



ALCOMAXX™
Aluminium Composite Panel

A L U M I N I U M C O M P O S I T E

The Best in
QUALITY & SERVICE

OUR PRODUCT

Standardized modern scientific management system

World-level advanced multifunctional automatic production line for manufacturer

The first rate automatic roll coating production line with double coating and baking in the world

Combined with treating technique of P.P.G Kynar500 fluorocarbon resin coating and Henkel coating formation

All these guarantee the best quality and higher level of Alcomaxx

Over 6.5 million sq.m of Alcomaxx can be produced annually and is popular world wide

Alcomaxx are used in decorating heavy curtain of the building, furnishing both, walls outside and inside of new and old buildings, decorating wallboard of tunnels, indication board, front wall and the bodies of automobiles, ships and machines and for use as industrial material.



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the ADVANTAGES

- ◆ Alcomaxx is approved in many applications, such as in architecture, display, transport, industry and so on.
- ◆ Easily processed to achieve designer's solutions by using simple conventional tools.
- ◆ Environmental friendly - does not pollute the earth
- ◆ Available in a variety of standard sizes and colours. Special colours on request.
- ◆ Lightweight, extremely rigid and flat surface.



- ◆ Using P.P.G Kynar500 PVDF coating, Alcomaxx panel provides 10 year warranty.
- ◆ Extremely resistant against weather, acid, alkali, powder and strong solar radiation.
- ◆ Outstanding characteristic of fireproof panel approved for most building applications.

scope of APPLICATION



Alcomaxx are used in decorating heavy curtains of the building, furnishing both interior and exterior walls of old and new buildings, decorating wallboards of tunnels and subways, bodies of automobile, ships and machines, as well as for the use for industrial materials.

Application scope:

- 1) Building exterior curtain walls
- 2) Decoration and renovation additions for old buildings
- 3) Decoration of interior walls
- 4) Wallboards and ceilings for tunnels
- 5) Industrial materials, materials for vehicles and boats.

Easy processing and installation:

It is easy to process for it is light weight. All by simple tools used for processing timber and metal. Both indoor and outdoor decoration can be implemented simultaneously so as to raise working efficiency and short working time.





product
INFORMATION

product INFORMATION




- KYNAR500 Fluorocarbon PVDF coating
- Aluminium Skin
- Lamination Layer
- PE or FR Core
- Lamination Layer
- Aluminium Skin

Constitution

Alcomaxx brand aluminium composite panel is a new type of building material presenting the tendency of the future. With fluoro-carbon resin (PVDF) roasting painting of rolling type on the front layer, the weather resistance is over 10 years.

PANEL DIMENSIONS

Product Range	Specifications	
	Standard	Upon request
 One side stove-lacquered finish	Thickness	4mm
	Width	1220mm
	Length	2440mm
		2mm, 3mm, 5mm, 6mm
		1000mm 1500mm 1250mm 1550mm
		any length up to 5500mm

TEMPERATURE BEHAVIOUR

Temperature Resistance	From -40°C to+80°C
Temperature Expansion	2.5mm per linear meter for temperature difference of 100°C






SOUND INSULATION (shows the considerable sound reduction for a concrete wall covered with Alcomaxx)


Alcomaxx thickness	Sound reduction
3mm	23dB
4mm	24dB
6mm	25dB



PRODUCT RANGE

Product Range	ALCOMAXX ACP available thickness					Coating / Finish	Aluminium
	2mm	3mm	4mm	5mm	6mm		
ALCOMAXX - Exterior	✓	✓	✓	✓	✓	Kynar500PVDF	  
ALCOMAXX - Interior	✓	✓	✓	✓	✓	Polyester	
ALCOMAXX - Granite-Ext	✓	✓	✓	✓	✓	KynarPVDF Films	
ALCOMAXX - Granite-Int	✓	✓	✓	✓	✓	IT-Polyester	
ALCOMAXX - Veneers-Ext	✓	✓	✓	✓	✓	KynarPVDF Films	
ALCOMAXX - Veneers-Int	✓	✓	✓	✓	✓	IT-Polyester	
ALCOMAXX - Arctic Ice-Ext	✓	✓	✓	✓	✓	KynarPVDF Films	
ALCOMAXX - Arctic Ice-Int	✓	✓	✓	✓	✓	IT-Polyester	
ALCOMAXX - Chameleon-Ext	✓	✓	✓	✓	✓	KynarPVDF Films	
ALCOMAXX - Chameleon-Int	✓	✓	✓	✓	✓	IT-Polyester	

COMPARED WITH SOLID ALUMINIUM

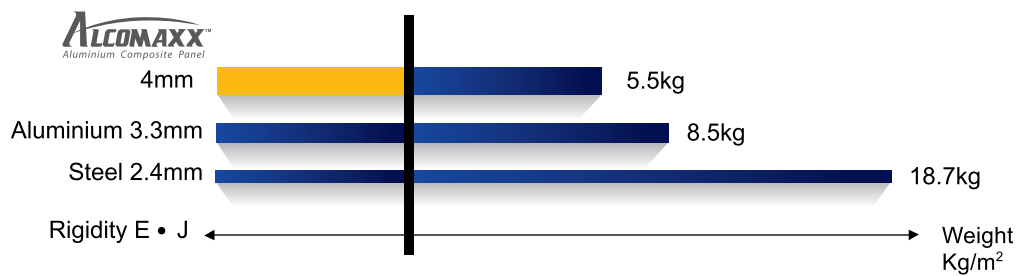
Rigidity E • J				Aluminium	
	Section modulus W	Thickness	Weight	Thickness	Weight
0.125 kN m ² / m	1.25 cm ³ / m	3mm	4.5 kg/m ²	2.7mm	7.3 kg/m ²
0.240 kN m ² / m	1.75 cm ³ / m	4mm	5.5 kg/m ²	3.3mm	8.9 kg/m ²
0.590 kN m ² / m	2.75 cm ³ / m	6mm	7.3 kg/m ²	4.5mm	12.2 kg/m ²



COMPARISON CHART BETWEEN ALCOMAXX, SOLID ALUMINIUM AND STEEL

Item		Solid Aluminium	Steel
Weight	4mm : 5.48 kg/m ²	3mm : 8.0kg/m ²	1.5mm : 11.47kg/m ²
Flatness	Very Flat	Uneven	Uneven
Heat Insulation	Best	Poor	Poor
Sound Insulation	25dB	15dB	15dB
Echo Response	Low	Medium	High
Paint Consistency	Best	Inconsistent	Inconsistent
Paint Microns	Even	Uneven	Uneven
Weather Proof	Good	Good	Good
Fire Proof	Good	Good	Good
Fabrication	Easy	Difficult	Very Tough
Delivery	Quick	Slow	Slow
Total Cost	Economical	Medium Cost	Expensive
Maintenance	Easy	Easy	Easy
Installation	Quick	Slow	Very Slow

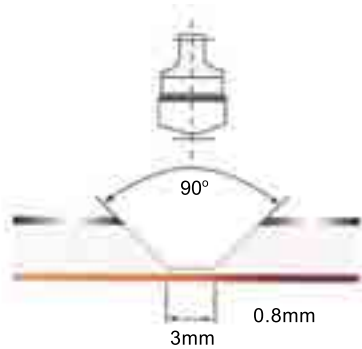
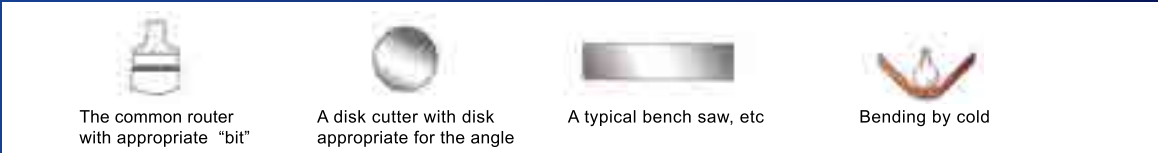
COMPARISON OF THICKNESS & WEIGHT ON EQUIVALENT RIGIDITY



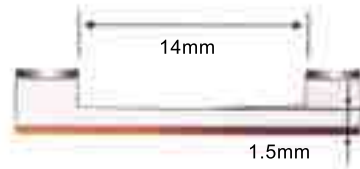


routing & folding
TECHNIQUES

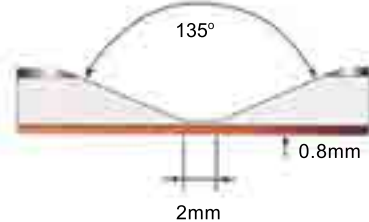
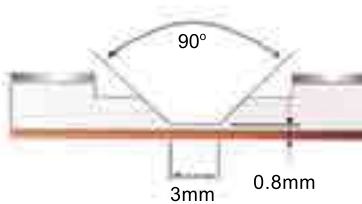
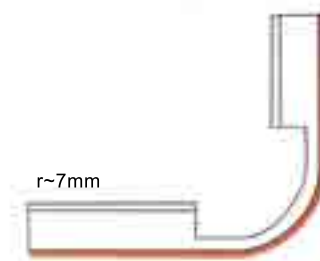
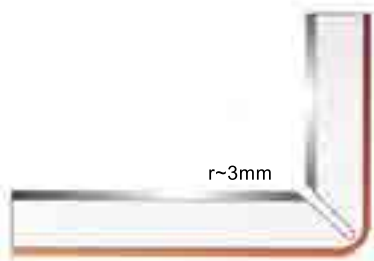
Alcomaxx is easily formed into any desired shape. The reversed side is routed and panel folded. Routing is performed using 1 of the 3 tools shown :-



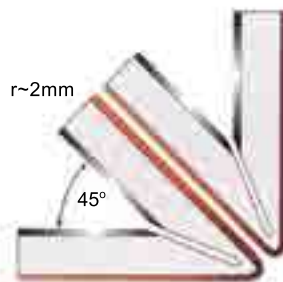
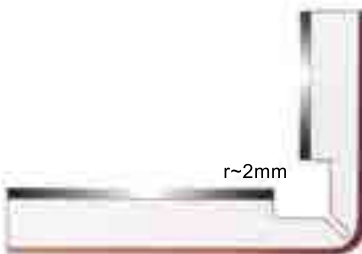
Groove 90° (v - shape) for foldings up to 90°



Not suitable for Alcomaxx Rectangular groove for foldings up to 150°, depending on the panel thickness



Groove 135° (v - shape) for foldings up to 135°





processing
METHOD

Alcomaxx panel is very easy to process. All cutting, milling, palnning, slotting, side-folding and curving can be easily fulfilled by simple tools used for processing timber and metal. It can be shaped into various shapes - curves, reserved curve, corner and sharp curve, according to requirements of building design. It is incomparable to other decorating materials.



RIVETING

Countersunk rivet can realize easy joint from one direction



BENDING

When plate folder is used to finish the Alcomaxx panel, dies shall be placed on with appropriate radius. The required parameters of Alcomaxx panel are shown as below :

Thickness of Alcomaxx panel (mm)	Vertical	Cross
3	65	55
4	75	55
6	90	80



WELDING

Sample conditions of gas protected welding:

- Welding temperature : 230 - 240°C
- Pressure of air compressor : 0.3 - 0.4kg/cm²
- Pressing pressure : 1.0 - 1.5kg
- Welding speed : 1000m/min



CUTTING

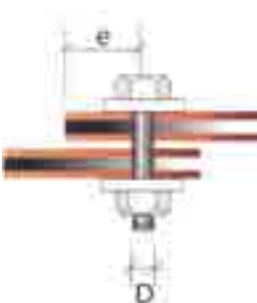
It can be easily process with wood product processing saw and plate saw. It is recommended to use hard alloy blade.



SHEARING

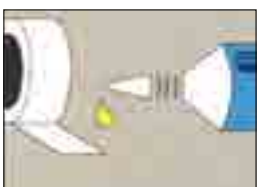
Gantry shearing machine is the most effective for processing of large quantity Alcomaxx panel, and burrs are possible at the cutting place. Appropriate gap and inclination are shown as below :

Thickness of Alcomaxx panel (mm)	Gapl	Inclination
3	0.04	1"
4	0.04	1"30"
6	0.2	2"30"



BOLTING

Considering from deformation limit, formula $\geq 2D$ is the best calculation way of aperture D and distance (e) from hole center to plate end.



GLUEING

Excellent cohesion can be achieved even when using special adhesives or elastomeric polyurethano of one component.



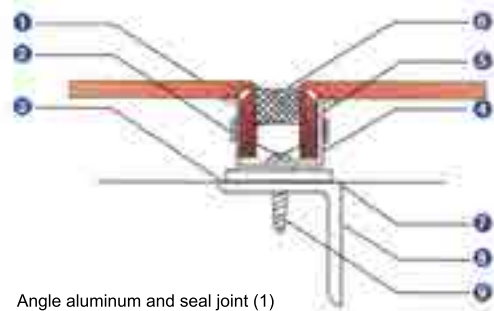
Normal aluminium product processing machinery and wood product processing machinery can be used for processing Alcomaxx panel without special device.

A low-angle, upward-looking photograph of several tall skyscrapers with glass facades. The buildings are silhouetted against a bright, overcast sky. In the lower center, a construction worker wearing a hard hat and safety vest is silhouetted while carrying two large, flat panels. The overall mood is industrial and urban.

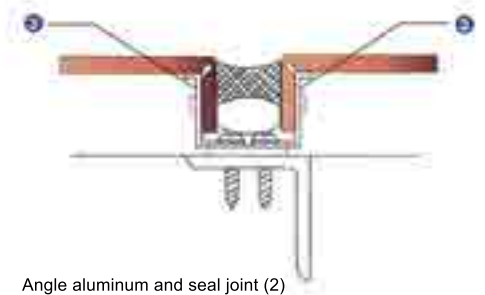
scheme of
INSTALLATION

1. Alcomaxx panel
2. Aluminium rivet
3. Angle aluminum
4. Angle aluminum
5. Sealing material
6. Bach spacer
7. Spacer
8. Angle bar
9. Bullen screw

Example of panel type and joint design (A)



Angle aluminum and seal joint (1)

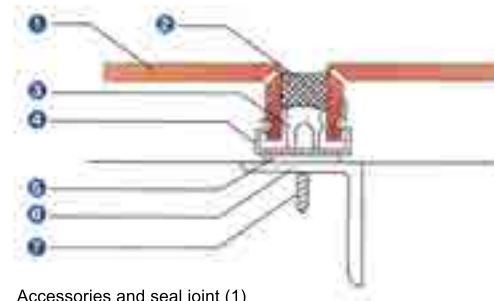


Angle aluminum and seal joint (2)

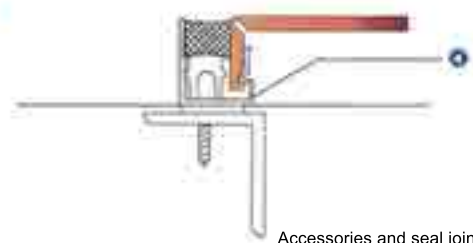
1. Alcomaxx panel
2. Sealing material
3. Plastic lining bar
4. Accessories
5. Spacer
6. Angle bar
7. Bullen screw

Above mentioned accessories are for the use of low rise buildings.

Example of panel type and joint design (B)



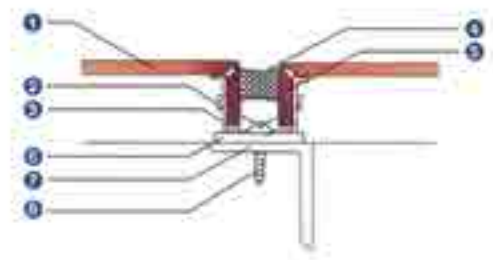
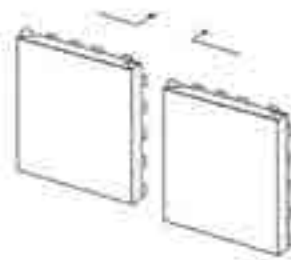
Accessories and seal joint (1)



Accessories and seal joint (2)

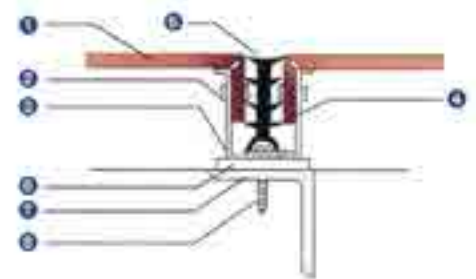
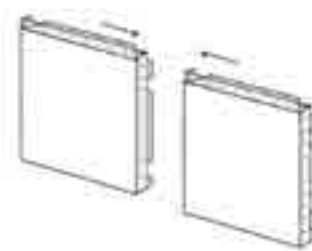
1. Alcomaxx panel
2. Aluminium river
3. Angle aluminum
4. Sealing material
5. Bach spacer
6. Spacer
7. Angle bar
8. Bullen screw

Example of panel type and joint design (C)

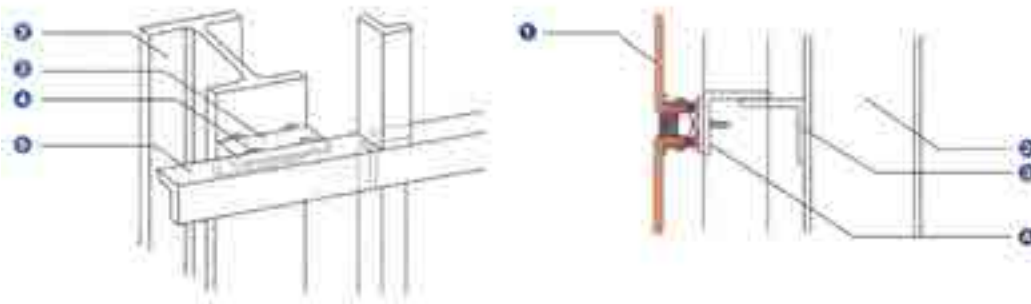


1. Alcomaxx panel
2. Aluminum river
3. Angle aluminum
4. Angle aluminum
5. Gasket
6. Spacer
7. Angle bar
8. Bullen screw

Example of panel type and joint design (D)

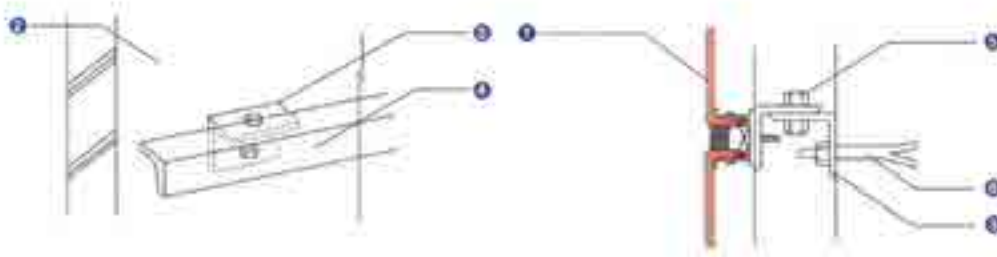


Example of keel structure



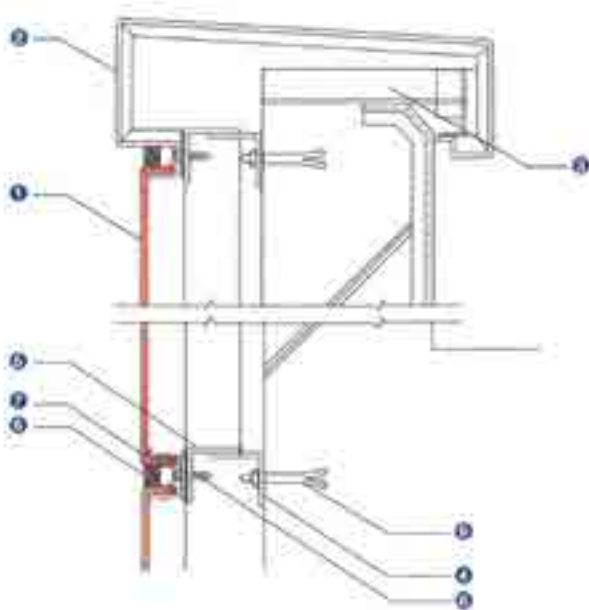
1. Alcomaxx panel
2. Bearing strut
3. Angle support
4. Welding
5. Angle bar

Example of keel structure



1. Alcomaxx panel
2. Bearing strut (wall)
3. Angle support
4. Angle aluminum
5. Tapping screw
6. Embedded part

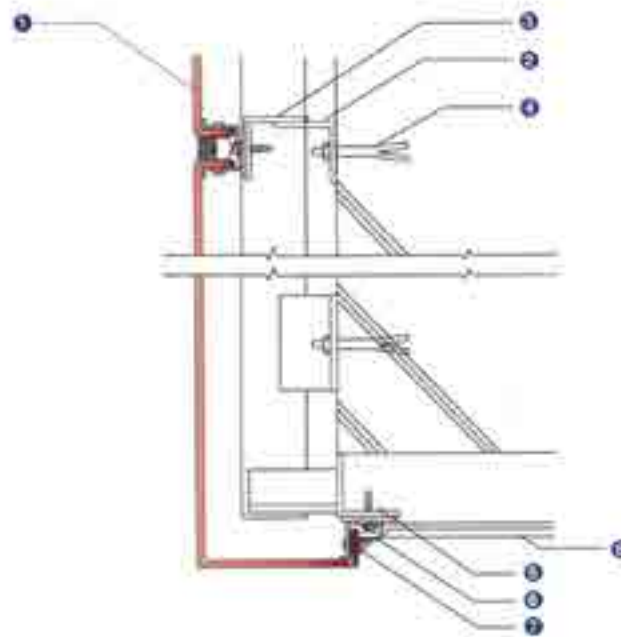
Installation example of building top



1. Alcomaxx panel
2. Building top
3. Angle support
4. Angle support
5. Angle bar
6. Sealing material
7. Lining material
8. Bullen screw
9. Built-in anchoring or expanding bolt

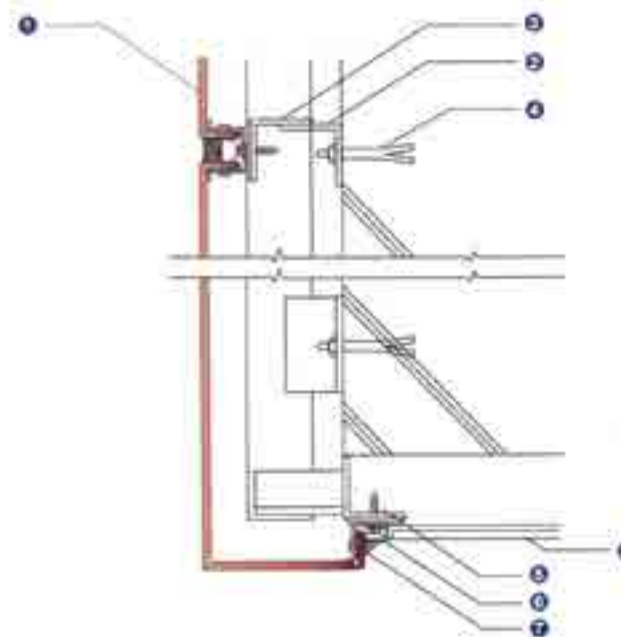
1. Alcomaxx panel
2. Angle support
3. Angle bar
4. Built-in anchoring or expanding bolt
5. Sealing material
6. Lining material
7. Bullen screw
8. Ceiling

Installation example of eaves

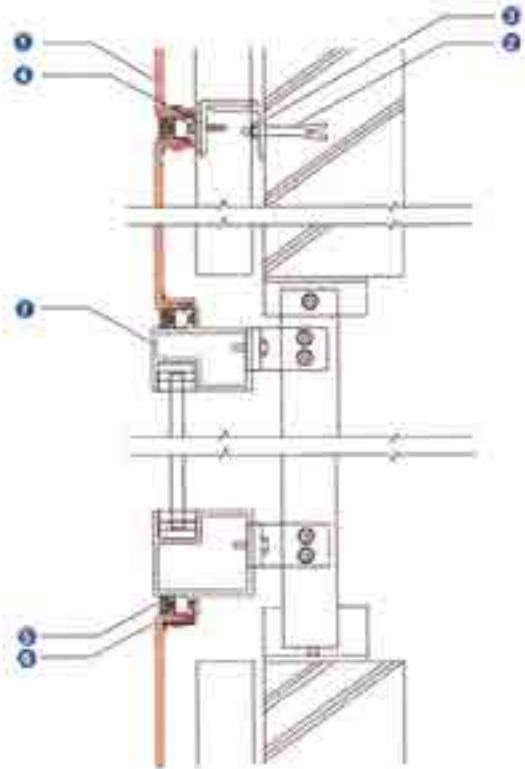


Installation example of foundation

1. Alcomaxx panel
2. Angle bar
3. Angle support
4. Sealing material
5. Lining material

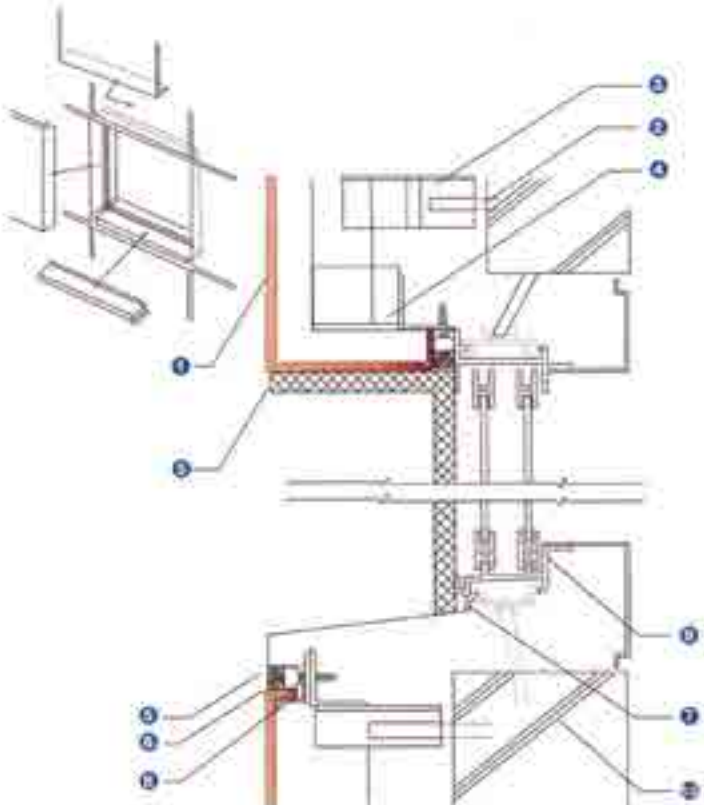


Installation example of window frame



- 1. Alcomaxx panel
- 2. Built-in anchoring or expanding bolt
- 3. Angle support
- 4. Angle bar
- 5. Sealing material
- 6. Lining material
- 7. External window frame

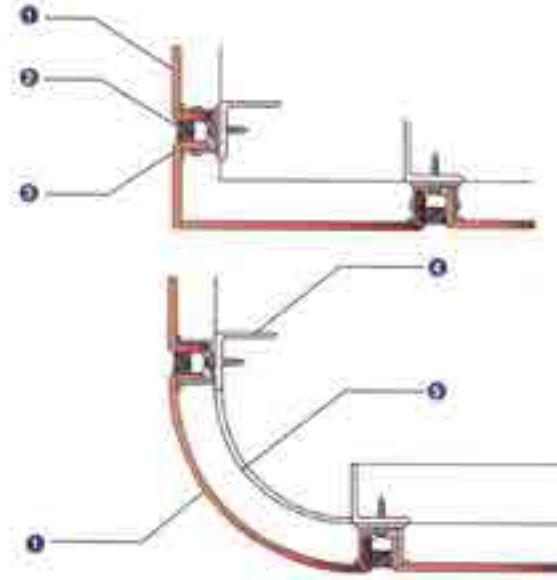
Installation example of repaired building window frames



- 1. Alcomaxx panel
- 2. Built-in anchoring or expanding bolt
- 3. Angle support
- 4. Angle bar
- 5. Sealing material
- 6. Lining material
- 7. Damper
- 8. Bullen screw
- 9. Window frame
- 10. The former bearing wall

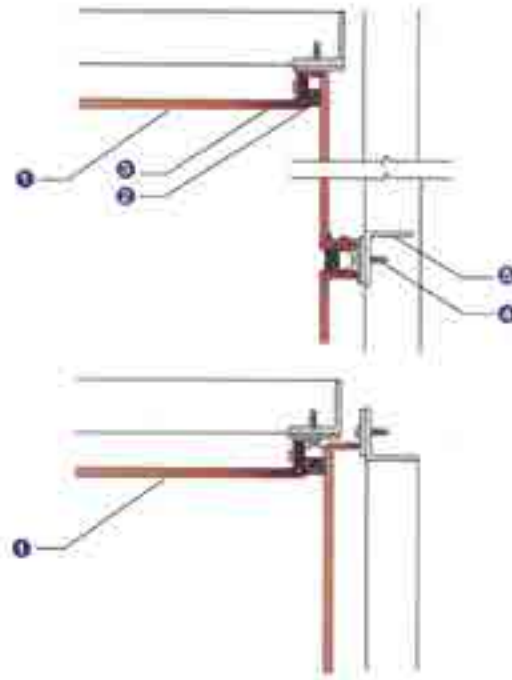
- 1. Alcomaxx panel
- 2. Sealing material
- 3. Lining material
- 4. Angle bar
- 5. Steel plate strip

Installation example of external corner

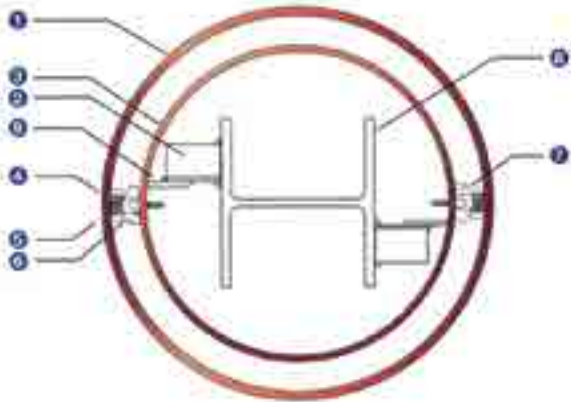


Example of corner installation

- 1. Alcomaxx panel
- 2. Sealing material
- 3. Lining material
- 4. Angle bar
- 5. Bullen screw



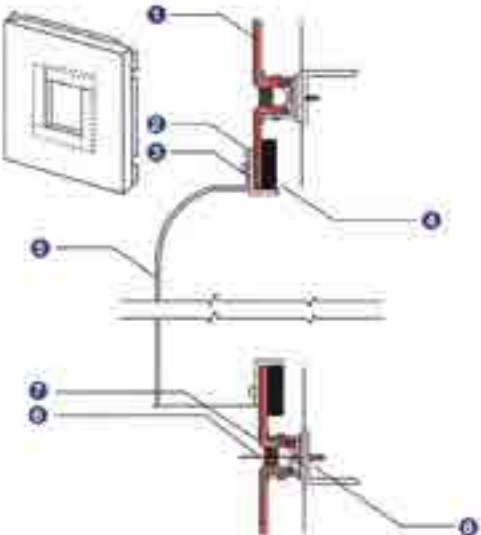
Example of column covering



- 1. Alcomaxx panel
- 2. Angle support
- 3. Steel plate strip
- 4. Sealing material
- 5. Plastic lining bar
- 6. Accessories
- 7. Bullen screw
- 8. Bearing strut

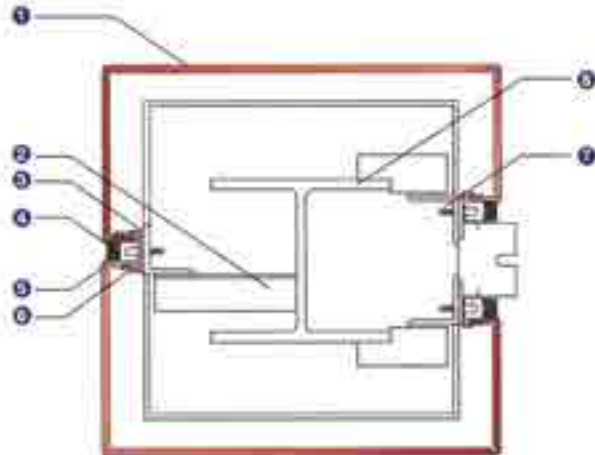
Above mentioned accessories are for the use of low rise buildings.

Installation example of equipment and opening



- 1. Alcomaxx panel
- 2. Sealing around
- 3. Tape
- 4. Veneer
- 5. Weathertight covering material
- 6. Sealing material
- 7. Lining material
- 8. Bullen screw

Example of strut covering



- 1. Alcomaxx panel
- 2. Angle support
- 3. Steel plate strip
- 4. Sealing material
- 5. Plastic lining bar
- 6. Accessories
- 7. Bullen screw
- 8. Bearing strut

Above mentioned accessories are for the use of low rise buildings.

TEST REPORTS

TEST REPORT OF STATE TEST CENTER OF BUILDING MATERIALS

Outside wall:

Items	Standard index of quality product	Result	Conclusion
Appearance	Clean surface without swell, flaws, scratch & aberration Length : ±3mm Width : ±2mm Thickness : 0.2mm	Pass 0mm - +2mm 0mm - +2mm 0mm	Qualified
Deviation of dimension	Deviation of diagonal : ≤5mm Out of straight at sides : ≤1mm/m Warp : ≤5mm	1mm 0.2mm/m 1mm/m	Qualified
Thickness of coating	≥25 μm	29 μ (av30)	Qualified
Deviation of luster	≤10	2.1(av 28.0)	Qualified
Hardness of pencil	≥HB	3H	Qualified
Toughness of coating	≤2T	2T	Qualified
Adhesive	Not less than Grade 1	Squaring of method of Grade 0. Grade 1 marking method of rolling line	Qualified
Impact strength	50kg.cm without paint off & crack	Pass	Qualified
Boiling water resistance	Boiling for 2h without change - Unchanged	Unchanged	Qualified
Acid resistance	Immerse surface with 5%HC 1(m/m) for 48h without change	Unchanged	Qualified
Alkali resistance	Immerse surface with 5%NaOH 1(m/m) for 48h without change	Unchanged	Qualified
Oil resistance	Immerse surface with 20# engine oil for 48h without change	Unchanged	Qualified
Solvent resistance	Clean 100 lines with butanone without change	Bottom unrevealed	Qualified
Cleaning resistance	≥10,000 times without change	Unchanged	Qualified
Abrasion resistance	≥5L / μm	5.33L / μm	Qualified
Contamination resistance	≤15%	7.8%	Qualified
Density of surface	Specified value : ±0.5kg/m ²	5.32kg/m ²	Qualified
Bend strength	≥100MPa	121MPa	Qualified
Flexuous modulus of elasticity	≥2.0 x 10 ⁴ MPa	3.12 x 10 ⁴ MPa	Qualified
Through resistance	9.0kN	9.94kN	Qualified
Cutting strength	≥28.0MPa	32.0MPa	Qualified
180° peel strength	≥7.0N/mm	11.2N/mm	Qualified
Resistance to change of temperature	-40°C - 80°C, 20 cycles without change	Unchanged	Qualified
Heat deformation temperature	≥95°C	120°C	Qualified
Co-efficient of heat expansion	≤4.00 x 10 ⁻³ °C	1.98 x 10 ⁻³ °C	Qualified
Salt haze resistance aberration	Not less than Grade 2	Grade 1	Qualified
Artificial resistance aberration	≤3.0	1.24	Qualified
Aging resistance out of light	Not less than Grade 2	Grade 1	Qualified
2000h other aging characteristic	Grade 0	Grade 0	Qualified

TEST REPORT OF PHYSICAL CHARACTERISTICS OF STATE TEST CENTER OF BUILDING MATERIALS

Fireproof panel

Items	Standard index	Test value	Individual judgement
Density of surface	Rating : ±0.5kg/m ²	6.8kg/m ²	Qualified
Impact strength	Without paint off & crack	without paint off & crack	Qualified
Bend strength	≥100MPa	≥104MPa	Qualified
Flexuous modulus of elasticity	≥2.0 x 10 ⁴ MPa	3.04 x 10 ⁴ MPa	Qualified
Through resistance	≥9.0kN	9.5kN	Qualified
Cutting strength	≥28.0MPa	29.6MPa	Qualified
180°c peel strength	≥7.0N/mm	7.1N/mm	Qualified
Resistance to change of temperature	-40°C - 80°C, 20 cycles without change	Unchanged	Qualified
Boiling water resistance	Unchanged	Unchanged	Qualified
Co-efficient of heat expansion	≤4.00 x 10 ⁻³ x ⁻¹	29.3 x 10 ⁻³ x ⁻¹	Qualified
Heat deformation temperature	105°C	112°C	Qualified

Test results meets the index requirement of quality product of GB/T17748-1999

TEST REPORT OF SAFETY OF STATE QUALITY SUPERVISION & INSPECTION CENTER OF FIREPROOF BUILDING MATERIALS - Fireproof panel

Items	Test method	Technical index	Result	Conclusion
Minimum value of remaining length after burning	GB/T8625-88	≥0	410	Qualified
Average value of remaining length after burning	GB/T8625-88	≥150	486	Qualified
Temperature of smoke, °C	GB/T8625-88	≤200	116	Qualified
Height of the top of the flame	GB/T8626-88	<150	15	Qualified
Grade of smoke density	GB/T8627-88	≤75	34	Qualified

Note : The technical index based on the regulation of non-flammable materials (Grade B1) of GB8624-1997

TEST REPORT OF STATE TEST CENTER OF BUILDING MATERIALS

Inside wall :

Items	Standard index of quality product	Result	Conclusion
Appearance	Clean surface without swell, flaws, scratch & aberration Length : ± 3mm Width: ± 2mm Thickness : 0.2mm	Pass 0mm - +1mm 0mm - +1mm	Qualified
Deviation of dimension	Deviation of diagonal : ≤5mm Out of straight at sides : ≤1mm/m Warp : ≤5mm	0mm 0.2mm/m 1mm/m	Qualified
Thickness of coating	≥16 μm	17 μ (av18)	Qualified
Deviation of luster	≤10	2.6(av 20)	Qualified
Hardness of pencil	≥HB	2H	Qualified
Toughness of coating	≤3T	1T	Qualified
Adhesive	Not less than Grade 1	Squaring of method of Grade 0, Grade 1 marking method of rolling line	Qualified
Impact strenght	50kg.cm without paint off & crack	Pass	Qualified
Bolling water resistance	Boiling for 2h without change	Unchanged	Qualified
Acid resistance	Immerse surface with 5%HC 1(w/w) for 48h without change	Unchanged	Qualified
Alkali resistance	Immerse surface with 5%NaOH 1(m/m) for 48h withoutchange	Unchanged	Qualified
Oil resistance	Immerse surface with 20# engine oil for 48h without change	Unchanged	Qualified
Solvent resistance	Clean 100 lines with dimethyl 1 benzenne without change	Bottom unrevealed	Qualified
Cleaning resistance	≥ 10,000 times without change	Unchanged	Qualified
Abrasion resistance	≥5L / μ m	5.33L / μm	Qualified
Density of surface	Specified value : ±0.5kg/m ²	3.63kg/m ²	Qualified
Bend strength	≥60MPa	79.6MPa	Qualified
Flexuous modulus of elasticity	≥ 1.5 x 10 ⁴ MPa	2.16 x 10 ³ MPa	Qualified
Through resistance	≥5.0kN	0.25kN	Qualified
Cutting strength	≥20.0MPa	25.7MPa	Qualified
180° peel strength	≥5.0N/mm	6.2N/mm	Qualified
Resistance to change of temperature	-40°C - 80°C, 20 cycles without change	Unchanged	Qualified
Heat deformation temperature	≥95°C	116°C	Qualified
Co-efficient of heat expansion	≤4.00 x 10 ³ °C ⁻¹	2.47 x 10 ³ °C ⁻¹	Qualified

CONCLUSION OF TEST

Test proved that all indices of the material meet the standard requirements of regulation on non-flammable materials. It is judged in accordance with GB8624-1997 that the inflammability of this material has reached the standard of GB8624, Grade 1.

ADVICE

Protective Film

It is recommended to install the panels in the same direction and do remove the protective film after 45 days of installation.

Dimentional Tolerances

Thickness mill finish resp.
Stove lacquered 0.2mm
anodised - 0.4 / 0.2mm
Width - 0 / +4mm
Length - 1000 - 4000mm -0/+6mm

Cleaning & Maintainance

Cleaning with a piece of soft cloth with mild detergent or water. Strong acid, alkali or solvent are prohibited so as not to impair the surface. May use high pressure sprayers when cleaning heavy curtain wall.

Storage

Protect pallets during storage against rain, penetration of moisture, condensation. Oile pallets in stacks one on top of the other (do not place the panels n upright position), stacks must not comprise more than 6 pallets of identical size. Avoid storage for a period of more than 6 months.

Recycling

Alcomaxx is fully recyclable, both the core material and the aluminum cover sheets can be remelted and use for production of new material.





Polyethylene or fire rated compound core

- ◆ **Advanced technology** continuous coil coating is applied to the aluminium composite panels before they are laminated, providing a durable finish that is resistant to corrosion, chalking, fading and weather damage.
- ◆ **Versatile wall cladding** produced in a new state-of-the-art factory using the latest manufacturing techniques and machinery.
- ◆ **Lightweight and cost effective** and can be shaped to follow many complicated designs. It is proven to surpass solid aluminium in strength-to-weight.
- ◆ **Easy to install** by our recommended tradesmen.
- ◆ **To ensure colour consistency:** Place adequate total requirement for particular job in one order. Avoid applying Alcomaxx panels of different production lots.

COLOUR CHART - Standard colour coating



FE418 APRICOT



FE463 BLACK



FE452 ORANGE



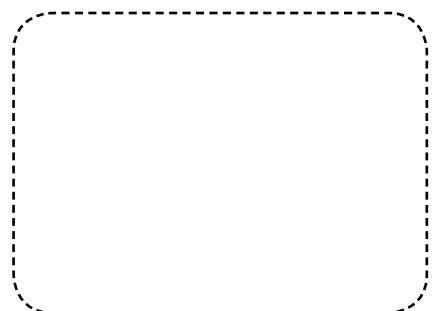
FE420 DEEP BLUE

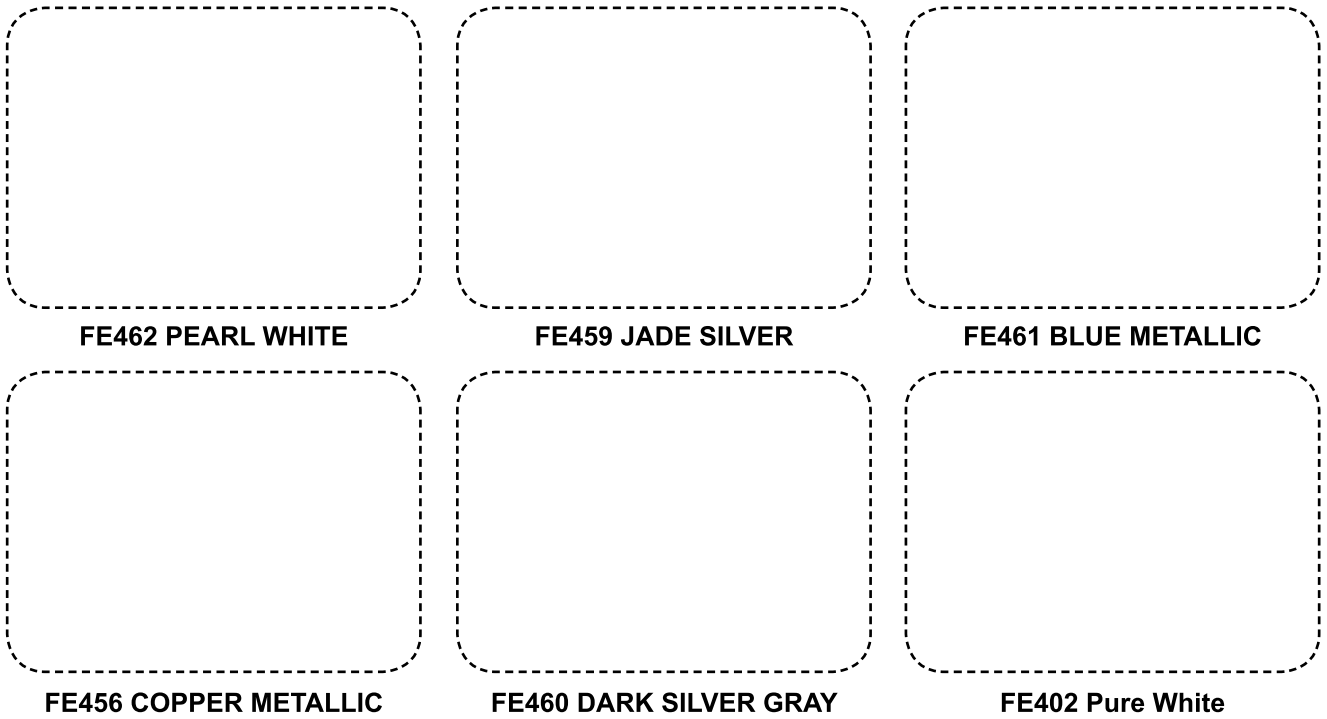


FE454 RED



FE458 INTERSTATE GREEN





COLOUR CHART - Metallic colour coating

Standard colour coating -

Alcomaxx coating finishes are PVDF-KYNAR 500 with 10 years warranty

Optional -

Polyester coating with 8 years warranty.

Custom colour coating -

Custom colour matching are available upon request. Minimum order quantity applies.



Product Specification	
STANDARD SIZE	4mm (T)* 1200mm(W)* 2440mm(L)
STANDARD WIDTH	1220mm, 1250mm and 1500mm
OPTIONAL WIDTH	1000mm; 1575mm - with minimum quantity
OPTIONAL THICKNESS	3mm - 8mm
OPTIONAL LENGTH	Upon request & other colours / sizes are also available



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