



bipv korea

**Building
Integrated
Photovoltaic
System**

**PATENTED INTERGRATED
TECHNOLOGY**

GALVANISED STEEL PROTECTIVE LAYER

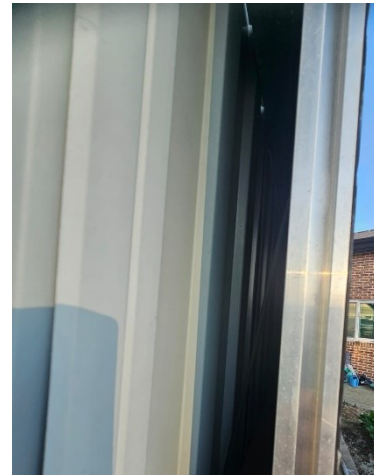
EXTRA PROTECTIVE LAYER BEHIND SOLAR PANLES

For both the SOLWALL and SOLTILE solution presented for the EQUINIX SG 06 project, the panels will be placed on top of a "Galvanized Steel" façade that has been fixed to the skeleton aluminum frame of the building. This has the double benefit of keeping everything watertight and safe for the cables required to connect everything together. The images below explain this easier.



FRONT VIEW OF THE FACADE

From this angle you can see how the panels clip into the aluminum frame with the galvanized steel façade behind.



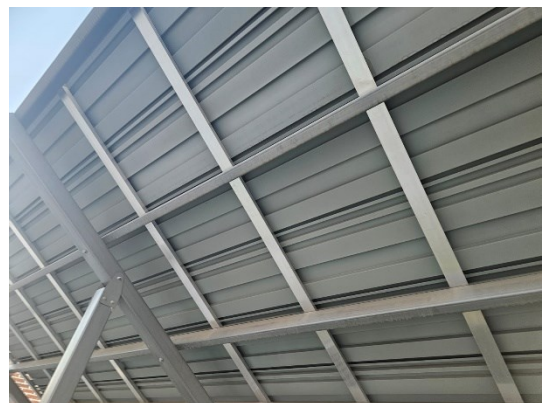
SIDE VIEW OF THE FACADE

From this angle you can see how the cables are concealed and protected within the Solar Panels and the Galvanized Steel layer.



BACK VIEW OF THE FACADE

From behind you can see the seamless layer of Galvanized Steel



BACK VIEW OF THE FACADE

From this angle you can see how the Galvanized Steel layer has been fixed to the aluminum frame.



Pattern Glass Tech

Technical Explanation

- ① There is an efficiency increase rate of 1-2% due to the difference in refractive index of the surface due to the low-light and scattered light absorption surface treatment methods with Rainy and Diamond design treatments on the tempered glass surface.
- ② To address light reflection, It is a technology that improves power generation performance in low-light and scattered light environments, along with the application of light scattering to the surface of the module



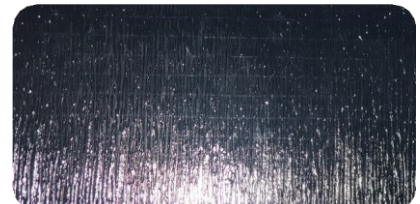
It is a technology that integrates building materials and solar cells by enhancing aesthetics by implementing various pattern designs such as Rainy and Diamond Stone on the surface of tempered glass



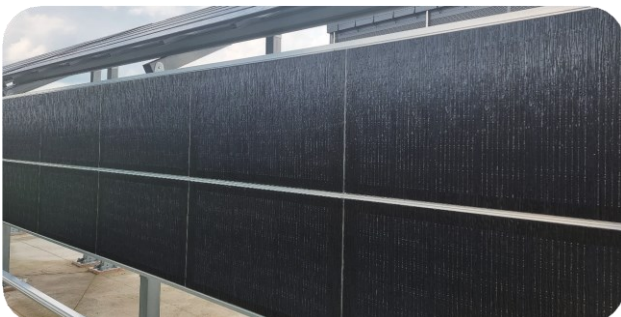
It is a technology that solves light reflection by implementing various pattern designs on the surface of reinforced glass



(Generic Module)



(Pattern Module)



Technical Benefits

- Building-integrated solar panel with glass surface technology of various patterns.
- A technology that combines various patterns of design with durable tempered glass.



BIPV-Roof integrated PV system

Technical Explanation

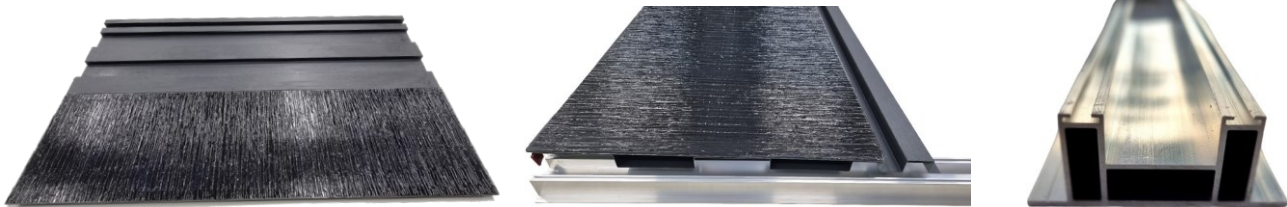
- ① Waterproof structural frame system and solar module integrated technology
- ② Cooling function of ventilation prevents efficiency degradation due to temperature rise
- ③ Galva Zinc Steel Plate Bending Technology + Rainy Pattern Module



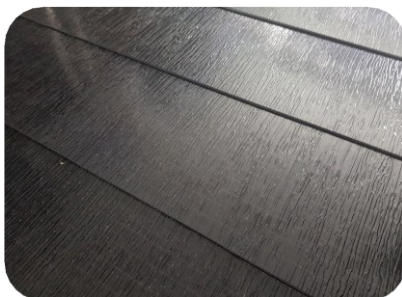
Patent registration number 30-1114797



Patent registration number 10-2490041

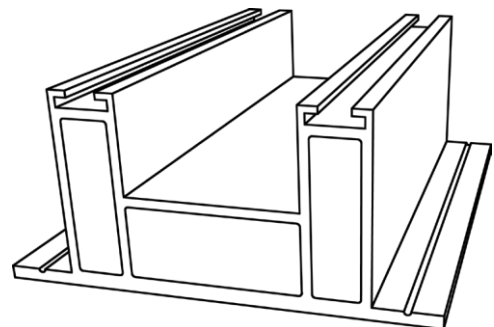


[Steel plate bending structure and PV module bonded together, aluminum fixed stud]



Ventilation

Waterproof



Technical Benefits

- BIPV Roofing System (Roof Integrated Photovoltaic System) that can be installed in a building without a separate support structure by integrating PV with existing building roofing materials.



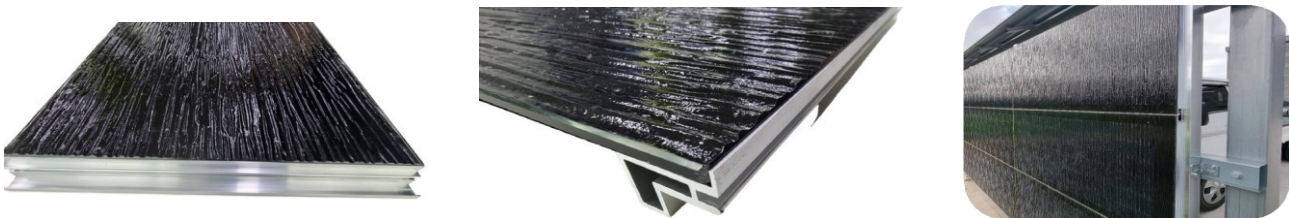
BIPV-Open Joint System

Technical Explanation

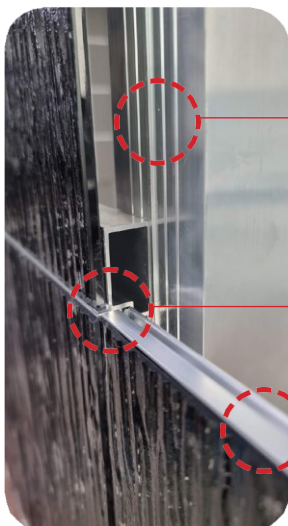
- ① It is a technology that can be easily fastened to the snap-type (inserted) frame of the solar panel and the truss structure of the steel structure installed horizontally or vertically on the wall, and it is easy to construct by producing various module standards. This technology uses a snap-type (inserted) frame technology on the wall, and the solar panels can be safely and easily installed on the wall.
- ② It is a BIPV installation structure system that does not require existing Norton taping and additional stud structures. We can fasten the aluminum frame design of solar panels to a snap (inserted) frame at the same time which reduces the construction period.



Patent registration number 30-1191269



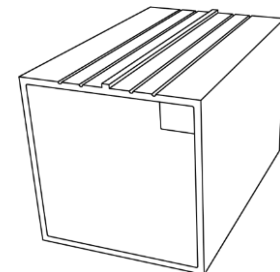
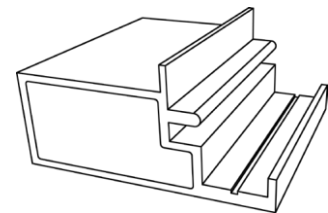
[Snap-type module frame and open joint aluminum fixed stud]



Waterproof structure frame

Snap structure frame

Open joint frame



Technical Benefits

- Open joint type BIPV panel frame and construction method for easy construction and shortening of the construction period.
- Open-joint BIPV system that innovatively improves the installation method of existing PV panels.



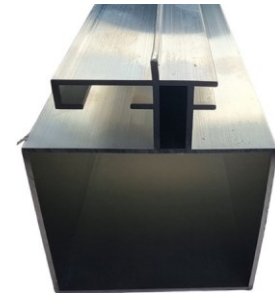
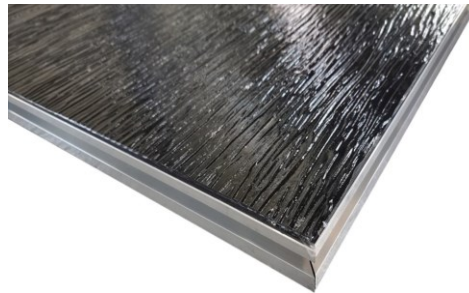
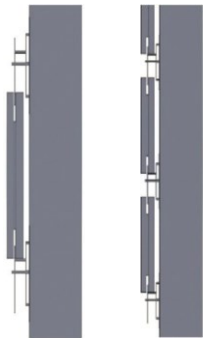
BIPV-Sash Sliding System

Technical Explanation

- ① It is a technology that allows the frame of a solar panel and the sash-type stud frame of a wall to be easily fastened, and it is easy to construct by manufacturing various module standards. This technology uses a sash-type stud frame on the wall, and the solar panel can be safely and easily installed on the wall.
- ② It is a BIPV installation structure system that does not require existing Norton taping and additional stud structures. We can fasten the aluminum frame design of solar panels to the sash-type stud frame at the same time which reduces the construction period.



Patent registration number 30-1191272

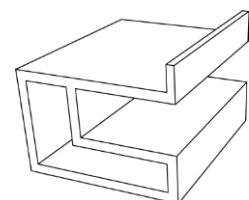
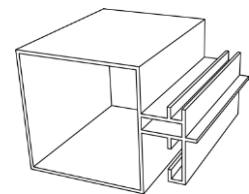


[Sash-type module frames and aluminum fixed studs]



● Sash-type module frames

● Fixed structure frame



Technical Benefits

- Sash-type solar panel frame and installation structure system applied with easy construction and shortening of construction period.
- A sash-type stud frame system that innovatively improved the existing PV panel installation method.



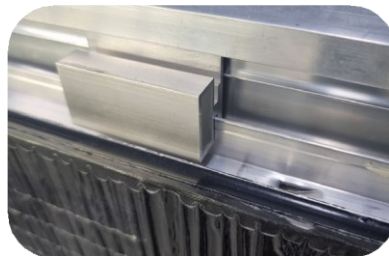
BIPV-Z-Bar Clip System

Technical Explanation

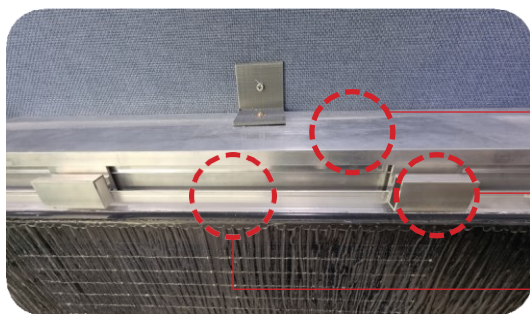
- ① It is a technology that can be easily fastened to the clip-type frame of a solar panel and the horizontal 'C'-shaped frame structure of the wall, and it is easy to construct by producing various module standards. This technology uses Clip(insertion) frame technology on the wall, and it is possible to safely and easily install the solar panel on the wall.
- ② It is a BIPV installation structure system that not only does not require existing spacer taping and additional stud structures, but also reduces the construction period by fastening aluminum Z-Bar frames to the wall's truss frame unit 'C'-shaped frames at the same time.



Patent registration number
10-2428517



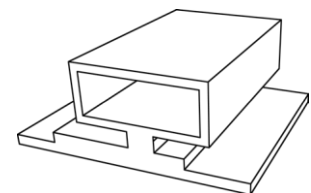
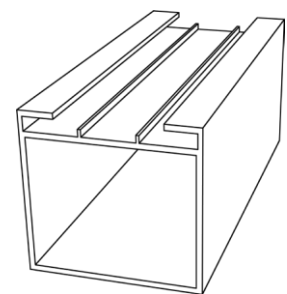
[Z-Bar module frame and clip fixed stud aluminum frame]



● Fixed structure frame

● Z-Bar Clip

● Z-Bar module frame



Technical Benefits

- Z-Bar Clip type BIPV wall truss system with shortened construction period, economic efficiency and earthquake resistance.



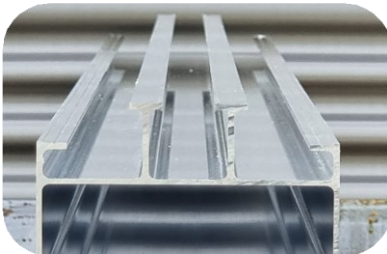
BIPV-Waterproof System

Technical Explanation

- ① It is a technology that allows the frame of a solar panel and the integrated stud - frame of the roof to be easily fastened, and it is waterproof and convenient to construct by manufacturing various module standards. This technology uses an integrated stud frame and pattern on the roof, and it is possible to safely and easily install the solar panel on the roof.
- ② By fastening the aluminum frame of the solar panel to the roof-type stud frame at the same time it is a roof-type waterproof installation structure system that not only does it not require an existing additional steel structure, but also reduces the construction period.



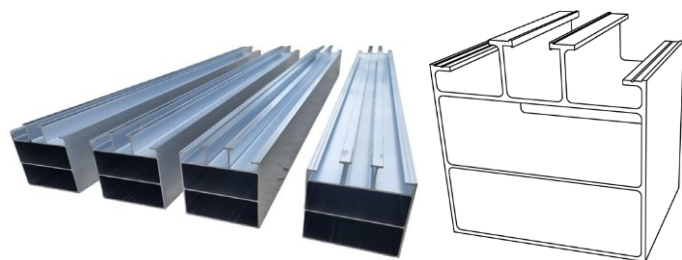
Patent registration number 30-1191275



[The integrated aluminum frame with a waterproof structure]



● Module integral roofstructure frame



Technical Benefits

- PV Module-Integrated waterproof structure system.