

HPL



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Designed by:
AUXANO
Always for Disruptive Growth



HPL





INTRODUCTION

ALSTRONG
always looks new



Established in the year 2001, Alstrong is the first company to manufacture Aluminium Composite Panels(ACP) in India. The company is ISO 9001: 2015 certified and is accredited as a green project by State Pollution Control Board of Jammu & Kashmir.

Over 16 years, it has made its mark as a pioneer in the industry and has retained its position as a leading player in the market with impeccable ACP product, quality and immense customer satisfaction.

Alstrong has a state-of-the-art manufacturing plant located in Jammu, equipped with latest technology embedded 5 manufacturing lines, a coil coating plant and an advance instrumental laboratory for continuous quality monitoring of raw materials and the finished ACP. The plant processes parameter are highly visible and integrated through SAP. As a result, ACP produced fulfills the international quality standards, is highly durable and is naturally a preferred choice of leading architects, corporates, PMCs, interior designers, builders, contractors, fabricators and others. Alstrong team is also engaged in pro-active Research and Development initiatives to ensure that each product is continuously evolved to meet the emergent needs of its customers.

Alstrong has created new benchmarks by introducing mineral core FR ACP(Fire Resistant ACP) Grade A2, B1, B2 & Hollow Core in Indian market and unlimited shade variety through its modern coil coating facility. Alstrong now has the largest ACP production capacity of 6.5 million square metre per year in India.

Alstrong is a part of the prestigious Worlds Window Group, The portfolio of business activities includes manufacturing, infrastructure, logistics, trading and mining. The operations of various companies of WWG are spread across the globe through its offices in India and 22 other countries. The group employs around 2500 employees across the world and has a turnover of more than USD 1 billion.



Traditionally, WOOD — with its nice aesthetic looks has been used in various ways to satisfy our needs for housing and artistic impressions. Our buildings have always used the beauty and usefulness of wood. However, in spite of its advantages, wood has some significant limitations. Wood panels are not very durable and need to be replaced within a life-span of 5 years. Also, working for a GREENER planet, it becomes our moral obligation to look for ENVIRONMENT-FRIENDLY recyclable alternatives.

ALSTRONG brought forward ALSTRONG HPL, which is a **HIGH PRESSURE LAMINATE (HPL)**. HPL is constructed a bit differently than other laminates, creating a tougher laminate and offering maximum durability. The increased durability of HPL offers more impact resistance, dent resistance, moisture resistance, heat resistance, wear resistance and edge chipping resistance during installation. HPL is fused together using a combination of heat and pressure and the layers of HPL are put together in multiple stages.

| PANEL DIMENSIONS | |
|------------------|-----------------|
| Standard | 1220mm x 2440mm |
| Sheet | 1220mm x 3050mm |
| Sizes | 1220mm x 3660mm |
| <hr/> | |
| Panel Thickness | 6mm |
| Coil | 0.25 |

Wood finish single side coat

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Marble finish single side coat

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Marble finish double side coat



AL-631 ROSE WOOD



AL-633 MAHAGONY



AL-644 ROYAL TEAK



AL-645 DARK TEAK

HPL

HIGH PRESSURE LAMINATE

ALSTRONG *always looks new* Presents **HPL™**

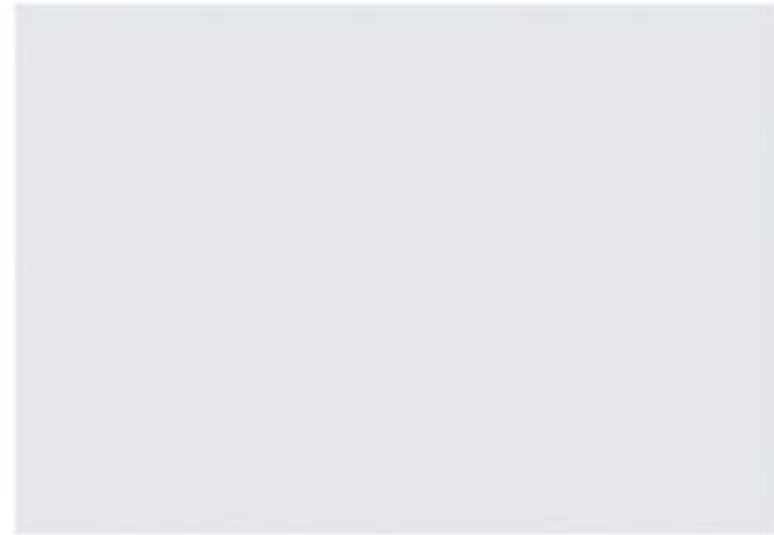


AL-644 ROYAL TEAK

| STANDARD SHEET SIZES | 1220mm x 2440mm 1220mm x 3050mm 1220mm x 3660mm | SPECIFICATIONS | PANEL THICKNESS | | SKIN THICKNESS | |
|----------------------|---|--------------------|--------------------|--------|--------------------|--------|
| | | | SINGLE SIDE DESIGN | 6mm | 0.25mm | 0.25mm |
| THICKNESS | 6mm | DOUBLE SIDE DESIGN | 6mm | 0.25mm | 0.50mm (on demand) | |
| | | DOUBLE SIDE DESIGN | 6mm | 0.25mm | 0.50mm (on demand) | |



AL- 655 SPARKLING BLACK



AL- 656 SPARKLING WHITE



AL- 666 YELLOW BAMBOO



THE INNOVATIVE WOODEN Alternative Shades



AL- 668 MELLOW MAPLE



AL- 672 CITRUS CEDAR



AL- 674 ACACIA DARK

Giving spaces, a healthy makeover



AL- 668 MELLOW MAPLE



AL- 666 YELLOW BAMBOO

GREEN BUILDING

- Reduction of trash, pollution & degradation of environment.
- Efficient use of energy, water & other resources.
- Efficient management of resources throughout building's life cycle for maintenance & renovation.
- Indoor environmental quality enhancement.
- Siting and structure design efficiency.



Panels can be convex or concave shape



Panels can be bend on 90° angle

To top it all Alstrong HPL comes in a variety of colors, textures and sizes. ALSTRONG also offers customized colors and sizes. All this at a very competitive price coupled with an unmatched quality. Alstrong HPL has redefined the concept of high-end facade and exterior. ALSTRONG offers professional service as it has a robust marketing network in India and abroad. Whether it is a cottage, a corporate building, shopping mall or a resort, Alstrong HPL is a perfect substitute for wood.

FEATURES



Wide Range of Designs & Colors



Eco-Friendly



Termite-Proof



UV Resistant



Washable



PVDF Coating



100% Water Proof & Fungus Proof



Easy to Install



CNC Cutting Possible



Weather Resistant



Light Possible



Excellent Look



AL- 675 AFRICAN IVORY



AL- 676 EARTHEN APPLE



AL- 679 WALNUT BROWN

AL- 676 EARTHEN APPLE





AL-680 AFRICAN WALNUT



AL-681 FUSION WALNUT



AL-682 OAK



AL-683 BOLD TEAK



AL-684 CAFÉ WALNUT



AL-685 JAVA ANTIQUE

ALSTRONG HIGH PRESSURE LAMINATE

keep your exterior shielded against the weather and keeps them looking as good as new for years



AL-685 JAVA ANTIQUE

HPL

Applications



AL- 687 ANTIQUE OAK



EXTERIOR VIEW



Outdoor Cladding



Facades



Balcony Cladding



Rafters



Railing



Gate Elevation



Fences



Louvers



Canopy



Ceiling

AL- 687 ANTIQUE OAK

ALSTRONG™
always looks new



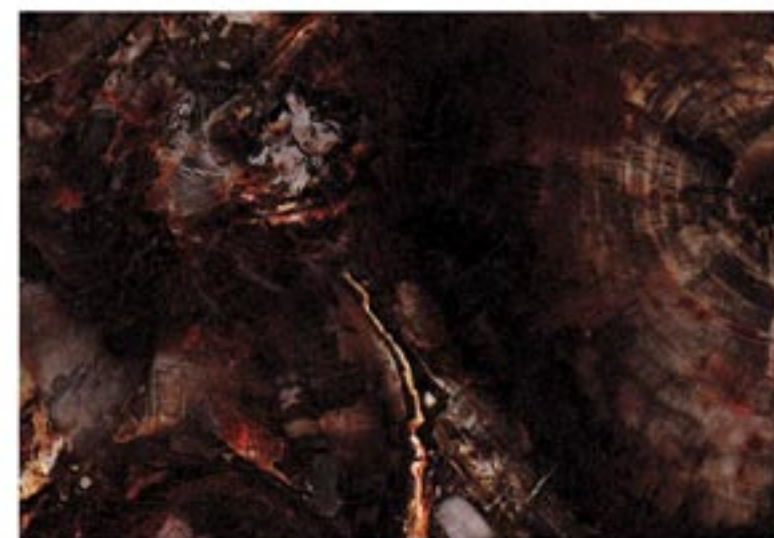
HPL™

MARBLE SERIES

UNBREAKABLE & STAIN RESISTANT

DURABLE & BEAUTIFUL

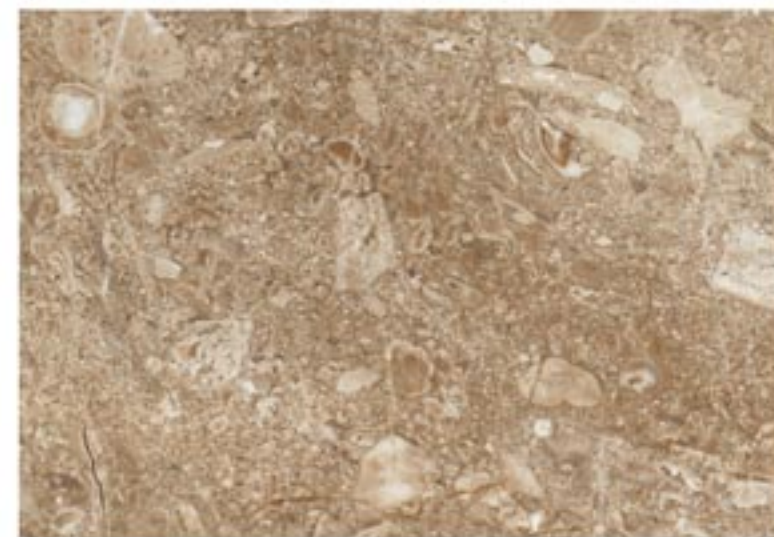
Marble Finishes



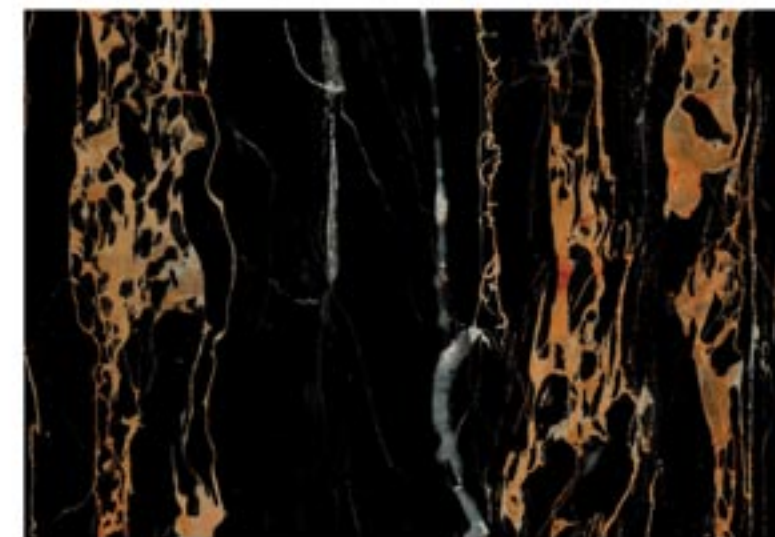
AL- 686 MIDNIGHT MARQUINA



AL- 688 CREMA MARFIL



AL- 689 DYNA



AL- 690 GOLDEN PORTORO



Easy to Install



Eco-Friendly



Weather Resistant



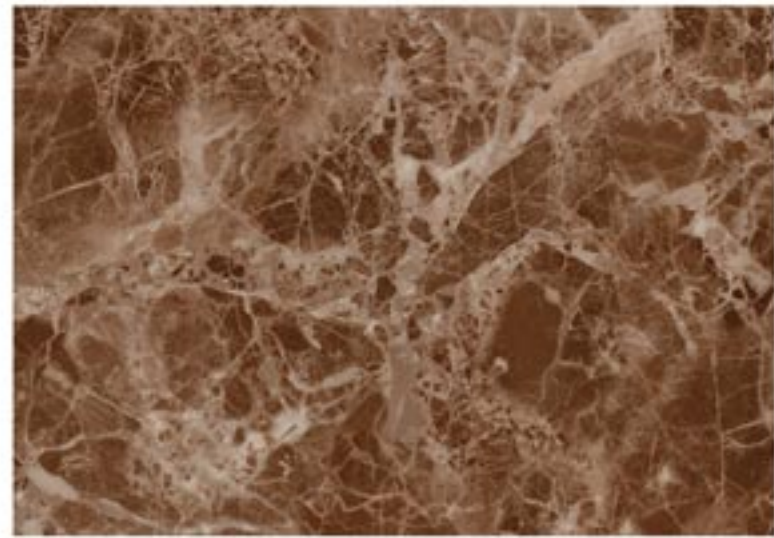
Termite-Proof

AL- 691



100%

Maintenance Free & Water Proof



AL- 691 LIGHT EMPERADOR



AL- 692 TRAVITINO LIGHT



AL- 693 TRAVITINO DARK

WASTE RECYCLING

- Reduction of energy usage
- Reduction of consumption of fresh raw materials
- Reduction of air pollution
- Reduction of water pollution
- Reduction of green house emission
- Protection of our environment



Excellent Look



UV Resistant



Washable



ROUTING

A properly routed panel will have 0.15-0.3 mm of the polyethylene core remaining after routing.

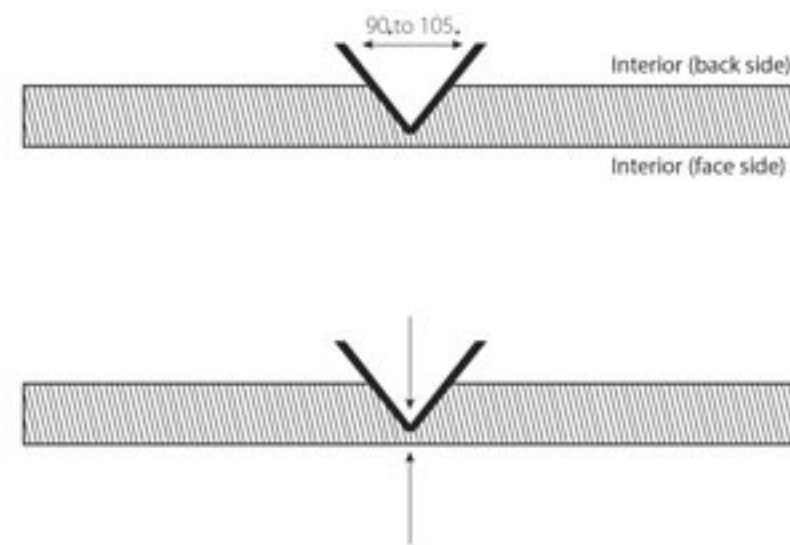
No possibility of impression line or crack will be there if the panel is routed properly.

Polyethylene thickness should be uniform & should not be high.

1. For 0.5 mm coil thickness - 0.43mm
2. For 0.25 mm coil thickness - 0.15 mm

NOTE

- i) Below 0.15mm coil thicknesses, routing is not recommended.
- ii) Routing should be done after leaving 25 mm space from the edge of the sheet.



WASHING & CLEANING INSTRUCTIONS

1. In different environment conditions, routine cleaning is recommended.
2. The tap water is not enough to wash some contaminated areas, it is necessary to use diluted household detergent (1-5% with water) and after cleaning this area should be wiped by a sponge or soft cloth. Try water rinse using soft sponge with modest pressure to remove the stain. If the stain remain saferdry, the nuseneutral detergents or household cleaners diluted with water.
3. It is not advisable to clean panels by cleaning agents, which are used to clean windows, glazed tiles and sanitary ware, for example- Phenol Harpic, the name of chemical agents as they might contain some alkali (hydroxide of potassium and sodium).
4. After cleaning the surface is rinsed by water, dried by the air flow or wiped by a dry cloth.
5. Recommended frequency of cleaning : rural area - 01 time/year urban area - 01 times / year insufficient rains and/or coastal area- 01 times / year industrial area - 02 times / year

DELIVERY, STORAGE & HANDLING

1. It is crucial to ensure proper delivery & packaging of aluminum panels, to prevent damage or deformity.
2. Packing of aluminum composite panels for protection during transportation and handling is done in such a way that its corners remain safe & movement among different sheet could be near to none. Unload, store, and erect aluminum composite panels in a manner to prevent bending, warping, twisting, and surface or corner damage.
3. Store aluminum composite panels to ensure dryness, with positive slope for drainage of water.
4. Do not store aluminum composite panels in contact with other materials that may cause staining, denting, or other surface damage.



Handling & Storing Methods



HPL should be covered with tarpaulin or water-proofing covering while storing in open area of site



01

HPL Installation with Aluminum Tubes / Strips & Adhesive

Step 1:

Measure the wall area for deciding required plank sizes.

Step 4:

Clean the aluminum tubes or strips with Alstrong recommended primer to remove dirt or dust.

Step 6:

Apply PU adhesive having 8mm bead thickness with minimum 5mm gap with VHB tape.

Step 8:

Repeat the above steps from 4 to 7 to install more planks or tiles keeping the required gap with other planks or tiles.

Step 2:

Choose from standard sizes of Alstrong HPL as per the customer requirement.

Step 5:

Stick double sided 12.5mm width VHB tape on tube or strip keeping 5mm gap from the tube's or strip's edge.

Step 7:

Press Alstrong HPL on the aluminum substructure with silicone and VHB tape & keep it in that position for at least 60 seconds.

Step 3:

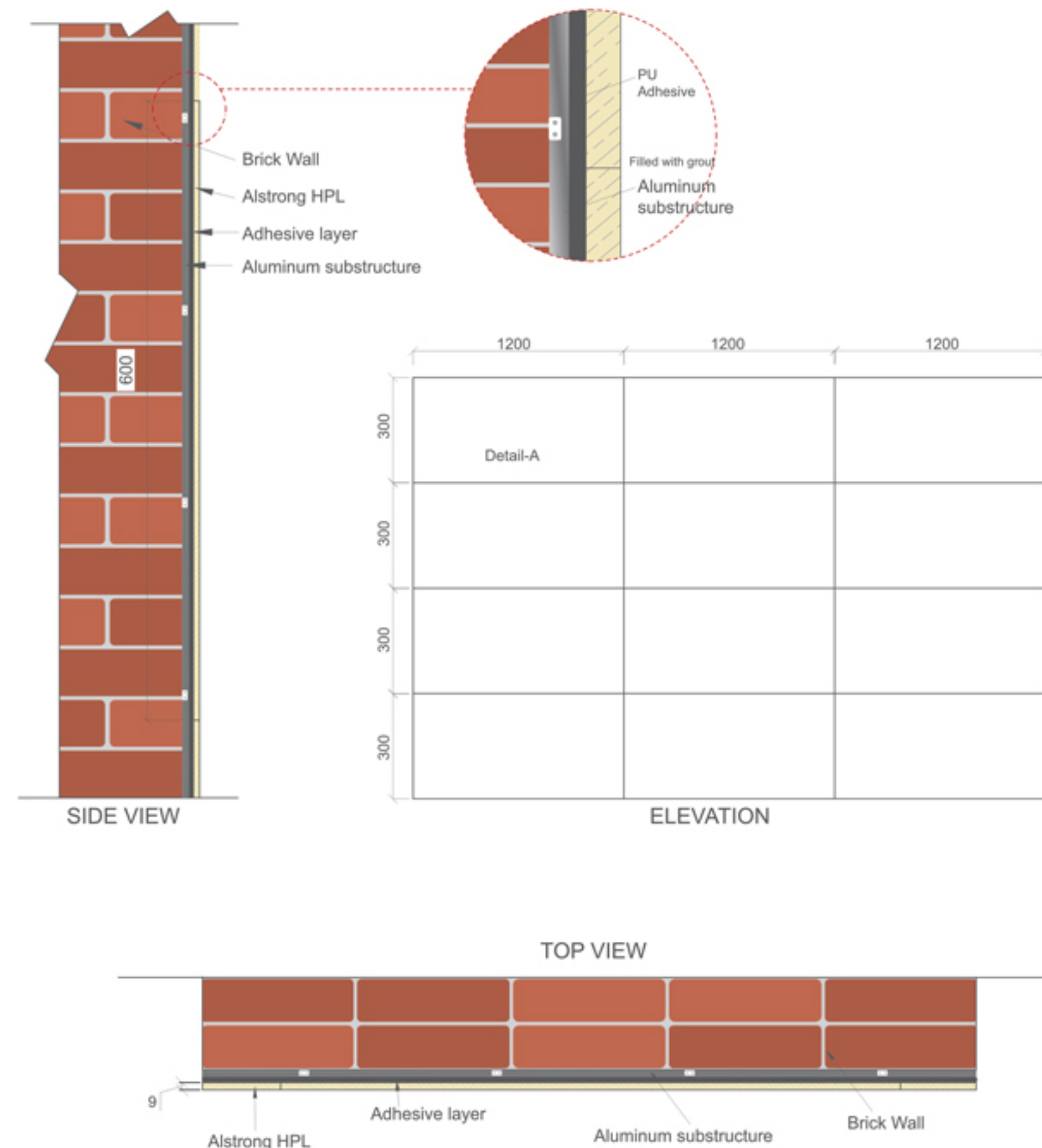
Making of aluminum substructure : The aluminum substructure basically consists of vertical support pro les which are mounted on the wall using angle brackets.

Fix aluminum tubes (thickness- 1.6mm) on the wall with the help of aluminum brackets. Maintain horizontal distance between two aluminum tubes to a maximum of 450mm (18") for 6mm board & 600mm (24") for 9mm board.

Sizes : 25X75 mm (1"X 1.5") for horizontal joints between 02 planks

25x40 mm (1"X 3.0") for vertical joints between 02 planks

Similar frame can be made using aluminum strips of dimensions 1"X 1.5"X 3mm and 1"X 3.0"X 3mm



02

HPL installation with rivets on aluminium tubes with no gap, 6 mm and 8 mm gap

Step 1:

Wall preparation: wall need to be plastered well and painted with black paint before starting the installation

Step 2:

Use from standard sizes of HPL as per the customer requirement. Installation can start from the lower corner from left or center depending on uniformity of the facade.

Step 3:

Drill Alstrong HPL - plank with the help of 5 mm drill bit at a distance of 25mm from both the edge.

Step 8:

Install the plank on the wall with the help of rivet gun. Use rivet gun recommended by Alstrong for better results. Only use rivets supplied by Alstrong.

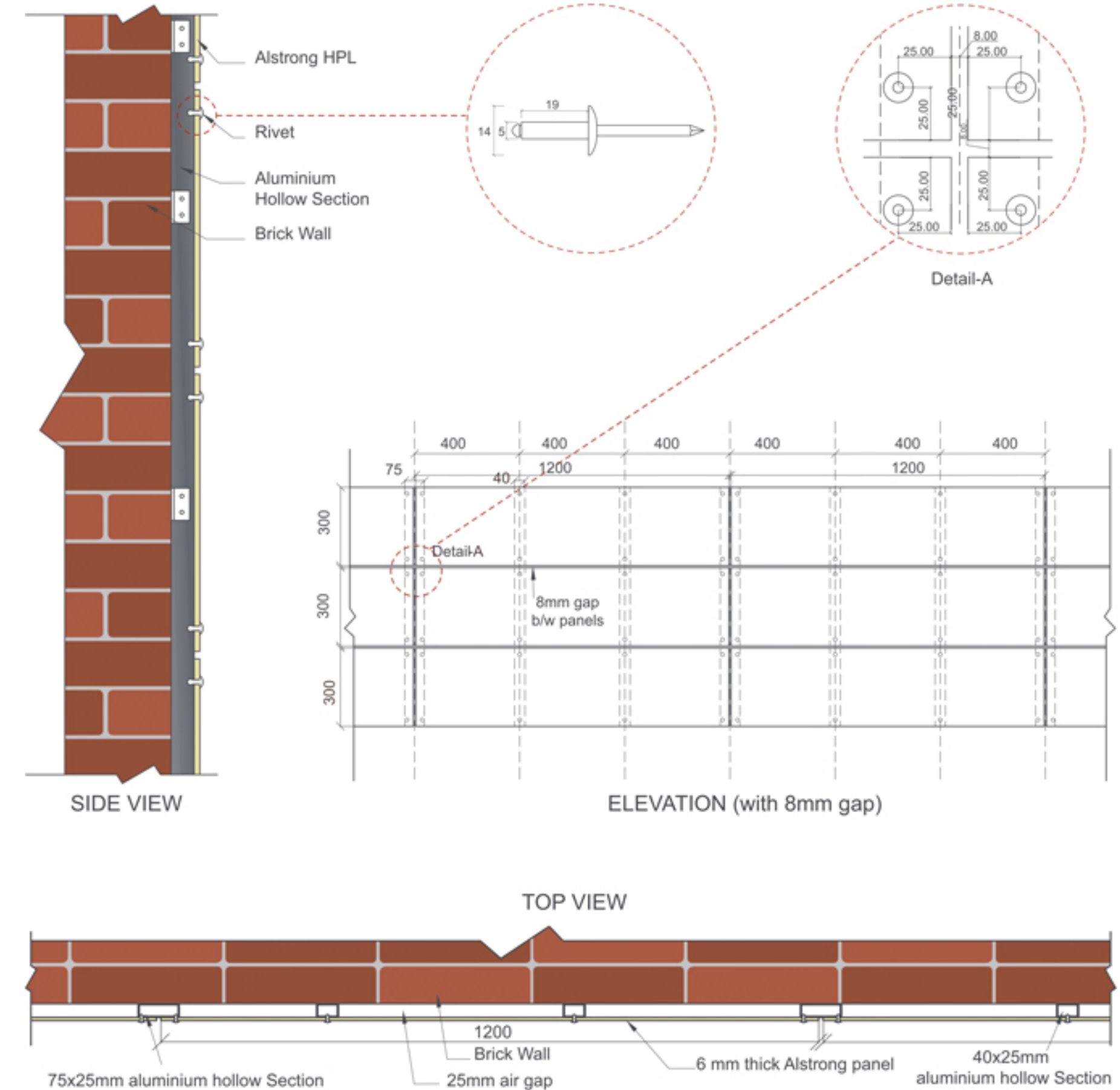
Step 3:

Substructure: The aluminum substructure basically consists of vertical support pro les which are mounted on the wall using angle brackets.

Fix Aluminium tubes (thickness - 1.6 mm) on the wall with help of aluminum angle brackets. Maintain horizontal distance between two aluminium tubes to a maximum of 450 mm (18")

Sizes: 25 X 75 mm (1" X 3") for horizontal joints between 02 planks

25 X 40 mm (1" X 1.5") for all other planks



ALSTRONG ALUMINUM COMPOSITE PANEL TECHNICAL SPECIFICATION - 6MM

| DETAILS | STANDARD | UNIT | ALSTRONG 6mm (0.5mm) | ALSTRONG 6mm (0.25mm) |
|---------|----------|------|-------------------------|--------------------------|
|---------|----------|------|-------------------------|--------------------------|

PHYSICAL PROPERTIES

| | | | | |
|------------------------------------|---|-------------------|---------------|---------------|
| Total thickness of Composite Panel | - | mm | 6 mm (±0.2mm) | 6 mm (±0.2mm) |
| Aluminum Skin Thickness | - | mm | 0.5 (±0.03) | 0.25 (±0.03) |
| Weight | - | kg/m ² | 7.5 kg (±5%) | 7.1 kg (±5%) |

MECHANICAL PROPERTIES OF ALUMINUM SKIN

| | | | | |
|------------------------------|-------------|-------------------|----------------|----------------|
| Modules of Elasticity | EN 1999 1-1 | N/mm ² | 60000 to 70000 | 60000 to 70000 |
| Tensile Strength of Aluminum | EN 485-2 | N/mm ² | 140-150 | 110-140 |
| Elongation | EN 485-2 | % | 3 | 2 |

MECHANICAL PROPERTIES OF HPL

| | | | | |
|-------------------------------------|-------------|-------------------|-------|------|
| Tensile Strength of Composite Panel | EN 485-2 | N/mm ² | 50 | 45 |
| Elongation of Composite Panel | EN 485-2 | % | 10-13 | 8-13 |
| Peel Strength of Composite Panel | ASTM D 1781 | N/mm ² | ≤10 | ≤8 |

CORE MATERIAL

| | | | | |
|----------------|---|----|------|-------|
| Core thickness | - | mm | 5mm | 5.5mm |
| Core Material | - | - | LDPE | LDPE |

SURFACE FINISH PROPERTIES

| | | | | |
|------------------|-------------------|--------|----------|----------|
| Type/Finish | - | - | PVDF | PVDF |
| Pencil Hardness | ECCA T4EN 13523-4 | - | 2 H | 2 H |
| Finish Thickness | - | micron | 25-28 | 25-28 |
| Gloss at 60 | - | - | 20 to 30 | 20 to 30 |

| DETAILS | STANDARD | UNIT | ALSTRONG 6mm (0.5mm) | ALSTRONG 6mm (0.25mm) |
|---------|----------|------|-------------------------|--------------------------|
|---------|----------|------|-------------------------|--------------------------|

WEATHERABILITY PROPERTIES

| | | | | |
|--|--------------------|---|-----------|-----------|
| Humidity Resistance, 3000 Hrs | ASTM D 2247 | - | No Change | No Change |
| Salt Spray Resistance, 3000 Hrs | ASTM D 117 | - | No Change | No Change |
| Colour Retention, 4000 Hrs | ASTM D - 2244 - 89 | - | ≤5 | ≤5 |
| Chemical test H ₂ SO ₄ / HCL | ASTM D 1308 - 79 | - | No Change | No Change |
| Oil Resistance | - | - | Pass | Pass |

ACOUSTIC PROPERTIES

| | | | | |
|-------------------------|----------|----|------|------|
| Sound Absorbing Factor | ISO 354 | - | 0.05 | 0.05 |
| Sound Transmission Loss | ASTM E90 | db | 25 | 25 |

THERMAL PROPERTIES

| | | | | |
|--------------------------|-------------|--------------------|--------|--------|
| Thermal Resistance (R) | ASTM C 1363 | m ² K/W | 0.24 | 0.24 |
| Linear Thermal Expansion | ASTM D-696 | mm/m @ 100° C | 2.4 | 2.4 |
| Deflection Temperature | ASTM D-648 | Degree C | 100° C | 100° C |

PROTECTIVE FILM

| | | | | |
|-------------------------------|---|--------|---------|---------|
| Protective film on ACP | - | micron | 80 | 80 |
| Shelf Life of Protective Film | - | days | 45 days | 45 days |

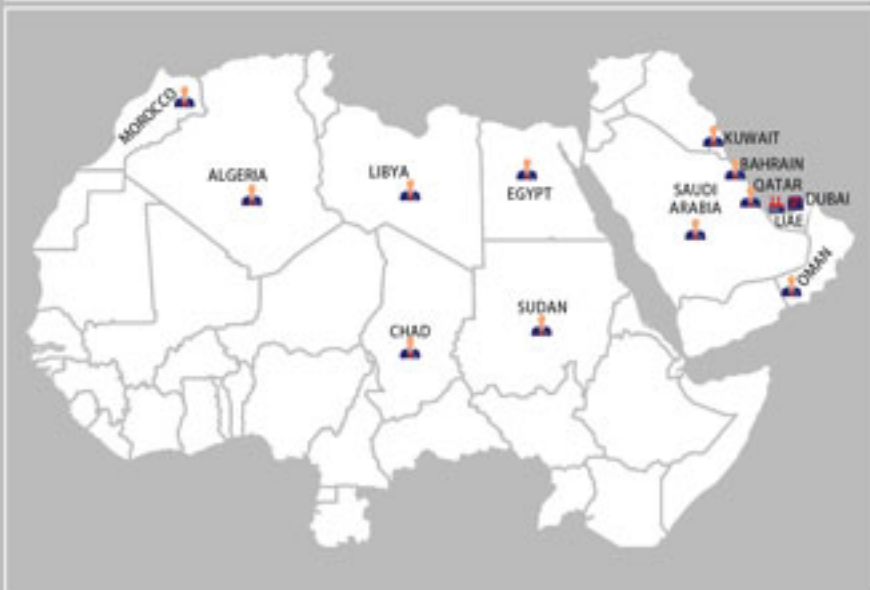
FIRE PROPERTIES

| | | | | |
|-------------------------|------------|---|-----------|-----------|
| Reaction to Fire | DIN 4102-1 | - | B2 | B2 |
| Inevitability test | 476 part 5 | - | P | P |
| Fire Propagation | 476 part 6 | - | 1-7.87 | 1-7.87 |
| Surface spread of flame | 476 part 7 | - | Class - 1 | Class - 1 |

-  HEAD OFFICE
-  FACTORY
-  OVERSEAS OFFICES
-  BRANCH OFFICES
-  WAREHOUSES
-  DEALERS



MIDDLE EAST & NORTH AFRICA



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Jammu- 184121



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