STONESCREEN

STONE CLADDING TECHNOLOGY

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HISTORY

Stonescreen has been leading innovation in Stone cladding technology for 20 years.

Originally established in UK and Italy we have expanded internationally with bases in Middle East, Far East and USA and have completed projects in UK, USA, Middle East, Far East, South East Asia and Australia.

We specialise in the design manufacture and installation of light weight cladding systems and products for building facades and high quality interiors.

Our experienced team can provide bespoke designs for the most complex projects.

We are dedicated to develop products well engineered, economical and environmentally friendly and to deliver with quality and efficiency.

CLADDING RANGE

Our extensively equipped manufacturing facility based in the heart of the stone industry manufactures our full range of cladding systems including our light weight range Stonescreen LITE© and Stonescreen AEROLITE© as well as traditional stonework and high end interior marble finishes.

Our experienced team can also provide bespoke designs and solutions to our clients'requirements.

Stonescreen cladding range includes:

- Stone faced light weight composite panels
- Rainscreen systems
- Stone faced curtain wall
- Insulated Stone faced GRC & RC panels
- Stonescreen Magrolam: composite tile for interiors
- Stonescreen faced SIP (Structural insulated panel)
- Stonescreen Aerolite© masonry (SIM block)
- Metscreen: metal faced insulated panel

MAIN PRODUCTS

• STONESCREEN AEROLITE©

Light weight system using Piracell© composite panels. Our latest and most advanced product.

• STONESCREEN LITE©

Light weight system using aluminium honeycomb composite panels.

• STONESCREEN SIM BLOCK

Super Insulated Masonry: a new lightweight masonry block.

• STONESCREEN MAGROLAM

Ultra slim composite tile for interior walls and floors.

• STONESCREEN CURTAIN WALL

Complete external wall system.

• STONESCREEN ENGINEERED STONE

Light weight system using artificial stone, developed from 2013 to date.

• METSCREEN

Metal faced insulated panel.

STONESCREEN AEROLITE©

THE LATEST INNOVATION BY STONESCREEN

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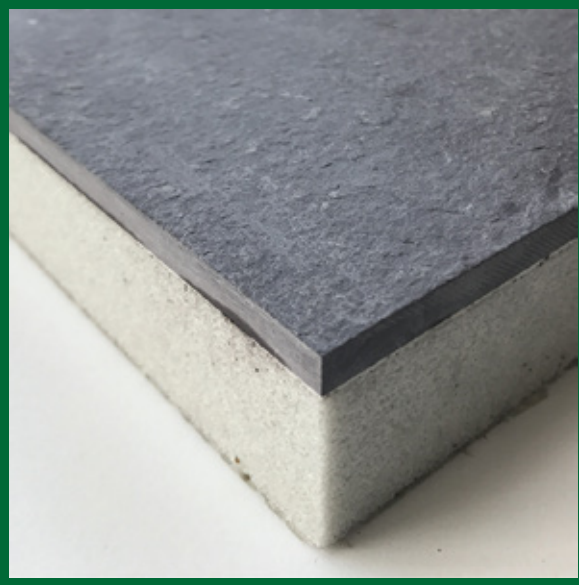
PRODUCT OVERVIEW

Stonescreen Aerolite© is our flagship product, our highest performance lightweight composite panel that quickly become the choice of specifiers.

Stonescreen Aerolite© are thin stone faced composite panels laminated onto onto PIRACELL©, a specially developed backing that is engineered to maximize low weight to high strength ratio. Its peculiar properties produce a very high strength and low weight substrate which is faced with a thin veneer of natural or artificial stone. It also can be recycled indefinitely.



SOME PIRACELL© CHARACTERISTICS

- Waterproof
- Pest-proof
- High Compressive and Flextural Strength
- Non-Combustible
- Low Weight
- Impervious to Air and Vapour
- Dimensionally stable
- Resistant to solvents and acids
- Easy to Cut
- Ecological
- Totally inorganic
- Free of CFCs, HCFCs, HFCs
- Fire proof
- Thermal Insulation
- High strength
- Lifetime performance without degradation

SOME AEROLITE© KEY ADVANTAGES

- Light weight
- High strength (large panels)
- High impact resistance
- Slim wall thickness
- High Fire Resistance
- Non Combustible
- Not affected by heat, cold or water or frost
- Dimensionally stable (Does not warp of bow)
- High Thermal Transmission resistance
- High Sound transmission resistance
- Extremely durability and long lasting product
- Can be structural panels 105mm thick
- Does not corrode
- Long Design Life
- Fast and easy to install
- Lower cost than aluminium honeycomb core

SAFETY IN SERVICE

Damage to the fabric of building facades is a everyday hazard particularly for high buildings due to building movement and impact damage (during cleaning). Reports of conventional stone cladding failures are common occurrence. Stone has weak tensile strength and failure can occur when fixing connections to stone panels are stressed due to building movements, micro cracks within the stone or poor workmanship. As a natural material stone is liable to defects, including micro cracks, its properties can be variable particularly over the long term. The core of the Stonescreen Aerolite© panel are man made materials with consistent physical and mechanical properties: reinforcement layers act to retain the panel in place and prevent stone falling, even in the event of accidental impact resulting in a panel cracking (similar concept to laminated safety glass). Stonescreen Aerolite© panels therefore avoid these potential failures and hazards.

STONESCREEN LITE©

OUR ORIGINAL LIGHT WEIGHT COMPOSITE PANEL

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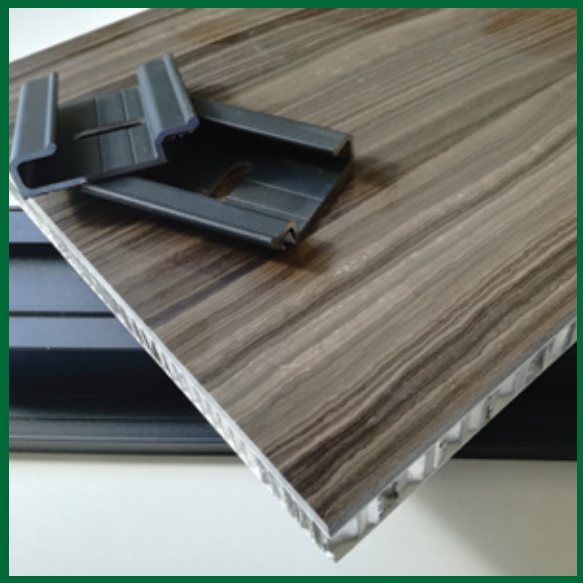
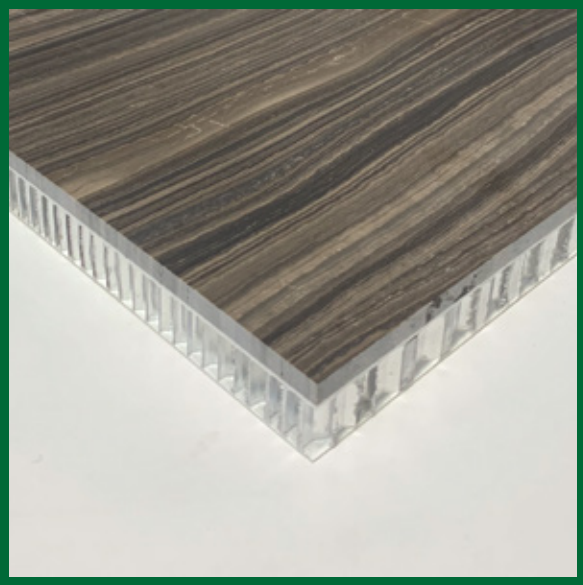
STONE CLADDING TECHNOLOGY

PRODUCT OVERVIEW

Stonescreen Lite© is our original light weight stone cladding product. This architectural cladding panel is contructed using an aluminium honeycomb substrate and faced with a thin laminate of natural or artificial stone. Aluminium honeycomb was original developed for use in the aerospace industry for its combination of strength, durability and low weight. The imbalance between stone and honeycomb causes bowing in large format and flat panels.

Due to technical limitations of this product we mainly recommend for internal use or external use under certain limited design conditions.





- Calibrated manufacture for precise installatioon
- Manually handleable, (Panel Weight approx. 15Kg/M2)
- Large panel formats up to 1.4m x 3m
- Fast & Safe construction
- Lower environmental impact
- BS Fire Classification Class 0

SOME LITE©
KEY ADVANTAGES

ENVIRONMENTAL IMPACT

• 5-10% of the stone used by conventional solid stone cladding

• Reduces quarrying and transportation

• Aluminium element is 100% recycleable

DESIGN IMPACT

• Large panels up to 1200mm x 2400mm

• Much larger than permitted for solid stone

• 90% lighter than solid stone therefore reduced load on structure

CONSTRUCTION IMPACT

• Dry fit installation

• Installation approx. 5 times faster

• Safer to install and safer when installed

• No point stress loading onto the stone

• Prefabricated precision engineered installation

COST

• Lower labour cost to install

• Lower transportation costs

• The higher the cost of the natural stone the more cost effective Lite© panels.

HIGH STRENGTH AND DURABILITY

• High flexural strength

• High impact resistance

SAFETY

• Reports of conventional stone cladding failures are common occurrence

• Stone has weak tensile strength and failure can occur when fixing connections to stone panels are stressed due to building movements, micro cracks within the stone or poor workmanship

STONESCREEN SIM©

SUPER INSULATED MASONRY

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PRODUCT OVERVIEW

Stonescreen Aerolite© Masonry or SIM is a new lightweight masonry block combining thermal and mechanical performance of our flagship product Stonescreen Aerolite© and the finished quality of natural stone.

ADVANTAGES:

- The block includes the insulation and finish resulting in rapid construction
- High thermal insulating performance
- Very lightweight
- Faced with thin veneer of natural stone
- Non combustible (Class 0 and A1)
- Zero risk of interstitial condensation (damp) occurring
- No cold bridging
- Excellent air tightness
- Fully waterproof, robust, durable, easy cut on site
- Lower cost than cladding masonry with natural stone

STONESCREEN MAGROLAM

OUR ULTRA SLIM COMPOSITE TILE

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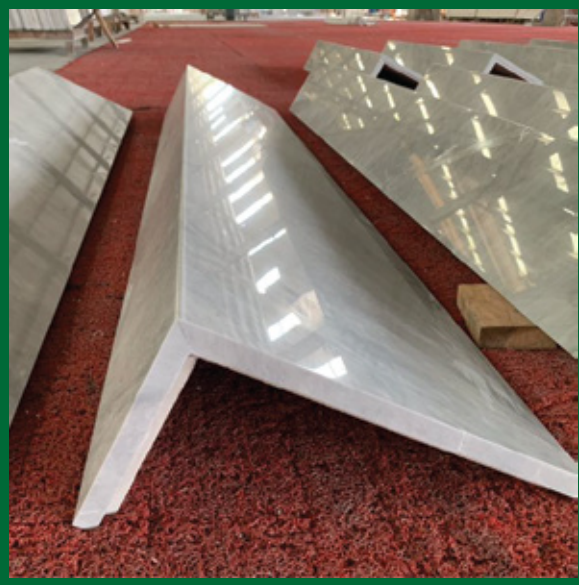
PRODUCT OVERVIEW

Stonescreen Magrolam is our ultra slim composite tile for interior walls and floors: large format tiles and slabs, strong, flat, reduces cost, fast and simple to install: Tiles available up to 2.7m x 1.4m

Magrolam tiles are a lamination of 5mm of natural stone onto a 9mm thick high density porcelain backing.

Combines the strength, durability and flatness of a porcelain tile with the natural beauty of natural stone.

At a total thickness of 14mm and weight of 31Kg per M2 Magrolam tiles may be installed using tile adhesive and avoids the need for mechanical fixings that are required for installing solid 20mm thick marble. Mechanical fixings are often visible through translucent white marbles. 20mm thick marble in large panels also are subject to bowing. This problem is avoided with Magrolam.



RAISED FLOOR SYSTEMS

Stonescreen Magrolam raised floor systems are fast to install with no adhesive or grout. The clean process makes removal or replacement easy and the floors are reusable.

We offer a solution to suit every dry lay flooring specification for interior and exterior flooring.

INTERNAL RAISED FLOORS

An interior raised floor provides an elevated structural floor above a solid substrate to create a hidden void for the passage of mechanical and electrical services.

This type of floor consists of a gridded metal framework or substructure of adjustable-height supports (called "pedestals") that provide support for removable floor panels.

EXTERNAL RAISED FLOORS

The exterior raised access floor system can used in areas where it is necessary to cover slopes with a flat surface, improving the appearance, insulation and drainage of the flooring.

STONESCREEN CURTAIN WALL

ACHIEVE YOUR SUCCESS THROUGH INNOVATION

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STONESCREEN SYSTEM

Stonescreen is a complete high performance external wall system specially designed to be faced with natural stone or other cladding materials and can incorporate standard or bespoke windows, doors, shades, louvres etc. The system is a double skin wall construction comprising of a weather and air tight backing wall which is faced with a rainscreen cladding. It is fully drained, thermally broken, back ventilated and has excellent thermal and acoustic properties. Stonescreen combines the benefits and elegance of natural stone within a high performance curtain wall system. Stonescreen allows the facade designer unlimited flexibility from slim flat external wall to highly profiled, articulated facade with deep reveals, projecting elements, parapets and cornices etc.

WELLBAR CENTRAL
GREGGS

DESIGN & ENGINEERING

The system can be equally suitable for a classical architectural facade as a contemporary facade. Stone cladding panels can be arranged in any configuration. Stone cladding can be flat, faccetted or curved. Stone rainscreen cladding joints can be open or pointed. Panel dimension limitations depend on the stone selected but all panels are cut specifically for each project so there are no limitations to standard sizes. The system has been developed for seismic conditions and can accomodate high levels or structural movement. Visible movement joints can be avoided to produce a monolithic appearance and avoid the grid appearance of movement joints evident in conventional stone cladding or panelised constructions. Stonescreen can be installed as a site assemled stick system, semi unitised or fully unitised. Full external wall system from external face of stone to internal wall finish can be as slim as 275mm whilst acheiving a U value of 0.35 W/M2K. U values lower than 0.2 W/M2K are also available with our enhanced system.

TECHNICAL INFORMATION

1. THE FRAME

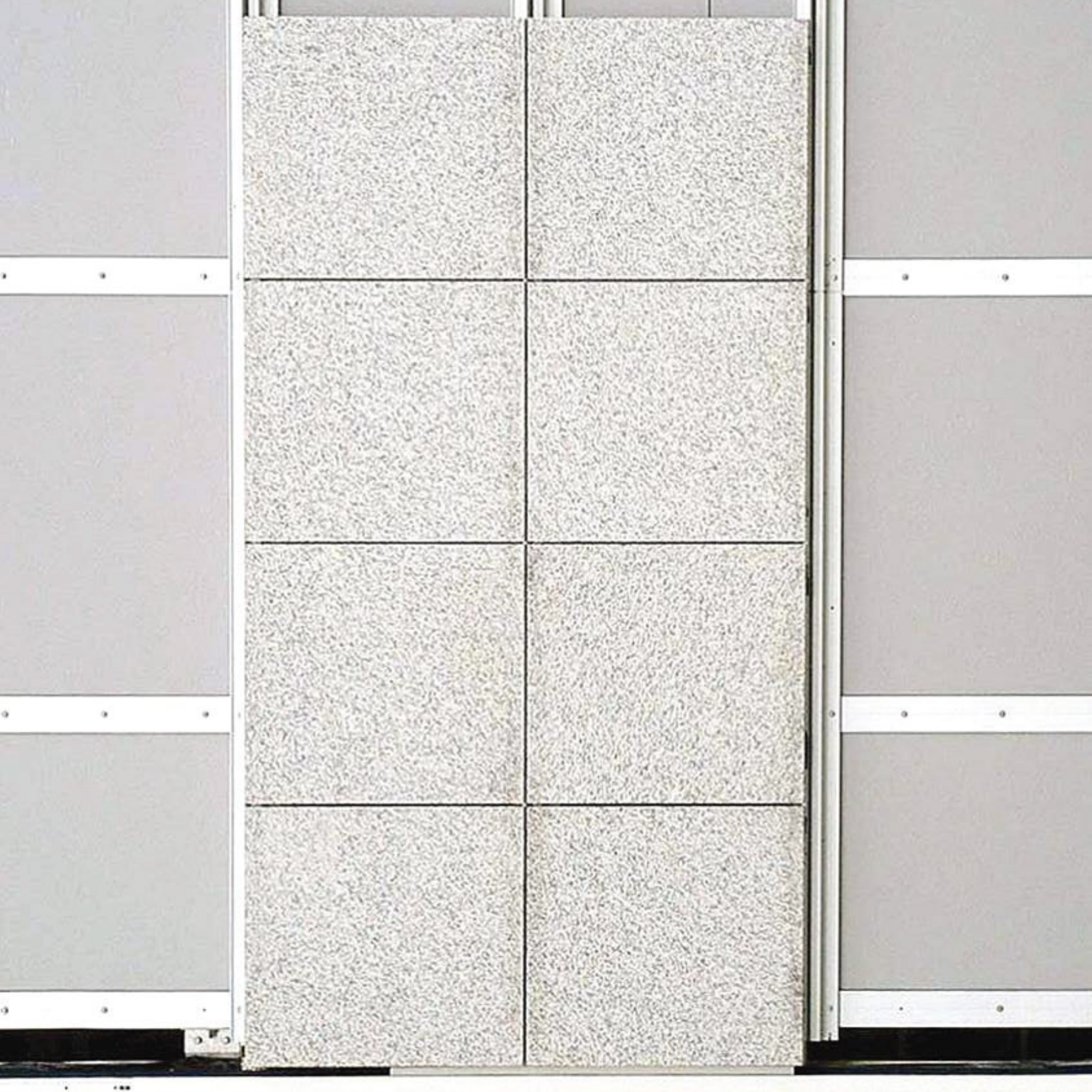
Stonescreen is constructed with a skeleton structural frame of extruded aluminium alloy. Aluminium combines lightness, strength, corrosion resistance and design flexibility. The aluminium frame may be assembled off site on site assemble as individual elements. The frame is bolted to the building structure normally at each floor. The vertical frame members hang on the outside of the floor slabs.

2. THE INSULATED WALL PANELS

100mm thick insulated composite panels are clamps onto the frame system between air sealing rubber gaskets. The outskins of the composite panels are polyester coated steel with PIR or mineral wool core. The manufacturing process is quality assured and registered BS EN 9002:1994. The panels form an external envelope which hermically sealed envelope to the building with no penetrations where water may ingress.

3. THE STONE RAINSCREEN

Stonescreen stone rainscreen cladding support system is attached to the frame members. There is no penetration of the frame or wall panels. The screws and bolts only penetrate hollow chambers within the frame so that air seal is maintained. Stone panels are attached to the stone stone support system so that stone panels is individually support and restrained. System design prevents any building or frame movements being transferred to the stone. Stone panels are slimmer, lighter, easier to install and safer than traditional stone cladding. Stone cladding panels are usually used at 30mm or 40mm thick.



ENGINEERED STONE

Our engineered Stone is manufactured from 95% of natural stone and about 5% of binding material (synthetic resin), pigments and aggregate. The mix is cast into blocks of approximately 8 cubic metres. Various processes are employed to replicate variable vein or grain to simulate natural stone. Once cured, the blocks are sawn and worked the same as natural stone. They are then installed the same as natural stone rainscreen cladding. The process results on every stone panel being unique, just like natural stone.The client can custom design their choice of colour, appearance and finish. Any colour is achievable. As well as a standard colour range the enigeered stone can be custom produced to the colour and appearance required. Surface finishes available include: polished, honed, sand blasted and bush hammered.

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