test item	Test method	Test result
1	Flexural Strength & Flexural modulus	ASTM D790-10	Flexural Strength 113 MPa Flexural modulus: 15989 MPa
2	Shear strength	ASTM D732-10	29.0MPa
3	Tensile Strength & Elongation at Break	ASTM E8/E8M-13a	Tensile strength: 44.9 MPa Elongation at break: 5.78%
4	Flexural Shear Strength – 3-point Mid-span loading	ASTM C393/C393M-11	Flexural shear strength (Longitudinal): 1.26MPa Flexural shear strength (Transverse): 1.38MPa
5	Core Shear Stress and Core Shear Modulus	ASTM C273/C273M-11	Core Shear Stress: 5.88 MPa Core Shear Modulus: 4023MPa
6	Flatwise Compressive Strength and Compressive modulus	ASTM C365/C365M-11a	Stress at 10% Deflection: 2.0Pa Compressive modulus: 19.7MPa
7	Impact test	ASTM D2794-93 (2010)	Impact failure end point: 2.95kg m
8	Peel torque	ASTM D1781-98 (2012)	Peel torque (Longitudinal): 9.67mm.kgf/mm Peel torque (Transverse): 11.7mm.kgf/mm
9	Deflection Temperature Under Load	ASTM D648-07	Deflection Temperature Under Load: 96.6 °C
10	Mean Coefficient of linear Thermal Expansion	ASTM E831-2014	Mean Coefficient of Linear Thermal Expansion: 351.7 μm/(m.°C)
11	Pencil Hardness	ASTM D3363-05(2011)	Scratch hardness: H
12	Thermal Conductivity & Thermal Resistance	ASTM C518-10	Thermal conductivity: 0.101 W(m.K) Thermal resistance: 0.038 (m°.K/W
13	Coefficient of Linear Thermal Expansion	ASTM D696-08	-30°C~30°C : 53.04x10 1/°C



ALMAXCO FR (A2) ACP

Almaxco/ A2 FR Core Panel Sheets are a non-combustible, non-toxic and environmentally friendly product. The organic mineral filled core makes the A2 FR panel sheets one of the highest fire rated panel sheets currently in the industry and have been tested in accordance with various fire standards globally (as shown in the table below).

When the mineral filled core is subjected to heat, it does not emit any toxic-fumes or environmentally hazardous substances.

Architects can specify the A2 FR Panel Sheets on projects where fire safety is of the utmost concern, such as public buildings, sporting arenas, tunnel walls, underground railway stations, etc., just to name a few.

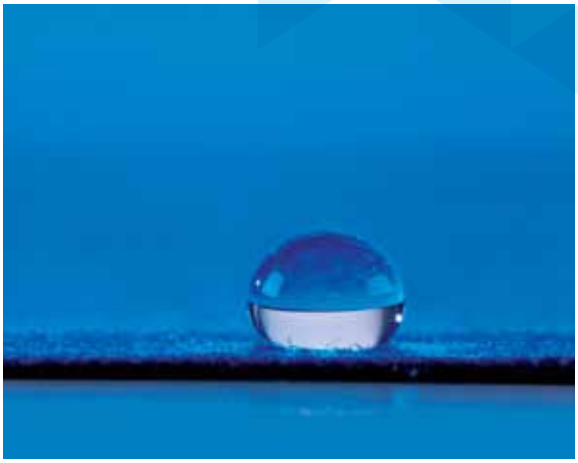
Fire standards required by building authorities world-wide

Country/Region	*Test Standard*
European Union	EN13501-1: 2007
USA	ASTM E119-07 (2hr)/ ASTM E84
Australia/ New Zealand	AS/NZS 1530.1, AS/NZS 1530.3, AS/NZS 3837: 1998
UK & Commonwealth	BS 476, Part 6 & 7 to core

Advantages of Almaxco A2 FR Core Panel Sheets:

- Non-Combustible, Mineral Filled Core (Highest Fire Proofing Characteristics).
- Lightweight compared to other products with similar fire proofing characteristics.
- Wide choice of colors and sizes.
- Excellent acoustic properties (Noise & Vibration Dampening).
- Excellent Flatness and Flexural Strength.
- Recyclable and Environmentally friendly.

ALMAXCO/ NANO ACP



Almaxco are now using a new and exciting technology, Nano PVDF, which changes the molecular structure of the paint. This process improves and enhances the performance of the paint coating by giving it longer color and gloss retention and makes the paint surface lipophobic and hydrophobic.

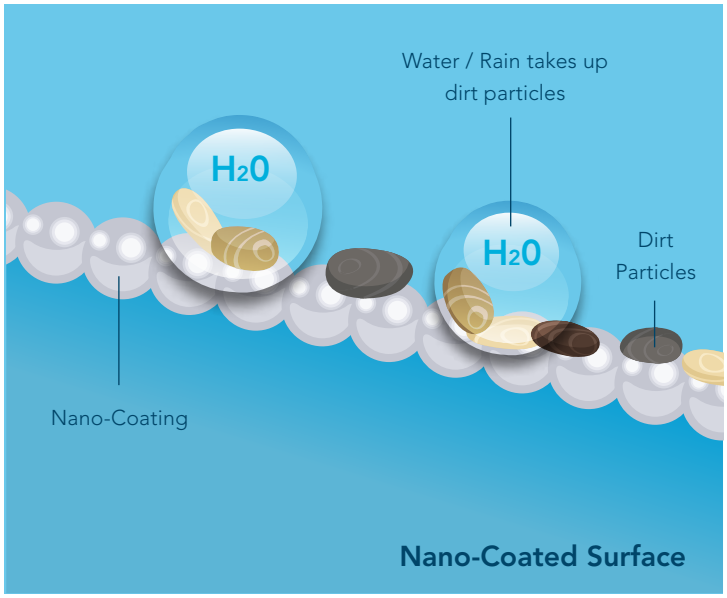
This is achieved by sealing any air-gaps between the tiny paint molecules with a water-soluble chemical, which prevents dirt, water, permanent spray paint (Graffiti), carbon monoxide, grease, oil or any foreign particles to penetrate through the paint surface.

In addition, the NANO PVDF application is a non-toxic, VOC EMISSION FREE coating system, which makes the surface self-cleaning and repellent to air-borne pollutants.

Standard Fluorocarbon and PVDF paint emit CFC's when in contact with Ultra Violet (UV) rays. Almaxco NANO coating prevents penetration of UV rays and other pollutants through the paint surface, giving a much longer gloss and color retention.

Benefits:

- Has no polluting affect whatsoever on the air quality and protects both human health and the environment.
- Bio-Degradable and Non-Toxic.
- 100% Post Recyclable, thus an Eco-friendly Product.
- No need for chemical cleaning or detergents – just water.
- By cleaning with no chemicals or detergents, the VOC emissions remain ZERO.
- Due to low surface energy, and self-cleaning attributes, when it rains or when water is sprayed on the surface, the dirt, etc., will get washed away by itself.
- Cleaning time is reduced by 80-90%.



Further Benefits:

- Lower running costs on maintenance - Self Cleaning.
- Lower cleaning costs.
- Lower maintenance means faster lease-up rates for potential tenants.
- Increased rental premiums.
- Increased market valuation.
- Increased re-sale value.
- Increased Green Rating.

ALMAXCO DIGITAL PRINTING & SIGNAGE ACP

Almaxco Signage and Digital printing Panel Sheets are extremely flat, lightweight and rigid.

They offer excellent surface tension required for optimal ink absorption to achieve the best digital printing quality.

They are most commonly supplied in 2mm and 3mm overall thickness with aluminium skin thickness of 0.30mm (0.012") or 0.20mm (0.008"), with a Light Density Polyethylene (LDPE) core or Fire-Rated (FR) core, with either one or both sides coated with a high quality Polyester XT paint in various gloss level options (Matt, Satin or High Gloss).

The Signage/ Digital Printing Panel Sheets can also be supplied in other overall and skin thicknesses and paint coating types such as FEVE, High Durable Polyester as required by the customer.

Specifications:

Overall Thickness:	2mm, 3mm (Also available in 4mm, 5mm & 6mm)
Skin Thickness:	0.20mm (0.008"), 0.30mm (0.012"). Other thicknesses also available on request.
Alloy/Temper:	1100/H18, 3105/H24, 5005/H42
Core:	LDPE, FR
Standard Widths:	1220mm and 1250mm
Special Widths available:	1000mm, 1500mm, 1525mm, 1550mm, 1575mm & 2000mm * Special Widths are subject to Minimum Order Quantities (MOQ), as well as longer delivery times and surcharges
Standard Lengths:	2050mm, 2440mm, 2500mm, 3050mm, 4050mm * Panel Sheets can be cut to any length as required by customer

All Almaxco Panel Sheets are Eco-Friendly and are 100% Post-Consumer Recyclable. The Panel Sheets are made from re-cycled aluminium and LDPE resins and the Panel Sheets can be stripped down after usage and re-cycled again

Finishes:

Polyester XT:	(Solid & Metallic Colors) in Matt, Satin and High Gloss
High Durable Polyester:	(Solid & Metallic Colors) in High Gloss with mica
Brushed Finish:	Silver, Golden and Bronze
Mirror:	Silver and Golden

Applications:

- All kinds of Signage (most commonly for Point of
- Directional Signs
- Corporate Identities
- Shop Fronts
- Digital Printing
- Exhibition Booths
- Petrol Stations
- Kitchen Splash Backs
- Light Boxes
- Hoardings
- Various other specialty applications

Processing Capabilities on our Panel Sheets

- UV Digital Printing
- Silk Screen
- Laser Cut
- Routing
- V-Groove
- Punch
- Perforate
- Roller Bend
- Fold and Slot

ALMAXCO SPECIALTY & INTERIOR ACP

Almaxco Natural Stone & Wooden Design Panel Sheets

This range of Panel Sheets comes in various natural stone colors and patterns or wood grains to give the effect of real natural stone or timber.

These Panels Sheets can be supplied in both Polyester and PVDF coating for both interior and exterior applications.

The natural and vibrant effects of these coated Panel Sheets are a perfect replacement for real stone and timber, as it allows for lower costs of construction and maintenance of the buildings.

These Panels Sheets can be supplied in various thicknesses and sizes.

Almaxco Chameleon Effect Panel Sheets

The Almaxco Chameleon Panel Sheets have a fascinating multi-color effect when the coated surface of the Panel Sheets are viewed from varying angles under sunlight conditions

These range of Panel Sheets give buildings a unique look and make them stand out from the rest.

These Panels Sheets can be supplied in various thicknesses and sizes.

Almaxco High Gloss Sparkling Panel Sheets

The Almaxco High Gloss Sparkling Panel Sheets are coated with double polyester coating and display glass like effect due to their high gloss. We can also jazz up the panel with sparkling metallic powder to give the surface an extra sparkling effect.

These Panels Sheets can be supplied in a wide range of colors options and is the perfect substitute for glass kitchen splash backs, as the high gloss surface can be easily cleaned to wipe away any oil and grease stains.

Besides kitchen splash backs this range of Panel Sheets can be used on sliding doors, wall coverings, lobby fit outs and furniture.

These Panels Sheets can be supplied in various thicknesses and sizes.

Almaxco Anti-Bacterial Paint Coated Panel Sheets

The Almaxco Anti-Bacterial Coated Panel Sheets are coated with special Anti-bacterial formula paint, which offers protection from harmful bacteria such as MRSA, E-Coli and Staphylococcus Aureus. Its long-lasting coat promotes better hygiene and health, while keeping the surroundings clean and fresh.

These range of Panel Sheets are widely used for wall partitions and doors in clean room environments for the pharmaceutical laboratories, semi-conductor R&D laboratories and medical facilities that require clean and sterilized environments.

These Panels Sheets can be supplied in various thicknesses and sizes.

Almaxco Transportation Industry Panel Sheets (Aviation, Marine, RV's and Buses)

The Almaxco Panel Sheets can be used in a wide range of applications in the Aviation, Cruise Ships, Railway, Recreational Vehicles (RV) and Passenger Buses.

Our Light Density Polyethylene (LDPE) and Fire-Rated (FR) core Panels Sheets offer a perfect solution to cater to this niche market segment. The rigidity, flatness, lightweight, wide paint types and color options allow for our Panel Sheets to be used in in many applications.

As the Transportion Industry is always looking to improve their competitiveness in this era of rising fuel costs, by using lighter and more durable materials, Almaxco Composite Panel Sheets are the perfect solution to meet those requirements.

Some of the possible applications of our Panel Sheets in the transport Industry would include:

Aviation:

- Aircraft Galley Trollies
- Overhead Bag Cabins
- Lavatories Wall Partitions

Marine (Cruise Ships)

- Passenger Cabin Wall Partitions
- Overhead Ceilings
- Interior Decoration (i.e Wall Panels, Lift Interiors, Furniture)

Railways (Trains), RV's and Buses

- Passenger Cabin Wall Partitions
- Overhead Bag Cabins
- Luggage Wall Compartments
- Lavatories Wall Partitions

INDUSTRIES & APPLICATIONS

Almaxco Aluminium Composite Panel Sheets are very versatile and can be used in a wide range of applications across various industries.

Industry in which our Panel Sheets can be used:

- Construction
- Signage & Digital Printing
- Transportation (Aviation, Marine, RV's, Buses)
- Kitchen
- Furniture
- Retractable Garage Doors
- Interior Decoration

Applications:

- Curtain Wall / Cladding & Façade
- Roofing (Car Park & Link way)
- Pillar Wraps/ Column Covers Room Partitions in Clean Rooms
- Kitchen Splash Backs
- Doors
- Furniture
- Petrol Stations
- Hording
- Billboards
- Light Boxes
- Directional Signs
- Point of Sale & Point of Purchase
- Exhibition Booths
- Retail Displays
- Corporate Identities
- Sign Boards
- Aircraft Galley Push Trolleys
- Bus and Aircraft Ceilings
- Luggage Compartments in Buses, Cruise Ship and Aircrafts

QUALITY CONTROL & ASSURANCE (QA/QC)

Almaxco Panel Sheets are produced using high quality raw materials under stringent Quality Assurance (QA), Quality Control (QC) and Management standards, which has earned us various certifications such as ISO 9001 and ISO14001.

Our in-house laboratory is equipped with the latest technologically advanced testing and measuring equipment. With such equipment at our disposal, along with a team of highly qualified QA & QC managers over 10 years of experience, we are able to inspect and check on all aspects of QA & QC according to various International Standards, such as ASTM, BS, EN, NFPA, and AS/NZS standards, by leading testing bodies around the world, such as TUV SUD PSB, SGS, Intertek, AWAT and CSIRO.

All the raw materials delivered to our factory by our material suppliers are inspected and verified, before they can be used in the production of an order. At every step of a production, our QA & QC managers will be physically on the production line to sign off on each batch of a production to ensure that the production meets our strict quality standards.

At 30-minute intervals during production, random samples are taken and delivered to our laboratory for testing and analysis. These would include testing of the color under different lighting conditions, peel strength, acid and alkali resistance, artificial aging, boiling water resistance, impact resistance, T-bending, just to name a few.

Various measurements and readings are also taken on the coating and compositing lines during a production, to ensure consistency in the color, gloss, coating thickness, composite panel sheet thickness, as well as identifying any visual defects or flaws on the surface of the Panel Sheets.

Once the Panel Sheets have been produced, they undergo a final round of QA & QC checks before the Panel Sheets are palletized and made ready for shipment.

We also archive production records and samples from every production batch and these are filed and stored carefully in a dedicated archive room for easy retrieval if and when required with regards to any sort of verification.

DIMENSION & SIZES

Almaxco Panel Sheets can be produced in various thicknesses from 2mm to 6mm, with varying aluminium skin thicknesses as required by our customers. The aluminium skins are available in various aluminium alloys such as 1100, 3003 and 5005.

Most Construction and Architectural Panel Sheets are supplied in 4mm, 5mm and 6mm overall thicknesses with aluminium skins of 0.50mm (0.020"). We are also able to supply other aluminium skin thicknesses as required by our customers.

Most Signage/Digital Printing and Specialty Panel Sheets are supplied in 2mm and 3mm overall thickness with aluminium skins of 0.30mm (0.012"), and 0.20mm (0.008"). We are also able to supply other aluminium skin thicknesses as required by our customers.

Panel Sheet Thickness:

2mm to 6mm

Most Common Aluminium Skin Thickness:

- 0.20mm (0.008")
- 0.30mm (0.012")
- 0.50mm (0.020")

**Other thickness also available, please inquire with our Sales Representatives*

Aluminium Alloy/ Temper:

- 1100/H18
- 3105/H22
- 5005/ H42

Standard Alloy is 1100, however we can also supply 3105 and 5005 alloys as required by our customers, but they are subject to minimum order quantities, slightly longer delivery times and extra surcharges. *(Please inquire with our Sales Representatives on Terms & Conditions).*

Standard Panel Widths:

1220 mm, 1250 mm,1500mm

Other Special Widths:

1525 mm, 1550 mm, 1575 mm, 2000 mm

Special Widths are subject to Minimum Orders Quantities, Slightly Longer Delivery Times and Extra Surcharges. . Please inquire with our Sales Representatives on Terms & Conditions

Almaxco Panel Sheets can be supplied in various widths as required by our customers, however there is a minimum quantity order for per color/per width. Special widths and non-standard alloys are subject to terms and conditions.

(Please inquire with our Sales Representatives on Terms & Conditions)

Lengths:

Almaxco Panel Sheets can be supplied in any length as required by our customers. Lengths of the Panels Sheets have no implications on per square meter costs or MOQ. Our digitally controlled cutting system on the composite lines can be pre-programmed to digitally cut the Panel Sheets to the desired length. It is however recommended that Panel Sheets be ordered in less than 5800 mm length for easy loading, unloading and handling of the Panels.

Minimum Order Quantities (MOQ): 800m2/ per color/ per width

For most standard product range, there is an MOQ of 800m2/ per color/ per width, however, for certain special product ranges like A2 FR panels, or orders that require a non-standard alloy or special widths, MOQ may be higher.

(Please inquire with our Sales Representatives on MOQ's and other Terms & Conditions for a special product range you would like to order)

Sound Insulation:

Almaxco Composites Panel Sheets offer very good sound insulation. Its noise dampening properties make it an ideal solution for various architectural applications.

Panel Thickness	Airborne Sound Insulation Index (Rw)	Loss Factor (d)	Sound Absorption Factor (αs)
3mm	25dB	0.007	0.05
4mm	26dB	0.0086	0.05
6mm	27dB	0.0136	0.05

SAMPLES & COLOR MATCHES

Coating Thickness & Tolerances

Almaxco Panel Sheets are coated using high quality paints from world-renowned suppliers such as PPG, Becker, Valspar & Fine Shine. By following the strict guidelines and recommended coating methods of our paint suppliers, we can ensure that the coating on our Panel Sheets is free from any coating related problems as well as meeting the requirements set down by our paint suppliers.

Almaxco PVDF panel sheets are coated with a 2-coat system (25um +/- 2um) or 3-coat (30 um +/- 2 um) for maximum durability, weatherability and corrosion resistance for the use in external applications.

Almaxco FEVE Panel Sheets are coated with a 3-coat system and have a 30um (+/-2um) coating thickness for maximum durability, weatherability and corrosion resistance for the use in external applications.

Almaxco Nano coated Panel Sheets are coated with a 4-coat system and have a 30um (+/- 2um) coating thickness for maximum durability, weatherability and corrosion resistance for the use in external applications. The forth coat increases the durability and weatherability of panel sheets to reduce the fading and gloss loss of the paint coating.

Almaxco Polyester XT coated Panel Sheets are coated with a 2 coat 25um (+/-2um) coating thickness to achieve maximum surface tension required for optimal digital printing, flexibility and glossiness.

Custom Color Matches

Almaxco offers its customers with the ability to match any color a customer, architect or client desires. We can match any RAL, Pantone or other custom colors.

All we require of our customers is to send us a color sample coated on any metal surface and we can get our paint suppliers to match that particular color to 99% accuracy. We would require a physical coated sample to custom match a color or to receive a RAL or Pantone code.

The turn around time for custom color matching is usually 5 to 7 days from the time we receive the sample, plus the courier transit time to send the sample back to the customer.

Color matches are made on aluminium skin only (not the entire panel sheet) and are meant for color approval only. Once the color is accepted and approved by the customer, we can then produce the actual order based on the confirmation of the custom color code.

We can match these colors in varying gloss levels as required by our customers. PVDF colors can only be produced in gloss levels up to 45%, whilst Polyester XT, HDP, FEVE colors can be produced in gloss levels up to 90%.

Custom colors are subject to Minimum Order Quantities as stated earlier in this catalogue.

Note:

As color matching samples are made by hand, certain metallic colors may have faint lines on the surface of the color matching skin, it is to be noted that these lines will not appear on the actual production run.

Please, note we cannot accurately match colors based on email digital photographs or if the color sample sent by the customer is not on a metal surface, such as textile or paper.

Samples & Product Catalogues

Please feel free to request us for samples and product catalogues by contacting any our Sales Representatives on admin@almaxco.com

PAINT COATING TEST RESULT (AAMA 2605)-13

Location	Total Dry Film Thickness,		AAMA 2605-13 Requirement
	Panel A	Panel B	
1	32.3	30.5	
2	32.4	30.5	
3	32.0	30.5	Minimum 30µm
4	32.0	30.1	
5	31.7	30.3	
Average	32.1	30.4	

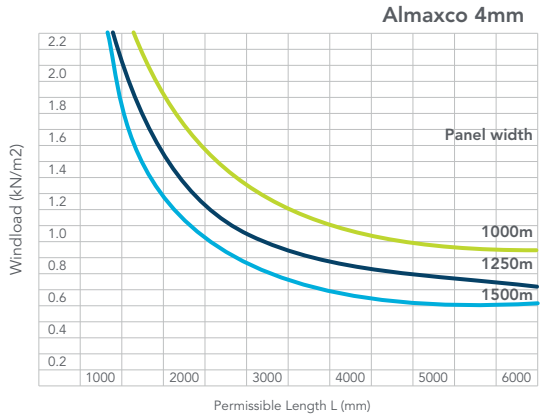
Test Item	Aluminium Composite	AAMA 2605-13 Requirement
2. Visual examination	Passed	Free from flow lines, streaks blisters or other surface imperfections.
3. Colour uniformity	0.6	Not more than 5ΔE units (Hunter)
4. Specular gloss at 60°	39	Within ± 10 units of manufacturer's specification
5. Dry film scratch hardness	F	Minimum F (No rupture of film)
6. Dry adhesion	No removal of film	No removal of film
7. Wet adhesion	No blistering No removal of film	No blistering No removal of film
8. Boiling water adhesion	No blistering No removal of film	No blistering No removal of film
9. Impact resistance	No removal of film from substrate	No removal of film from substrate
10. Abrasion coeddicient,(litres/mil)	40	40 minimum
11. Muriatic acid resistance10% (v/v) HCl	No blistering No visual change	No blistering No visual change
12. Mortar resistance	• Mortar dislodged easily • No residue • No loss of film adhesion • No visual change	• Mortar shall dislodge easily • Any residue shall be removable with damp cloth • Any lime adhesion should be easily removed with 10% muriatic acid solution • No loss of film adhesion • No visual change
13. Nitric acid (70% w/w)resistance, colour change,5 E units (Hunter)	1.3	Not more than 5ΔE units (Hunter)
14. Detergent resistance	• No loss of film adhesion • No blistering • No significant visual change	• No loss of film adhesion • No blistering • No significant visual change
15. Window cleaner resistance	• No removal of film under tape • No blistering • No visual change	• No removal of film under tape • No blistering • No visual change

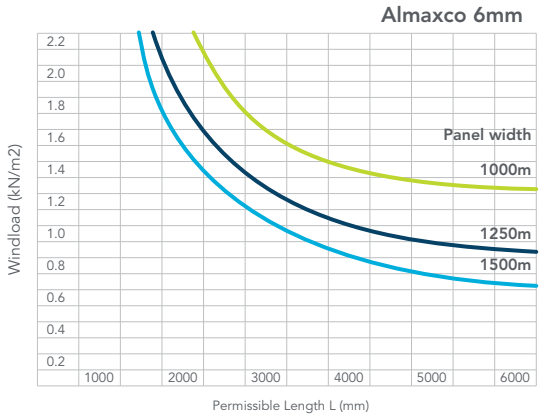
PANEL WEIGHT & WIND LOAD

Type of Panel	Thickness (mm)	Aluminim Skin (mm)	Core	Weight (kg)/m²	Weight (lbs)/m²
ALMAXCO - PE	3	0.15/0.15	PE	4.16	9.17
	3	0.20/0.20	PE	4.32	9.52
	3	0.30/0.30	PE	4.62	10.19
	4	0.20/0.20	PE	5.50	12.13
	4	0.30/0.30	PE	5.80	12.79
	4	0.50/0.50	PE	6.40	14.11
	6	0.20/0.20	PE	7.85	17.31
	6	0.30/0.30	PE	8.16	17.99
	6	0.50/0.50	PE	8.77	19.33
ALMAXCO - FR	4	0.50/0.50	FR B1	7.00	15.43
	4	0.50/0.50	FR A2	7.40	16.31
	6	0.50/0.50	FR B1	9.00	19.84

Wind Load and Permissible Panel Dimensions

The graphs below show 4mm and 6mm thick Almaxco Panel's maximum permissible lengths based on the appointed wind load and panel width. The values given below are fixed on for Panels that are supported on four sides.



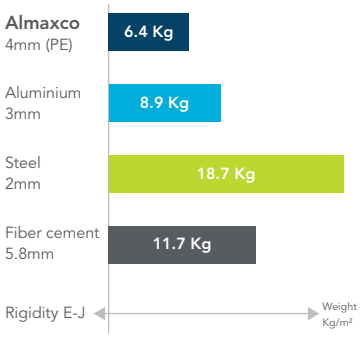


Advantages of Almaxco Panels Sheets over other similar cladding materials

Almaxco Panel Sheets have greater flatness and rigidity qualities and are lighter when compared to other similar cladding materials.

The Flatness and Rigidity of the Panel Sheets eliminate the oil canning effect, which is common with solid aluminium and steel sheets.

The lighter weight of our Panel Sheets, when compared to that of similar cladding materials, helps to reduce the dead load factor on buildings and the necessary structural support which reduces construction costs which together gives the architect more freedom with the design and aesthetics of the building.



Sound Insulation

Almaxco Composites Panel Sheets offer very good sound insulation. Its noise dampening properties make it an ideal solution for various architectural applications.

Panel Thickness	Airborne Sound Insulation Index (Rw)	Loss Factor (d)	Sound AbsorptionFactor (s)
3mm	25dB	0.007	0.05
4mm	26dB	0.0086	0.05
6mm	27dB	0.0136	0.05

SPECIFICATIONS

Test	Criteria & Tolerance
Mechanical Properties of Aluminium Skin (Cover Sheets)	
Alloy	1100/ 3105, 3003/ 5005
Temper	H18/ H24, H22/ H42
Tensile Strength of Aluminium Skin (Rm)	≥ 130
0.2% Proof Stress (Rp 0.2)	≥ 90
Elongation A50	≥ 5%
Rigidity (EJ kNcm2/m)	4mm = 2400
Modulus of Elasticity (N/mm2)	70,000
Linear Thermal Expansion	2.4mm/m at 100°C Temperature
General Specifications of Almaxco Aluminum Composite Panel Sheets	
Pencil Hardness PVDF Coating	HB
Impact Resistance (Ball Drop) 50kg/cm	No split after reverese impact test with cross cutting
Humidity Resistance	3000 hours, No Change or Blister
Salt Spray Resistance	5% Salt for 3000 hours, No Change or Blister
Solvent Resistance	200 times MEK, No Change
Chemical Resistance	5% HCL or 5% NaOH for 24 Hours, No Change
Boiling Water Resistance	100°C (+/-2°C) for 2 hours
Cleaning Agent Resistance	Isopropyl Alcohol, Ethanol Absolute 46.7% No Change
Oil Resistance	No Trail
Abrasive Resistance	50 - 80 KTR, No Crack
Temperature Resistance	- 50°C to +80°C
Coating Specifications & Tolerance	
Minor Surface Coating Flaws	≤ 3/m2
Color Variation Tolerance Solid Colors (PVDF, Polyester, FEVE)	Δ ≤ 2
Color Variation Tolerance Mettalic Colors (PVDF, Polyester, FEVE)	Δ ≤ 2
Color Variation Tolerance (Wooden/Granite PVDF Coating)	Δ ≤ 4
Gloss Range for PVDF	20% - 45%
Gloss Range for Polyester & FEVE	30% - 90%
Acceptable Gloss Reading Tolerance	+/- 10%
T-Bending for Polyester Paint	1T
T-Bending for PVDF, NANO, FEVE	2T
Coating Thickness for Polyester	≥17-20µm
Coating Thickness for PVDF/FEVE	≥25-28 µm
Coating Thickness for NANO	≥30-33 µm
Dimension Tolerances	
Thickness of Aluminium Skin	+/- 0.02mm
Thickness of Panel	+/- 0.2mm
Length (mm)	+/-3mm
Width (mm)	+/-2mm
Diagonal Difference (mm)	≤3/mm

ALMAXCO INTERNATIONAL FIRE CERTIFICATIONS

North American Standard	
NFPA 285 Full Wall Assembly	Pass
ASTM E84 for B1 FR core	Class A Class 1
European Standard	
EN 13501-1: 2007 (Class B) for B1 FR core	B-s1-d0 - European Union Fire Standard
EN 13501-1: 2007+A1: 2009 (Class A2) for A2 FR core	A2-s1-d0 - European Union Fire Standard
British Standard (All Commonwealth Countries)	
BS 476 Part 4 tested to Core Only for A2 FR core	Non-Combustible FR Core
BS 476 Part 6 tested to Core Only for A2 FR core	Class 0
BS 476 Part 7 tested to Core Only for A2 FR core	Class 1
BS 476 Part 6 tested to panel for B1 FR core	Class 0
BS 476 Part 7 tested to panel for B1 FR core	Class 1
Australian/NZ Standards	
AS/NZS 1530.1 (Only for A2 FR Core)	Non-Combustible FR Core
AS/NZS 1530.3	Simultaneous Determination of Ignitability, Flame Propogation, Heat & Smoke: All Nil

PROTECTION FILM

All Almaxco Panel Sheets are protected with an 80-micron light density polyethylene film. The protection film is adhered to the surface of the coated panels using high quality water based glue.

Glue strength levels on the protection film need to be adjusted to account for any seasonal temperature variations and the requirements of different types of paint, gloss and color. Our team of QC and Production Managers have the necessary experience to determine which strength of glue best suites the criteria for a particular production.

All of our protective films use a water-based glue, but on special request by a customer, we can also offer a rubber-based glue on the protective film, which is subject to extra costs and minimum quantity orders and brand printing restrictions.

Almaxco Architectural Panel Film

All protective films for Architectural Panels require a stronger glue strength compared to a protective film used on Digital Printing, Signage and Specialty Panels, so as to ensure that the protective film remains adhered for at least 45 days after installation of the Panels, as opposed to Digital Printing, Signage and Specialty Panels which needs a shorter period.

The company recommends that the film be removed within 45 days of the Panel installation, so as to avoid the film from over-sticking to the paint surface. If the protective film has not been removed within 6 months from the date of the production, the installers may experience greater difficulty in removing the protective film. In addition it should be noted that water-based glue like other water-based materials can be susceptible to multiple changes in weather conditions and therefore long periods of the film being left on the surface of the panels should be avoided as far as possible.

Installers must install the panels in one direction, as shown by the arrows on the protective film and not doing so may result in visual color variations. The protective film must not be removed during fabrication and installation of the Panels, so as to avoid scratches and abrasion to the coated surfaces.

PVC tapes, polyurethane sealants and modified silicon sealants must not be stuck or applied onto the panel's protective film, as the chemicals from these materials could penetrate the protection film and cause a gloss change in the coating.

Digital Printing, Signage, Specialty Panel Films

All Almaxco Digital Printing, Signage & Specialty Panel films have an " Easy Peel Effect".

We deliberately reduce the glue strength levels on this range of panels to allow digital printers and sign makers to remove the protective film without much effort, as this is preferred by that industry.

Installers must install the panels in one direction, as shown by the arrows on the protective film, and not doing so may result in visual color variations. The protective film must not be removed during fabrication and installation of the Panels so as to avoid scratches and abrasion to the coated surfaces.

PVC tapes, polyurethane sealants and modified silicon sealants must not be stuck or applied onto the panel's protective film, as the chemicals from these materials could penetrate the protection film and cause a gloss change in the coating.

PACKAGING & PALLETING

- The Panel Sheets are fully protected on all sides with wooden framework and steel strapping, which are fit for the purpose of the protection of the Panel Sheets against any damage whilst in transit from the Company's factory to the Customer's final destination.
- All Almaxco Panel Sheets are packed in strong sea worthy wooden pallets, which are custom made at the Company's factory for each order.
- All Pallets are clearly labeled with the relevant description of the Panels sheets inside each Pallet, (i.e. Size, Color, Quantity and Project Name) for easy identification at the Customer's final destination.
- Pallet weights are carefully estimated before shipment, so as to ensure that each pallet does not exceed 1.8 metric tonnes and that the overall weight of each container does not exceed the maximum permissible weight that is allowed under shipping lines' and other transportation companies' regulations.
- On receipt of any special instruction in writing from the Customer, the Company will accommodate lower pallet weights. However, it should be noted that the reduction of the weight of pallets will reduce the loading volume per container and increase the unit cost of the Panel Sheets.
- The Law and Regulations in certain destination countries might require that the wooden pallets be fumigated and treated. If such treatment is required, then the Customer must instruct the Company of such regulations and requirements at the time of confirming their order, so that the necessary arrangements can be made by the Company in advance to avoid any delays due to non-compliance.

STORAGE & HANDLING

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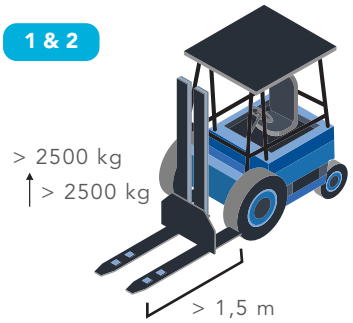

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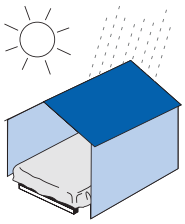

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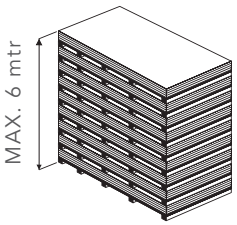

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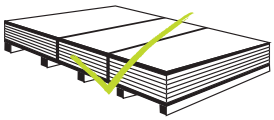

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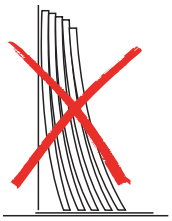

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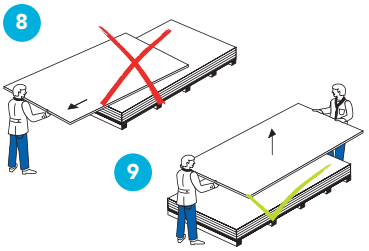

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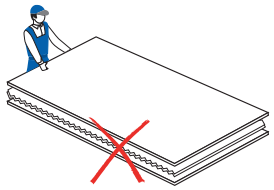

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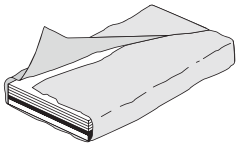

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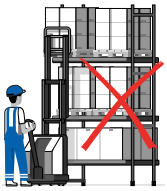

> 6 months

1. A forklift, which can support lifting weights of at least 2500 kg is used to move the pallets around.
2. The length of the fork should be at least 1.5m in length, so that it can adequately support the weight of the Pallet and prevent the pallet from tipping over or being damaged.
3. When storing Pallets, they should be stored in a clean, dry and covered warehouse or space at all times, so as to prevent the Pallets from being exposed to the sun, rain, moisture and other elements.
4. When stacking the pallets on top of each other, the maximum height should not exceed 6 meters, so as to avoid warping and bending of the Panel Sheets.
5. Only Pallets of identical size should be stacked one on top of the other.
6. All Pallets must always be placed on horizontal racks or stacked horizontally.
7. If Panels are removed from the Pallets, do not lean the removed Panels against any vertical wall or similar support, so as to avoid damage to the surface of the Panel Sheets.
8. When removing a Panel Sheet from a Pallet, it must be carried out with at least 1 worker, at opposite ends and they should only remove 1 Panel at a time.
9. A single worker must not try to remove or flip the Panel Sheets out of a pallet by himself, as doing so could cause injury to the worker and damage to the Panel Sheet.
10. When stacking Panel Sheets on top of each other, nothing should be placed between them, so as to avoid causing any marks, dents or impressions on any of the Panel's surfaces.
11. It is highly recommended to cover pallets with a plastic sheeting to prevent accumulation of dust and dirt on the Panel Sheets.
12. Storage exceeding 6 months or more must be avoided, as this could cause the protection film to over-stick to the panels coated surface.

CLEANING & MAINTENANCE OF ALMAXCO ACP

For all Almaxco Panels Sheets to retain their color, gloss and aesthetic appeal, an approved and bona fide cleaning company must carry out regular cleaning and maintenance of the Panels.

Almaxco coated Panels are smooth and thus do not retain much dirt and soil on their surfaces, however if the Panels are not regularly cleaned and maintained, dirt and soil could build up on the Panels' surfaces. The durability and Warranty of the Panels could be affected, if the Panels are not regularly cleaned and maintained, due to a build up of dirt and soil, this could cause coating surface issues to arise. This will also negatively impact the aesthetic look, color and gloss of the Panels.

The amount of dirt and soil, that can build up on a Panel surface depends on the environmental conditions in the location of the Project. Hence, cleaning and maintenance frequencies will depend on the local environmental conditions.

The Panels must be cleaned in accordance to the stated details below at least once a year, or more if the environmental conditions so require.

When the Panels on a project are due for their first cleaning and maintenance process, the cleaning company must first carry out tests for compatibility between their proposed cleaning agent and the Panels. It is recommended that the testing is carried out on a spare Panel or on an inconspicuous area of the project panel's.

Once a cleaning agent is found to be compatible with the Panels, then this cleaning agent must always be used. If at any time the cleaning company wishes to change their cleaning agent, they must go through the same testing process as stated above.

When cleaning the Panels, it must be ensured that the surface temperature of the Panels is always below 40°C at all times, so as to avoid any unforeseen issues with the Panels surfaces. As far as possible try to carry out the cleaning process in the shade and at moderate temperatures. Do not carry out any the cleaning process when it is raining, snowing or in similar conditions.

A forceful water rinse from top down is recommended, as an initial step of the cleaning process, followed by a low water volume with a moderate pressure for the remainder of the cleaning process.

The cleaning must be done with a uniform pressure and with a horizontal motion first, followed by a vertical motion from top to bottom of the Panel's coated surface.

It is essential that either a non abrasive grit free pad, soft grit free squeegee or soft lint-free cloth is used to clean or wipe the surface of the Panels, so as to prevent abrasions and scratches on the Panel's coated surface.

To remove soil and dirt off the surface of the Panels, it is recommended that prior to the carrying out the proposed cleaning process, a small area is tested first to determine the degree of cleaning actually necessary to accomplish the task.

A mild cleaning agent such as IPA solution (Isopropyl Alcohol) with a neutral PH of 5-10% can be used for the removal of light and dirt soil.

For stubborn stains, such as those caused by sealant and caulking compounds, a mild solvent such as IPA (Isopropyl Alcohol), n-Hexane or Ethanol 46.7% is to be used. If a concentrated alcohol based cleaning agent is being used, it is required that the cleaning agent's manufacturer's printed instructions are followed with regards to dilution and application.

It is recommended to start the cleaning from the top of the building, as opposed to the bottom of the building, so as to avoid any rundown and streaking of the water and cleaning agents on the panels that have already been cleaned.

After the soil and dirt has been removed, the Panels must immediately be rinsed with clean water and wiped with a soft non-abrasive cloth.

Warning:

Do not use any strong organic solvents or cleaning agents under any circumstances, such as MEK (Methyl Ethyl Ketone), MIBK (Methyl Iso Butyl Ketone), Triclene, Paint Thinner, household detergents or cleaning agents , strong alkali or strong acid based cleaning agents containing sodium carbonate, caustic soda, potassium hydroxide or similar, or any such strong abrasive and lacquer dissolving agents. All cleaning agents must have a neutral PH of 5-10% only.

The use of abrasive cloths, pads will damage the surface coating of the Panels coated surface.

While using any cleaning agents, caution should be taken at all times. It should be noted that many cleaning agents may be inflammable and dangerous, hence it is important to avoid any contact with fire or the use of lighters or the permitting of smoking around any cleaning agents. It should also be ensured that cleaning site is always adequately ventilated to prevent any explosions and inhalation, as vapors from such cleaning agents can build up in the cleaning site.

All cleaning materials must be disposed of properly. The Company shall bare no liability whatsoever for non-compliance with the warnings stated above and for the non-compliance with the local work safety laws and regulations in the respective countries by any parties whatsoever.

PROCESSING & FABRICATION

Vertical Sawing & Cutting Machine (For Cutting and V-Grooving)

Flatbed CNC Router (For Cutting, V-Grooving)

3-Roller Bender (For Curve Bending of Bull Nose and Pillar Wraps)

UV Digital Printing (For Advertisments & Signs)

Almaxco Panels Sheets can be processed and fabricated by a large variety of tools and machines. The versatility of our Panel Sheets due to its lightweight, flatness, rigidity, excellent ink absorption properties and many other desirable characteristics, makes it an optimal solution for various applications across and wide range of industries.

Our Panels Sheets can be routed and cut on a Flat Bed CNC machine as well as with various other cutting tools, such as a vertical sawing and cutting machine and a hand held "V-Grooving" tool. The Panel Sheets can be bent and formed into trays to be integrated into exterior facade systems or curtain wall systems.

Our Panels Sheets can also be curve bent with a 3 roller-bending machine or a roller bender for bull nose and pillar wraps.

The Panels can also be processed with glue, very strong bonding tape, rivets and screws. They can also be perforated, contour cut and printed on with a UV Digital Printer or Silkscreen.

Disclaimer for Catalogue

Information, photos, illustrations, diagrams and recommendations with regards to The Processing & Jointing Methods provided in the Company's catalogue and or other marketing materials are intended to provide general information and guidelines only.

The Company disclaims any liability such as damages, injuries, loss of panels, loss of profits, loss of goodwill or any tangible or intangible loss, arising from, the Buyers or any other third parties, having not obtained relevant advice and recommendations at the appropriate time from a Certified Construction Professional, Qualified Architect or Qualified Engineer regarding the Panel's correct applications and installation methods.

The Company cannot be held liable under any circumstances whatsoever, for failure by the Buyers or any third parties for not complying with applicable building codes, regulations, laws or testing requirements for the projects which they supply to in accordance to the fire and safety regulations in their respective countries. It is the Buyers responsibility to ensure that Panels ordered comply with such local regulatory requirements and is fit for purpose.

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