bipv korea

Building Integrated Photovoltaic System

www.bipvkorea.com

Best building solution for carbon reduction

Buildings Make Their Own Electricity!

"The outer wall of a building should not be ugly Because if it is it will be shunned by the market."

BIPVKOREA under the slogan "A building makes electricity on its own," continues to grow into a BIPV business with continuous R&D, and fulfillment of its corporate and social responsibilities. Along with becoming a BIPV specialized company, it is also developing by securing new global markets by making partnership agreements with domestic and foreign BIPV-related specialized industries and academic research institutes.

In addition, through BIPV, a new paradigm of renewable energy, we will take the lead in developing various materials and designs that can harmonize with existing buildings and provide eco-friendly energy without worrying about carbon emissions.

HISTORY

2012
- Establishment of Sejong International Co.,Ltd.
- Import and Export of Interior and Exterior Materials in Building

2015
- China Double Star Group OVERSEAS DEALER AGREEMENT

2016
- Launching a New and Renewable Energy Business
- Philippine Pampanga State Business Agreement
- Singapore ISOTEC (AH BLOCK) Korean Distributor
- Korea Construction Technology Institute's Family Enterprise Selection
- Korea Energy Technology Assessment Service "Development of BIPV Integrated Solution System for Building Exterior Wall"

2019
- HANERGY Korea's official agency
- Participation in leading technology projects in response to the 4th Industrial Revolution in Chungcheongbuk-do
- Order for BIPV Solibro of Kyunghyun General Construction Co., Ltd BIPV Modular Housing Demonstration by the Institute of Construction Technology

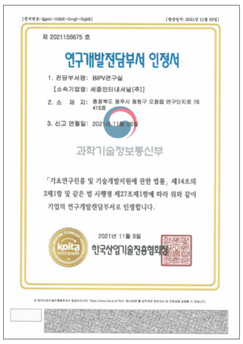
2020
- BIPV51KW Construction of Youth Housing in Seoul Station Area
- A member of the BIPV Division of the Korean Solar Power Association
- Spain_Solar Innova Signs Official Partner in Korea 2020 Korean Electrical Society's "Study on Polycarbonate Solar Modules with Flexibility, Toughness and High Temperature" Paper Award

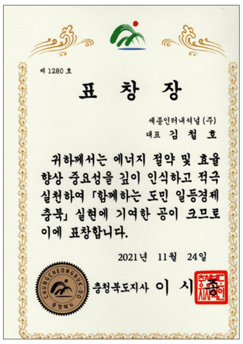
2021
- Seoul Bus Stop 'Future Bus Stop_BIPV'
- Roof-Integrated Solar Panel Selection
- Signed an MOU with Canada's Targray Group
- KEPCO International Invention and Patent Technology Competition Grand Prize Governor of Chungbuk-do Commendation for Energy Saving Merit Award

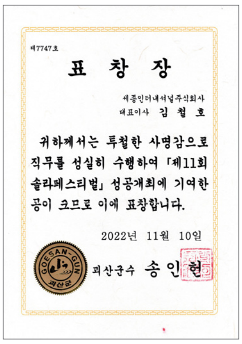
2022
- "Business cooperation agreement for commercialization and R&D cooperation of high-output shingled type BIPV technology" with KITECH (Korea Institute of Production Technology)
- Gimcheon City 2022 Regional Specialized Pilot Project - Solar Integrated Interworking Facility House Installation Construction
- Construction of BIPV orders for Hyangrin Church in Naesu-dong, Seoul
- Awarded the 11th Chungbuk Solar Festival for Distinguished Service

2023
- Construction of Officetel BIPV in Cheongna District, Incheon
- India, Philippines, Romania Joint venture agreements

AWARDS AND PATENTS

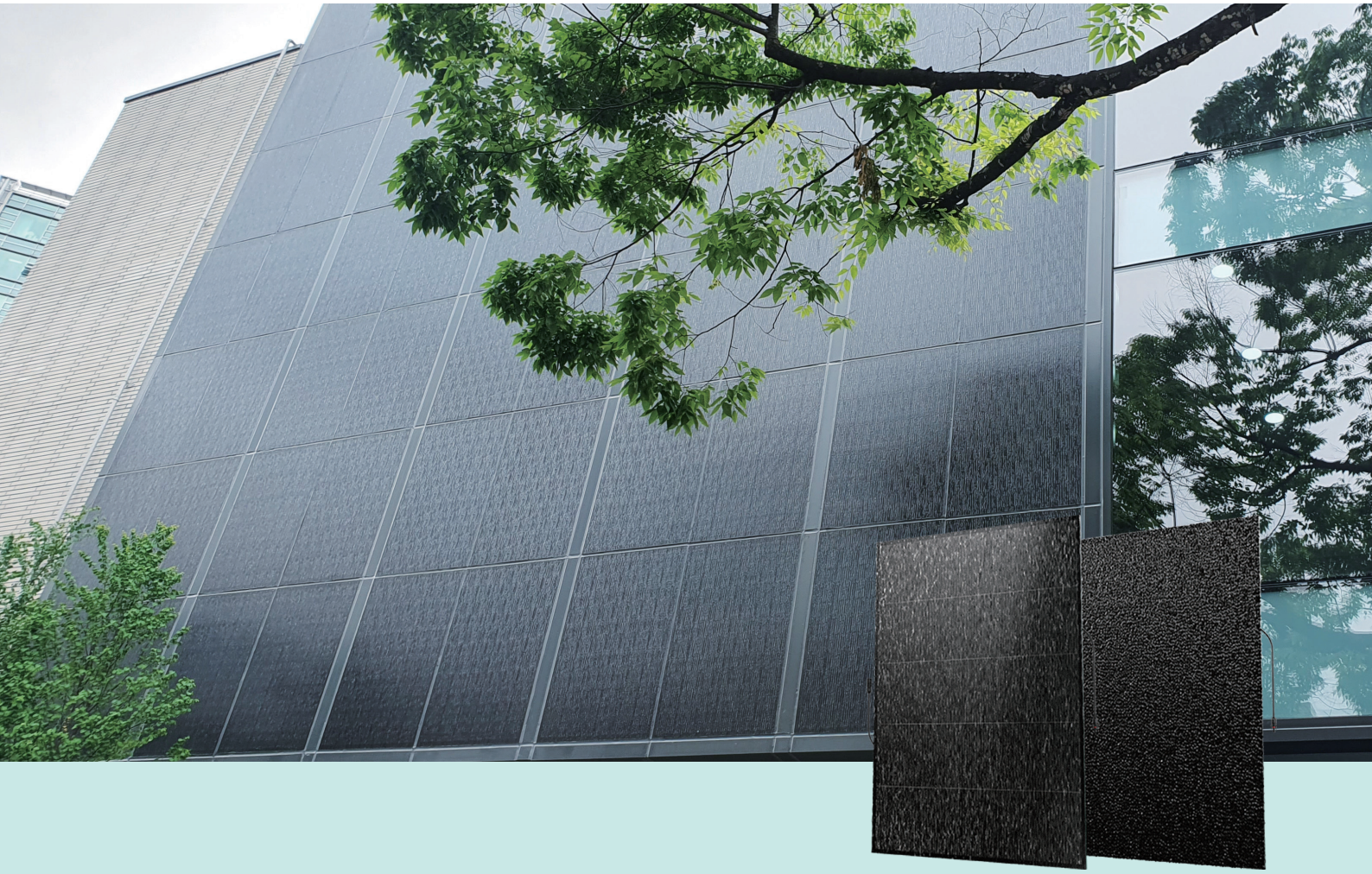






SOLWALL

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 (patent registration)
- Improving power generation performance by scattering light due to patterning of module surfaces
- Easy construction, durability, earthquake resistance and easy maintenance

Specifications

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

SOLTILE

Casting A New Solar Roof, Beautifying Every Roof

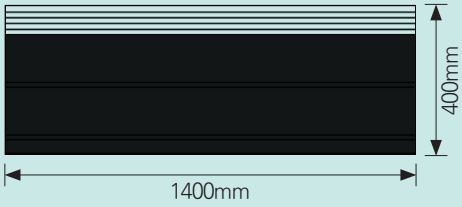
Features

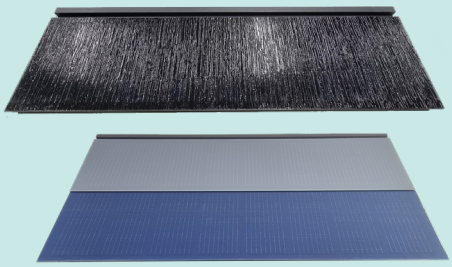
- Roof-integrated photovoltaic module
  (Patent Registration No. 10-2490041)
- Customizable by design drawings
- Ease of construction, durability, earthquake resistance and easy maintenance
- Finished roof and solar power without additional structures
- Improved power generation performance by scattering light due to patterning of module surfaces

Specifications

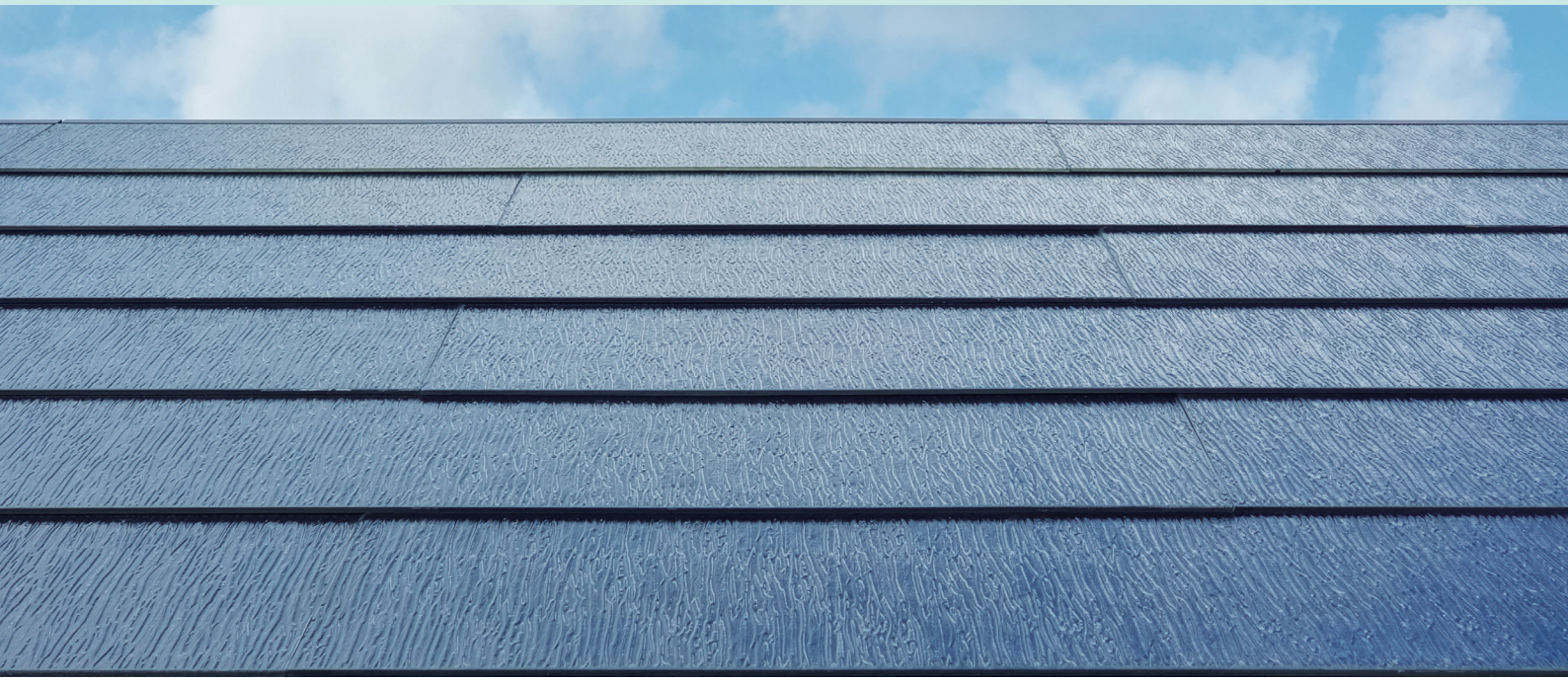
Power Output	100W	Thickness	8mm
Length	1400mm	Weight	9kg
Width	400mm	Custom made production is possible	

Technical Drawing





Black, Blue, Grey Color



POSSOLAR

Casting A New Roof Design

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

Specificatisons

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

CIGS Flexible Module

Lightweight, Adaptable

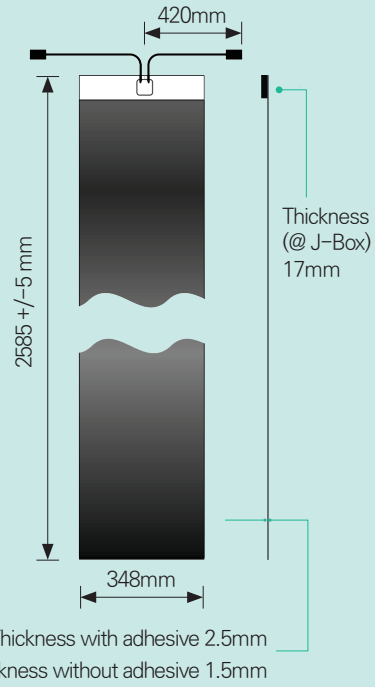
Features

- 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

Specifications

Power Output	125W
Cell	Copper, Indium, Gallium, Diselenide(CIGS)
Length	2585mm
Width	348mm
Thickness	2.5mm
Weight	1.9kg

Technical Drawing

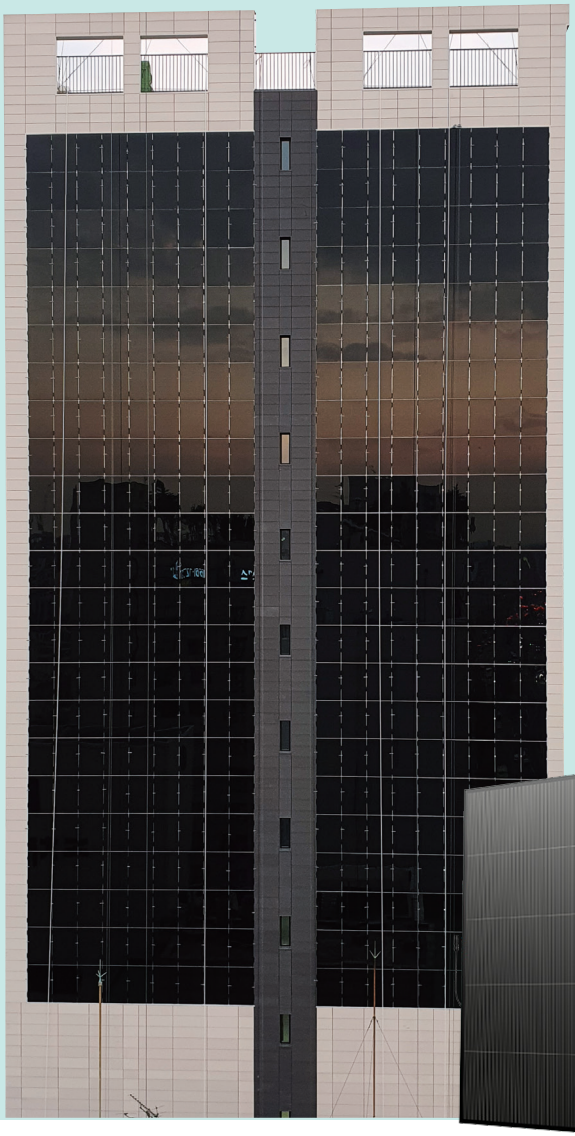


HANWALL

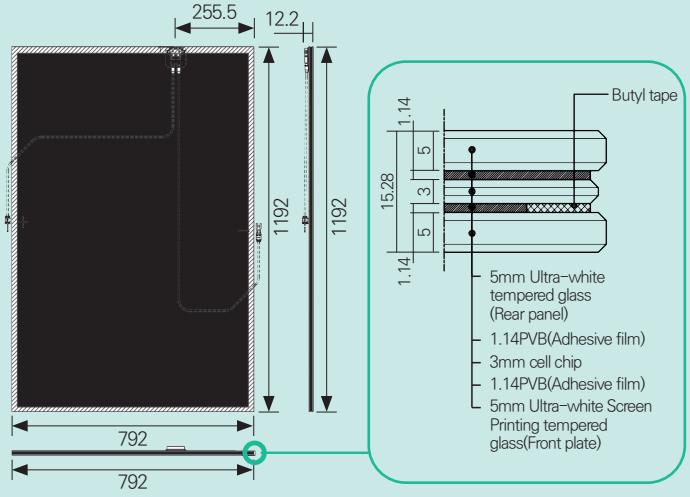
Building Mobile Energy

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

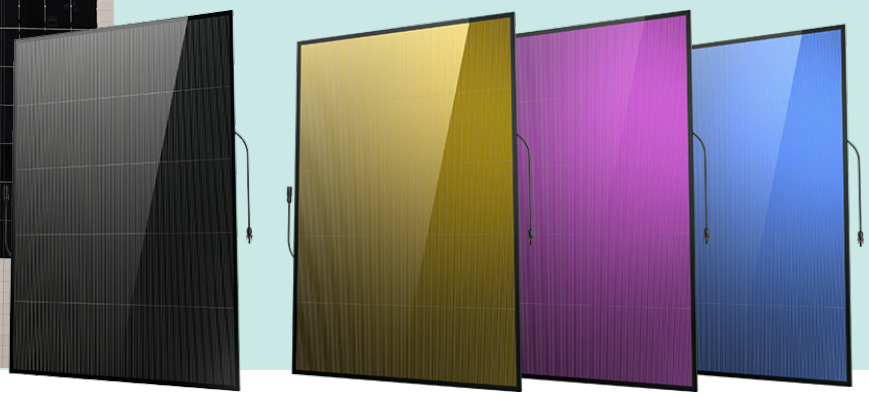


Technical Drawing



Specifications

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



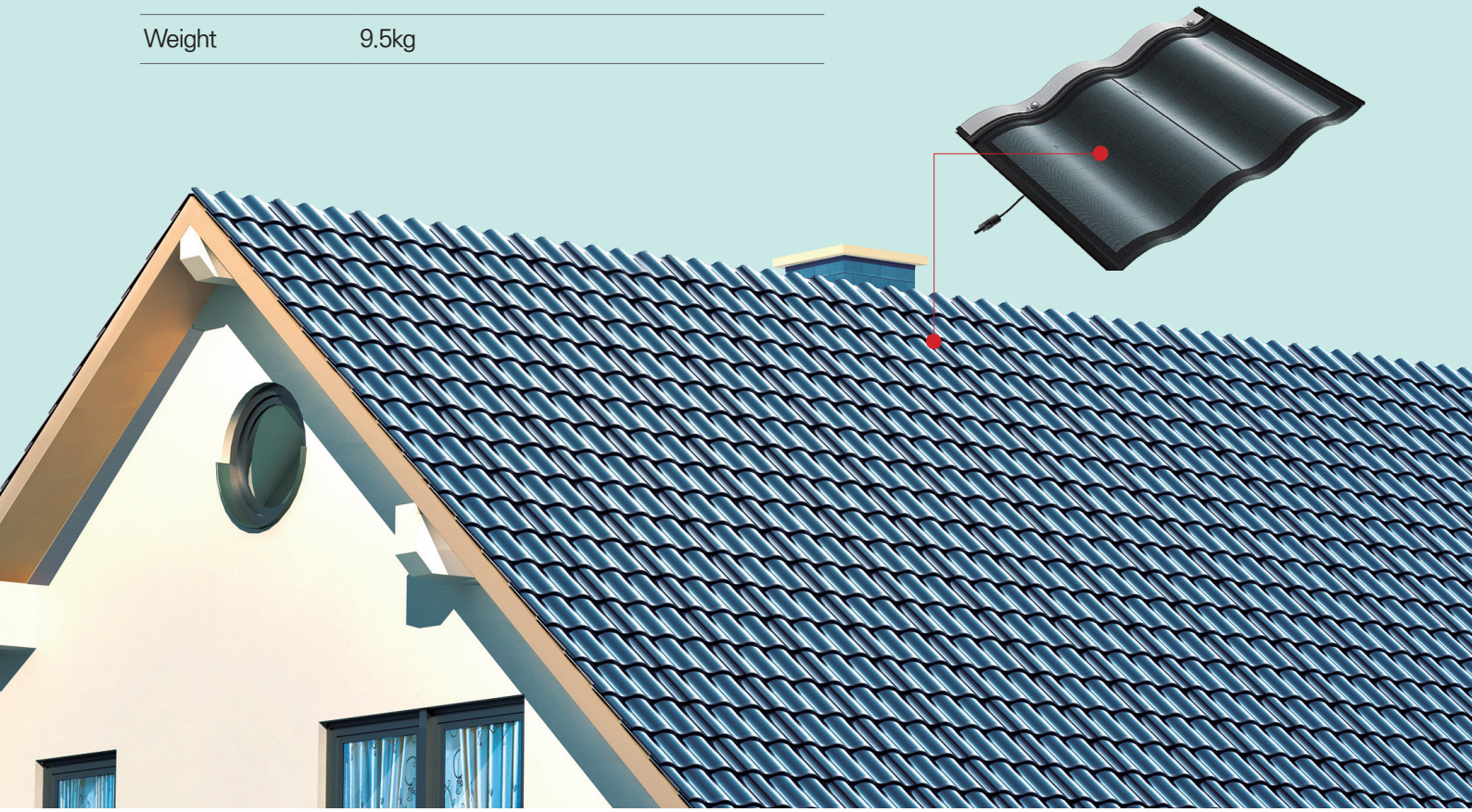
HANTILE

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 flexible cell

Specifications

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



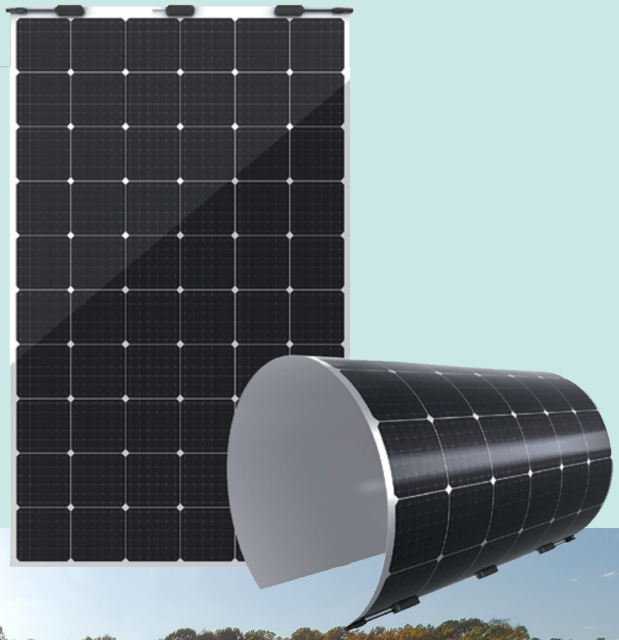
MONO FLEX MODULE

Features

- Solderless conductive backsheet 2D encapsulation minimizes reduced performance under extreme test conditions
- Eco-friendly lead-free MWT module without soldering
- Ultra-thin silicon wafer encapsulation material, minimum bending radius 0.25m
- Light and thin design makes it more harmonious with buildings
- High wind resistance, durability, easy workability, and lightness

Specifications

Power Output	375W
Efficiency	21.8%
Length	1840mm
Width	1040mm
Thickness	2.5mm
Weight	5.7kg
Cell	126/Mono/Half cell
Frame	None
Back material	Back Sheet(white)



Pattern Glass Tech

Technical Explanation

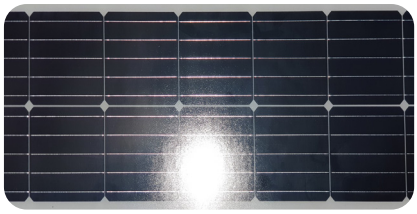
① There is an efficiency increase rate of 1-2% due to the difference in refractive index of the surface due to the low-light and scattered light absorption surface treatment methods with Rainy and Diamond design treatments on the tempered glass surface.

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

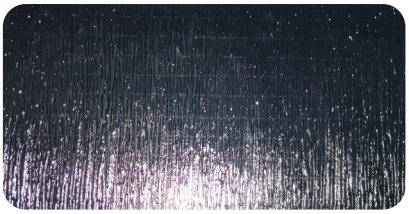
Patent registration number
30-1114798

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

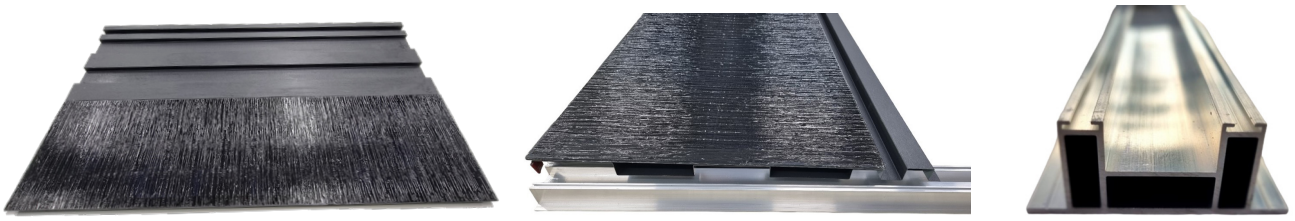
① Waterproof structural frame system and solar module integrated technology

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

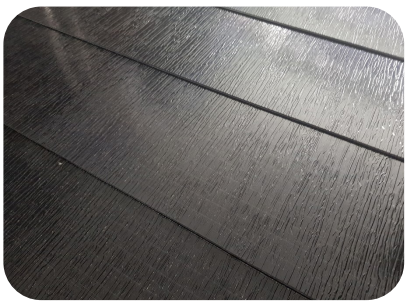
③ Galva Zinc Steel Plate Bending Technology + Rainy Pattern Module

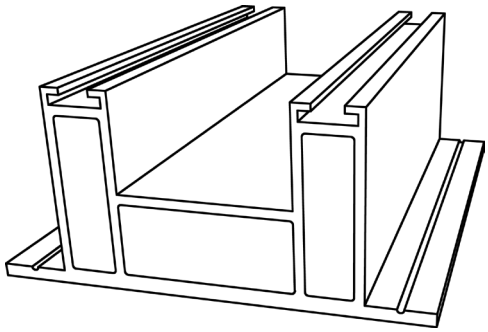
Patent registration number
30-1114797

Patent registration number
10-2490041



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





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.

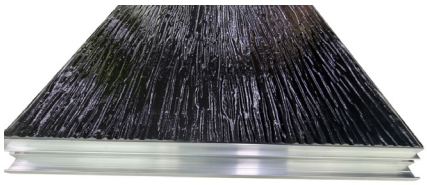
BIPV-Open Joint System

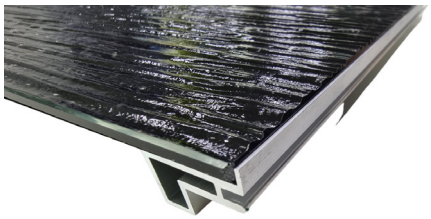
Technical Explanation

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.

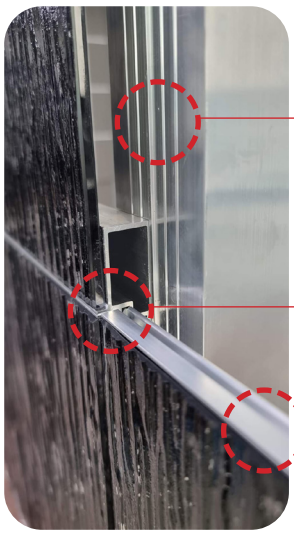
② It is a BIPV installation structure system that does not require existing Norton taping and additional stud structures. We can fasten the aluminum frame design of solar panels to a snap (inserted) frame at the same time which reduces the construction period.

Patent registration number
30-1191269





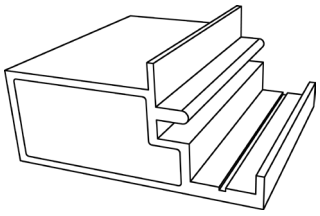
[Snap-type module frame and open joint aluminum fixed stud]

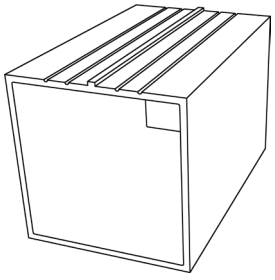


Waterproof structure frame

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.

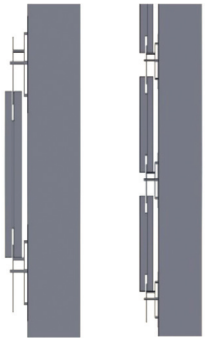
BIPV-Sash Sliding System

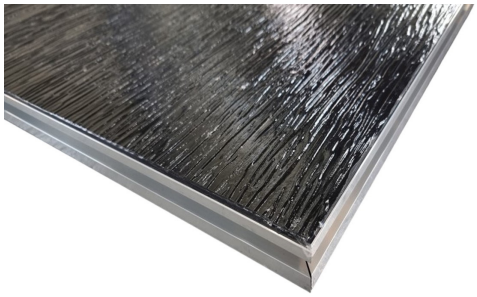
Technical Explanation

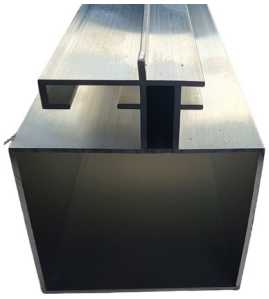
① It is a technology that allows the frame of a solar panel and the sash-type stud frame of a wall to be easily fastened, and it is easy to construct by manufacturing various module standards. This technology uses a sash-type stud frame on the wall, and the solar panel can be safely and easily installed 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

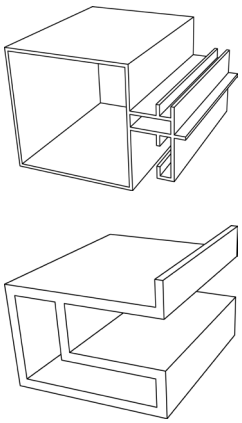






[Sash-type module frames and aluminum fixed studs]

- 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.

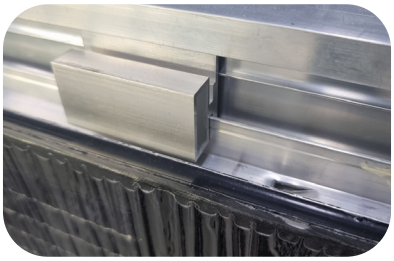
BIPV-Z-Bar Clip System

Technical Explanation

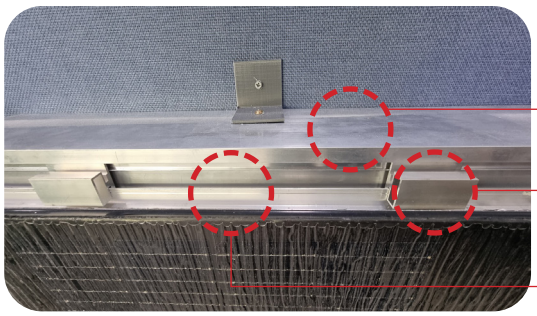
① It is a technology that can be easily fastened to the clip-type frame of a solar panel and the horizontal 'ㄷ'- shaped frame structure of the wall, and it is easy to construct by producing various module standards. This technology uses Clip(insertion) frame technology on the wall, and it is possible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

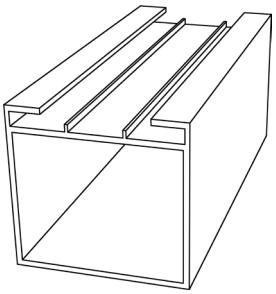
② It is a BIPV installation structure system that not only does not require existing spacer taping and additional stud structures, but also reduces the construction period by fastening aluminum Z-Bar frames to the wall's truss frame unit 'ㄷ'- shaped frames at the same time.

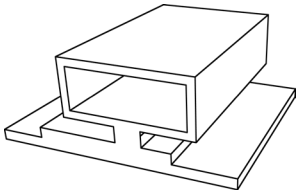
Patent registration number
10-2428517


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







Technical Benefits

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

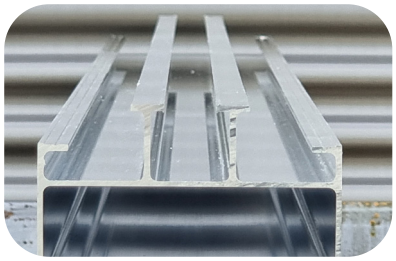
BIPV-Waterproof System

Technical Explanation

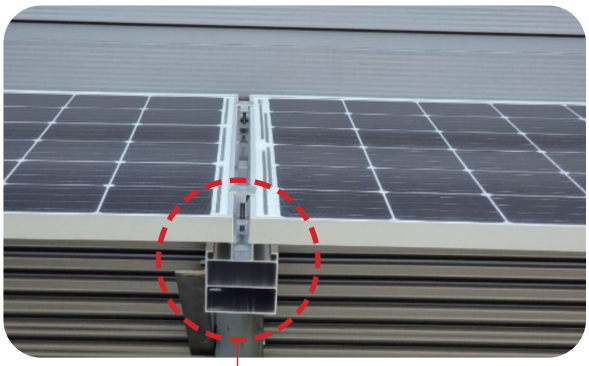
① It is a technology that allows the frame of a solar panel and the integrated stud – frame of the roof to be easily fastened, and it is waterproof and convenient to construct by manufacturing various module standards. This technology uses an integrated stud frame and pattern on the roof, and it is possible 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.

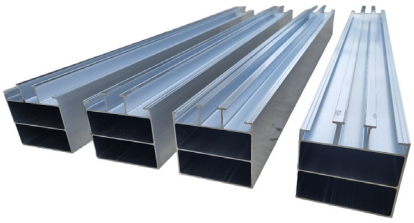
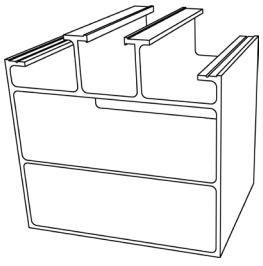
Patent registration number
30-1191275



[The integrated aluminum frame with a waterproof structure]



Module integral roof structure frame

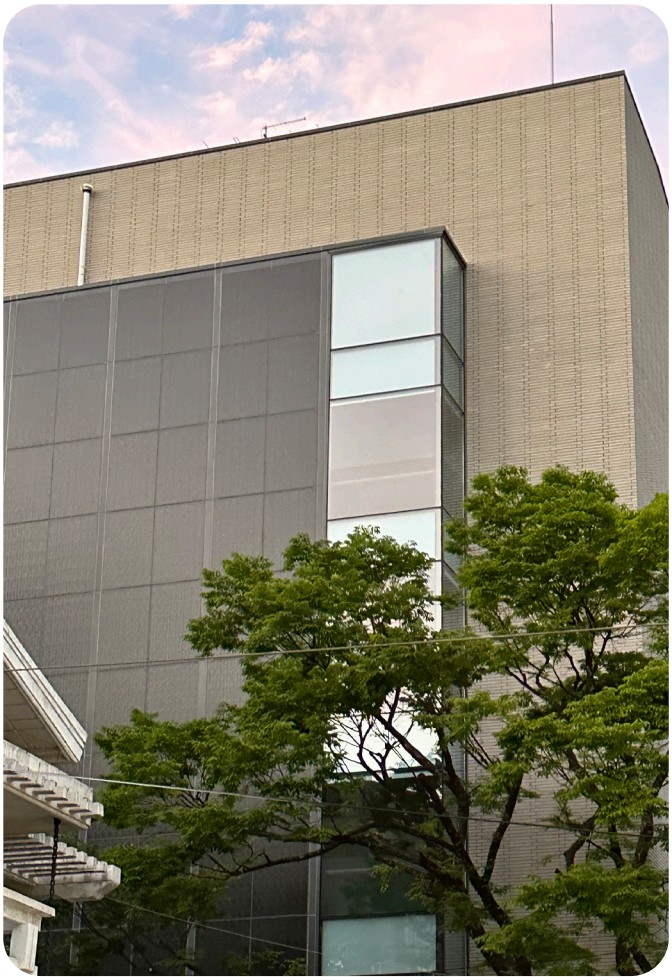



Technical Benefits

• PV Module-Integrated waterproof structure system.

REFERENCES

Yeomchang-dong, Seoul _ Hanwall 51Kw



Naesu-dong, Seoul _ Solwall 30Kw

9 Smart Shelters in Seoul _ Possolar 90Kw

Sejong City _ Solwall 20Kw

Cheongju City _ Soltile 5Kw

Gwangju City_ CIGS Flex 5Kw

Incheon City _ CIGS Flex 30.24Kw

Roof of a gym_CIGS Flex 30Kw

REFERENCES

Yongin City _ CIGS Flex 5Kw

Gimcheon-si linked vinyl house_ Mono Flex 30Kw

Kwangju city_CIGS Flex 3Kw

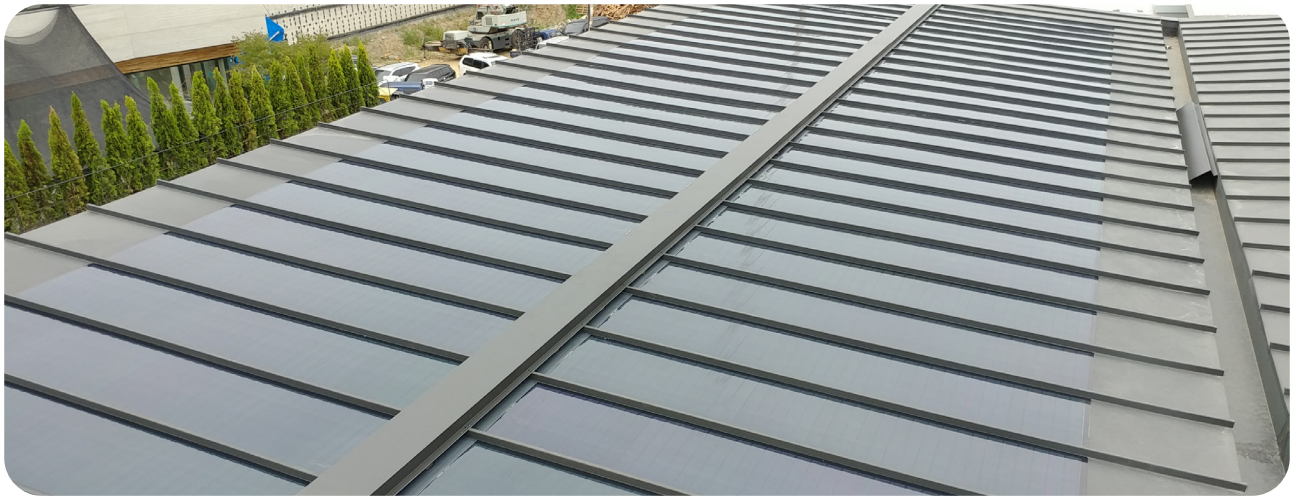
Cheongju city_Soltile 5Kw

Seoul Bus stop_Possolar 5Kw

Daehyun dong_Roof solar 20Kw

Haemil dong_Solwall 20Kw

Jinju Bus stop_Mono Flex 9Kw



Unjoong dong_CIGS Flex 9Kw

REFERENCES

Seoul city_Hanwall 51Kw

Church_Solwall 30Kw

Sports stadium_CIGS Flex 32Kw

Jeonju city_CIGS Flex 3Kw

Pyungchang dong_CIGS Flex 6Kw

APPLICATIONS

01

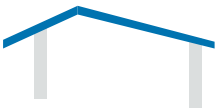
Shade design installed in the upper facade of the building

02

Roof Integrated Form in Roof Daylighting Window

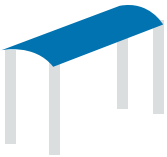
03

The form of a roof that is installed on a building's roof



04

Architectural finish form fitted and coupled to steel structures



05

Design installed in the parking lot of the building

06

Wall-integrated wall shape (translucent or opaque)

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