

# ML W20L PHOTOVOLTAIC VENTILATED FAÇADE SYSTEM

This is a twin version of the ML W20, intended for ventilated façades with glass-to-glass PV modules. Here the structural orientation of the grating installed on the building structure is vertical, which unlocks new structural and architectural options for application. The system can be installed with thermal insulation based on mineral wool or polystyrene boards. The system can accommodate any designed thermal insulation layer thickness.

The standard module gap of 10 mm can be increased and concealed by back fascias, or even highlighted for an added visual effect. More visual effects are possible with, for example, LED lamps installed on the inner side to back-light the façade at night. Similar to the ML W20 version, the PV modules are installed on the grating structure with structurally bonded backrails of anodized aluminium. This façade system solution is flexible and can accommodate various PV module sizes in one installation plane, as well as differentiated performance parameters or appearance. The installed power per 1 m<sup>2</sup> of the façade system depends on the specific PV cells (i.e. efficiency, size and colour) and their alignment. The typical rating ranges from 50 Wp/m<sup>2</sup> to 200 Wp/m<sup>2</sup>.

The PV modules can be created with regular glass panes in a single façade plane (i.e. without any PV cells; the regular glass panes can be tinted or laminated with colour film) to produce a uniform glass surface finish without any inner structural components being visible (in opaque projects), or even highly expose the substructure (in transpar-

ent projects). The aluminium substructure system can be coated in any RAL colour or be anodized. The entire façade solution exhibits superior durability and boasts minimum maintenance costs. The façade can be cleaned just like any other glass front, and the photovoltaic system is inspected just like any other building electrical installation, while its maintenance requires no consumables. The entire façade installation is automated and maintenance free.

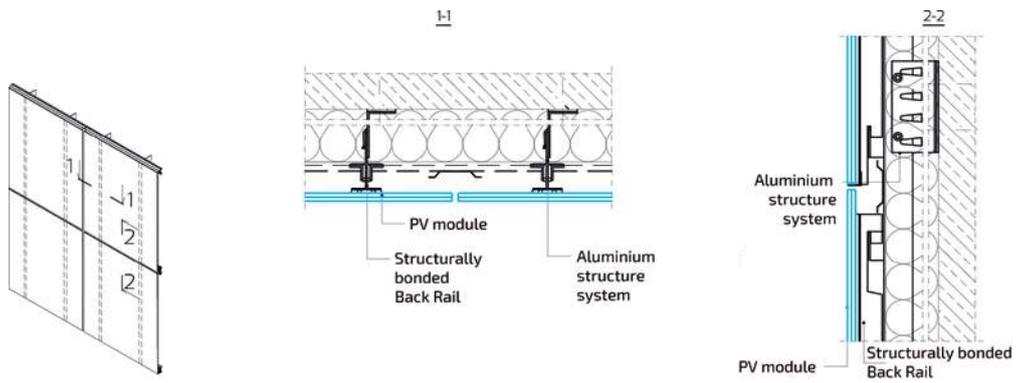
Combining the photovoltaic cells with the ventilated façade structure enables the consumption of energy from RES (Renewable Energy Source). Unlike roof-installed solar panels, the installation fasteners do not cause the risk of breaching the roof skin or overloading the roof structure with blocked snow heaps in winter. The photovoltaic façades can be installed on the southern, western and eastern faces of a building for more energy from the sun in the morning and afternoon, as well as in winter, which optimally approximates the photovoltaic energy output curve to the building power consumption curve.

The photovoltaic ventilated façade system has passed a large number of stringent tests to prove its suitability on buildings with different roof heights and in various geographical locations (where wind loads, snow loads, frost resistance, soft body impact and hard body impact were assessed, among others). Additional ventilation of building façades reduces the process of heating up of the structure in the summer, which greatly improves the building climate comfort and energy balance.

## System technical specifications

Unit power	max. 200 Wp/m <sup>2</sup>
PV cell efficiency	max. 22.5%
Max. operating voltage	1000 V DC
Module types	Monocrystalline, incl. back-contact Polycrystalline Thin layer
Optional	Transparent Printed

Substructure material	Aluminium AW 6063 / AW 6060 alloy
Module to module gap, V/H	>10 mm and more
Maximum module size	2500 x 1600 mm
Structure colour	See RAL palette
Module thickness	3 to 22 mm



Kielce / Kielce Technology Park



Zaczermie / ML System S.A.