



# TECHNICAL

# SPECIFICATION

**eva**<sup>®</sup>  
**BOND** ALUMINIUM  
PANEL

AN ISO 9001 : 2015 CERTIFIED COMPANY





We have a lot of confidence in the quality and durability of each Eva Bond Product. So much confidence, that we offer an industry-leading Eva Bond Panels with fantastic 10 Years of Warranty. All warranties are limited. For complete details, see a dealer.

Eva Bond warrants that its products are free from manufacturing defects and they are fit and suitable for usual purpose. The products must be inspected prior to installation and our liability will be limited to the cost of product only.





Eva Alu Panel Ltd. with an impressive portfolio of manufacturing, marketing and exports is a name to vouch for in the field of aluminium panels.

The company employs a team of highly experienced and qualified engineers as also production experts and office staff. A golden trail of work because of years of consistent and efficient service has made Eva a brand synonymous to trust and faith.

Apart from the track record, it is flexibility and attention to details that has imparted Eva the edge and has helped it acquire a unique market position.

Over the span from its inception till today, Eva has strictly adhered to industry-prescribed norms. The planning, the system of work as well as the product manufacturing- everything is done in accordance with the ISO 9001:2015 guidelines. This has made getting product approvals easy and has opened the door for entry into the new market.

The able leadership of Hon'ble Chairman Shri N.A. Patel and the Hon'ble Managing Director Shri J.K. Patel has been a constant source of inspiration and motivation for team Eva.

The strength lies in the development and production of Quality Specialist industrial and commercial laminated of injected composite panels to suit individual requirements.

Eva Bond with high end German Technology was formed to service a specialist market.

The strength lies in the development and production of customised and high-grade laminated composite panels.

Eva has today achieved manufacturing capacity of 65,000 sq. feet per day. The product is manufactured as per strict quality procedures and is further fine-tuned to suit individual requirements.

At Eva, customer satisfaction is of utmost importance. The marketing team reaches out to customers and the wide-spread network of dealers and distributors across India fulfil their requirements.

Eva's list of clientele speaks volumes about the standing of the brand Eva in the market. With firm determination and commitment to quality, Eva is the rising Sun of the new age.

## MANUFACTURING FACILITIES

EvaBond is having a state-of-art manufacturing facility to produce world class ACP's. The lines are PLC controlled with self diagnostics capability. EvaBond is equipped to produce over 65,000 sq. ft. of ACP's per day and is in the process of enhancing the capacity upwards in near future to cater overseas market dynamically by trained and experienced professional technocrats.

EvaBond offer a wider range of ACP's for exterior and interior applications. Plant is having manufacturing facility to produce Aluminium Composite Panels ranging from 2mm to 6mm thickness, with aluminium skin ranging from 0.18mm to 0.5mm, with tailor made width and length up to 1240mm and 1550mm in PVDF paint for exterior applications and Polyester for interior applications.



## TESTING FACILITIES

The customer is at the centre of our activities and thoughts. This important guiding principle is not a platitude, but is resolutely translated into practice. With this customer-oriented approach and manner of working, we always ensure that EvaBond, India, products unite all the customer's wishes and do justice to their specific requirements. To achieve this, we are having ultra modern Test Lab consisting of highly sophisticated and precise test equipments. With these wide variety of tests at different environmental conditions which are simulated in the test lab, our finished product meets all international standards.



Punch Stress Test



Humidity Cabinet



Digital Gloss Meter

## VISION QUALITY AND ASSURANCE

At Eva Bond, we firmly believe that the success of business depends on providing high quality products and services to all valued customers through the efforts of its team members.

Quality Management is practiced from the top management to the lower most position in the product realization process.

Quality is ensured at every stage right from the input material to the finished product. The four stages of quality assurance areas below:

- **Pre Production Quality Assurance**
- **In-process Control**
- **Post Production Quality Assurance**
- **Despatch Quality Assurance**

### **Pre-Production Quality Assurance**

All received raw material are inspected thoroughly before issuing to production. Each raw material cross strict 'Quality Control' specifying quality standard.

### **In-Process Control**

Each process of production, quality is ensured by rigorous checking process. All standard parameters are verified and recorded during the production, to ensure high quality of production.

### **Post Production Quality Assurance**

Before sending the production to stock yard final inspection is always done to verify that product has crossed all the parameters of quality standard and norms.

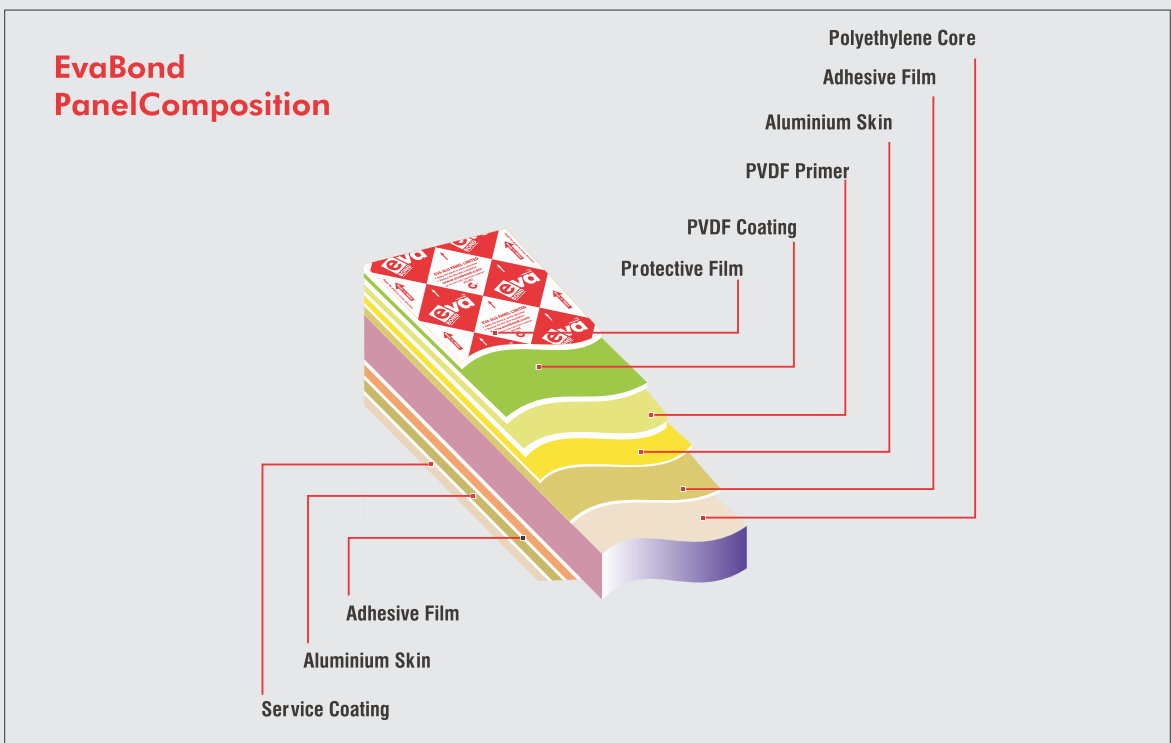
Always proper batch coding is given to the production, shift wise and day wise by video jet laser printing on the back of every ACP sheets, which gives a completed data information of all input of raw materials used during production.

### **Despatch Inspection**

To get the extra mileage of customer satisfaction and confidence, despatch dept. always ensure that best of material to be received by your customer.

# PRODUCT

Aluminium Panel sheet (ACP) is a cladding material used for external facades & interiors of Modern style of living standard. ACP consists of an extruded Polyethylene cores sandwiched between two Aluminium sheets.



## Product Dimension

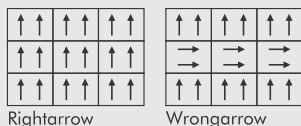
Standard Width	: 1220mm
Available Width	: 1550mm
Standard Length	: 2440mm, 3050mm, 3660mm
Available Length	: Any Length up to 4880mm
Standard Thickness	: 3mm, 4mm
Available Thickness	: 2mm, 5mm, 6mm
Alu. Coil Thickness	: 0.25mm, 0.50mm

## Product Tolerance

Width	: ±2mm
Length	: ±4mm
Thickness	: 4mm Thick ±0.2mm
Squareness	: Max + 5.0mm
Bow	: Max 0.5%

## Suggestions

1. To ensure colour consistency, the total requirement for a project is advised to be placed in one order. It is also recommended to install the panels in the same direction as marked arrow on protective peel-of-film to avoid possible reflection difference.



2. Custom colours are also available upon request for solid colours, metallic colours & special finishes such as mirror, brush finishes etc. Subject to the respective minimum quantity.

3. Colour may vary from batch to batch. (±▲5)

# PRODUCT

## Product Detail

EvaBond for exterior protective shield for new buildings and renovation applications consists of a polyethylene core and 2 Aluminium skin each of 0.5mm/0.25mm thick.

At EVABOND we are using on line laminator and catalytic fusion process. EvaBond consists of coated Aluminium skin. The catalytic fusion process guarantees each panel has high quality of durable coating on the top with minimum thickness of 25 microns.

EvaBond with its standard has excellent robustness against industrial pollution & ability to survive in any extreme weather conditions.

## Physical Characteristic

Item	Standard	Remarks
Panel Thickness	4mm	Available on request - 3mm, 5mm & 6mm
Aluminium Cover Sheets thickness (Skin)	0.5mm	Available thickness 0.25mm to 0.50mm
Core	The thermoplastic core is LDPE	The thermoplastic core in EvaBond panel is low density polyethylene (LDPE), belongs to carbon hydrogen plastic and is non-toxic in nature. The final result after the burning of polyethylene is carbon, CO <sub>2</sub> , CO & H <sub>2</sub> O.
Panel Width	1220mm	Can be adjusted as per requirement
Panel Length	2440mm	-
Panel Weight	5.5kg/mm <sup>2</sup>	-
Surface finish	Exterior face coil coated with PVDF (KYNAR-500, min 70%) Interior face coil coated with polyester	-

## Mechanical Characteristic

Being lightweight EvaBond has high bending, buckling and breaking strength. It has properties that resist it to blows, breakage and handle high wind pressure. Following are the mechanical properties of EvaBond:

1. Panel thickness - 3mm & 4mm
2. Skin thickness 0.25 & 0.50mm respectively.

Item	Unit	T	est Results	Standards
Specific Gravity (panel)	g/c	1.38	1.52	
Tensile Strength (panel)	Kg/mm <sup>2</sup>	4.5	6.2	E-8
Yield Strength (panel)	Kg/mm <sup>2</sup>	4.0	5.9	E-8
Flexural Rigidity (panel)	X105kg.mm <sup>2</sup>	7.3	14.0	C-393 (20cm span)
Elongation: (panel)				
Horizontal Elongation at breaking point	%	12%	14%	E-8
Vertical Elongation at breaking point	%	11%	13%	E-8
Punching shear Resistance				
Maximum Load (panel)	Kg	1380	1650	D-732
Shear Resistance (panel)	Kg/mm <sup>2</sup>	2.9	2.6	



# SPECIFICATION

## Panel Bond Integrity

Item	Unit	3Mm	4Mm	Remark
VerticalPull	Kg/cm2	120	120	C-297
DrumPeel	MmN/mm	150	150	D-1781
FlatwiseShear	Kg/cm2	88.5	86.1	C-273

## Dent(impact) Test By Du-Pont Method

SteelBallW eight(kg)	Height(mm)	DentDepth(mm)	
		3mm	4mm
0.30	300	0.74	0.56
0.30	500	1.17	0.81
0.50	300	1.18	0.88
0.50	500	1.64	1.36
1.00	300	1.97	1.71
1.00	500	2.60	2.29

## Panel Fire Resistance Characteristic

Eva Bond is manufactured using two strong sheets of noncombustible aluminium. It can resist against fire also after lamination process. Following is the resistant test result of Eva Bond after fire resistant test.

Ignitibility	Index0	Class"A"
HeatEvolved	Index0	Class"A"
FlameSpread	Index0	Class"A"

## Thermal Insulation Properties (panel)

PanelThickness	ThermalResistance	ThermalConductivity
4mm	5.26(mb°C/kcal)	0.19(kcal/mh°C)

## Thermal Expansion Of Panel

PanelThickness	Co-efficientof Thermalexpansion	Standard
4mm	26X10-4	D-696.

# SPECIFICATION

## Dimensional Tolerance

Width	+2.0mm
Length	+4.0mm
Thickness	+0.2mm
Bow	Maximum 0.5% of the length and/or width
Squareness	Maximum 5.0mm
Surface Defect	No irregularities such as Roughness, buckling and other imperfections without specification of visual inspection rules.
Thermal expansion	1.2mm/m/50°C

## Surface properties

Following is coating properties of Eva Bond 4mm panel

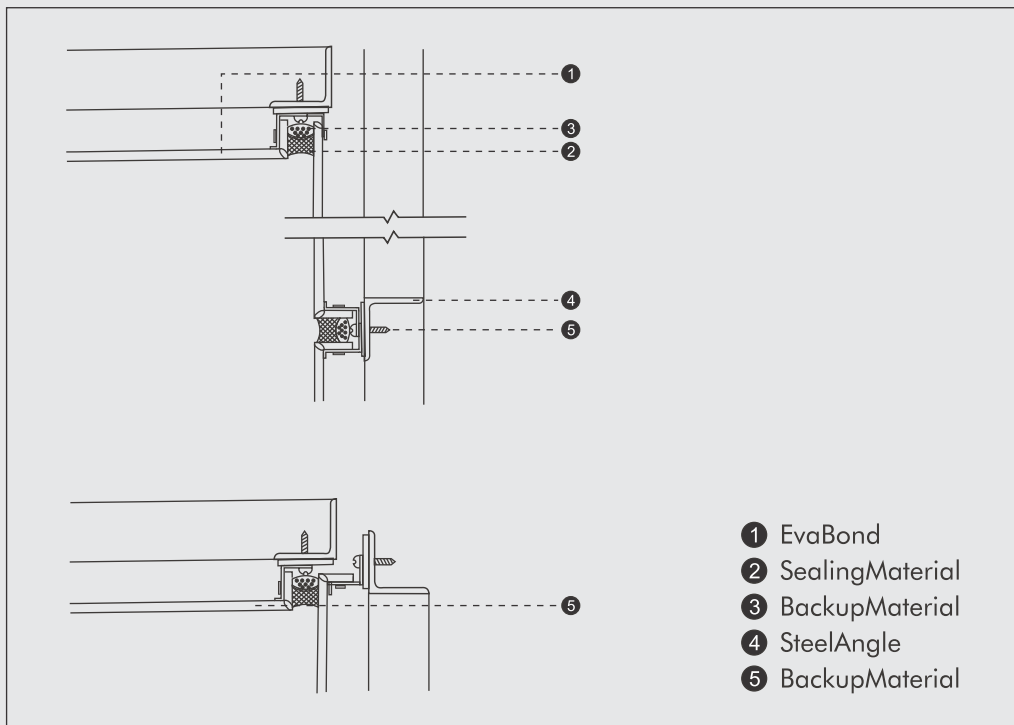
Dry Film Property	Test Method	Criteria
Colour Retention	D2244-93	Max 5 units after 4000 hrs (exposed skin)
Gloss Retention	D523-89	70% after 4000 hrs. (exposed skin)
Chalking	D414-89	Max 8 units after 4000 hrs (exposed skin)
Salt Spray	D-B117-90 NCCA11-2	Blisters - 10 (exposed skin) Scribe - 8 3000 hrs. - aluminium, 35°C
Humidity-Thermal	D2246-65	No blister (exposed skin) No cracking 10 cycles: 24 hrs X 100% RH, 37.8°C; 2 hrs X 18°C; 4 hrs X 24°C
Humidity	D2247-94	No change (exposed skin) 3000 hrs. - aluminium, 35°C
Condensing Humidity (Cleveland)	D4585-87	Not over very few #8 blisters (exposed skin) 100% RH X 54.4°C, 2500 hrs
Pencil hardness	D3363-92a	2H (exposed skin)
Adhesion	D3359,	
Dry Wet Boiling Water	Method 8	No change (exposed skin) No change after 37.8°C, 24 hrs. No change after 100°C, 20 min
Impact resistance	NCCA11-5	No picking off after reverse impact cross-hatch test (panel)
Abrasion resistance	D968-93	Resisting 20 liters of falling sand. (panel) 20 liters as the criterion of AAMA 70 liters/mil as the actual value

## Comparison Chart Between Eva Bond Panels, Solid Aluminium and Steel

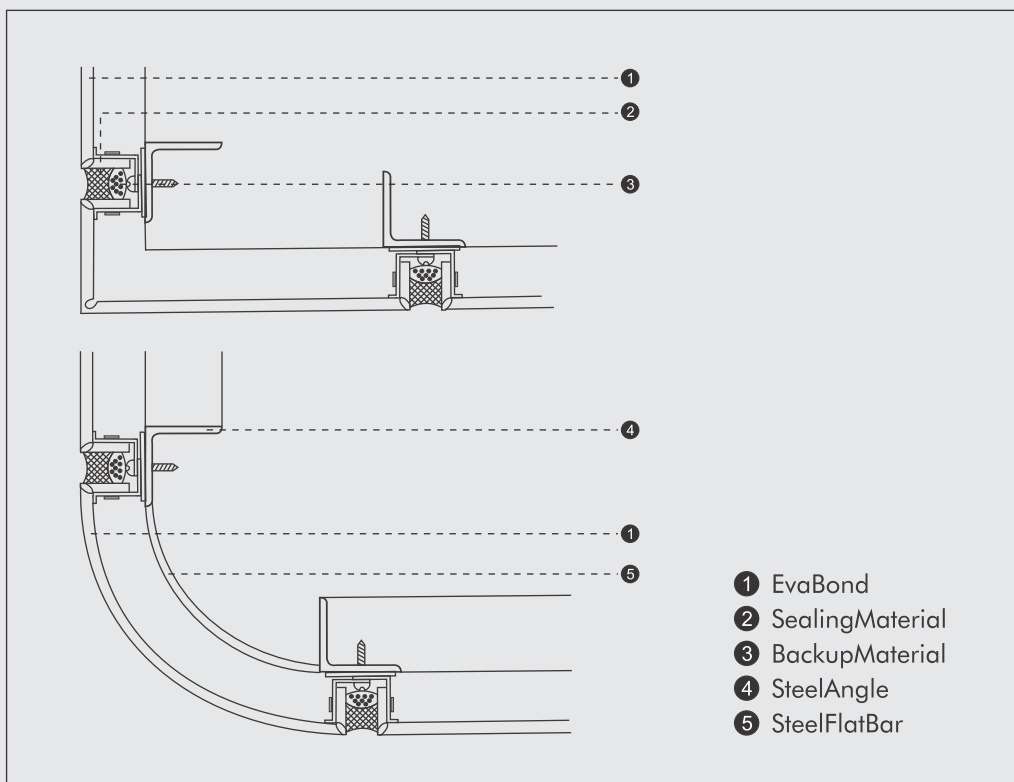
Item	Eva Bond Panels	Solid Aluminium	Steel
Weight	4mm: 5.48 Kg/m <sup>2</sup>	3mm: 8.0 kg/m <sup>2</sup>	1.5mm: 11.47 kg/m <sup>2</sup>
Flatness	Very Flat	Uneven	Uneven
Heat Insulation	Best	Poor	Poor
Sound Insulation	25 db	15 db	5 db
Echo Response	Low	Medium	High
Weather Proof	Good	Good	Good
Fire Proof	Good	Good	Good
Paint Consistency	Best	Inconsistent	Inconsistent
Paint Microns	Even	Uneven	Uneven
Fabrication	Easy	Difficult	Very Tough
Delivery	Quick	Slow	Slow
Total Cost	Economical	Medium Cost	Expensive
Maintenance	Easy	Easy	Easy
Installation	Quick	Slow	Very Slow

# INSTALLATION METHOD

## Inside Angle

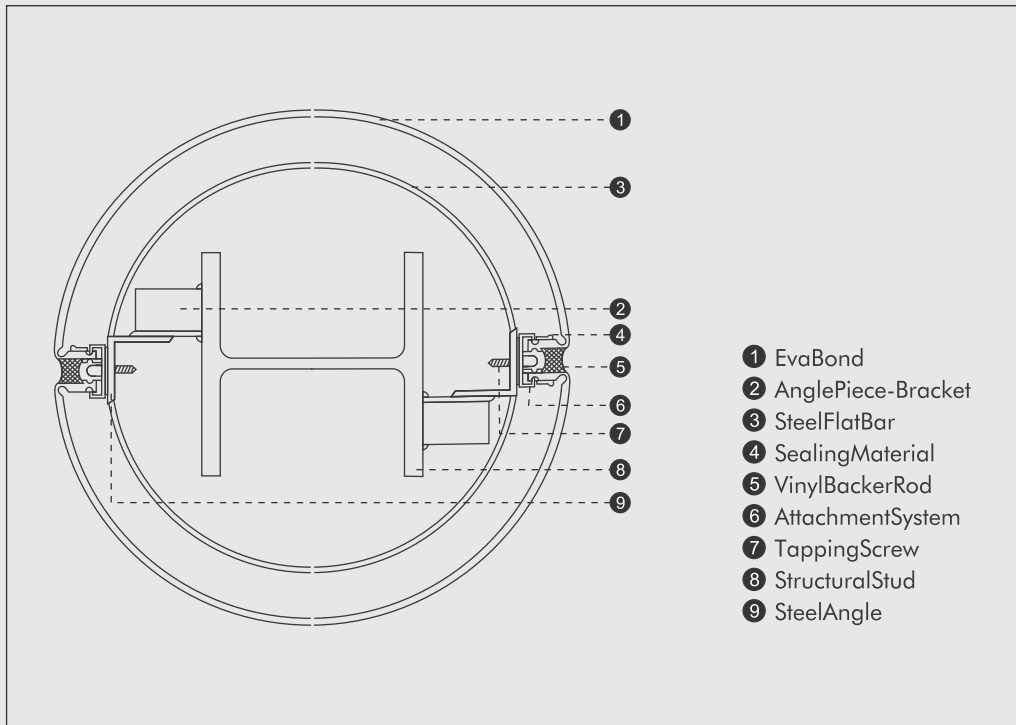


## Out Side Angle



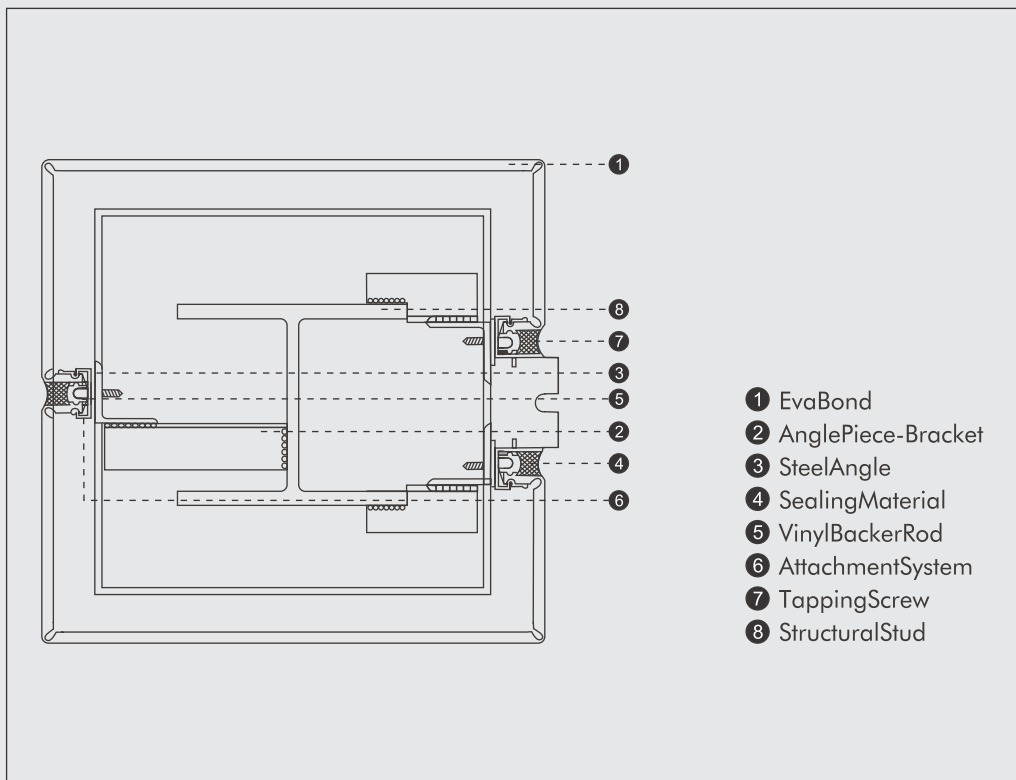
**INSTALLATION  
METHOD**

**Round Column Cover**



- ① EvaBond
- ② AnglePiece-Bracket
- ③ SteelFlatBar
- ④ SealingMaterial
- ⑤ VinylBackerRod
- ⑥ AttachmentSystem
- ⑦ TappingScrew
- ⑧ StructuralStud
- ⑨ SteelAngle

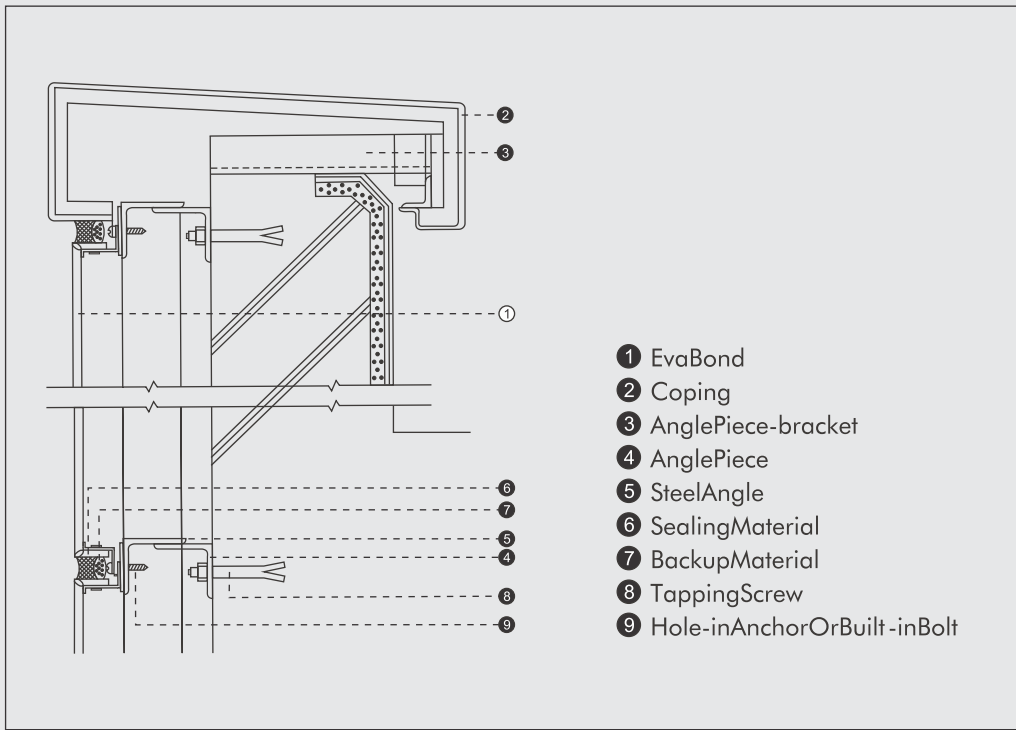
**Square Column Cover**



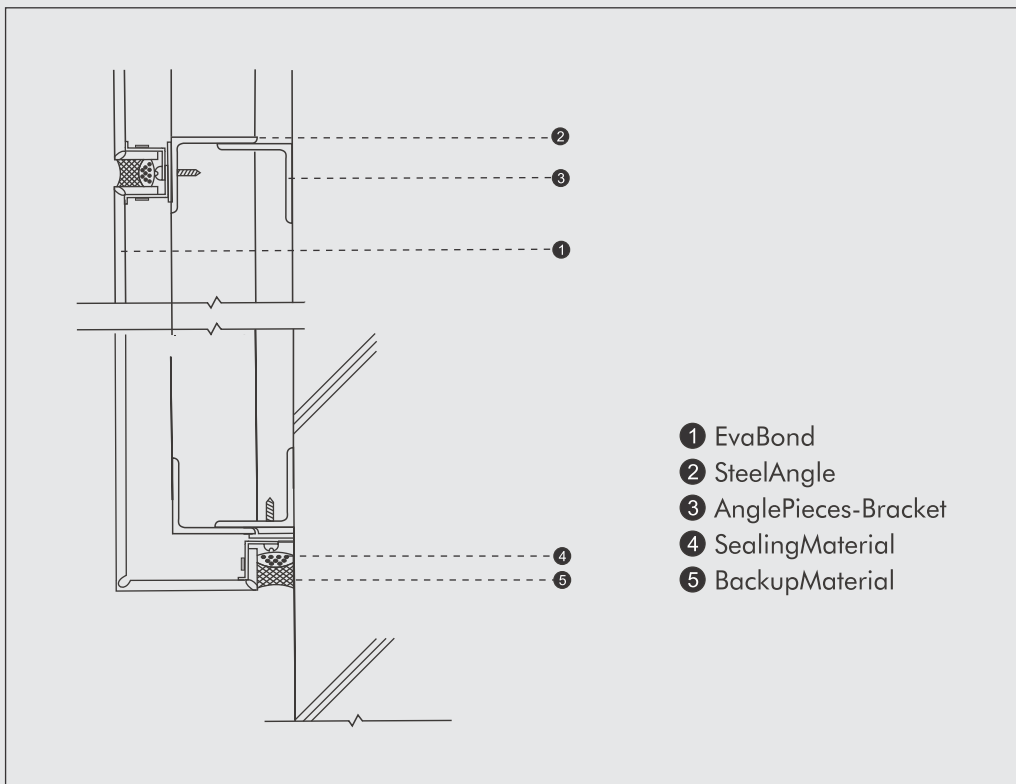
- ① EvaBond
- ② AnglePiece-Bracket
- ③ SteelAngle
- ④ SealingMaterial
- ⑤ VinylBackerRod
- ⑥ AttachmentSystem
- ⑦ TappingScrew
- ⑧ StructuralStud

# INSTALLATION METHOD

## Around Coping



## Around Foundation

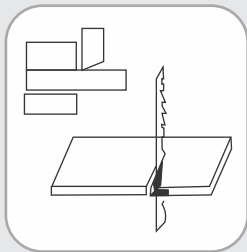


# FABRICATION

## Processing Eva Bond ACP

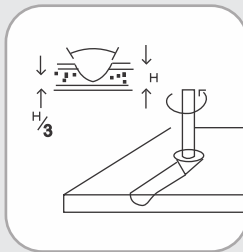
Various fabrication techniques can be employed to fabricate Eva Bond Aluminium Composite Panels. It is recommended to carry out fabrication in a workshop to minimise defects, exercise overall quality control and to attain higher levels of accuracy.

The material can be fabricated by employing the right tools. The blade configuration and the cutting conditions should be carefully selected to ensure that frictional forces are minimized and the heat produced during the process is also kept to the minimum.



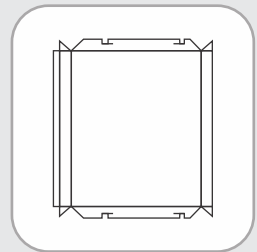
### Cutting

Cutting, electronic saw, bandsaw, disc scissor.



### Slotting

After machining by electronic milling machine or portable milling machine, panel bendable to all kinds of polyhedron by hand



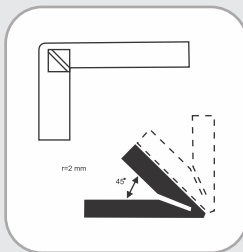
### Chamfering

Fold into a carton after machining of punch machine and chamfer



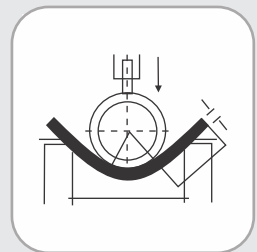
### Welding

By plastic rod and thermo-welding machine.



### Angle

All angles available after slotting



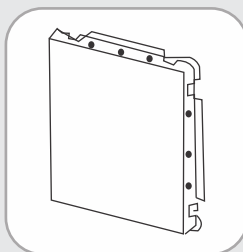
### Bending

Curved surface by 3-point style, 3-roller panel bender



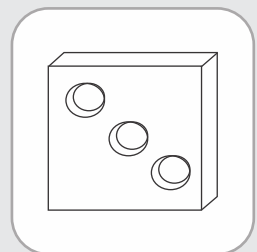
### Printing

All printing available by web by panel.



### Riveting

By rivet, bolt, self-fastenscrew etc.



### Bolting

## FABRICATION

### Installation Pre-requisites

- Panels ought to be erected in accordance, with an approved set of shop drawings. In addition structural strength of anchorage and assorted hardware used for fastenings should be as per standard and preferably in aluminium as per engineering recommendations.
- Wherever aluminium comes in contact with dissimilar metals, it should be properly insulated else use of caulking tape is advised to avoid electrolytic corrosion.
- The bend portions between panel joints shall not be caulked before protective film is removed. Ensure weep holes and drainage channels are unobstructed and free of debris, dirt and sealant.
- It is recommended to install the panel vertically.

### Cleaning Method

- Routine cleaning of the ACP surface is recommended. It may be washed with water and mild detergent, followed by clean water rinse. The frequency with which cleaning is to be carried out and the choice of a suitable cleaning agent depends largely on the location of the building and level of contamination.
- Do not clean when surface temperatures are above 40 degrees centigrade to avoid formation of stain.
- The cleaning operation must be carried out from top to bottom followed by proper rinsing with clean water to ensure the removal of the cleaning agent residues. A final wipe down by means of a sponge, leather or wiper is necessary to avoid water stains.

## FEATURES

Eva Bond's properties make it a perfect replacement for conventional cladding materials such as marble, granite, concrete etc.



### **EvaBondHi-techLook**

It increases the perceived value of commercial or residential projects making it easily saleable.



### **Flatness**

Continuous laminating process provides excellent flatness of the panels eliminating distortion or deflection. Flatness of up to 2mm per 1200mm length i.e. 0.16% of its length is now possible through this technology.



### **Easy Availability**

Being locally manufactured, Eva Bond is readily available. It can be ordered and delivered at short notice, according to the progress of your project. Thereby, reducing financial commitments and blockage of builder's funds.



### **Size Advantage**

Eva Bond can be ordered in any tailor-made size, thus eliminating wastage.



### **Reduced Dead Weight**

Being a very light and strong cladding material, Eva Bond reduces the dead weight of the building. It weighs less than 1/10th of conventional cladding materials such as marble, granite etc. Eva Bond makes the buildings safer from earthquake.



### **Water and Corrosion Resistance**

100% maintenance free, Kynar 500 based PVDF coating assures superior resistance against corrosion. It can withstand extreme environmental conditions.

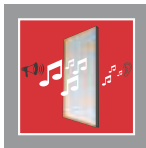


## FEATURES



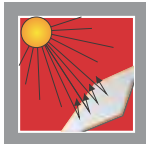
### **Colour Uniformity**

The coil coating process provides the best quality of colour uniformity unlike spray gun type and there are no visible grain lines



### **Sound Resistance**

EvaBond, being a multilayer panel, has an excellent soundproof effect.



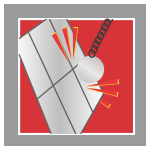
### **Thermal Resistance**

Polyethylene is one of the best insulating material. Eva Bond's Polyethylene core does not allow heat to penetrate the building, thus results of major electricity costs saving in air-conditioning.



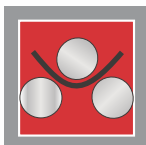
### **100% Maintenance Free**

PVDF coating retains its finish usually over 15 years. No maintenance is required. Regular cleaning with mild detergent will keep the finishing as good as new.



### **Impact Resistance**

EvaBond is resistant to reasonable impact loads due to the unique composite construction of strong aluminum skins bonded to a viscoelastic core.



### **Versatility**

EvaBond can be shaped to any desired design. concave, convex and any bent structures can be created, by using standard wood or aluminium working machines.



### **Quick Installation**

EvaBond renders itself to easy installation. Project execution time is drastically reduced.

## APPLICATION

- EvaBond is the most versatile building material for exterior and interior use.
- Exteriors (curtain walling and wall paneling) of high-rise apartments, industrial and commercial buildings, hospitals, hotels, gas stations, shopping malls, educational institutes, convention centers etc.
- Roofedging and spandrel panels, wall and ceiling panels, beam wrap etc.  
Facelift/retrofit of building columns and beam covers.
- Interiors (walls and ceilings) of shops, apartments, offices, workshops, showrooms, elevators, etc.
- Store canopies, shop fronts, dealer sign-boards, display units, vehicle bodies, sign-post etc.
- Innovative furniture, partition etc.



# CERTIFICATES





ECO FRIENDLY



TERMITE RESISTENCE



EXTRA STRENGTH



WEATHER RESISTENCE



USE OF LEAD FREE PAINTS



## EVA ALU PANEL LIMITED

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## BRANCH OFFICES

AHMEDABAD

SURAT

MUMBAI

GOA

BANGLORE

HYDERABAD

KERALA

RAJASTHAN