DCD CONSTRUCTORS Exterior Housing Construction Solutions & Materials GALLERY

Doc no.: DCD/CONS/HCS/APRIL/2023



THE PRODUCT SOLUTIONS AND MATERIALS

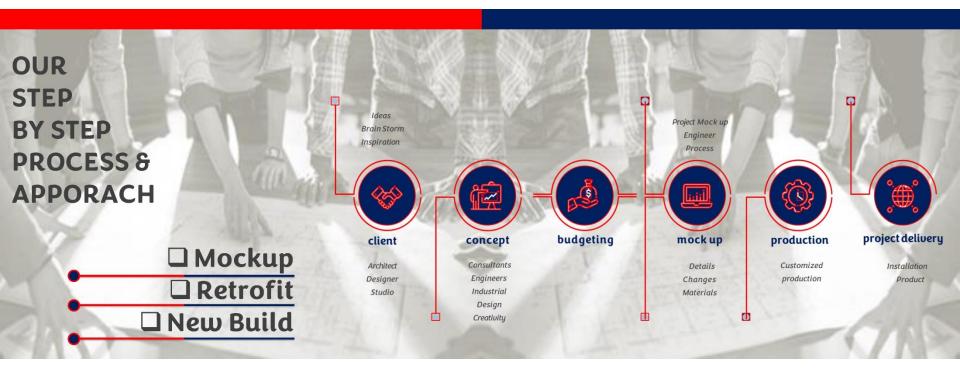
We offer and supply to our Customers and Housing Constructors the PSE Housing Construction Solutions and Materials, specifically the design and supply of:

- ✓ Aluminium Composite Panels,
- ✓ Curtain Building With Aluminium Composite Panels,
- ✓ Decorative Aluminium Composite Panels,
- ✓ A2 Fireproof Metal Composite Panels,
- ✓ Exterior & Interior Wall Panels,
- ✓ Medical Anti-bacteria Resistance Panels,
- ✓ Rainscreens,
- ✓ PS MPCLADO Profile Rances,
- ✓ PS MPINSTALL System Metal Rainscreen Cladding Series.

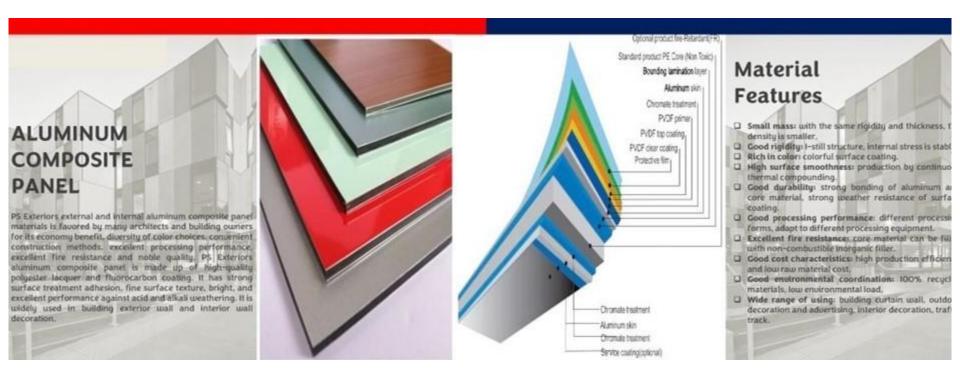
We also present the PS-MPINSTALL SYSTEM for the:

- ✓ Interaction & Perfection Of Metal Panel Technology; and
- ✓ the design perspectives for the: WINDOW POD System, Curved Panels, Honeycomb Wall System, REYNOBOND Panel System, Stone Faced Panel System, Rannila "Cassetti" Steel Wall System, and Metesc Structural Wall System

STEP-BY-STEP PROCESS & APPROACH



ALUMINIUM COMPOSITE PANEL



CURTAIN BUILDING WITH ALUMINIUM COMPOSITE PANELS

MATERIAL MATERIAL CURTAIN WALL PARAMETER **FEATUERES** BUILDING WITH Stronger weather resistance, good steel, light weight a Specification Plate Aluminium Core Material Thickness Layer Surface fluorocarbon roll coating treatment, superi ALUMINUM Thickness (mm) corrosion resistance and weather resistance, easier COMPOSITE PANELS (mm) process and transport. It can be processed into vario complex geometries such as plane, arc and spheric surface. 1220'2440 0.5 Raw material/Clinker/81 Fluorocarbon/FEVE Product Description Highly fireproof sandwich structure, with excelle Thickness: The thickness of the upper and lower aluminum panels is not fireproof material processing, thermal insulation, sound insulation as less than 0.5mm, the total thickness is not less than 4mm, and the excellent fireproof performance. aluminum alloy sheet of 3000/5000 series is generally used, and the Environmental protection can be recycled and reuse 1220'2440 0.5 Raw material/Clinker/81 Fluorocarbon/FEVE coating is coated with fluorocarbon resin. beneficial to environmental protection. fireproof material Easy to clean and not easy to stain, easy to clean as Coating: The topcoat of the exteriors wall panel is a highly weatherresistant fluorocarbon resin coating, namely Polyvinylidene fluoride 1220'2440 0.5 Raw material/Clinker/BI Fluorocarbon/FEVE Fluorine coating film non-adhesive, so that the surface (PVDF) Its excellent UV resistance and environmental pollution keep the fireproof material difficult to adhere to contaminant and is easy to clean. surface of the protected aluminum coil brilliant in colors. More Customization Surface Color: There are rich color such as metallic color and marble pattern, and other colors can be customized.

DECORATIVE ALUMINIUM COMPOSITE PANELS

DECORATIVE ALUMINUM COMPOSITE PANELS

Product Description

Thickness: the thickness of the upper and lower aluminum plates of such products is 0.20mm each, and the minimum thickness is not less than 0.10mm and the total thickness is generally 1mm.

Coating: The coating adopts polyester or acrylic usually.

Surface Colon: The are rich colors such as metallic color, marble pattern, high gloss, brushed, touch wood, etc and other customized colors can be supplied.

MATERIAL PARAMETER

Specification (mm)	Plate Thickness (mm)	Aluminium Layer Thickness (mm)	Core Material	Coating
1220*2440	3	0.18	Raw material/Clinker/81 fireproof material	Polyester
1220*2440	3	0.21	Raw material/Clinker/81 fireproof material	Polyester
1220*2440	3	0.3	Raw material/Clinker/Bt fireproof material	Polyester
- 400				

More Customization

MATERIAL FEATUERES

- Waterproof and moisture proof, mildew proof and insect proof, weather resistant and corrosion resistant.
- Green environmental protective material, food safety level, no formaldehyde, no odor, reduce the spread of respiratory bacteria, cut off contact bacterial transmission.
- Strong plasticity, ibcan bend and punch for hole, it can be used in addition to the floor and other cabinets and special shapes such as wall, cabinet, ceiling sliding door can be further processed.
- Easy installation fast contraction can be lived once finished installation.
- Super high Ofidelity texture: touch wood grain, high-gloss marble, etc you can customized a variety of patterns.
- Good flatness, light and strong, impact resistant, can reduce building load, and good shaking resistance.
- Easy to clean and maintain.

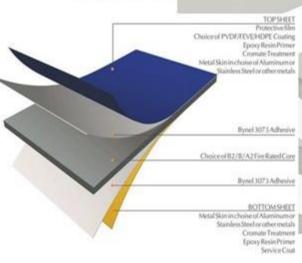
A2 FIREPROOF METAL COMPOSITE PANELS

A2 FIREPROOF METAL COMPOSITE PANELS

Product Description

A2 fireproof metal composite board is a kind of metal decoration material that uses non-combustible inorganic material as the core layer and the metal skin on both sides as the decorative surface, and is processed by a special process. It retains the excellent characteristics of traditional composite panels such as strong decoration, high cost performance, easy processing and easy installation, and overcomes the bottleneck of the previous aluminum-plastic composite panel products that cannot reach the non-combustible Class A. The fireproof insulation and prevent flame spread and other characteristics. PS Exteriors aluminum composite panels can meet the different fire protection requirements of different countries, and are not restricted by any building height or use. It can be used not only in the field of architectural decoration, but also in other fields that have special requirements for sound insulation, fire prevention, radiation prevention, and antibacterial.

MATERIAL PARAMETER



MATERIAL FEATUERES

- Rich performance effects: provide solid colors, high gloss, low gloss, metallic color flash colors, magic colors, 3D dimensional coating, natural art series such as woo grain, stone grain and other choices.
- Metal surface options various metal surface composite plates stainle steel/steel/nanoself-cleaning aluminum/cooper/titanium zinc/anodized.
- Green inorganic core materiali inorganic core material made of inorganic cor material is natural, green and sustainable, it reduces metal and smelting energ consumption, reduces carbon emissions, and protects the earth's ecologic environment.
- Larger and more arbitrary plane division size: Under the premise of ensuring the flatness of the board and other properties, the maximum board surface can reach width of 2 meters, and the length is arbitrary, meeting the design requirements.
- Good rigidity: I-shaped structure is stable, flat and no deformation, and continuous production line is adopted for production.
- Light Weight: The composite technology reduces the weight of metal decoration materials, reduces the load of the building, and saving the cost of the foundation and the main structure.
- EU A2 Fire Protection standard: good fire safety performance, safe to use the his temperature of about 1200 degree Celsius, not burn through in 2 hours.
- Extreme processing performance: 90/135 V-shaped groove, plate can be bent 90/135, square groove, maximum bendable to 150
- Wide range of uses: Building curtain walls, indoor and outdoor decoration advertising signs, rail transit and interior and exteriors decoration of medical place.

EXTERNAL & INTERIOR WALL PANELS



Product Description:

Thickness: Used in building curtain walls, general the total thickness is 3/4/5mm, the upper and lower aluminum skin thickness is 0.3/0.4/0.45/0.5mm1/3/5 series alloy aluminum skin.

Coating: For outdoor use, products requiring more than 10 years of surface quality assurance, it is recommended to choose the standard product PVDF/EVE high weather resistance coating system. For indoor products or short-term outdoor products, PE coating system is recommended.

Surface color: standard color series-single color and metallic color series natural color series-wood grain and stone grain series special color series-chameleon, flash color and self-cleaning function series.

MATERIAL PARAMETER

Standard 1220'2440mm 1220°2440mm 1250'2500mm 1250°2500mm Size More Customization (W!H) 1500*3060mm 1500'3060mm 1500*4060mm 1500'4060mm Thickness 4mm 5mm Plate Thickness 0.3°0.3mm 0.4°0.4mm 0.45°0.45mm 0.5°0.5mm Core Material FRA Non-Combustible grade inorganic fireproof core material (A2) Plate Material Aluminium, Stainless Steel, Galvanized Steel, Copper, Titanium, Zinc

MATERIAL FEATUERES

- Green core materials environmental protection and material saving: 10,000 square meters of aluminum curtain wall is replaced with aluminum composite panels, saving 54 tons of aluminum. The 10,000 square meters of stainless steel curtain wall is replaced by stainless steel composite panels, saving 70 tons of stainless steel.
- Strong weather resistance: The protective film can withstand weather resistance for six months. Under normal climatic conditions, within six months, the protective film will not lose its peeling characteristics or cause problem such as give migration.
- Good processability and light weight: the composite technology reduces the weight of metal decoration materials, reduces the load of the building, and saves the cost of the foundation and the main structure.

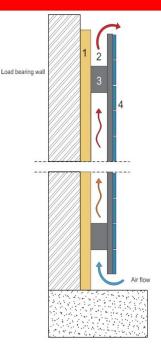
INTERNAL & INTERIOR WALL PANELS



MEDICAL ANTI-BACTERIA RESISTANCE PANELS



PS RAINSCREEN PRINCIPLES



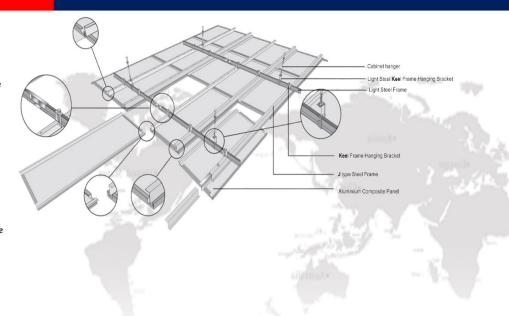
OUR RAINSCREEN PRINCIPLES

Our Ventilated wall cladding is made of several elements which are added to the load bearing wall of the building structure with:

- Thermal insulation layer of different thicknesses according to energy requirements
- 2. Rear ventilated cavity
- Adjustable sub-frame which determines the distance from the main wall.
- External rainscreen cladding which provides technical performances protecting the building against weather conditions.

This construction method has considerable ecological and economical benefits:

- a) PS Exteriors ventilated wall cladding increase the lifetime of the building
- The outside wall of the building and thermal insulation layer remain dry
- The ventilated wall cladding gives excellent protection against heat and cold ensuring a comfortable internal environment
- This cladding method is an energy-saving façade leading to minimum carbon dioxide discharge
- e) Protection against acoustic pollution



PS MPCLADO PROFILES RANCES

PS MPCLADD PROFILES RANGES

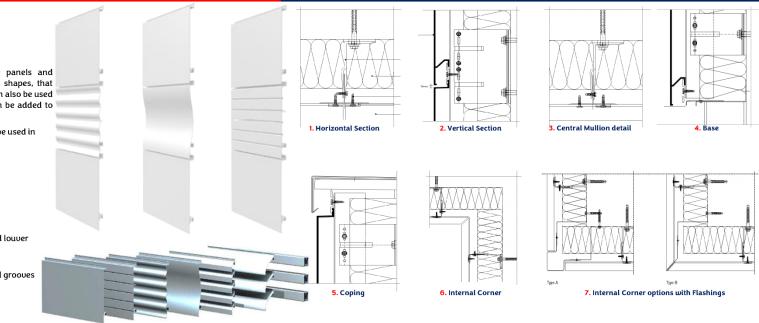
PS Exteriors extruded architectural envelope panels and louver systems comes in different profiles and shapes, that can fit any architectural design concepts and can also be used in various mixed combinations. Many other can be added to increase even further design possibilities.

Our architectural panels and louver system can be used in different design $\mbox{\sc APPLICATIONS}$

- 1.Metal panel & rainscreen cladding,
- 2. interior cladding,
- louver screen wall,
- 4. ceiling,
- 5. parapets,
- 6.fences & stands, etc

Our customized architectural envelope panel and louver systems series

- a. PS10 MPCLADD Flat surface profile
- b. PS20 MPCLADD Flat profile with horizontal grooves
- c. PS30 MPCLADD -Sinusoidal profile
- d. PS40 MPCLADD -Concave/Convex profile
- e. PSLOUVS1 -Louver Blade
- f. PSLOUVS2 -Sunshade Louver Blade
- g. PSLOUVS3 Louvers screen



PS MPINSTALL SYSTEM METAL RAINSCREEN CLADDING SERIES

PS MPINSTALL SYSTEM METAL RAINSCREEN CLADDING SERIES

PS-MPINSTALL system is world-class engineered, prefabricated, At mineral wool-insulated, metal panel façade cladding system that offers a through wall solution within a single piece of construction element. This metal panel façade cladding elements comes with rounded corners, unmatchable flatness and advanced technical characteristics place PS-MPINSTALL is among the best metal panel façade cladding façade systems in the world of architectural envelopes system.

TOTAL WALL SOLUTION

- ☐ Single component pre-engineered and prefabricated construction element
- Self-supporting column to column horizontal or floor to floor pertical installation

LIMITLESS DESIGN **POSSIBILITIES**

- ☐ Extensive range of interfaces and bespoke elements
- ☐ Integrated windows, doors and louvers systems
- Prefabricated corners and rounded corners without cuts.
- ☐ folds or welds
- ☐ 3D corner elements, curved elements, trapezoidal elements
- □ Extreme flatness
- Multiple joint possibilities

MAXIMUM SAFETY

- □Class At non-combustible mineral wool insulation core
- ☐ High-level insulation values as low as 0.15 W/M2k
- ☐ Fire resistance: up to class El 120 minutes integrity and insulation
- □Watertightness up to 1200 Pa
- □ Flexible coating guaranteed up to 20 years and lifetime expectancy up to 25 years*

JOINT OPTIONS FOR HORIZONTAL INSTALLATION













JOINT OPTIONS FOR VERTICAL



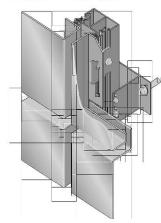




PS9 MPINSTALL







JOINT OPTIONS

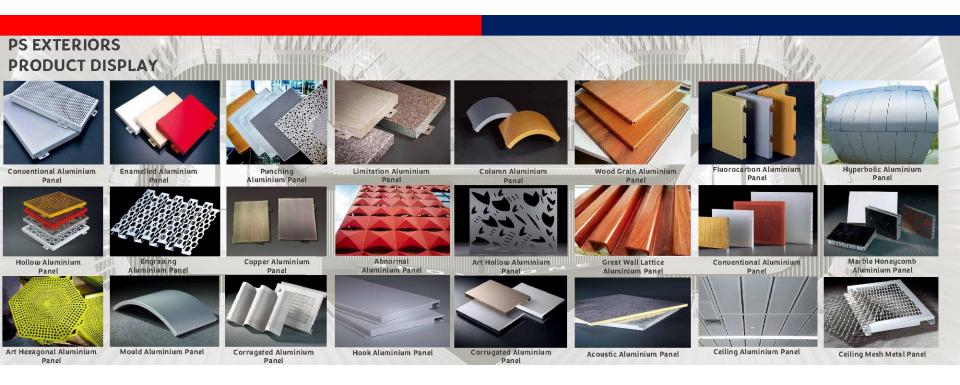
PS MPINSTALL system allows various combinations of recessed and flushing joints.



PS EXTERIORS PRODUCT DISPLAY



PS EXTERIORS PRODUCT DISPLAY



PRODUCT SOLUTION COLOUR RANGE



PS-MPINSTALL SYSTEM THE INTERACTION & PERFECTION OF METAL PANEL TECHNOLOGY

PS-MPINSTALL SYSTEM

THE
INTEGRATION
& PERFECTION
OF METAL PANEL
TECHNOLOGY

PS- MPINSTALL concealed fixed aluminum cassette panel system, designed to hung on an extruded aluminum carrier rail, which is fixed to the structural support wall by means of adjustable wall brackets.

PS-MPINSTALL can be used effectively on both new build projects and also as an over cladding to up- grade existing structures. These three dimensional designed adjustment makes it possible to introduce feature details and to easily deal with irregular building surfaces.

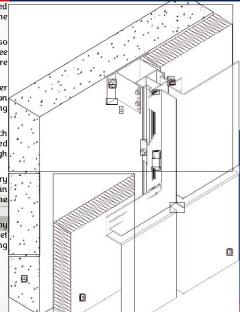
Our research and case studies has proven us right with a range of deeper wall brackets, it is always possible to use a greater thickness of insulation to meet or exceed the U values required by the current Building Regulations.

All our cassette trays are well designed and precision made for each contract and the façade can be completed with specific project designed cills, flashings closers etc. all manufactured and finished to the same high standards.

PS Exteriors can also customized and manufacture all other necessary architectural façade detail products such as Window Pods, Column Casings, Soffits, Aerofoil Edgings, and flashings and closers to meet the design team requirements.

PS- MPINSTALL system has been developed to meet the demand by Architects and Contractors for a precision made product, which can meet all the necessary statutory structural, thermal, acoustic, and weathering criteria, and therefore offer the following features and benefits.

DURABILITY
ABILITY TO WITHSTAND HIGH WIND LOADS
PANEL FLATNESS
RANGE OF PANEL SIZES NEW BUILD
OVER-CLADDING
VALUE ENGINEERED SOLUTIONS

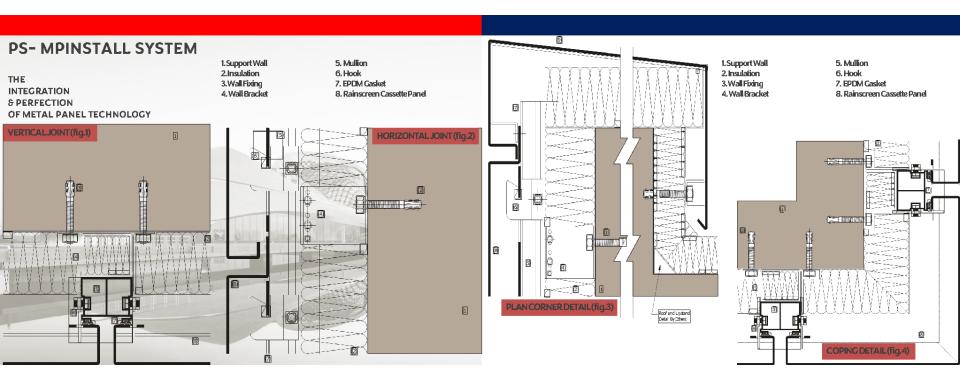


PS- MPINSTALL DESIGN PERSPECTIVE

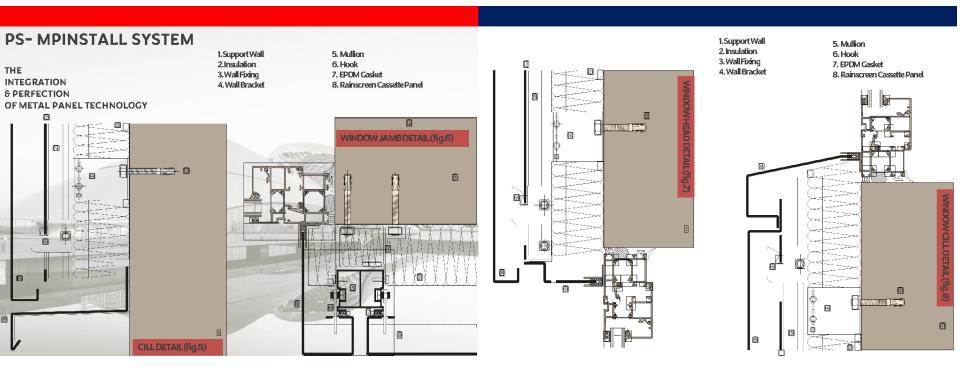
- I. Hanging System
- 2. Rainscreen Cassette Panel
- 3. Back-up Insulation
- 4. Concrete Support Wall



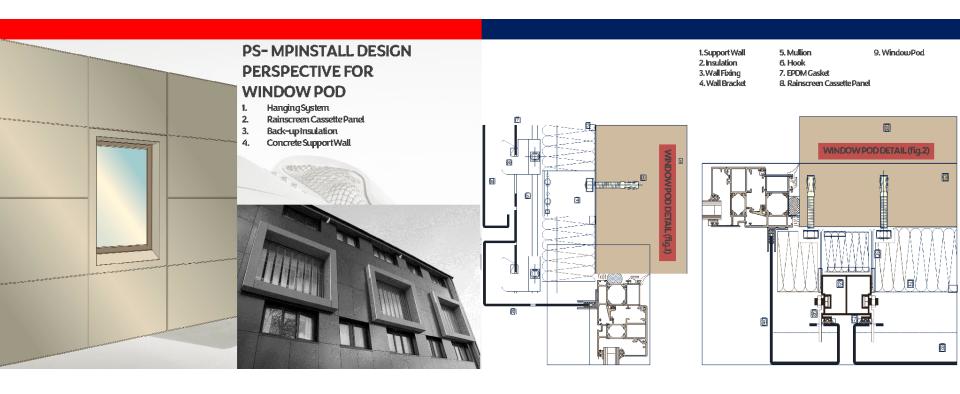
PS-MPINSTALL SYSTEM THE INTERACTION & PERFECTION OF METAL PANEL TECHNOLOGY



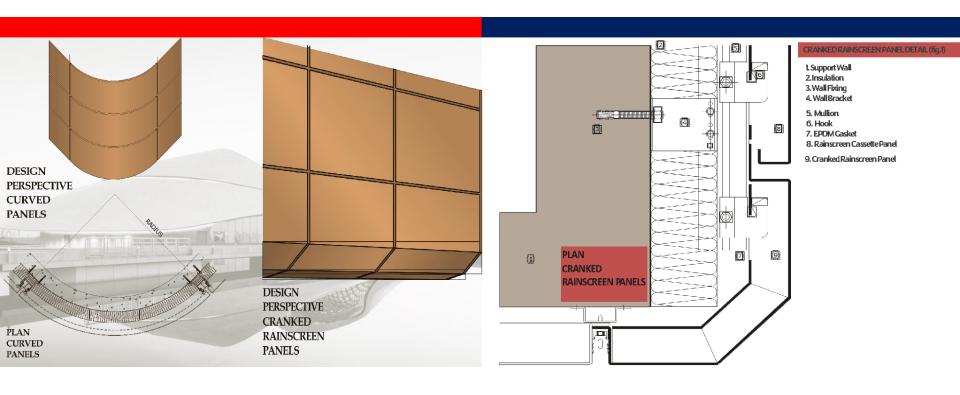
PS-MPINSTALL SYSTEM THE INTERACTION & PERFECTION OF METAL PANEL TECHNOLOGY



PS-MPINSTALL DESIGN PERSPECTIVE FOR WINDOW POD

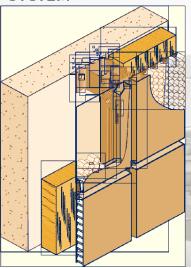


DESIGN PERSPECTIVE CURVED PANELS



DESIGN PERSPECTIVE HONEYCOMB WALL SYSTEM

DESIGN PERSPECTIVE HONEYCOMB WALL SYSTEM



PS-PMINSTALL FOR HONEYCOMB,

To further compliment therange of excellent single skin metal cassette type of architectural envelope panel cladding PS Exteriors have further developed unique methods of using other different materials to create unique façade finishes and effects never like before to architects, designers and building owners.

HONEYCOMB CORES The high strength to weight ratio of an expanded aluminium honeycomb matrix makes it an ideal material to use in the creation of extremely flat large format rainscreen panels from thin skin pre-coated metals and natural metal finishes, such as stainless steel, zinc and copper.

The skills and experienced gained from our years of manufacturing and production PS Exteriors have achieved the highest quality in fully bonded composite architectural envelope wall cladding panels used in the design and fabrication in today new generation of honeycomb cored high performance rainscreen panels and support systems.

DESIGN FREEDOM Along with the traditional finishes of PPC and Anodized aluminum PS Exteriors are now offering the widest range of metrials and finishes available in the construction industry along with full design advice and technical back-up to help the design team to fully realise their design concepts.

1. Support Wall
2. Insulation
3. Wall Fring
4. Wall Bracket
8. Rainscreen Cassette Panel

HONEY COMB VERTICAL JOINT (Fig.1)

DESIGN PERSPECTIVE REYNOBOND PANEL SYSTEM

DESIGN PERSPECTIVE REYNOBOND PANEL SYSTEM

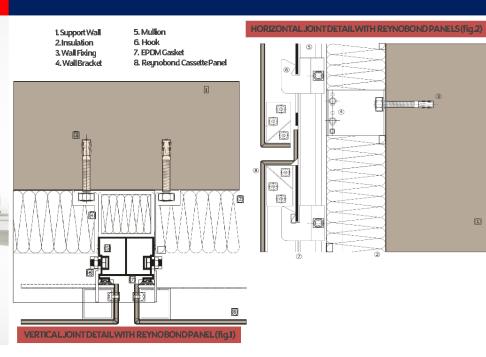
PS-PMINSTALL FOR REYNOBOND PANELS

To further compliment the range of excellent single skin metal cassette type of architectural envelope panel cladding PS Exteriors have further developed unique methods of using other different materials to create unique façade finishes and effects never like before to architects, designers and building owners.

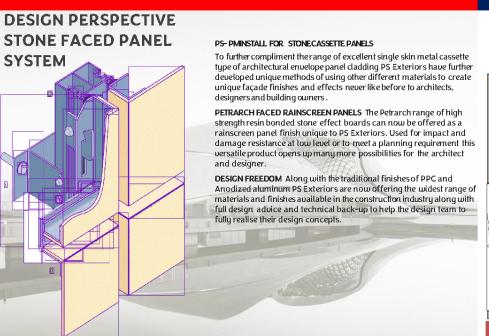
ALUMINIUM COMPOSITE MATERIALS: Renobond A CM is a metal+polyethylene+metal composite material which again uses the composite beam effect to create a very light weight but extremely strong and flat material which is easily cut and formed into cassettes and traus.

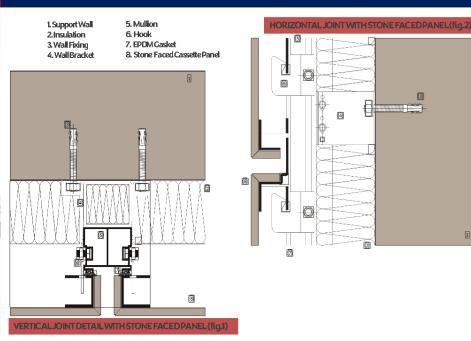
One of the main advantages of this type of material is the wide range of metal finishes available as the outer face including Pdof painted aluminium, natural brushed aluminium, stainless steel, titanium and natural zinc

DESIGN FREEDOM Along with the traditional finishes of PPC and Anodized aluminum PS Exteriors are now offering the widestrange of materials and finishes available in the construction industry along with full design advice and technical back-up to help the design team to fully realise their design concepts.



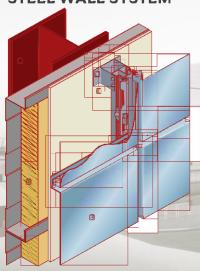
DESIGN PERSPECTIVE STONE FACED PANEL SYSTEM





DESIGN PERSPECTIVE RANNILA "CASSETTI" STEEL WALL SYSTEM

DESIGN PERSPECTIVE RANNILA 'CASSETTI' STEEL WALL SYSTEM



LIGHTWEIGHT STRUCTURAL WALL SYSTEMS:

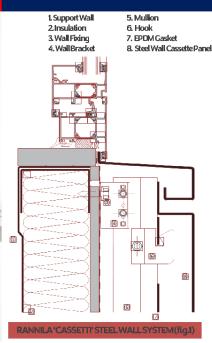
In a new build or comprehensive refurbishment project it often desirable or necessary to use a lightweight structural walling system to quickly close in the structure and to support the rainscreen. These are made up from our factory manufactured structural elements which can be quickly installed on site and provide a structural support for the PS- MPINSTALL rainscreen system.

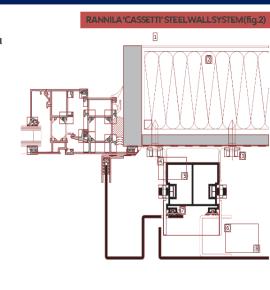
There are two basic methods to achieve and desired architectural appearance

STRUCTURAL STEEL CASSETTE TRAYS. PS-MPINSTALL Wall and structural trays are available in 600mm wide modules and a range of steel thicknesses and tray depths to met the most onerous wind loads and dead loads. When given the relevant site data on building height, wind loads etc., PS Exteriors engineers will provide calculations for each project. Spanning up to 7200mm horizontally between main vertical supports the trays interlock to give excellent air sealing, and provide a compartment space for insulation batts to meet or better the U values required by the current Building Regulations. Additional layers of external weather boarding or internal plasterboard can be used to improve the insulation and acoustic performance. All necessary support and interface details for windows, curtain walling and the PS-MPINSTALL rainscreen can be detailed specific to each project.

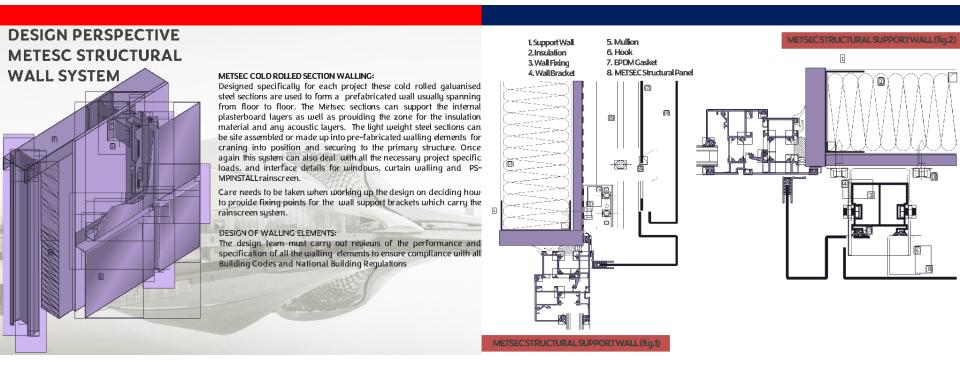
Care needs to be taken when working up the design on deciding how to provide fixing points for the wall support brackets which carry the rainscreen system.

DESIGN OF WALLING ELEMENTS: The design team must carry out reviews of the performance and specification of all the walling elements to ensure compliance with all Building Codes and National Building Regulations





DESIGN PERSPECTIVE METESC STRUCTURAL WALL SYSTEM



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