BIPV LumenGeo

Product catalog

Building

Integrated

Photovoltaic

System

BIPV LumenGeo

Meilleure solution de construction pour la réduction des émissions de carbone

Les bâtiments produisent leur propre électricité !

Chez BIPV Lumengeo, nous redéfinissons l'avenir de l'architecture durable grâce à des systèmes photovoltaïques intégrés au bâtiment (BIPV) de pointe. Nous intégrons l'énergie directement à la structure même de votre bâtiment.

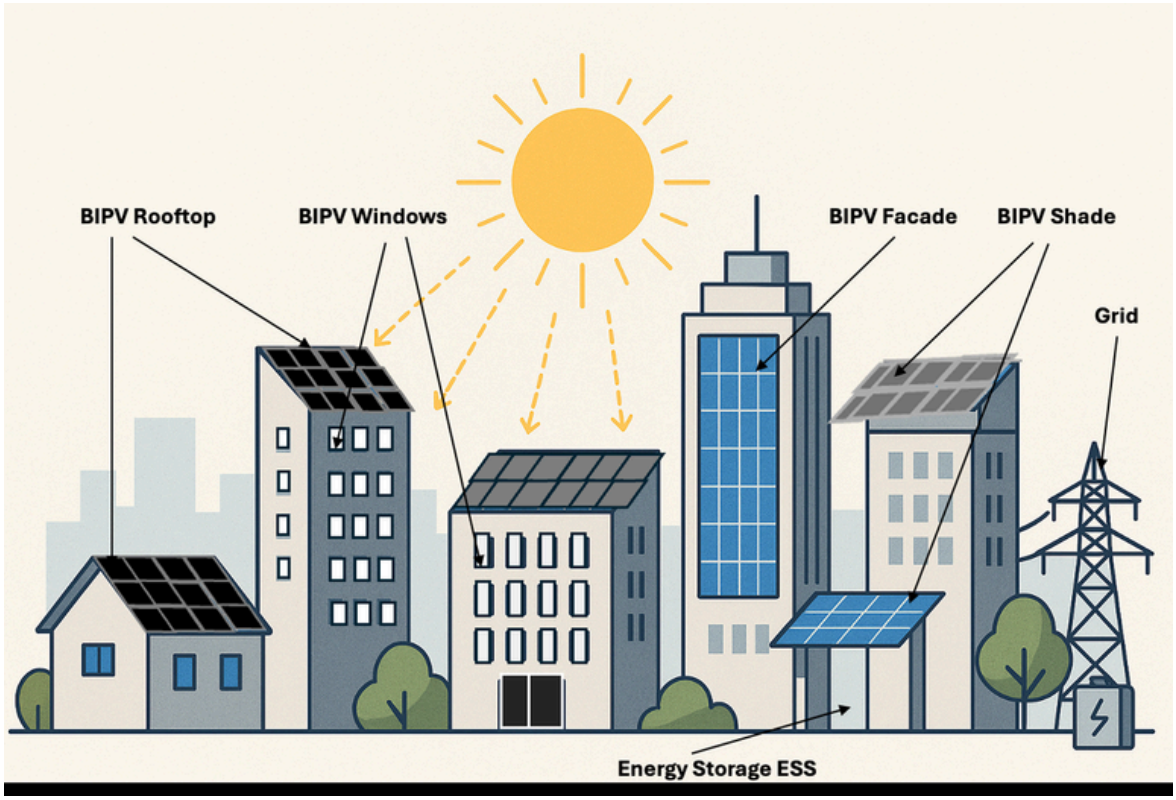
Nos solutions solaires innovantes allient harmonieusement efficacité énergétique et esthétique, permettant aux bâtiments de produire une énergie propre sans compromis.

Que ce soit pour des applications commerciales, résidentielles ou industrielles, BIPV Lumengeo transforme toitures, façades, murs, fenêtres, balcons et puits de lumière en véritables œuvres d'art productrices d'énergie. L'entreprise fusionne beauté, technologie et durabilité en un design cohérent qui ouvre la voie à un avenir plus vert.

Ce n'est pas simplement de l'énergie solaire ; c'est de l'énergie solaire par conception.

BIPV LumenGeo

SOLUTIONS



Les centrales électriques du futur seront les bâtiments de la ville. Plus besoin de s'emparer de vastes terres agricoles.

Chaque foyer peut désormais s'alimenter lui-même et alimenter ses voisins.

BIPV LumenGeo

LumenGeo

PRODUITS

SOLTILE

Casting A New Solar Roof, Beautifying Every Roof

Features

Module photovoltaïque intégré à la toiture

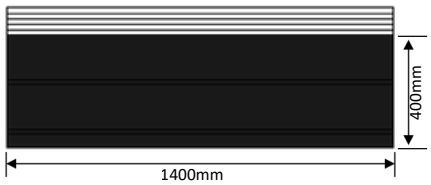
(Brevet n° 10-2490041)

Personnalisable sur plans. Installation facile, grande durabilité, résistance aux séismes et maintenance aisée.

Toiture finie et production d'énergie solaire sans structures supplémentaires.

Optimisation de la production d'énergie grâce à la diffusion de la lumière par la structuration des surfaces du module.

Technical Drawing

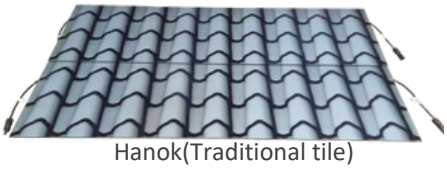


Specifications

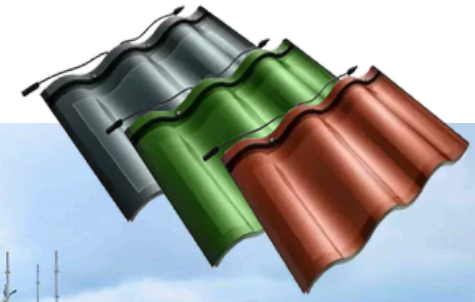
Factory Warranty - 10 years
Efficiency Warranty - 25 years

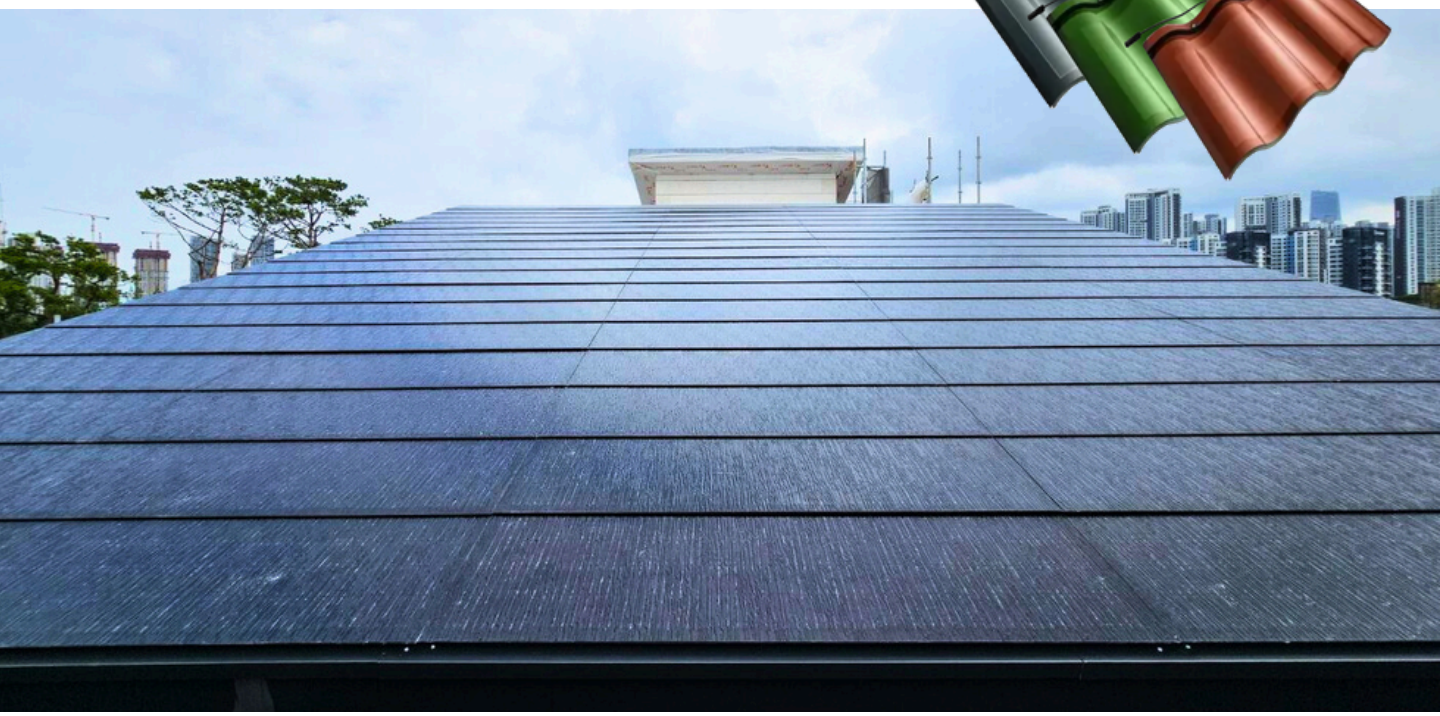
Power Out	100W
Thickness	8mm
Length	1400mm
Width	400mm
Width	9kg

Rainy pattern



Hanok(Traditional tile)

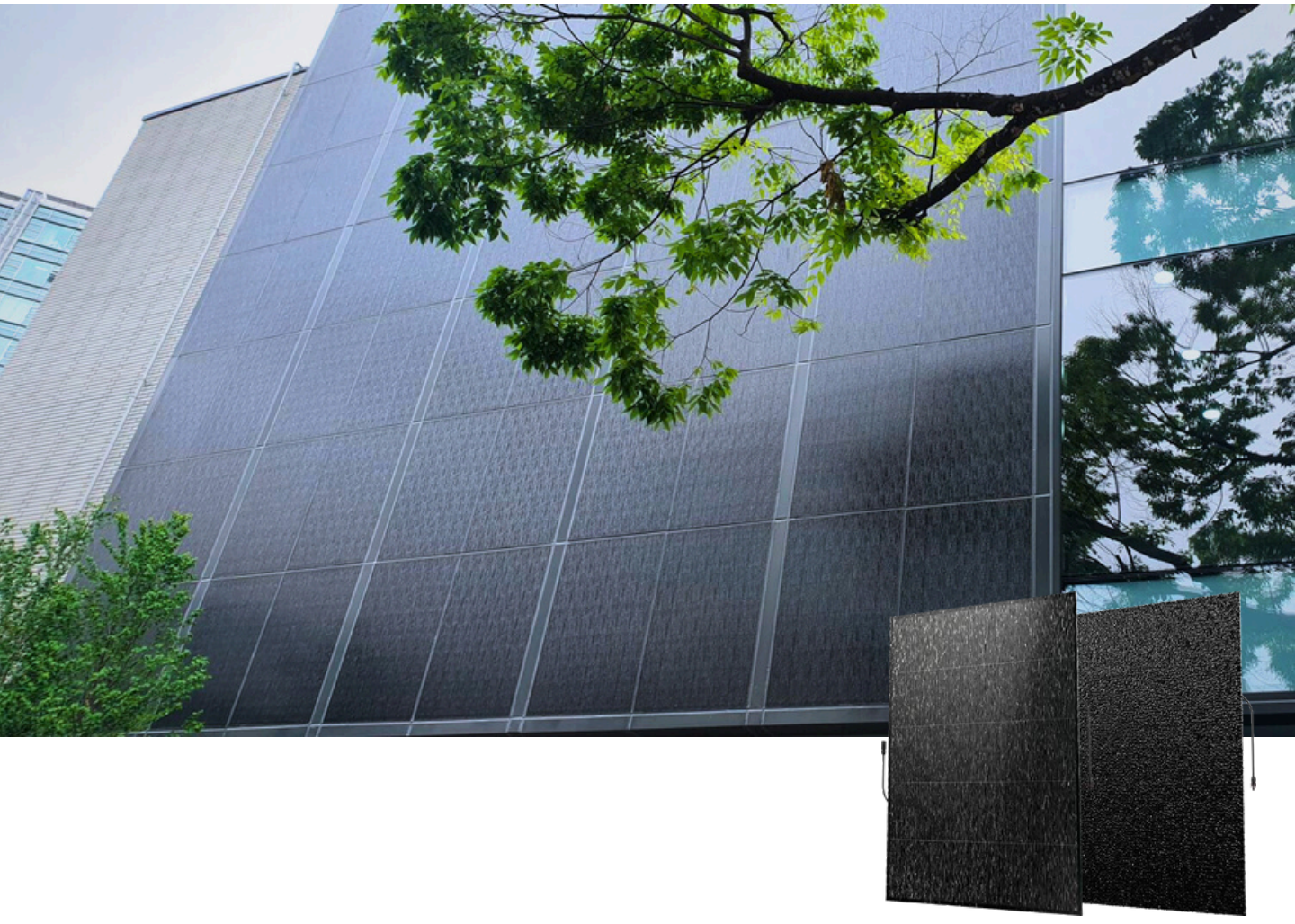




BIPV LumenGeo

SOLWALL

Casting A New Landmark



Features

- Wall-integrated photovoltaic module
- Customized production based on design drawings
- Module surface pattern technology that solves light reflection
- (glare) pollution in the city center (patented)
- Improving power generation performance by scattering light

due to patterning of module surfaces

- Easy construction, durability, earthquake resistance and easy maintenance

Specifications

Factory Warranty - 10 years
Efficiency Warranty - 25 years

Power Out	328W
Efficiency	19.4%
Length	1612mm
Width	1050mm
Thickness	6mm
Weight	28kg

BIPV LumenGeo

MONO FLEX MODULE

Lightweight Solar Module

Features

- Areal weight : 2.9kg/m2, 70% reduction compared to conventional glass solar module
- World's only C-Si flexible module which can endure hail-strike without cell cracks and power losses
- Thickness: 1.8mm(junction box not included), Only 50% of traditional glass based solar modules
- No need for PV support bracket, modules can be directly bonded to installation surface by weather resistant glue
- Smallest bending radius of 0.3m, No cell cracks and no power losses
- Module's surface and texture can be customized to meet aesthetic requirements

Specifications

Factory Warranty - 10 years
Efficiency Warranty - 25 years

Power Out	470W~480W *
Efficiency	22%
Size	2250*1130*1.8mm
Thickness	1.8mm (junction box not included)
Weight	2.9kg/m²
Cell Type	Mono PERC 182mm*182mm
Connector	MC4 Compatible
Junction Box	Triad Junction Box IP68
Backboard Color	Black/White

*Other sizes available

BIPV LumenGeo

POSSOLAR

CastingANewRoofDesign

Specifications

Factory Warranty - 10 years
Efficiency Warranty - 25 years

Power Out	100W
Efficiency	19.4%
Length	1646mm
Width	350mm
Thickness	6mm
Weight	9kg

Features

° No additional structure is required, as a building roof finishing material.
° Construction period is shortened because it can be constructed in one go as a building finishing material
° No additional solar construction structure is required
° As a building integrated exterior finishing material, it enhances the aesthetics of a building

BIPV LumenGeo

SOLAR WINDOW

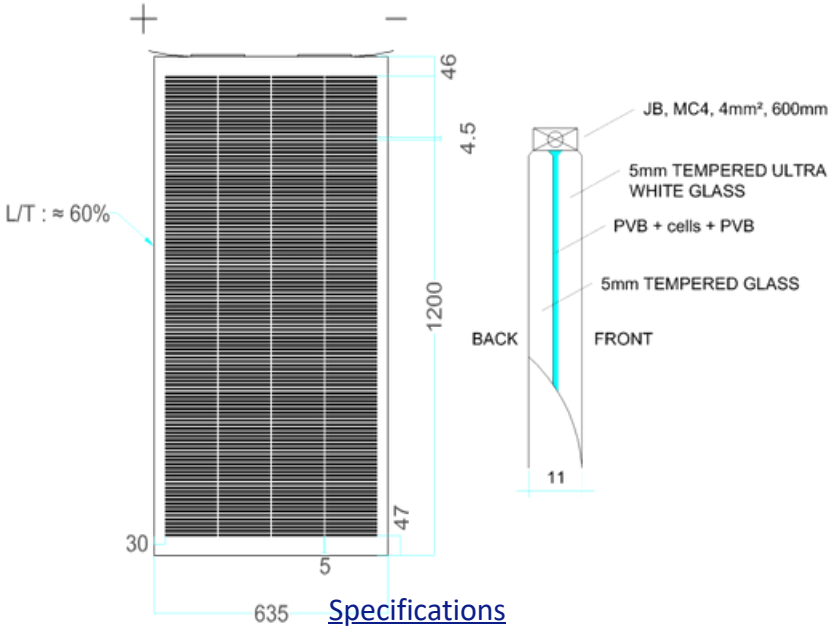
Transparency Module

Highly See-Through Transparent Solar Curtains

Features

° Architecturally integrating solar panels into a building provides aesthetic and functional benefits. It becomes possible to create glass surfaces that generate electrical energy.

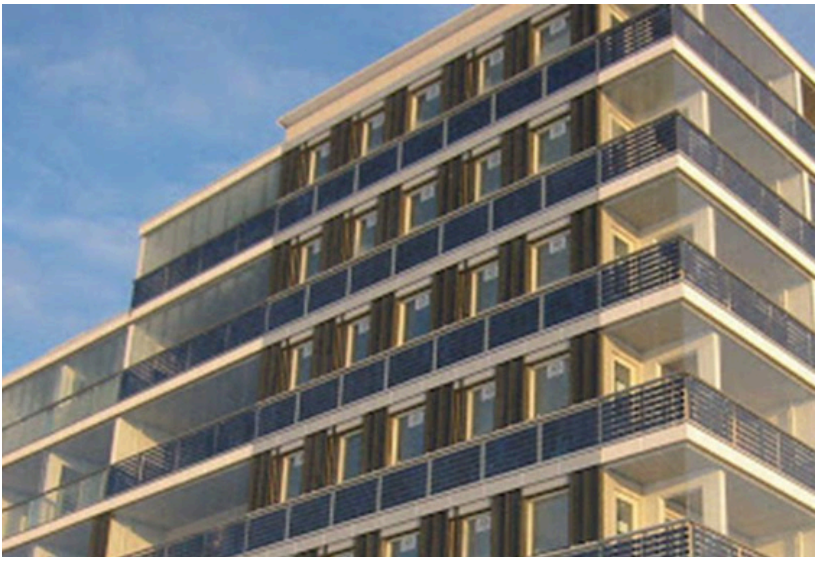
° Can be manufactured according to design, Flood function with blind function, Solar window features with high aesthetics , High wind load, high durability



Specifications

Factory Warranty - 10 years
Efficiency Warranty - 25 years

Maximum Power Output	60W
Voltage at Maximum Power	20.16V
Current at Maximum Power	2.98A
Open-Circuit Voltage	23.71V
Short-Circuit Current	3.13A
Dimension	1200*635*11mm
Weight	20kg



BIPV LumenGeo

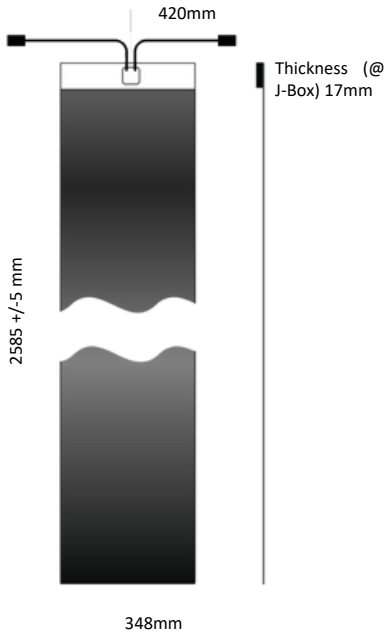
CIGS Flexible Module

Lightweight, Adoptable

Features

- Up to 16% cell efficiency
- Installation weight less than 2.4 kg/m2
- No extra structures required for construction
- High wind resistance, earthquake resistance, durability, and easy construction

Technical Drawing

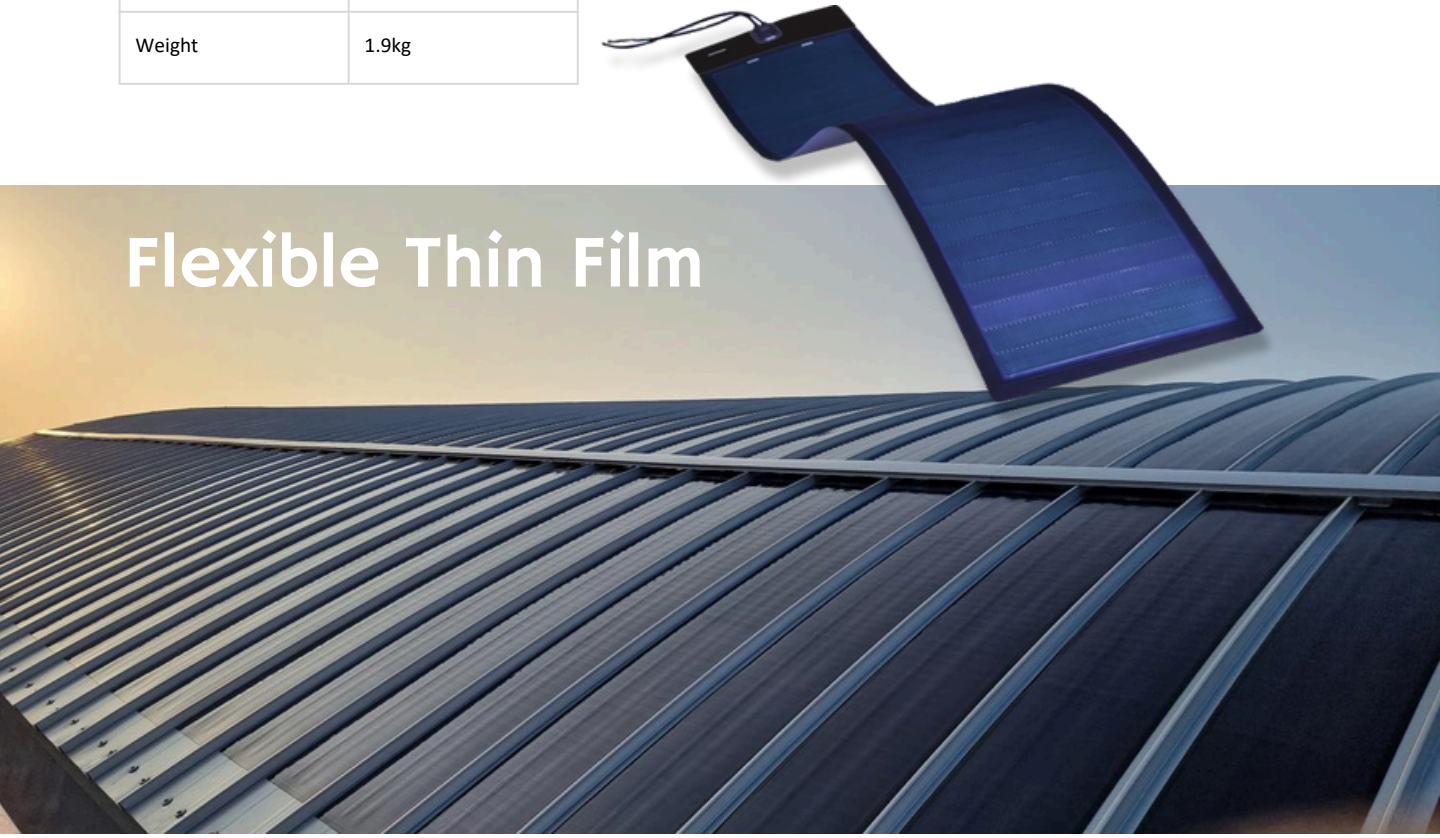


Thickness with adhesive 2.5mm
Thickness without adhesive 1.5mm

Specifications

Factory Warranty - 10 years
Efficiency Warranty - 25 years

Power Out	125W
Cell	Copper, Indium, Gallium, Diselenide
Length	2585mm
Width	348mm
Thickness	2.5mm
Weight	1.9kg



BIPV LumenGeo

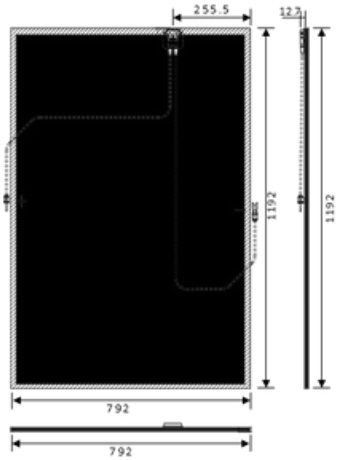
HANWALL

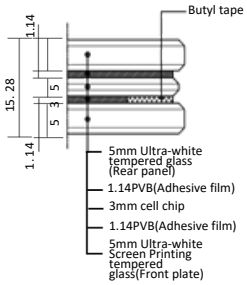
Building Mobile Energy

Features

° Exterior wall integrated solar curtain wall type
° High aesthetics, multiple colors
° High wind load (5,000 Pa/Sec), durability, and easy workability
° CIGS Flexible Cells are less affected by the direction and angle of the sun and shadows keeping higher power generation efficiency

Technical Drawing

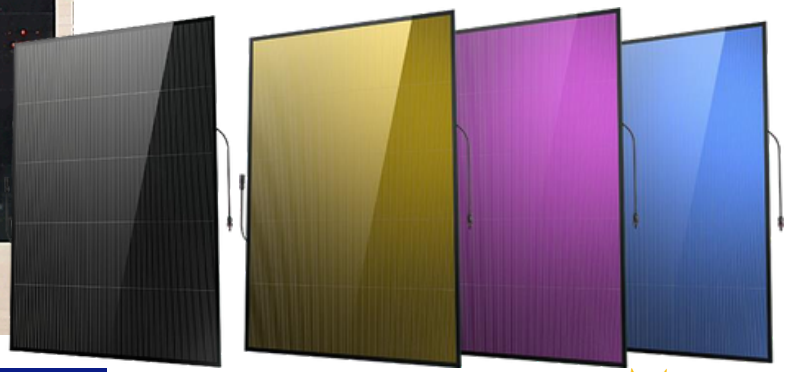




Specifications

Factory Warranty - 10 years
Efficiency Warranty - 25 years

Power Out	120W
Cell	Copper, Indium, Gallium, Selenium
Length	1192(+1/-1)mm
Width	792(+1/-1)mm
Thickness	15(±0.2)mm
Weight	33kg



BIPV LumenGeo

CIGS Power Glass

Make every building a miniature power plant

Advantages

- Low power temperature coefficient, more advantageous for power generation in humid and hot weather
- Passed the highest fire rating
- Rich colors, various colors available
- 0~60% adjustable transparency
- Hollow design for insulation and noise reduction
- Low carbon emissions, green and eco-friendly, safe, non-toxic

STANDARD SERIES

Modest and decent
Good power generation

COLORED SERIES

Various and customized

STONE IMITATION SERIES

Subtle and steady Nature-friendly

TRANSPARENT SERIES

Lively and good-looking
Neat and elegant

TRIPPLE GLASS SERIES

Windproof and pressure resistant safe and reliable

HOLLOW SERIES

Energy-saving and heat-preserved
Sound Insulating and noise reduction

BIPV LumenGeo

HANTILE

BeautifyingEveryRoof

Features

° HANTILE combines existing roof and thin-film solar cells to harmonize with existing roof tiles.
° HANTILE realizes zero-energy architecture, minimizing the building's energy requirements and fitting in with a variety of architectural styles.
° Roof-integrated solar/traditional roof shape
° Excellent aesthetics, high wind resistance, durability, easy construction
° CIGS flexiblecell

Specifications

Factory Warranty - 10 years
Efficiency Warranty - 25 years

Power Out	30W
Chip type	Copper, Indium, Gallium, Selenium (CIGS)
Dimension	721*500*41mm
Weight	9.5kg

BIPV LumenGeo

LumenGeo

BIPV structures

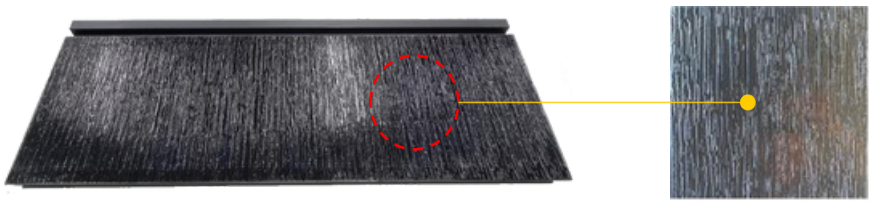
Pattern Glass Tech

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.

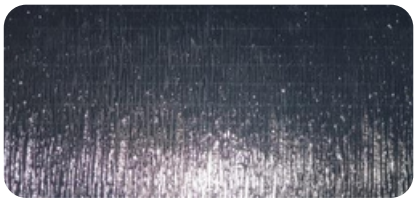
② To address light reflection, It is a technology that improves power generation performance in lowlight and scattered light environments, along with the application of light scattering to the surface of the module

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.

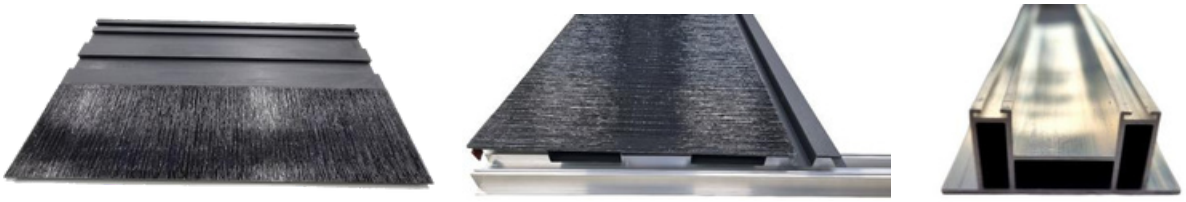
BIPV-Roof integrated PV system

Technical Explanation

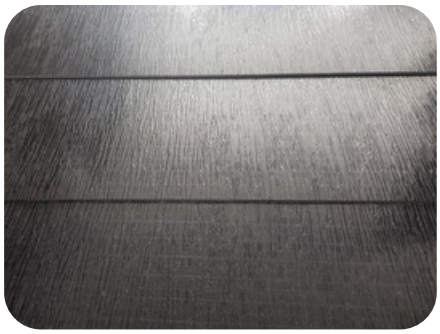
① Waterproof structural frame system and solar module integrated technology

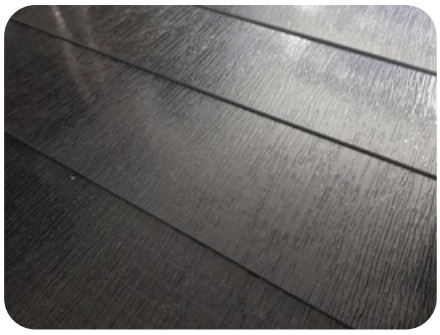
② Cooling function of ventilation prevents efficiency degradation due to temperature rise

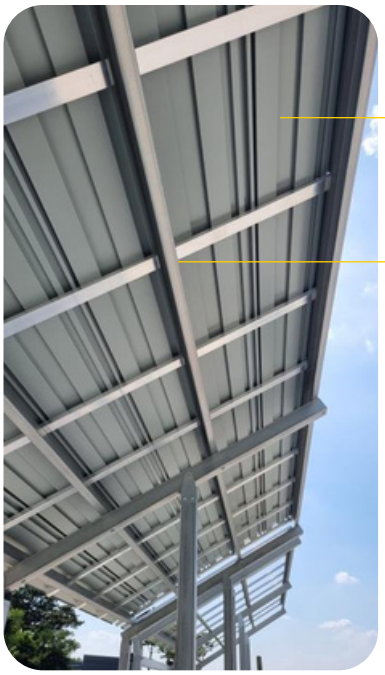
③ Galva Zinc Steel Plate Bending Technology + Rainy Pattern Module

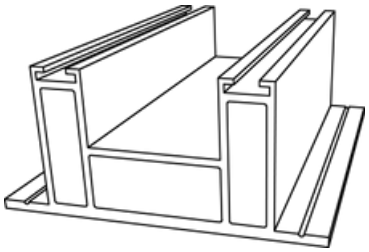


[Steel plate bending structure and PV module bonded together, aluminum fixed stud]









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.

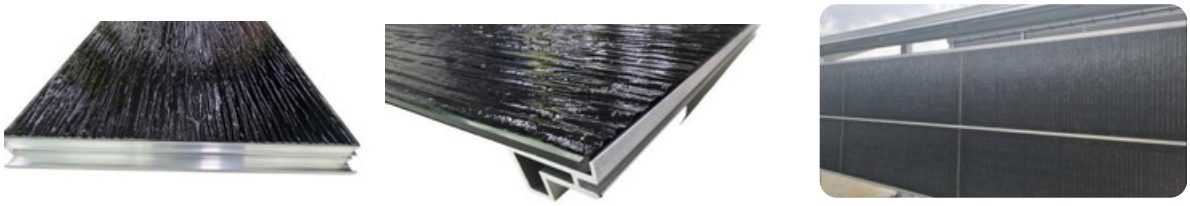
BIPV LumenGeo

BIPV-Open Joint System

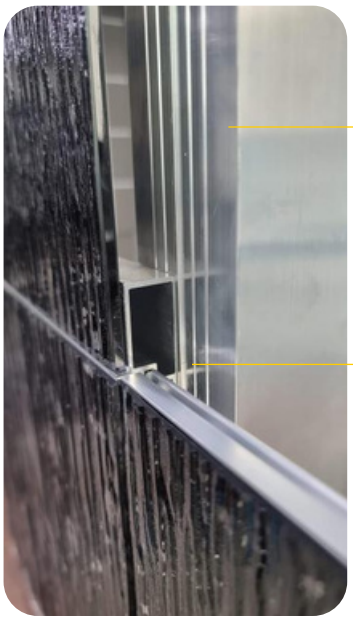
Technical Explanation

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.



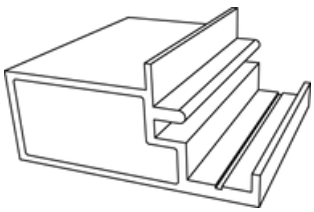
[Snap-type module frame and open joint aluminum fixed stud]

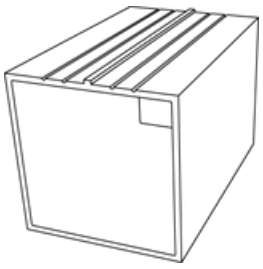


Waterproof structure frame

Snap structure frame

Open joint frame





Technical Benefits

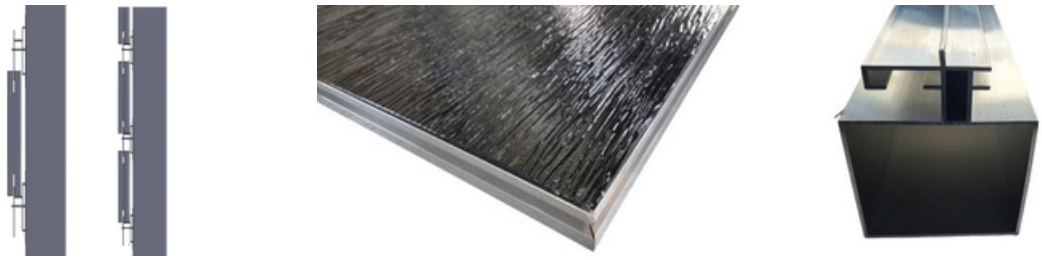
° Open joint type BIPV panel frame and construction method for easy construction and shortening of the construction period.
° Open-joint BIPV system that innovatively improves the installation method of existing PV panels.

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.

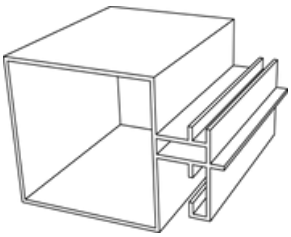
② It is a BIPV installation structure system that does not require existing Norton taping and additional stud structures. We can fasten the aluminum frame design of solar panels to the sash-type stud frame at the same time which reduces the construction period.

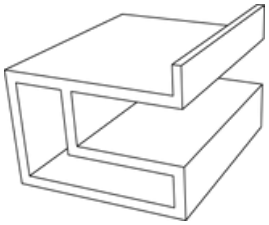


[Sash-type module frames and aluminum fixed studs]

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.

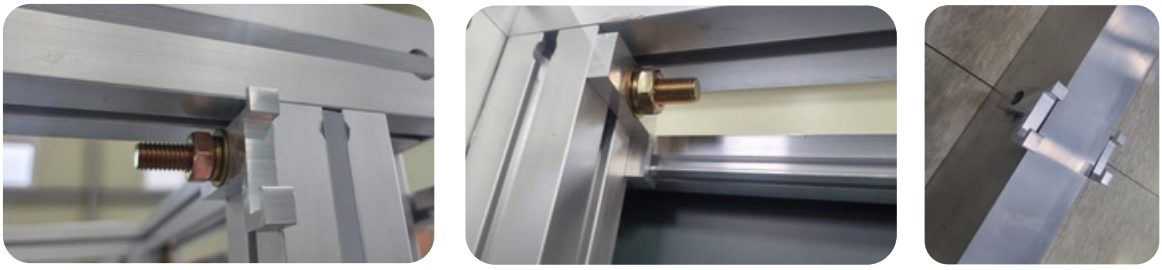
° A sash-type stud frame system that innovatively improved the existing PV panel installation method.

BIPV-Snap Slide type System

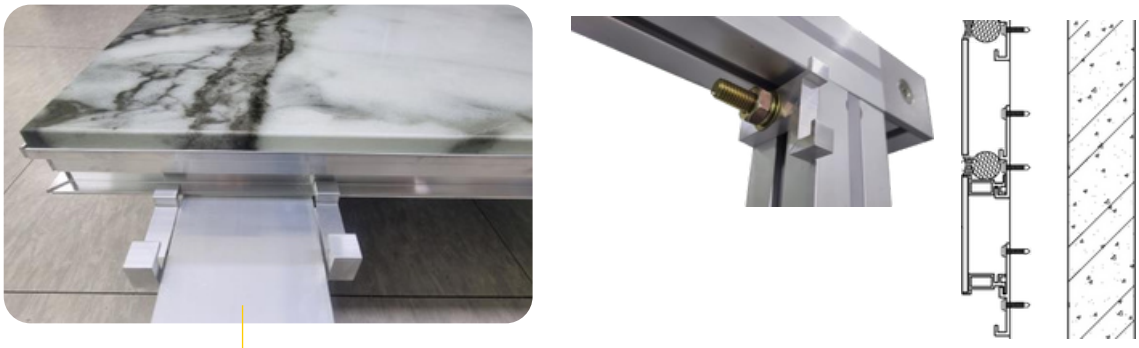
Technical Explanation

① The module frame integrated with the solar panel is joined to the snap stud frame by the snap action in the up-down direction and the slide action in the left-right direction, so the installation of the grid-type steel structure and Norton tape work are omitted, making the exterior wall construction easy and shortening the construction period.

② Unlike the existing solar panel construction method, it can be manufactured and installed in a customized manner according to the architectural design, so it can be installed at a low cost.



[Snap sliding system for easy attachment and detachment]



Bracket for fastening module frames at once

Technical Benefits

◦ The frame of the solar panel can be fastened at once, making construction easy and shortening the construction period.

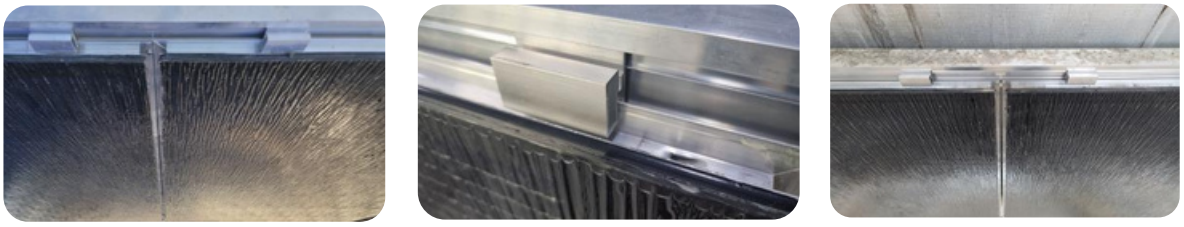
BIPV LumenGeo

BIPV-Z-Bar Clip System

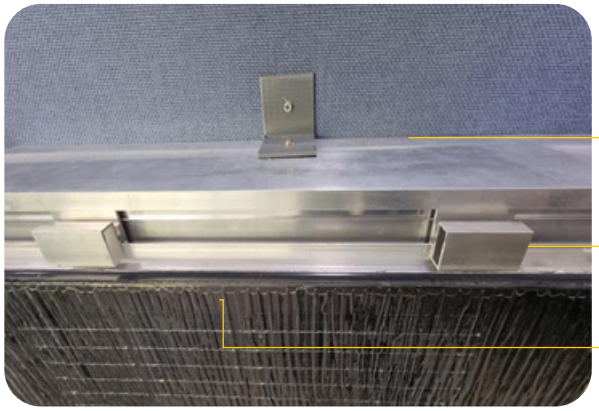
Technical Explanation

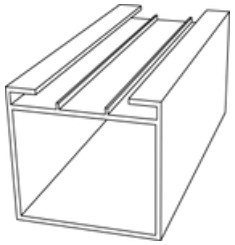
① It is a technology that can be easily fastened to the clip-type frame of a solar panel and the horizontal 'ㄷ'- shaped frame structure of the wall, and it is easy to construct by producing various module standards. This technology uses Clip(insertion) frame technology on the wall, and it is possible to safely and easily install the solar panel on the wall.

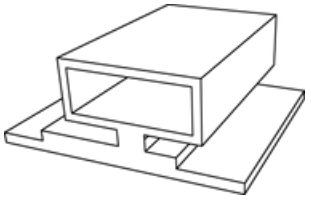
② It is a BIPV installation structure system that not only does not require existing spacer taping and additional stud structures, but also reduces the construction period by fastening aluminum Z-Bar frames to the wall's truss frame unit 'ㄷ'- shaped frames at the same time.



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







Technical Benefits

° Z-Bar Clip type BIPV wall truss system with shortened construction period, economical efficiency And earthquake resistance

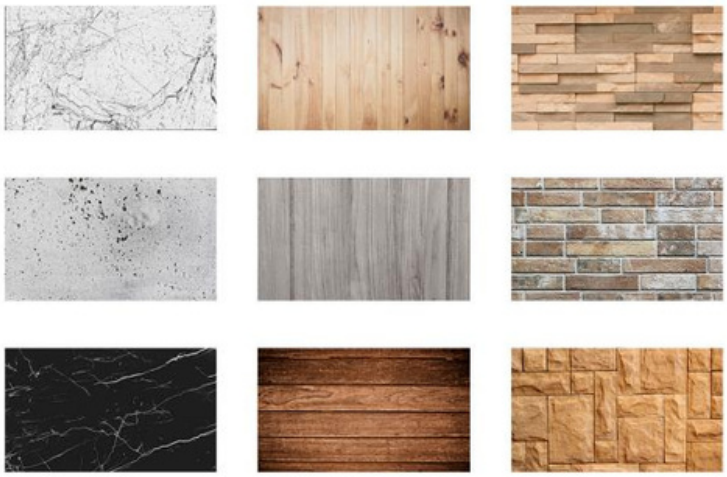
BIPV LumenGeo

Why should PVB encapsulant be used?

Digital Printed

Digitalprinted photovoltaic panels are a perfect solution as they constitute a range of active technological glass capable to generate electrical energy, which can be used in new construction and renovation buildings, allowing electrical autonomy and energy savings.

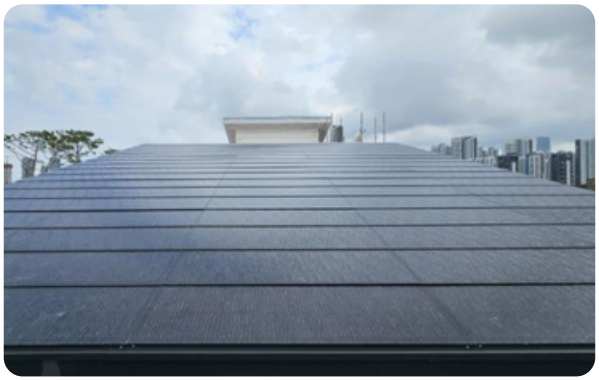
Miltiple possibilities



Performance comparison between PV PVB, EVA and POE

Item	PVB	POE	EVA	Significance for module
Use history	Long history (more than 50 years)	The shortest history (no more than 5 years)	Shorter history (no more than 20 years) No precedents of building use	Have abundant time to verify
Shock Resistance	No penetration when module is impacted by the ball falling from 4.0m high in falling-ball impact test	Module ruptures when impacted by the ball falling from 4.0m high in falling-ball impact test	Module ruptures when impacted by the ball falling from 4.0m high in falling-ball impact test	The strong shock resistance reduces the occurrence of cell cracks
Anti-PID Performance	Provided with anti-PID performance	Provided with anti-PID performance	Part is provided with anti-PID performance	Prevent PID phenomenon
Bond strength	Good adhesion with glass without adhesive failure on side	Poor adhesion with glass, easy degumming at edges and easy water vapor penetration	Good adhesion with glass, easy degumming at edges and easy water vapor penetration	With module ruptured, stronger bonding strength can effectively avoid injury to human body by the glass tailing
Usable range	Full region and full coverage	Not suitable for building use	Not suitable for building use	Wide application area

REFERENCE



JackNiclaus G.C. Golf Village, Incheon City _ Soltile7Kw

REFERENCE

Yeomchang-dong, Seoul_Hanwall51Kw

Naesu-dong, Seoul_Solwall36Kw

9 Smart Shelters in Seoul_Possolar 90Kw

BIPV LumenGeo

REFERENCE

Sejong City_Solwall20Kw

Cheongju City_Soltile5Kw

Incheon City_Soltile7Kw

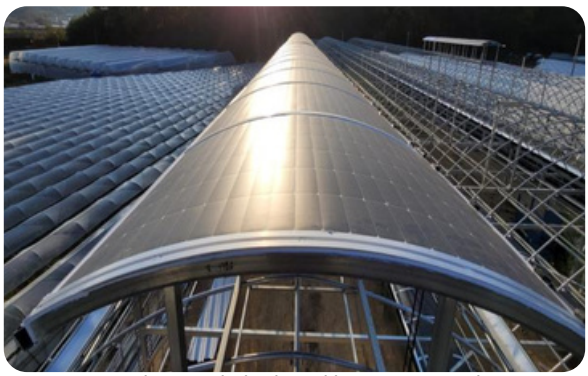
Jinju Bus stop_Mono Flex9Kw

Roof of a gym_CIGS Flex32Kw

BIPV LumenGeo

REFERENCE

Seoul_Solwall 6.5Kw



Gimcheon-si linked vinyl house_Mono Flex 30Kw

Sejong city_Solwall10Kw

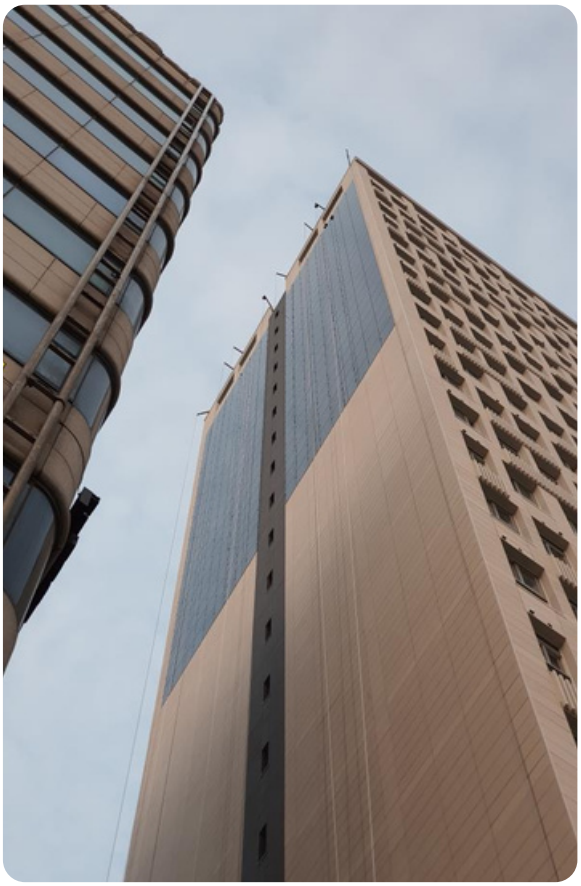
Seoul_CIGS Flex18Kw

Incheon City_Soltile7.2Kw

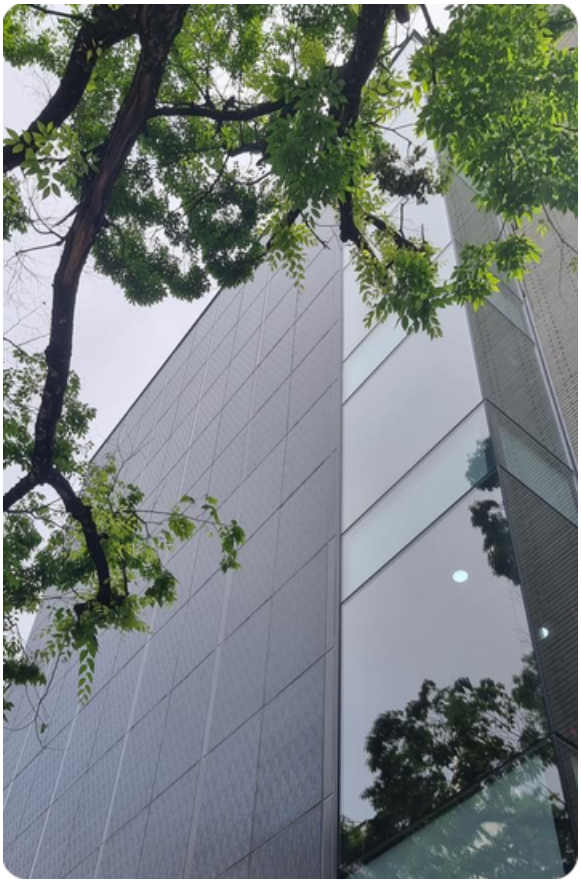
Seoul_CIGS Flex6Kw

Incheon city_CIGS Flex30.24Kw

REFERENCE



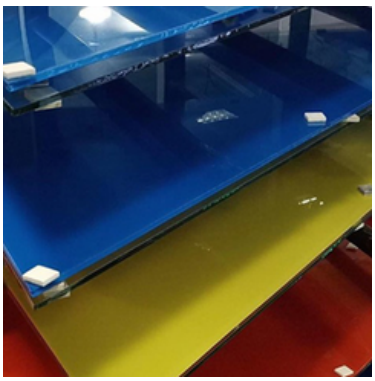
Seoul _ Hanwall 51Kw



Church in Seoul _ Sowall 30Kw

BIPV LumenGeo

REFERENCE



Let's Power the World

Contact

Leandre Adifon – CEO

Ladifon@Lumengeo.com

Tel: +1-980-263-1803

Website: www.bipvlumengeo.com

BIPV LumenGeo