Introduction to the **catalogue of products 2**

– 24 june 2020

Tjerk Reijenga, BEAR-iD (NL)

PVsites

Introduction

- Within the PVSITES project a portfolio of
  - 10 BIPV products and
  - 2 inverters is developed.
- Software is developed
  - to support the design process and
  - To apply the products in building projects.

- To make all products accessible, an **online catalogue of products** is developed.

- This catalog will be filled with other BIPV products

  to make a large **online catalogue of products.**

Availability

The PVSITES product portfolio will be accessible in different ways:

1. the online catalogue of products
2. a PDF book with data and guidelines
3. the PVSITES website with all research reports and results.

Free printable download available at www.pvsites.eu
after 15 July 2020.

Task 9.8 Productportfolio D9.17

20 June 2020

PVsites

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement Nº 691768

1. Introduction

For each product there are three different types of information described:

1. a data sheet that describes the product;
2. a design description that describes how the design decisions are made and how the final solution is designed;
3. an overview and instructions for the installation of the product.

10. eFacade BIPV facade cladding - ONYX

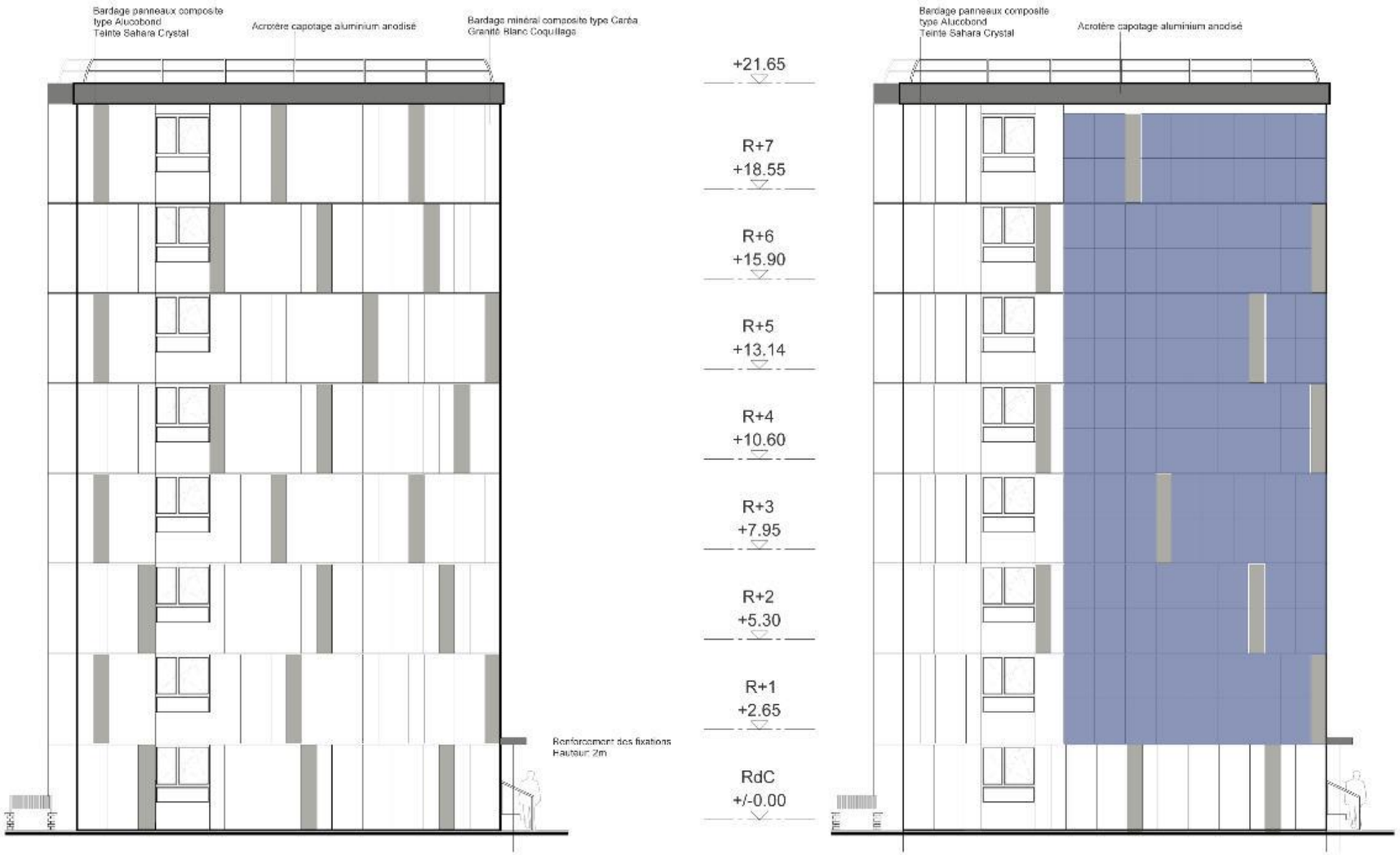
Data

10.1 eFacade BIPV facade cladding - Data

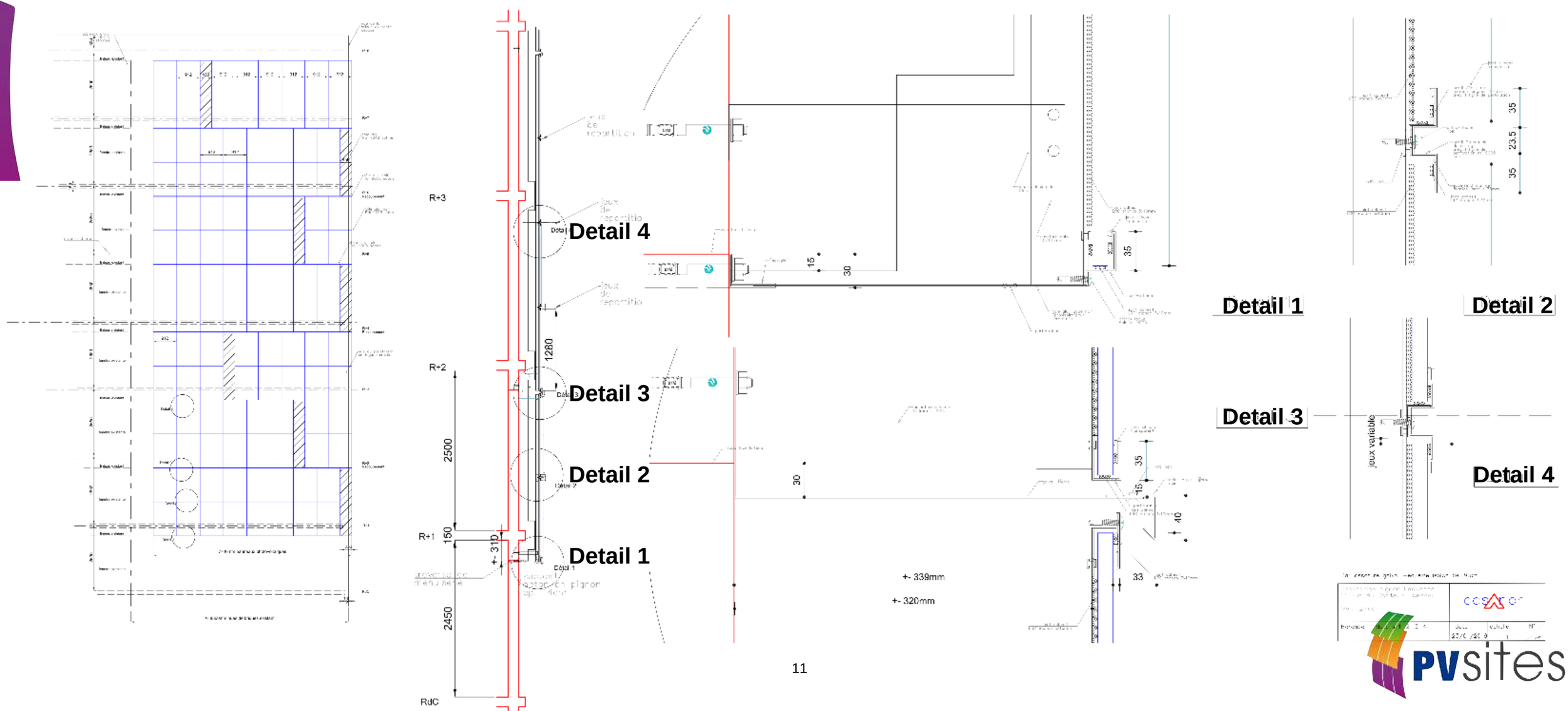
Description	Curtain wall C-Si glass modules with hidden L-interconnections. The layers from back to front are: 6 mm Extraclear tempered glass; 1.8 mm EVA,;c-Si solar cells; 1.8 mm EVA; 6 mm black frit patterned glass
Dimensions	Rectangle 1280 x 910 x 13.8 mm
Weight	34,94 kg/unit
Rigidity	Rigid
PV power	151 Wp
Field of application	The BIPV curtain wall modules can be used for new and for renovation application.
Mounting system	The modules are mounted on a vertical main structure and fixated with a horizontal profile.
PVSITES code	**X5**

Design

10.3 eFacade BIPV facade cladding - Design



10.3 eFacade BIPV facade cladding - Design



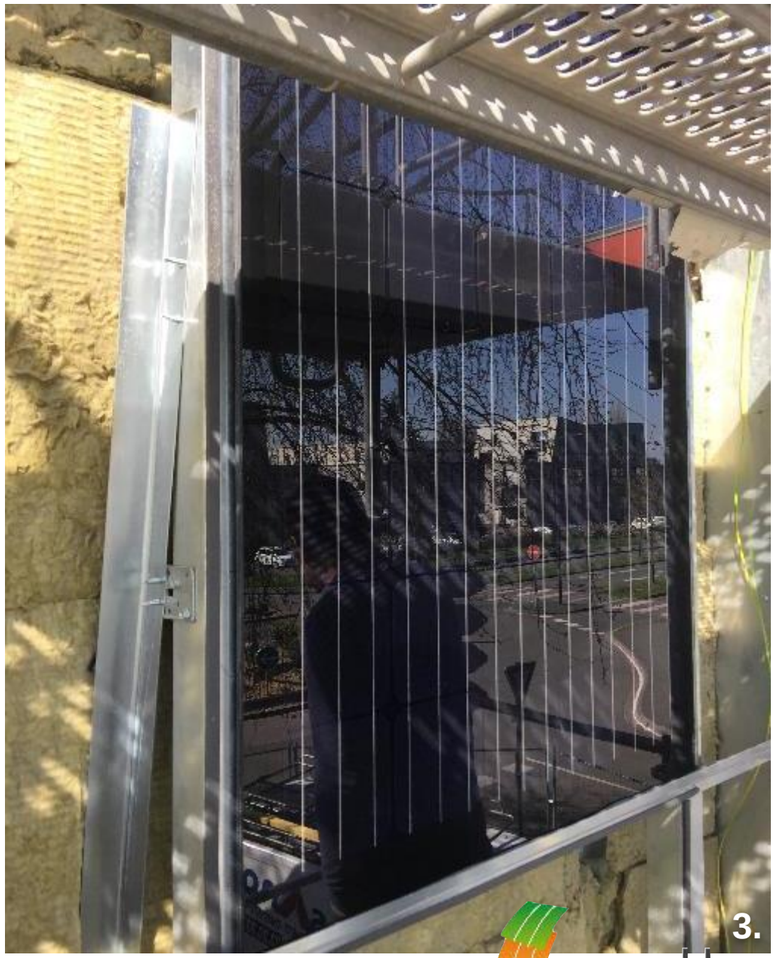
Installation

7.7 eFacade BIPV facade cladding - Installation

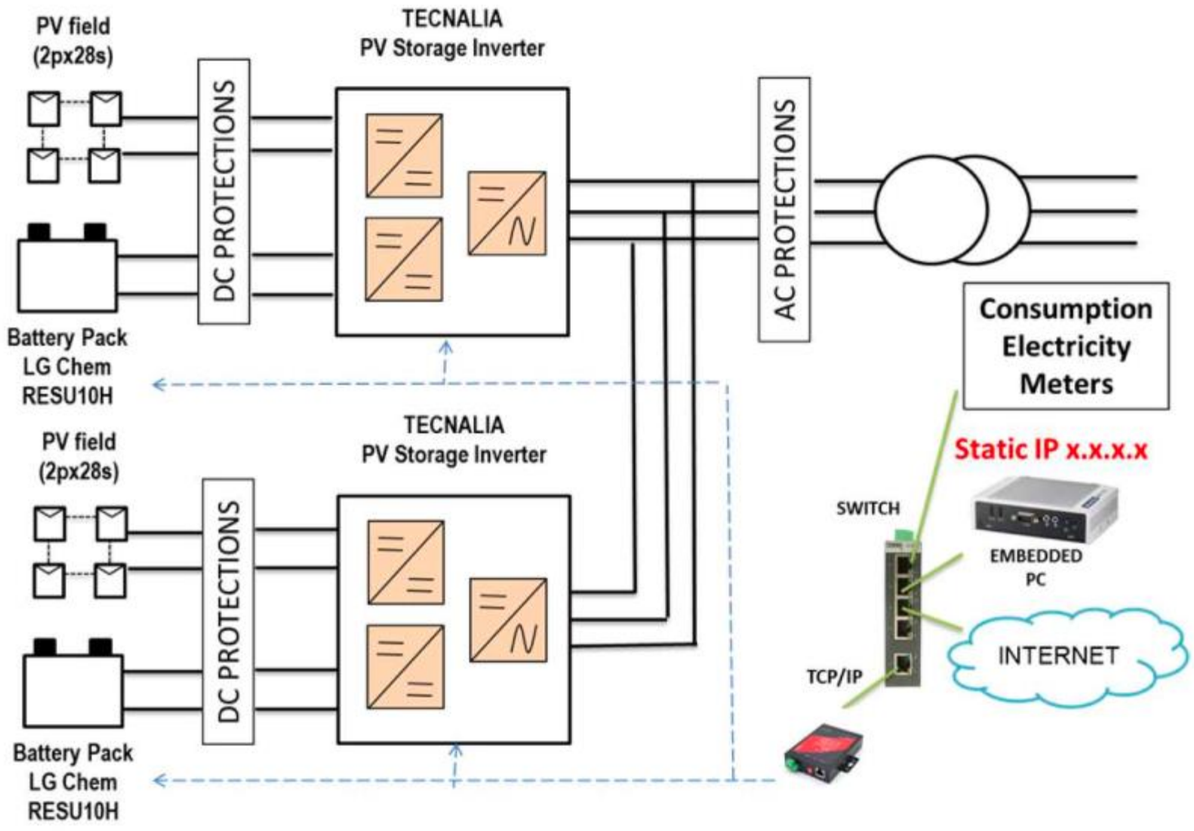
The apartment building will get a full thermal renovation and the whole skin (bricks) is taken away. Because the BIPV system is mounted before the other facades of the building, some spacing with existing windows is needed.
On the concrete structure, a watertight foil (rain screen) was applied and anchors and vertical profiles were mounted. Then the mineral wool insulation was placed.
Next is the placing of modules following the details in chapter 10.3.
After all modules and aluminium panels are mounted, the area around the system is temporarily covered with metal sheets until the final renovation of the building.

7.7 eFacade BIPV facade cladding - Installation

1. Corner detail near the window
2. Vertical profiles and anchors on the concrete wall with watertight foil
3. Adding the modules and fixating with the horizontal profile.



10.4 eFacade BIPV facade cladding - Electrical design



11. eGlazing BIPV glazing - ONYX

Stand-alone/Self consumption with battery storage of the generated energy

Data

11.1 eGlazing BIPV glazing - Data

Description

The semi-transparent BIPV module with hidden busbars is applied as a second skin in Tecnalia's office in San Sebastian, Spain.

The layers from back to front are:
6 mm extra clear tempered glass; 1.8 mm EVA,;c-Si solar cells; 1.8 mm EVA; 6 mm clear tempered glas

Dimensions

Rectangle 2250 x 760 x 21 mm (A) and
2212 x 765 x 21 mm (B)

Weight

51.3 / 50.8 kg/unit

Rigidity

Rigid

PV power

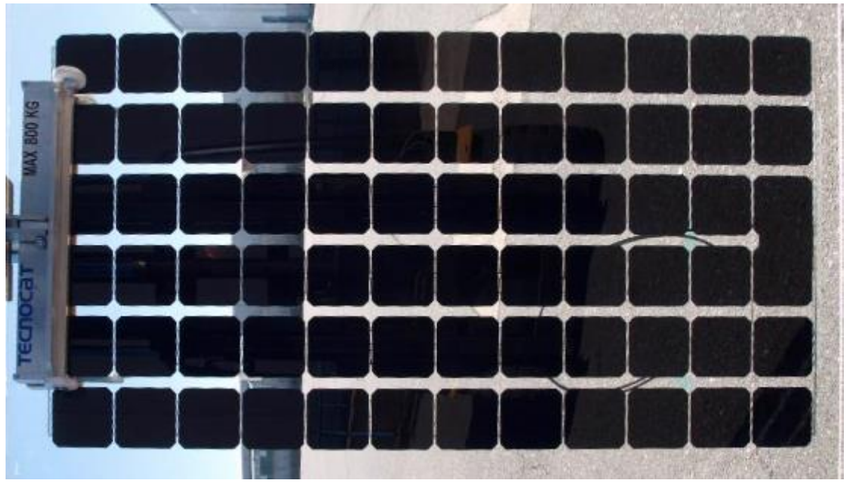
191,5 Wp/unit

Field of application

The BIPV module can be used in a 2nd skin facade, curtain wall or external shading.

Mounting system

A vertical profile system is mounted in front of the existing facade. The modules are fixated with a clip system.



PVSITES code

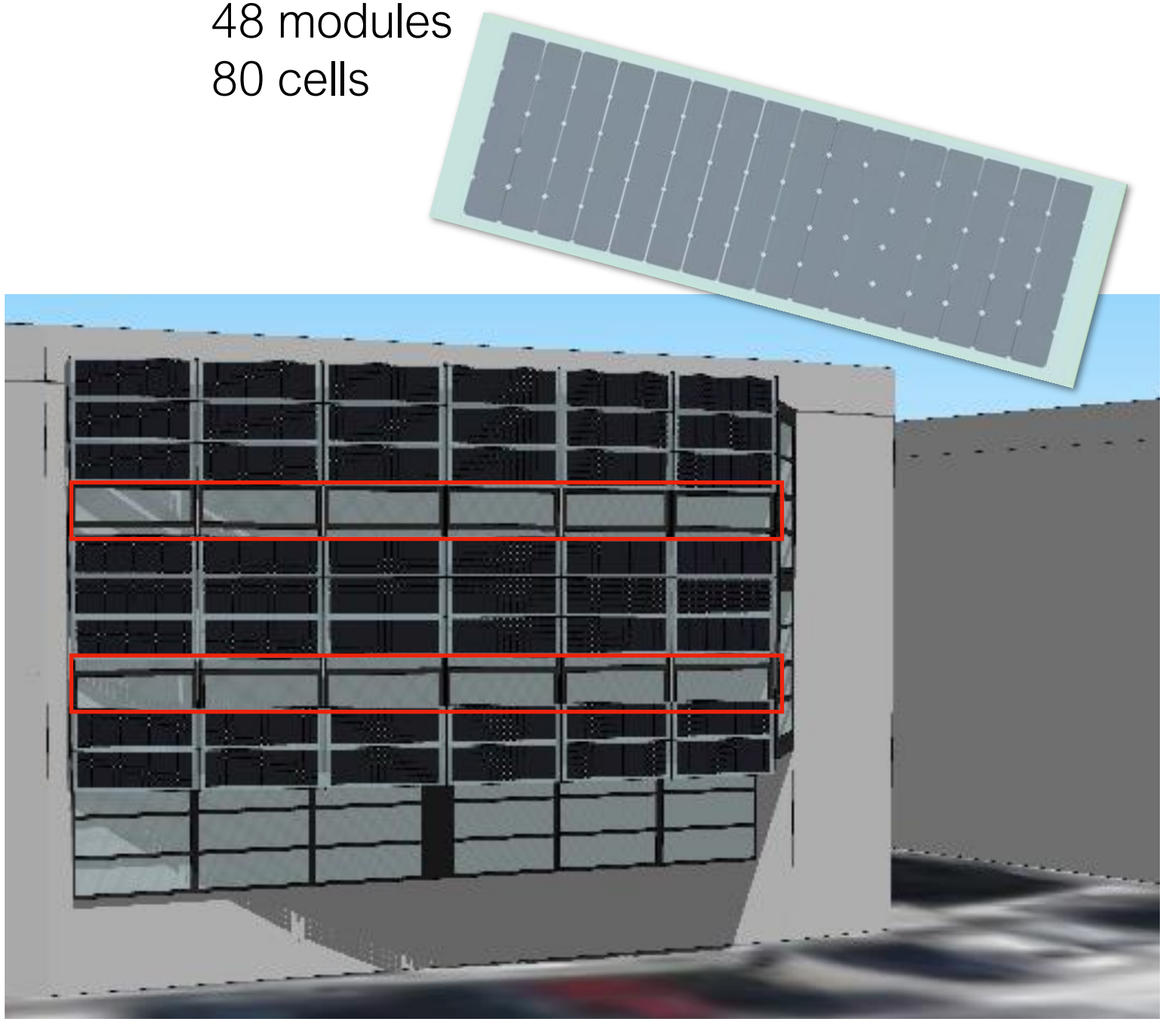
X6

Design

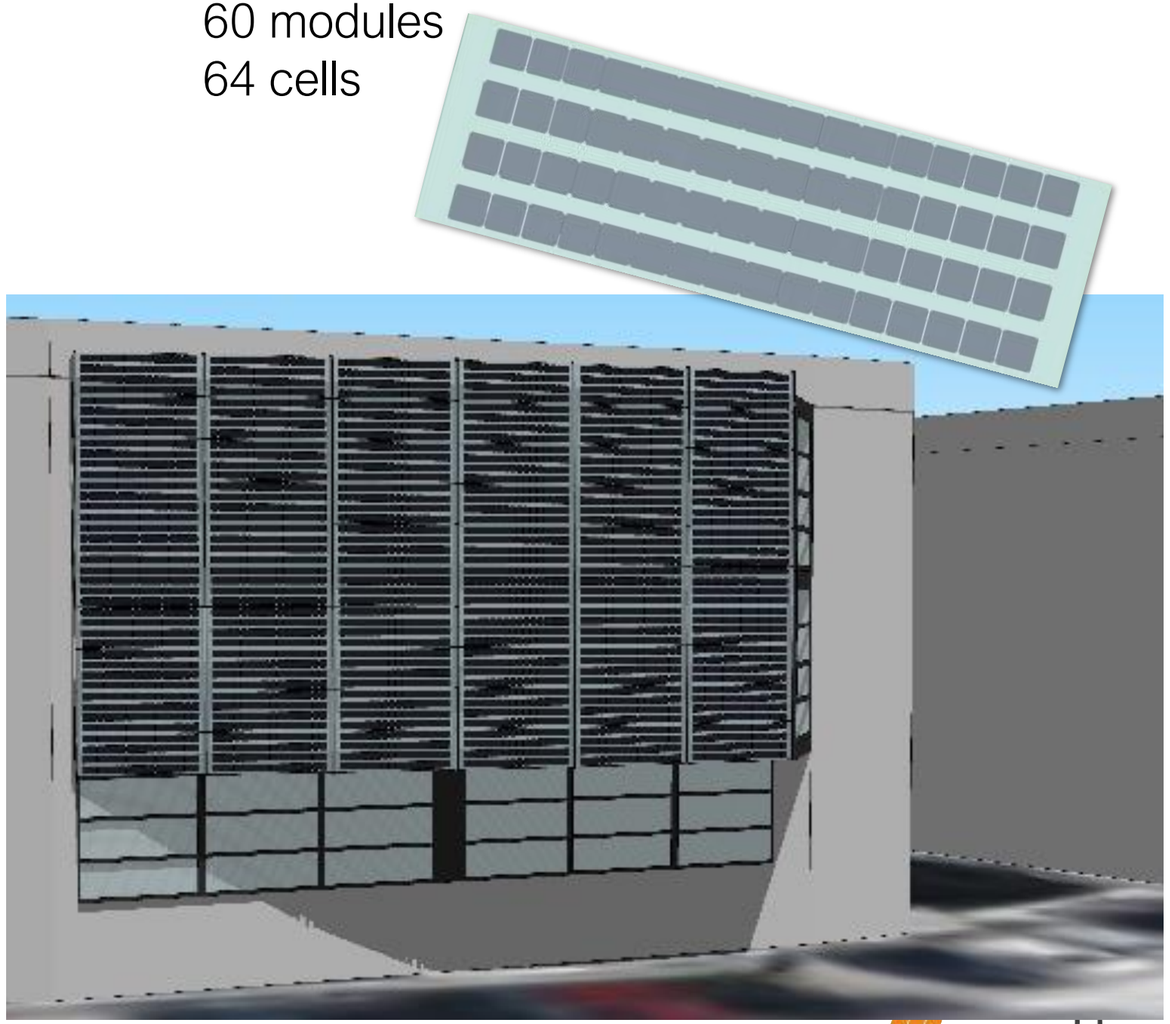
PVsites

11.3 eGlazing BIPV glazing - Design

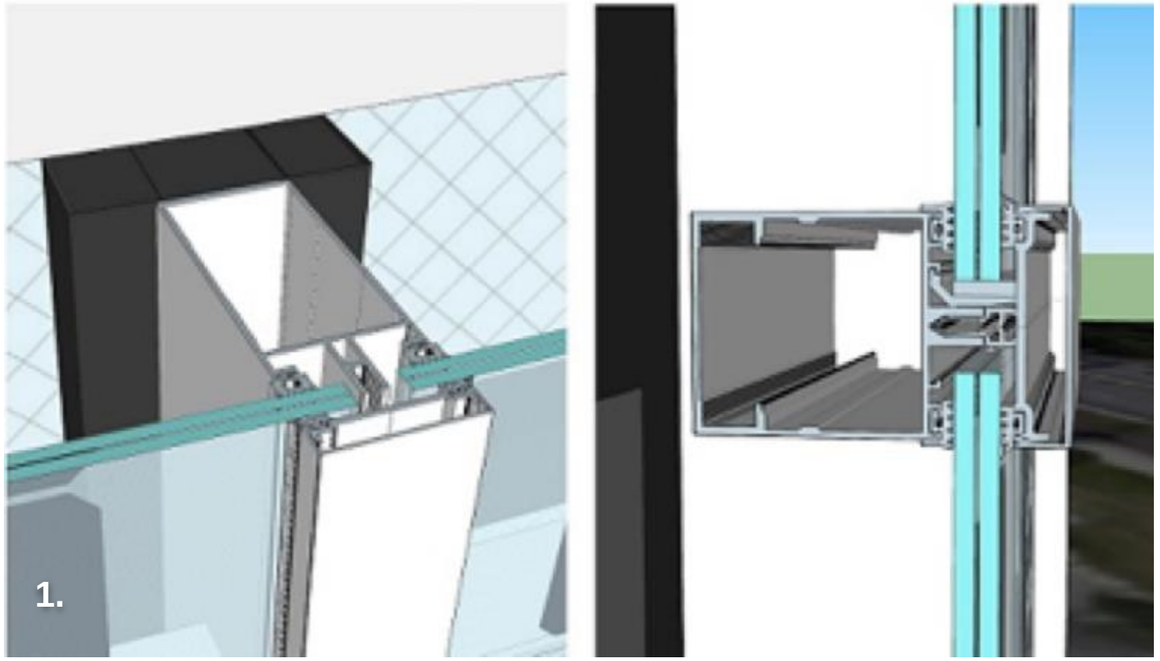
48 modules
80 cells



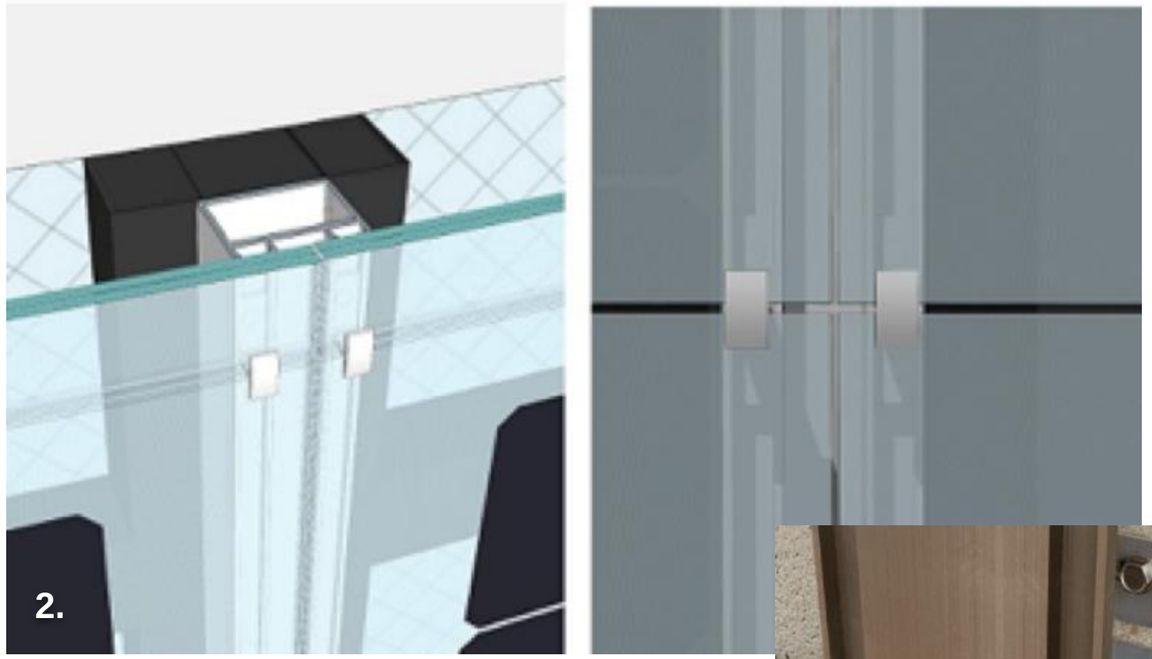
60 modules
64 cells



11.3 eGlazing BIPV glazing - Design



REYNOLDS profiles

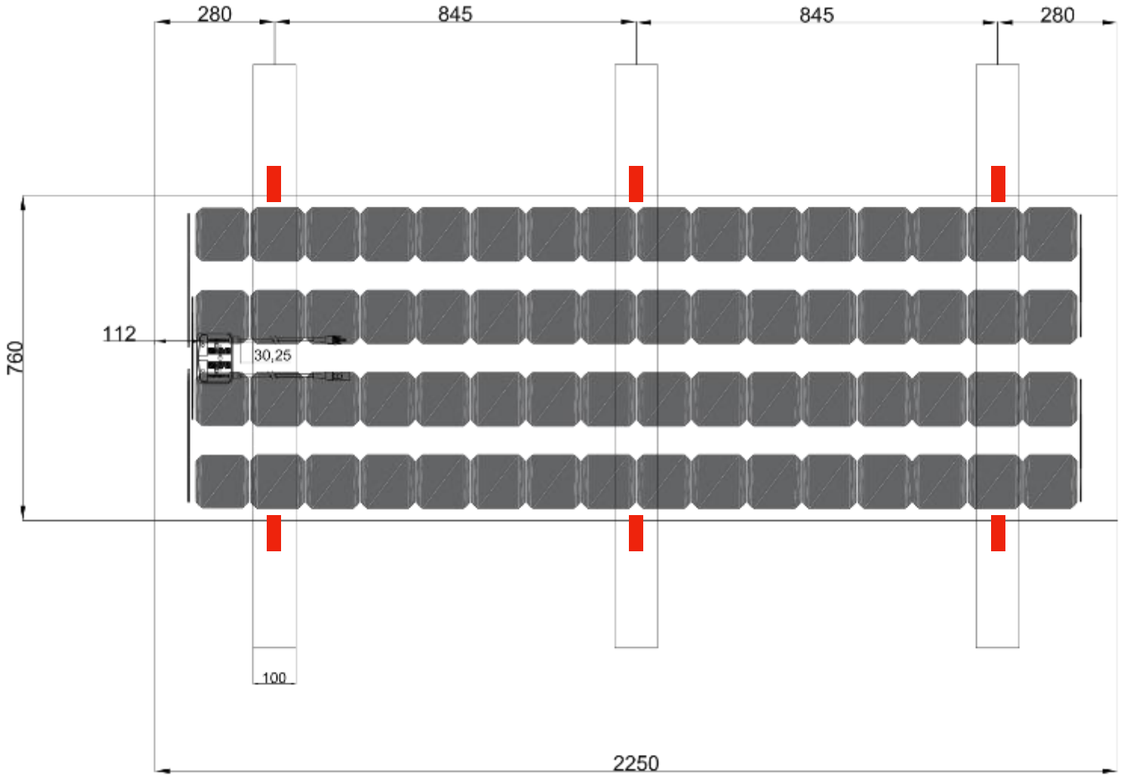


SB fijaciones clips

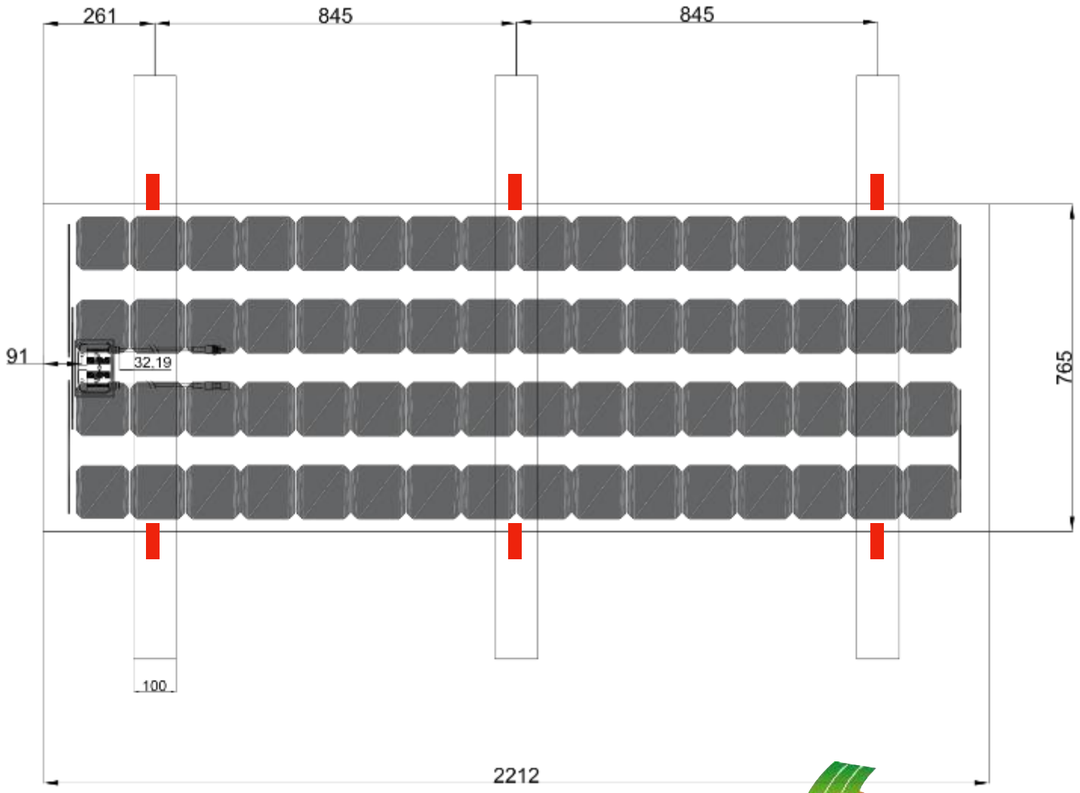
11.2 eGlazing BIPV glazing - Design

Drawing nr. 03

Façade A

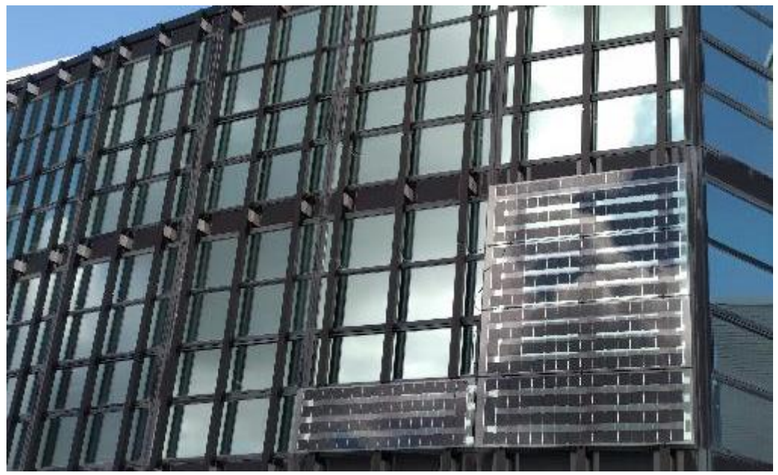


Façade B



Installation

11.7 eGlazing BIPV glazing - Installation



12. Curved glass-glass, CIGS technology - ONYX - Flisom

Stand-alone/Self consumption with battery storage of the generated energy

13. C-Si semitransparent low concentration and solar control BIPV system - ONYX

Stand-alone/Self consumption with battery storage of the generated energy

12.1 C-Si semitransparent low concentration - Data

Description

The semi-transparent BIPV module with hidden busbars is applied as a second skin in Tecnalia's office in San Sebastian, Spain.
Layers from exterior to interior: Optical system: Extraclear glass, PMMA;
PV glazing: Extraclear glass glass, EVA, Solar cells, EVA, glass, junction box

Mounting system

The glazing is placed in a standard window frame profile.

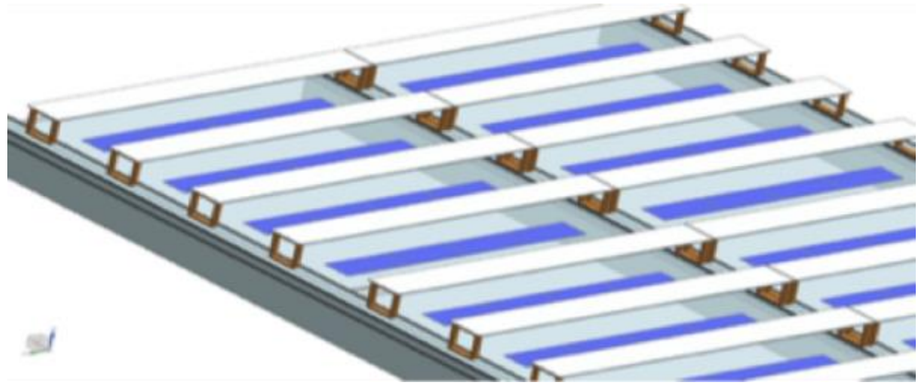
Generated power may be multiplied up to 2X due to concentration effects during spring-summer

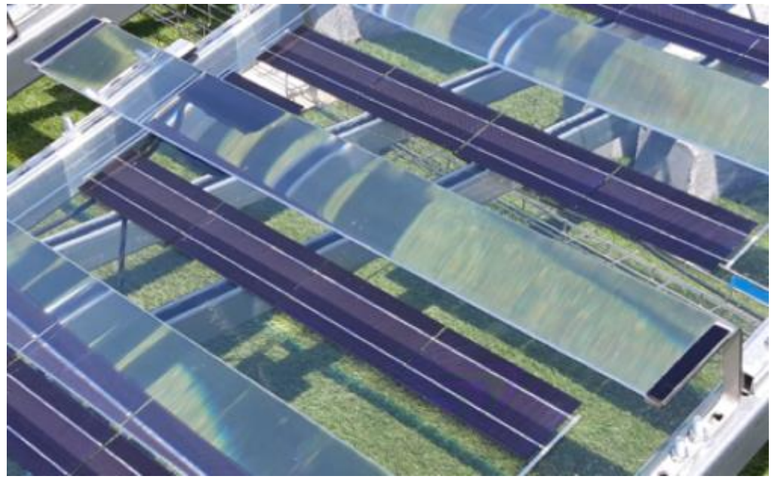
Dimensions

Weight

Rigidity Rigid

PV power 40 Wp/m^2

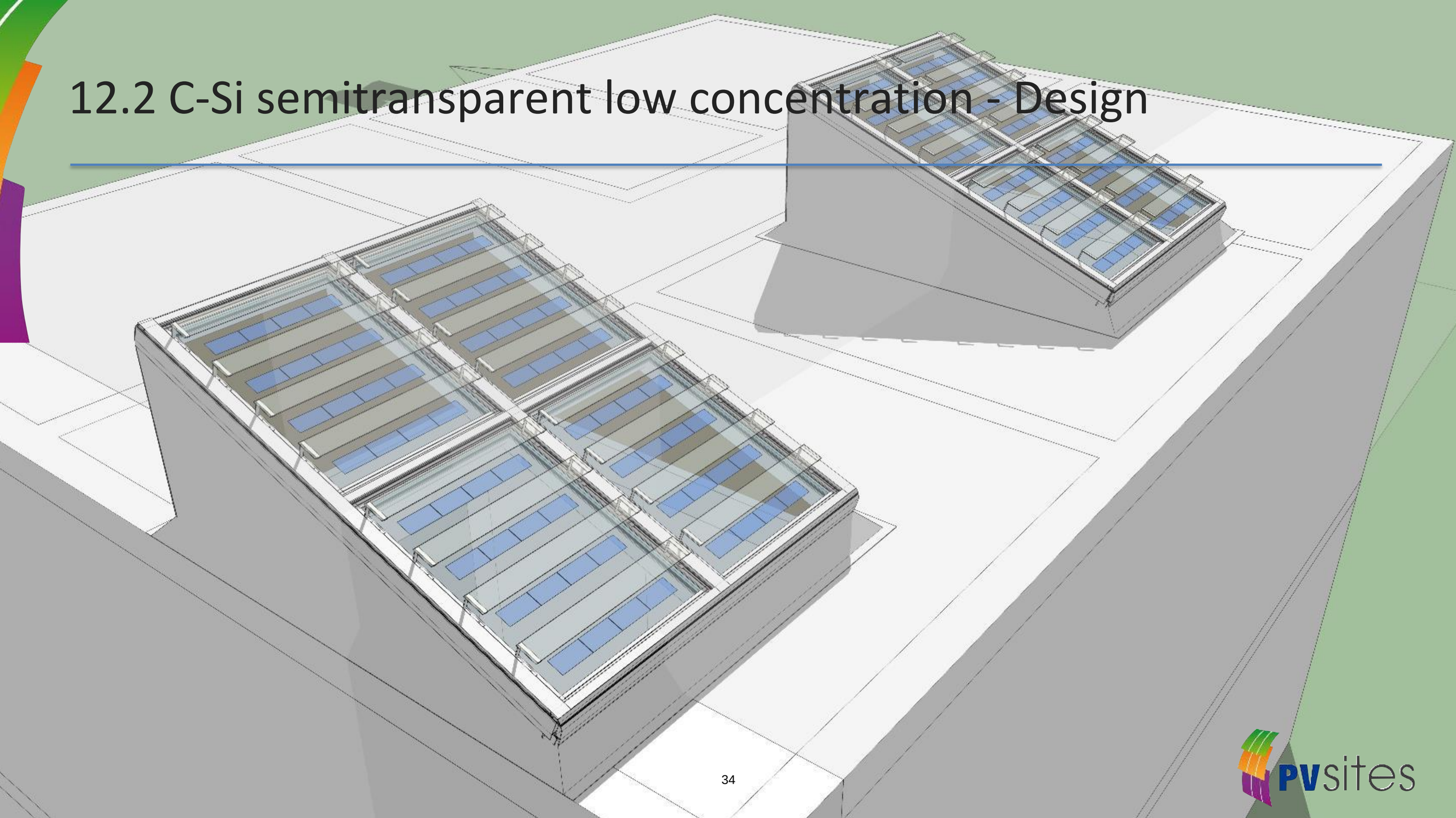




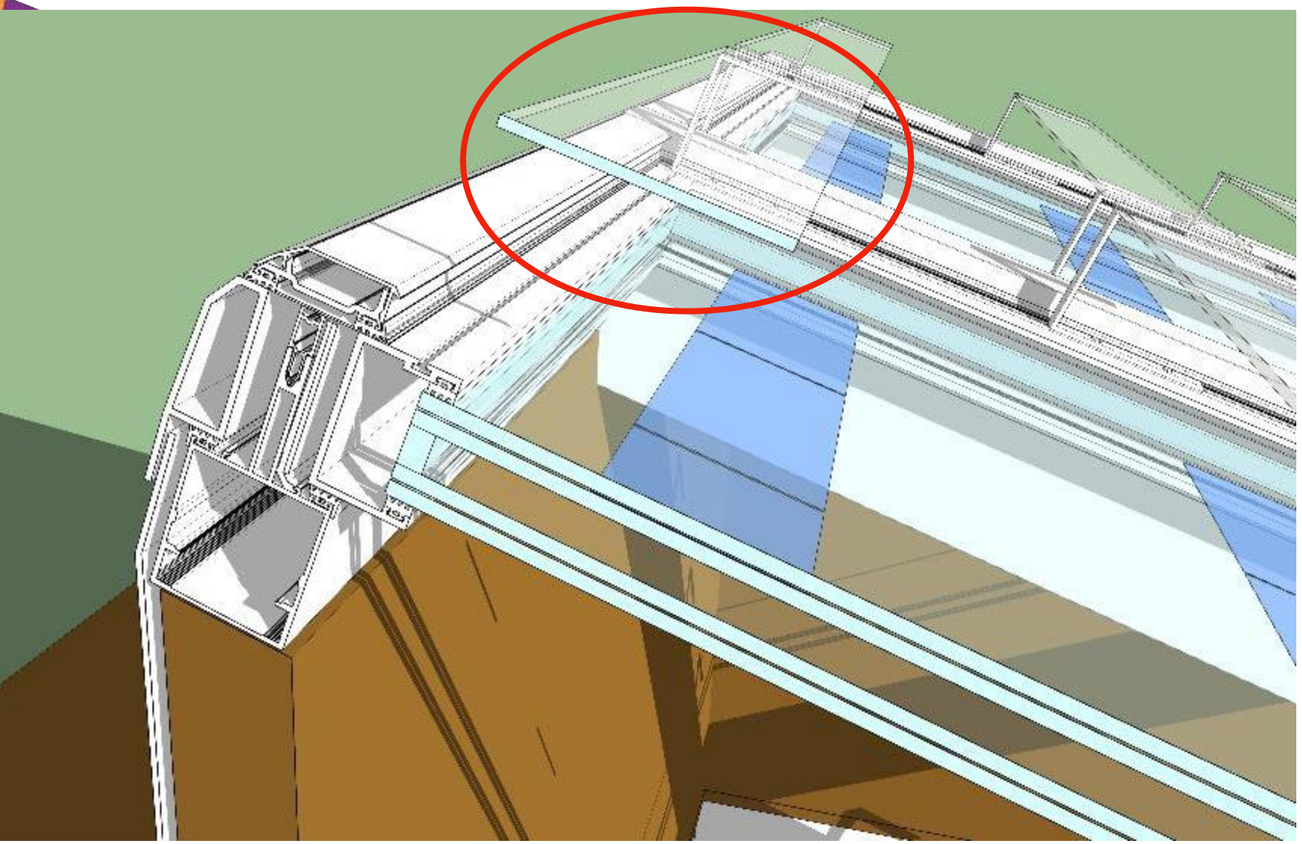
Field of application The BIPV module can be used in a skylight for external shading.

PVSITES code **X9**

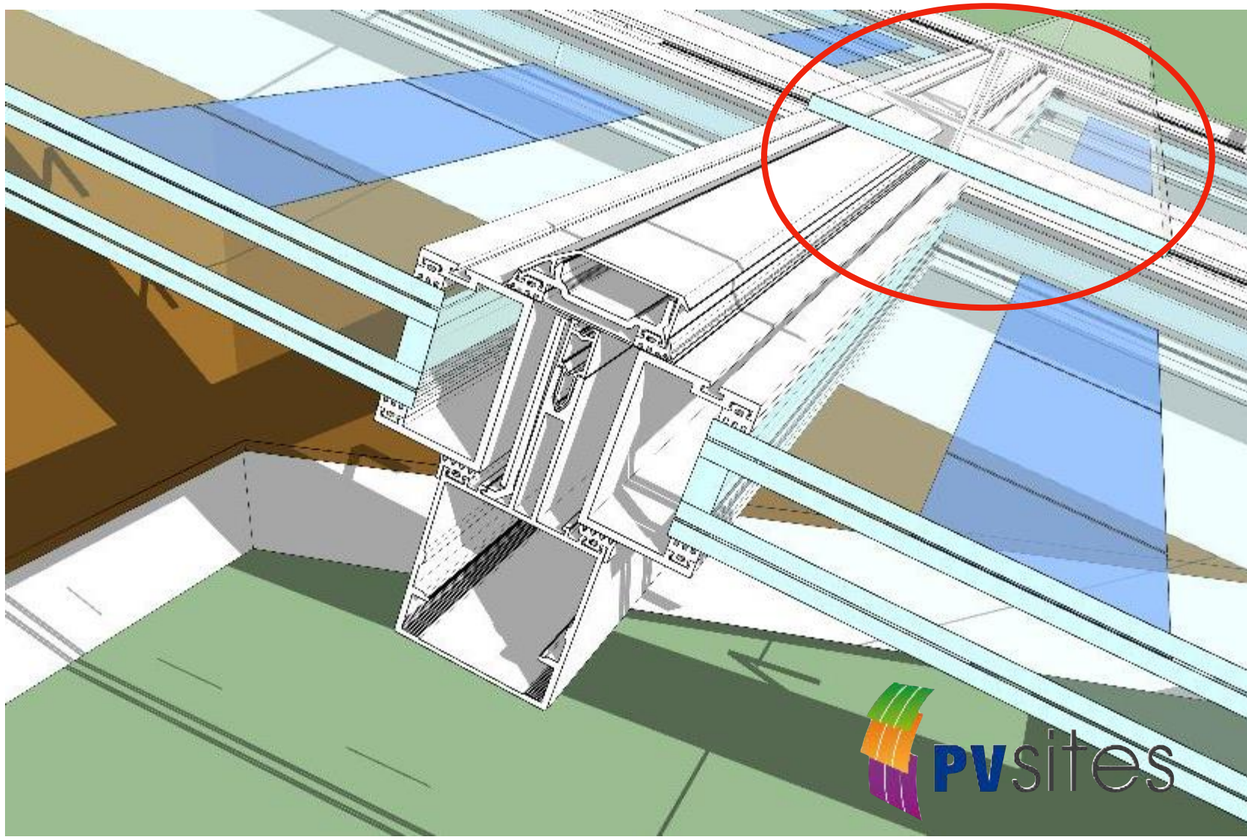
12.2 C-Si semitransparent low concentration - Design



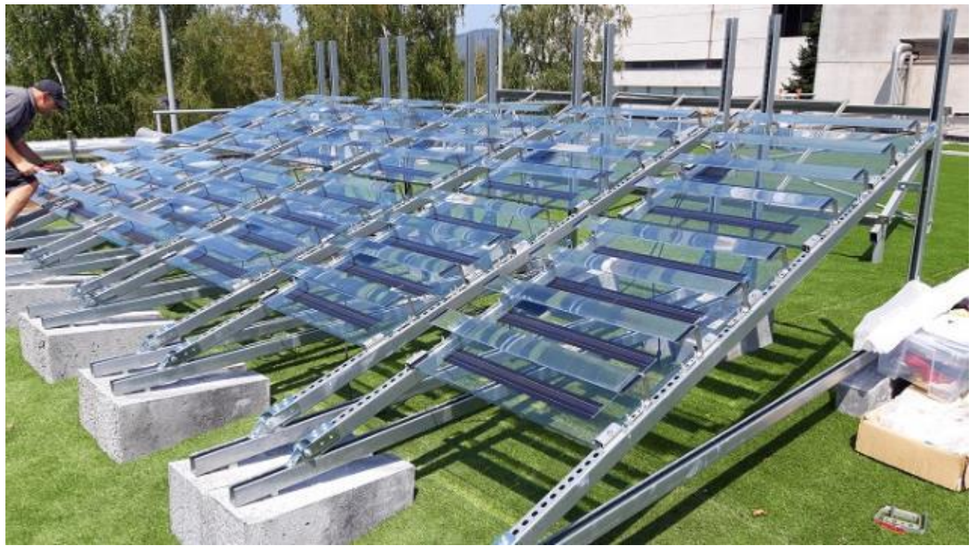
12.2 C-Si semitransparent low concentration - Design



Lens position



12.2 C-Si semitransparent low concentration - Installation



14. C-Si semitransparent low concentration and solar control BIPV system - ONYX

Stand-alone/Self consumption with battery storage of the generated energy

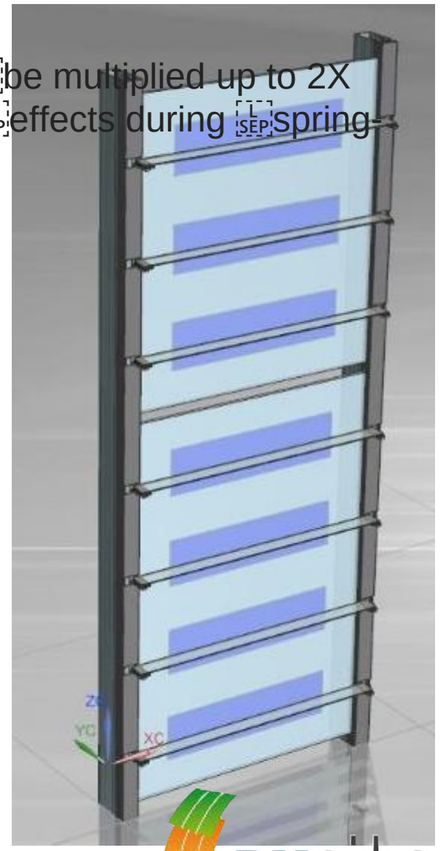
Data

PVsites

11.1 eGlazing BIPV glazing - Data

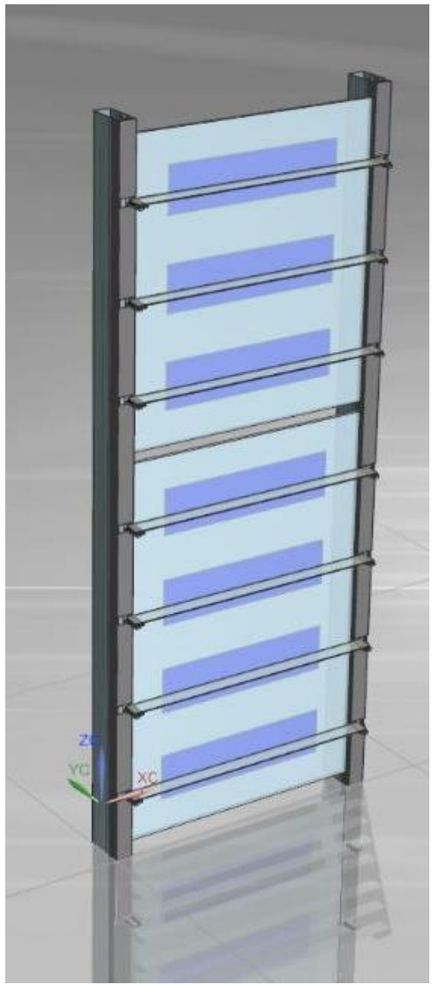
Description	PV rectangular glazing combined with optical system anchored to the façade structure placed in a test-box at Acciona Sevilla, Spain. Layers from exterior to interior: Optical system: Extraclear glass, PMMA; PV glazing: Extraclear glass glass, EVA, Solar cells, EVA, glass, junction box
Dimensions	
Weight	
Rigidity	Rigid
PV power	40 Wp/m^2
Field of application	The BIPV module can be used in a 2nd skin facade, curtain wall or external shading.

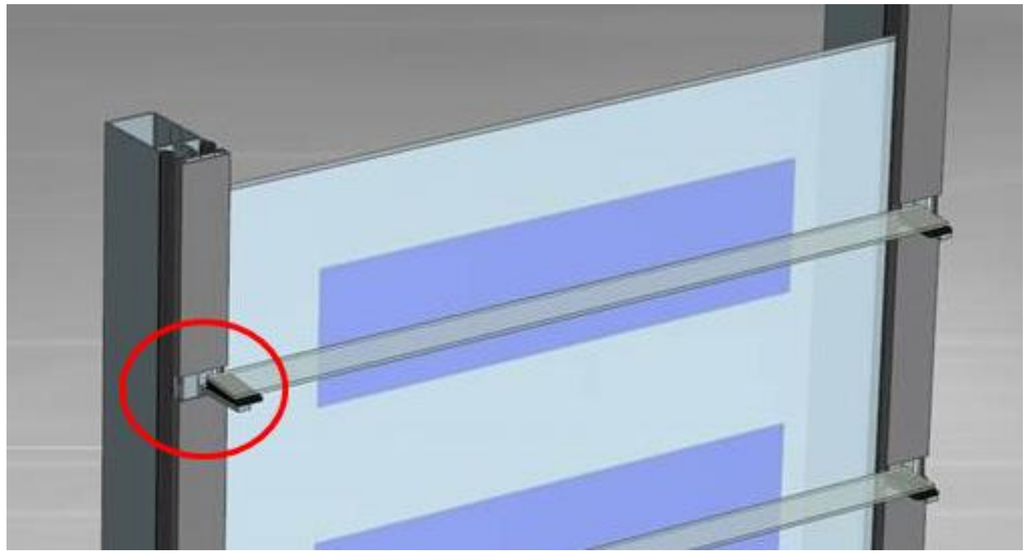
Mounting system	The glazing is placed in a standard window frame profile. Generated power may be multiplied up to 2X due to concentration effects during spring-summer
PVSITES code	**X11**

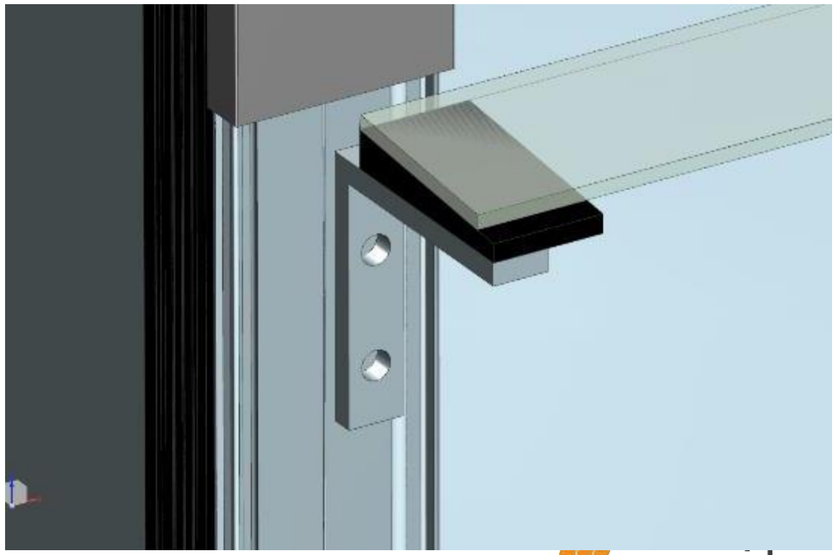


Design

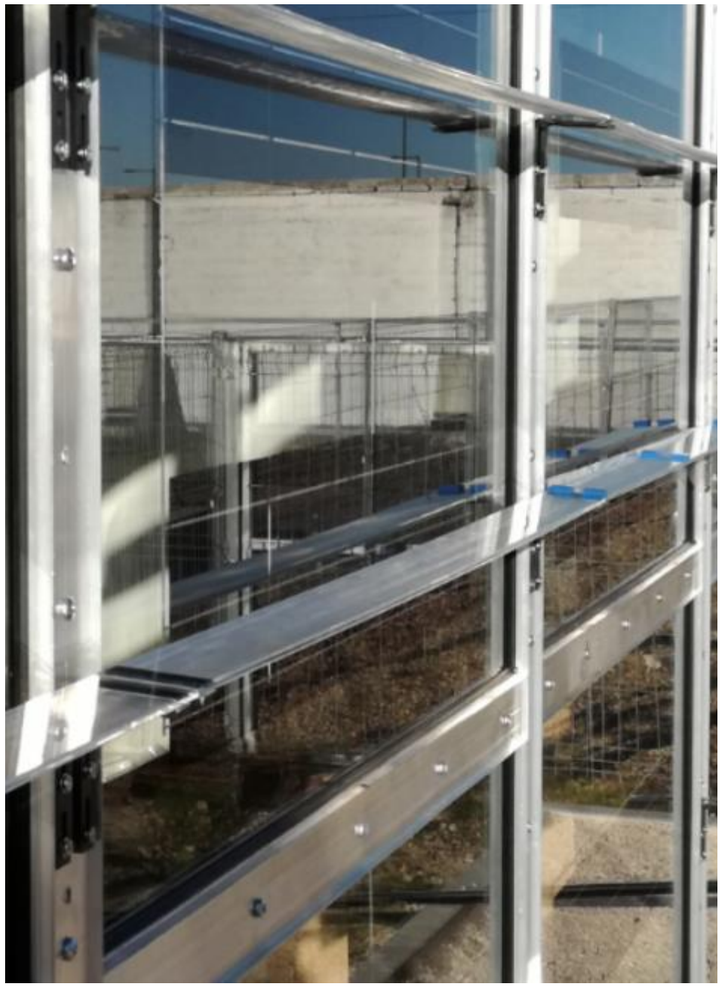
11.3 eGlazing BIPV glazing - Design







11.3 eGlazing BIPV glazing - Installation



Thank you for your attention

PVsites