The shelters for patios and conservatories made of glass in aluminium frames allow you to enjoy nature and open your home to its natural surroundings.

IGUs, which form an integral part of the shelter system, help you to enjoy the natural world and marvel at its changes through the seasons. This is a unique form of protection from the rain, snow and sun. The integration of IGUs with photovoltaic systems add the benefit of producing green power, and this power can be consumed locally, e.g. by home appliances, and the surplus sold back to the grid. The glazed shelters of patios and conservatories can be enhanced with the NoFrost heating panes to prevent snow from settling on the roof, or add warmth to the interior in winter.

Aluminium is the most popular material in the design and construction of terrace and conservatory shelters. Aluminium is easy to work with and maintain. It is light and resists corrosion. Aluminium terrace systems are highly air and water tight, and help form the shelter body with great ease. Those structures made of aluminium sections can be finished in various colours, e.g. anodised or any tone in the RAL palette. Aluminium profiles with thermal insulating cores can also be used to achieve extremely high heat-insulating performance. The latter variant, if combined with IGUs rated at the required thermal insulation, is an excellent choice for building conservatories around the patio to extend the indoor surface area for all-season use.

The glazing for conservatory enclosures and patio shelters can be enhanced with light-sensitive elements that generate power. These are called photovoltaic (PV) cells, and an array of such PV cells laminated between the glass layers forms a PV module. PV modules intended for conservatories and patio shelters are made of laminated safety glass, available in the required thickness. Changing the spacing between the PV cells in a module changes the PV module transparency to produce different shadow effects inside the conservatory or under the shelter canopy. Choosing various colours of glass or PV cells also enhance the aesthetic effect.

BIPV-enabled patio shelters and conservatories can be built with ready to use structural systems, if their standard dimensions suit the installation size and project investor's demands. Otherwise the shelter structure needs to be adapted to the available construction site dimensions, and here we offer our design to build services.

System technical specifications

Unit power	max. 200 Wp/m^2
PV cell efficiency	max. 22.5%
Max. operating voltage	1000 V DC
Module types	Monocrystalline, incl. back-contact
	Polycrystalline
	Thin layer
Optional	Bifacial
	Transparent
	NoFrost (roof)
	NoFrost (wall)
	Printed

Substructure material	Ref. system manufacturer
Maximum module size	Ref. system manufacturer
Structure colour	See RAL palette
Module thickness	3 to 22 mm
PV module IGU type	Single IGU, transparent
	Single IGU, enamel-coated
	1-chamber IGU
	2-chamber IGU
PV module IGU heat transfer coefficient	0.8-1.1 W/m^{2}K
Module transparency	as required

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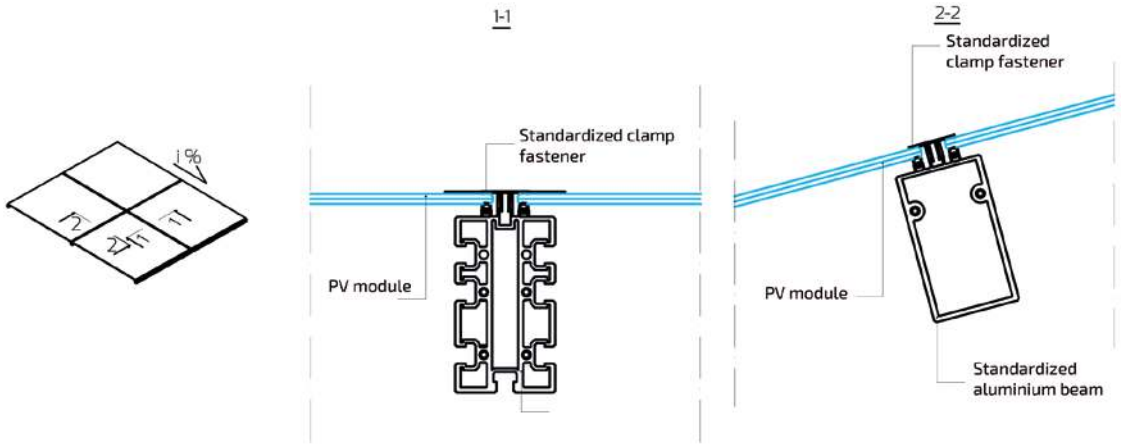

Concept / PV patio shelter

Łódź / Provincial Fund for Environmental Protection and Water Management

Concept / PV patio canopy

Concept / PV patio canopy

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