



Aluminium Composite Panel

Alupanel XT®

ALUPANEL
ALUPANEL
ALUPANEL

ARCHITECTURAL
DESIGN
SOLUTIONS

Multipanel UK

...a **multitude** of applications



Multipanel UK

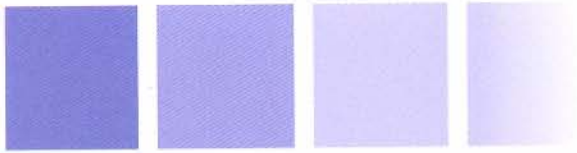
Multipanel UK Ltd is a leading specialist in decorative Aluminium Composite Materials. Our aim is to provide Architects, Designers, Engineers & Contractors, throughout the world, with the highest quality Aluminium Composite Panels.

At the same time our team is constantly looking at new ways to make financial savings for our customers. To this aim, a new state of the art production facility was built in Shanghai and production commenced in late 2006.

As a result of this major investment Multipanel UK can now offer a range of innovative product features including: 2000mm width panels, A2 Fire retardant core and Nano technology coatings.

Our advantages

- Alupanel – A name you can trust
- UK based sales and technical support
- Comprehensive distributor network
- Huge stock in UK & mainland Europe
- Unique fixing systems
- Full test certificates for all products



Alupanel XT®

Alupanel XT is the 21st Century solution for creating beautiful & cost effective cladding from Aluminium Composite Panels.

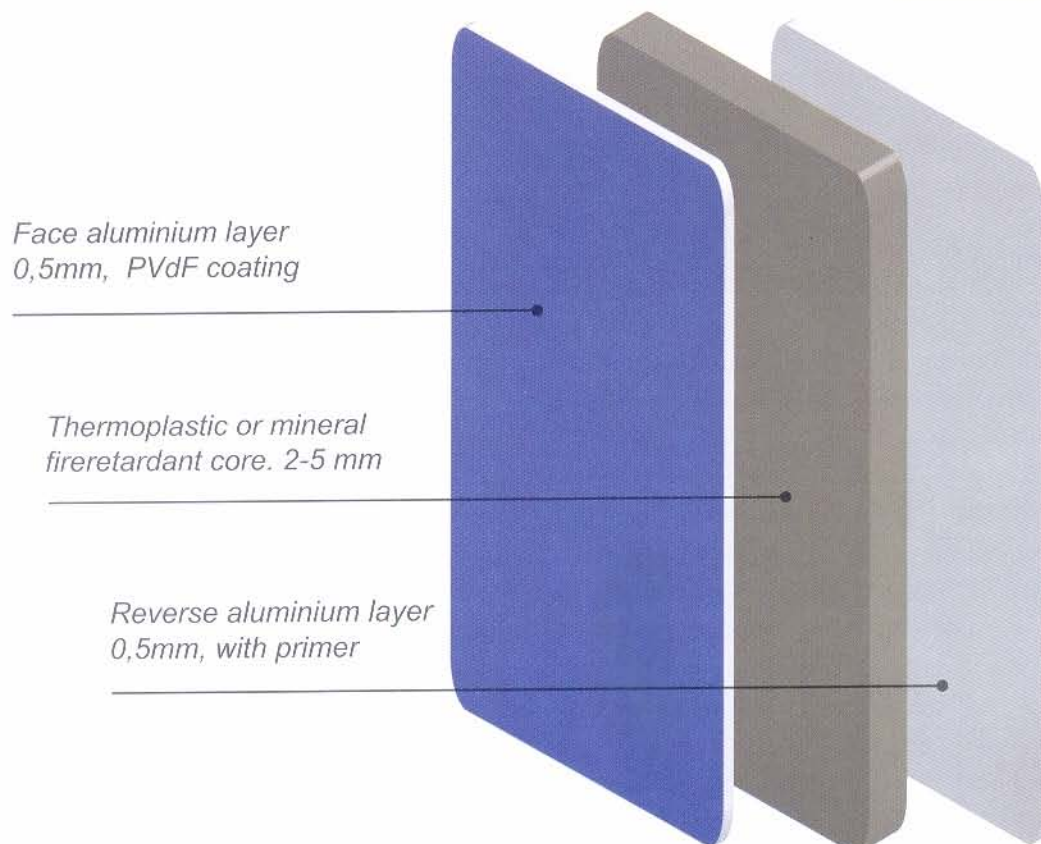
Alupanel XT is an extra-rigid material which, although has outstanding flatness properties, can still be fabricated into shapes and profiles when required.

Alupanel XT is built around a thermoplastic core (2-5mm), bonded to which are two sheets of Aluminium (0.5mm), using a sophisticated process involving chemical adhesives and high temperatures.

The outward facing sheet is coated with a 30 micron layer of Polyvinylidene Difluoride (PVdf) paint. A robust coating which is highly resistant to corrosive atmospheric conditions, solvents, acids, UV, heat and low smoke exposure.

The reverse side of Alupanel XT is covered with a PE primer finish which prevents any contact between the aluminium and the atmosphere, protecting it against corrosion.

The Core material of Alupanel XT is produced from the first grade polyethylene which is formed into sheets by extrusion process. Alupanel XT is available between 3-6mm thick with 2 types of core materials: a polyethylene (PE) core, or a fire-resistant (FR) core material based on aluminum hydroxide mineral component.



EXTERNAL FACADES

WALL CLADDING

ROOFS

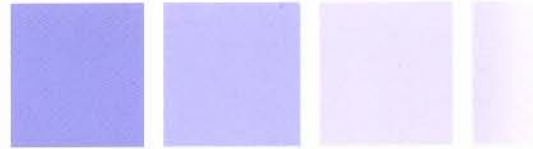
EDGINGS

CANOPIES

BALCONIES

TUNNEL LININGS

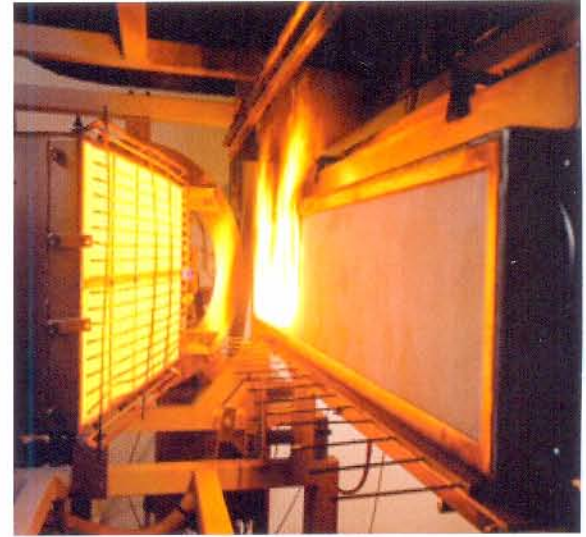
INTERIOR CLADDING



Alupanel XT FR®

Alupanel XT FR is a fire resistant material with outstanding performance. The mineral infill of the core is based on Aluminium Hydroxide. Alupanel XT FR is rated as a A2 class material during fire tests.

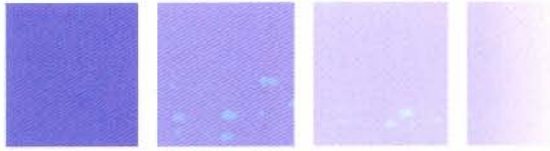
Standard Alupanel XT holds B1 Fire Certification. Alupanel XT FR can be produced in 4mm and 6mm thickness.



Nano-Photocatalysis Coating

A thin transparent layer of this coating applied on a standard PVdF film provides advanced high-effective protection of the facade against atmospheric dirt and graffiti. The panel coating clears itself after a rain shower due to the special molecular structure of the paint which repels dirt and oil. Maintenance and cleaning costs may be reduced and surfaces remain clean and attractive.



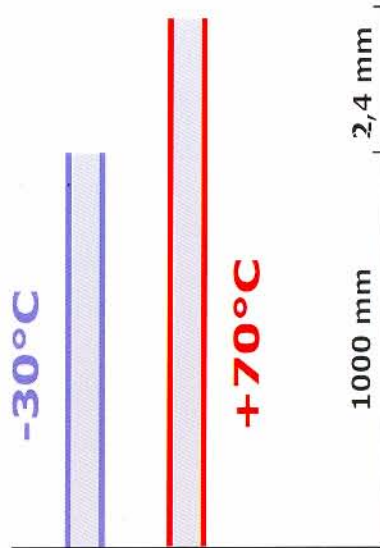


Thermal Expansion

Thermal expansion of Alupanel XT is completely defined by the thermal expansion of the Aluminium layers.

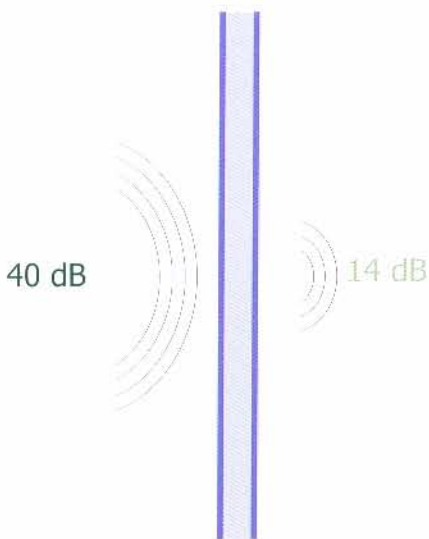
If the temperature rises by 100°C, the panel length increases 2,4mm per every meter.

It's very important that any fixing system allows for panels to expand or contract freely during temperature fluctuations.



Alupanel XT Properties

-26 dB



Noise Reduction

Alupanel XT dampens sound by 26dB.

It provides extra sound comfort to inhabitants of buildings clad with Alupanel XT.

Good noise damping properties also make Alupanel XT very good solution for such applications as facing transports interiors, making decorative cases for industrial equipment with high noise level and many others where sound isolation is necessary.



Standard Sizes		
Thickness	Width	Length
3mm, 4mm	1000mm—1500mm	2400 - 8000mm

Physical Properties	4mm (0.5 Aluminium)	Standard
Density	1.37 g/m ²	ASTM D792
Weight Pe/Fr core	5.48 / 7,64 kgm ²	ASTM D792
Thermal Expansion	2.4 mm/m at 100°C difference	ASTM D696
Noise Reduction	26dB	ASTM E413
Temp for Thermal Deformation	>400°F	ASTM D648

Mechanical Properties

Tensile Strength	47.7 Mpa	ASTM D638
Flexibility	Pass	ASTM D4145
Adhesion	Pass	ASTM D3355
Shear Strength	4350 PSI	ASTM D732
Yield Strength	45 Mpa	ASTM D638
Pencil Hardness	Gauge Hardness : H Scratch Hardness : F	ASTM D3363
Acidity and Alkalinity	NaOH - No changes observed after 15min + 1 Hour. About 2% of coating the spot removed after 16 hours. HCl - No Changes observed after 15 mins 1hr + 16hours	

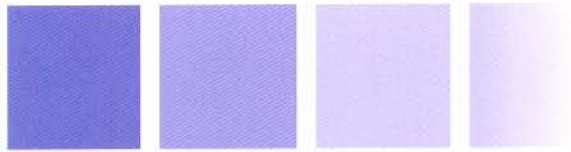
Dimensional Tolerances

Thickness (mm)	± 0.2
Width (mm)	± 2
Length (mm)	± 3
Diagonal (mm)	± 5
Thermal Expansion	2.4mm/m @100°C Temp Difference

ALUPANEL XT IS LIGHT!

At equal rigidity of the products shown, Alupanel is the lightest per M2!

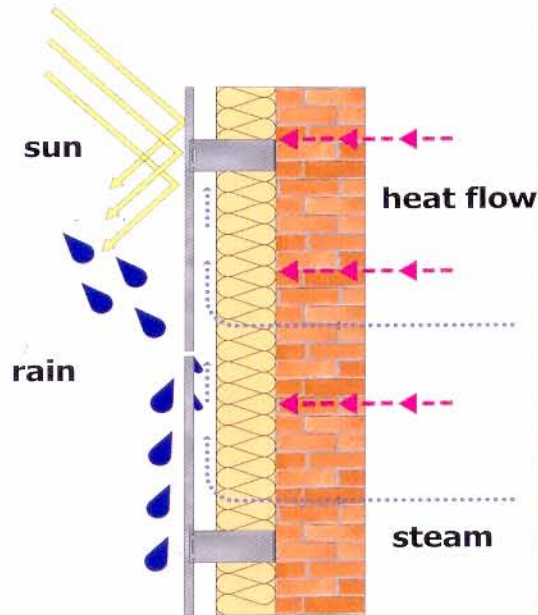




Rainscreen Wall

Using the most advanced technology when constructing a modern facade.

There is a ventilating window between a bearing wall and a screen. All the water which penetrates through the screen goes down this window without touching any insulator and bearing structures. Air moves freely which helps to dry the wall out and take out steam and condensation.



Alupanel XT is a perfect choice for rainscreen projects as it combines lightweight, outstanding rigidity, easy fabrication, a wide colour range and high resistance against atmosphere corrosive influences and scratches.





Sawing and Cutting :



Circular Saw: Trapezoidal / Flat tooth blade. Flat teeth chamfered at 45°, Carbide tipped.

Saw blade diameter 300mm

Number of teeth

72 for cutting up to 5 panels - *Leuco Ref: 188389*
 96 for single cuts avoiding burrs - *Leuco Ref: 188390*

Saw blade diameter 250mm

Number of teeth

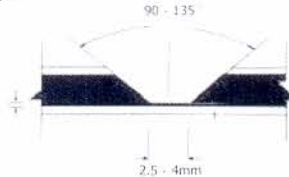
60 for cutting up to 5 panels - *Leuco Ref: 188939*
 80 for single cuts avoiding burrs, *Leuco Ref: 188940*.

Tooth Thickness: 3.2mm
 Clearance Angle: 15°
 Rake Angle: 10° positive

Blades are available from:

Leuco Ltd, Unit 23
 Twyford Business Centre
 London Road
 Bishop Stortford
 Herts
 CM23 3YT
 Tel: 01279 657821

Routing :



Alupanel can easily be folded by hand if a "V" shaped groove is milled on the rear of the panel.

A minimum thickness of 0.3mm of the polyethylene must be left on the bottom / back of the decorative face.

Cutting Speed: 3000 - 5000 m/min
 Feed Speed: 25 - 30 m/min

A specialist tool for use with Alupanel is available from:

Industrial Tooling Corporation
 Cyber House, 1 Kepler,
 Lichfield Road Ind Estate,
 Tamworth
 Staffordshire
 B79 7XE

Tel: 01829 304500

Product catalogue number:
 2021 - 1/2"-135
 2021 - 1/2" -90

Slotting :



Grooves can also be easily cut using a special cutting machine that comes complete with a guide/jig.

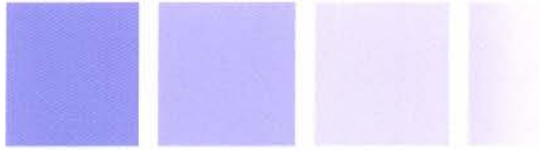
The "V" shaped groove is automatically cut into Alupanel, which can then be easily folded by hand.

Festool PF 1200E Panel Router available from:
 Minden Industrial Ltd,
 Saxham Business Park,
 Saxham, Bury St Edmunds,
 LP28 6QZ
 Tel: 01284 760791

Folding :



Alupanel can easily be folded by slotting or routing a groove on the rear of the product, as described in the slotting and routing section.

**Drilling :**

Alupanel is easily drilled - we suggest for best results, the use of bits designed for drilling aluminium and plastic are used. For large holes, a drill bit with a locating point is required.

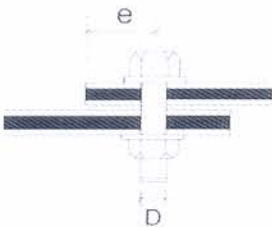
Cutting angle: 100° - 140°
Helix angle : 30° - 50°
Cutting Speed: 50 - 300 m/min
Feed Speed: 0.02 - 0.5mm / Revolution
Hole Size: Screw width + 2mm

Bending with a Panel Folder :

Use a folding table. Min inside radius $r=15xt$ (t=panel thickness)

Bending with a 3 roller panel bender :

3-Roller panel bender is preferable for bending large internal diameters.

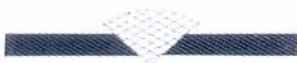
Clamping and Bolting :

Can be clamped with a serrated corner joint and butt sections for Alupanel thickness of 3mm and 4mm.

When bolting, $e=2D$ is the formula to use to calculate the distance of fixing to the end of the panel.

Shearing :

Use a standard guillotine for this purpose. Ensure the top cover sheet is inserted properly.

Hot Air Welding :

A polyethylene welding rod is available for use with an electric hot air welding set.

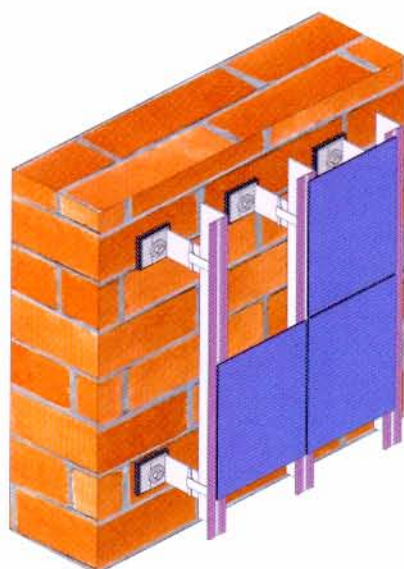
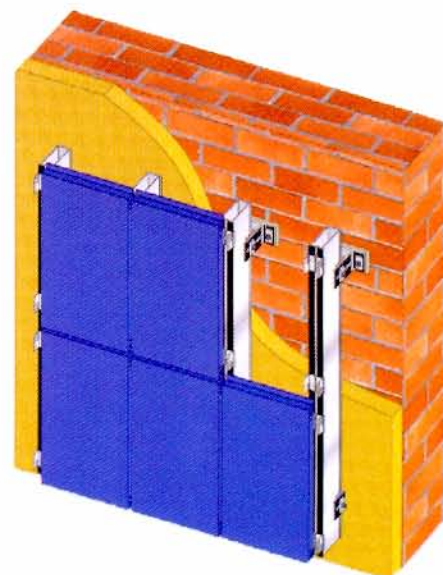
Riveting :

With the usual equipment using rivets or blind rivets. For external use please take thermal expansion into account.

Hole Size = Rivet Width + 2mm



Reliability and aesthetics of the facade not only depend on quality of the screen panels, but also on the quality and technical characteristics of the system on which the panels are assembled. Alupanel XT can be installed on a building wall in many different ways. In every case you should carefully choose the system which will satisfy the specific demands of your project. The most important factors which will influence your choice are: weight of a system, panel dimensions, design of the project, wind pressure and suction, temperature deflections. Please always take into account building codes and regulations in your district.



For installation of Alupanel XT panels we recommend aluminium systems developed by Multipanel U.K. Ltd technical department.

These systems have proved their reliability on different projects throughout the world.

All the system components are available from stock. Please contact our technical department for any kind of support with your project, we will provide you with all relevant information and assistance.

Basically there are 3 systems which are used for different applications:

- A Super strong K-2 system which was designed for multi-storey buildings and provides a possibility to cover a span of 4 meters between wall brackets. Systems are very easy to fit and fast to install.
- A light fixing system is suitable for midsize and small projects with heights below 40m.
- A Set of simple systems can be used to fix panels to a wall without making insulation and ventilated windows. This is good for interiors, CID projects, entrance solutions and low height decorative frieze.



ALUMINUM COMPOSITE PANEL

Aluminium Composite Panels with ALUPANEL brand are produced according to highest quality standards on automated compositing lines in our new factory in China.

Absolute flatness, irreproachable coating quality, amazing peel strength are main Alupanel features which allowed our product to gain worldwide success and acknowledgement.

Keeping under control supplies of all raw materials, part of which like aluminium coils are produced on our factories, we can offer solid warranty of 20 years for our Alupanel XT exterior panels and 5 years for Alupanel, which is used as a solution for signs and CID.

Dimensions.

Panel thickness : 2, 3, 4, 6, 8mm.
Standard thicknesses of aluminium layers are 0.5mm.

Special thicknesses of 0,18 and 0,21mm are offered for ECOPANEL and ALUPANEL Lite products.

Standard width : 1000, 1220, 1250, 1500, 2000mm. Special width can be made on request.

Standard length : 2440, 3050, 4050, 5700mm. Nevertheless we can make any required length from 1 to 8m according to client's specification.

All the basic coatings and colors mentioned in Prepainted Coils section can be produced. For list of standard Alupanel colors available from stock please refer to our Color Chart.





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Multipanel U.K. Ltd.

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