

The essential partner for manufacturers of active facades

Words: Sébastien Eberhard, CEO and Peter Roethlisberger, COO Solaxesse

Solaxess SA is a Swiss company specializing in the design of materials for the photovoltaic (PV) industry, intended for the realization of architectural projects. Thanks to technology developed by CSEM, and three years of reliability and certification, Solaxess contributes significantly to the aesthetic improvement of photovoltaic panels. Now, they are an integral part of buildings, whether on facades, terraces or roofs.

The company is active in distributing its products to PV panel manufacturers around the world. Our films, 0.1 to 0.5 mm thick, are integrated onto standard PV modules during their manufacturing process. This means it's possible to obtain a white, grey or other light-coloured PV panel that is completely uniform.

The main innovation is the capacity to maintain optimal performance, with excellent aesthetics. This specificity is essential for the development of so-called 'active' facades in the field of BIPV (Building Integrated Photovoltaics).

Our films allow builders, developers, and architects to treat PV panels as a new building element in their own right.

These new photovoltaic panels are totally invisible, even from close up. They could be mistaken for aluminum, Eternit or lacquered metal panels.

Solaxess has now moved in to new premises specially adapted to its development.



Marin-Epagnier, canton of Neuchâtel, Switzerland

Modules with the Solaxess technology have successfully passed TÜV tests

Standards: : EN IEC 61215-1/-2:2016, EN IEC 61730-1/-2:2016.

This means that TÜV-approved PV panel manufacturers can offer their own white certified modules, with a minimum of effort



It's now possible to have PV modules that conform to an aluminium plate.

This is what we presented at Intersolar München in 2019.

Aesthetics and 100% uniformity respected: no cells are visible!



We have extended our colour range and developed other darker tones such as terracotta and grey. These colours allow for optimal performance.

We have also modified the properties of our product and simplified the application during module manufacturing. This new product is in the process of being certified and is expected to be available in spring 2020.

Real world advantages of white modules

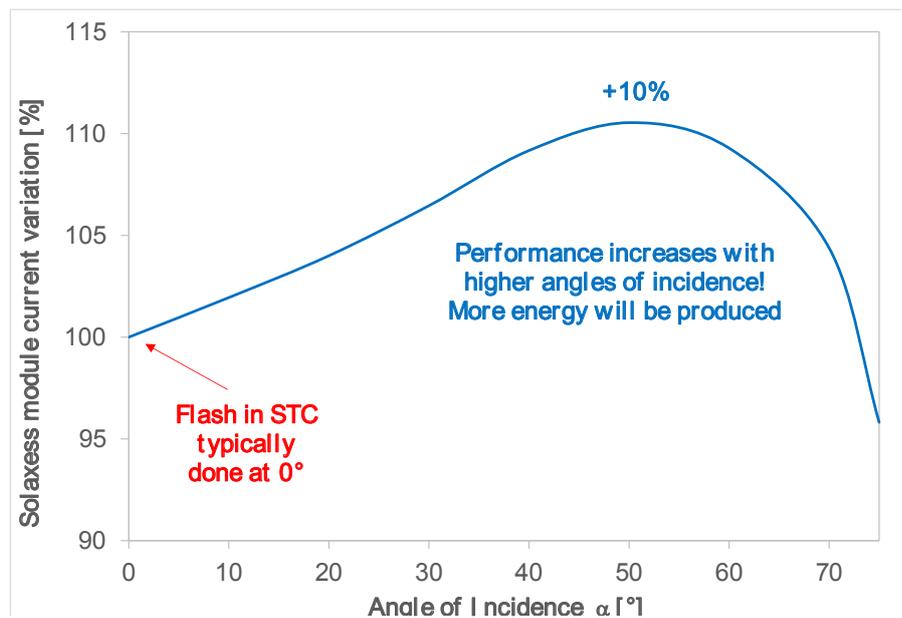
Performance

After months of tests and comparisons between black and white modules from the same manufacturer, we can see that instead of a 38-40 % reduction, flashed measurements, the average power loss under real conditions is only 30%. The monitored white modules demonstrated a performance significantly higher than expected.

In addition, panels made with our technology have an additional technical aspect that allows them to have an improved performance when positioned vertically.

Temperature range

It is proven that the temperature at the back



of our panels, based on our technology, is significantly lowered. This reduces the buildings' temperature increase during the summer period and thus leads to a significant reduction in energy consumption for cooling i.e. air conditioning.

Cleaning

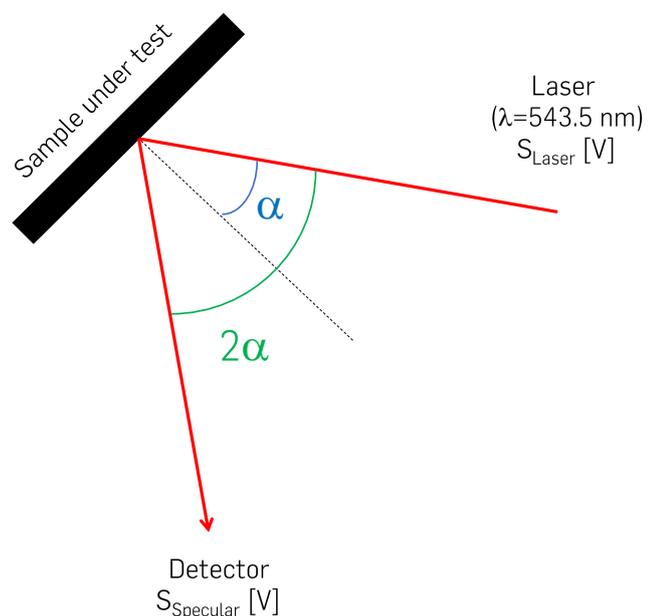
Composed of hydrophobic nanoparticles, our solution cleans itself on contact with water. Dust and other dirt adhere less and are cleaned when it rains.

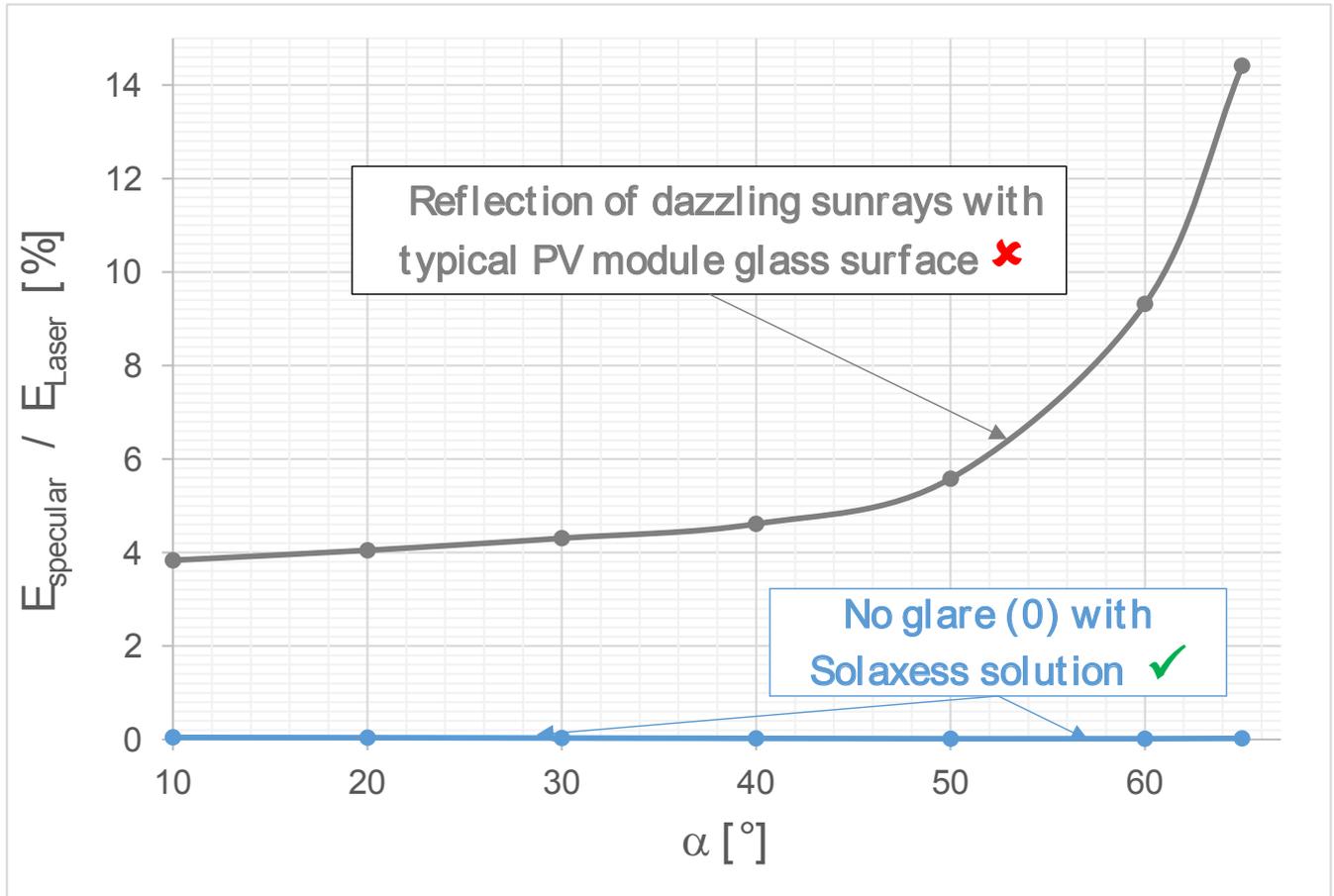
Matt appearance, glare-free

In addition, it has been shown that modules manufactured with our technology do not dazzle, which is very important for facade installations. They are covered with ETFE, a polymer widely used in construction.

After months of testing and establishing an efficient manufacturing unit, we now supply our products to all manufacturers of photovoltaic solutions, who wish to design active facades, building walls, balcony

Specular reflectance measurement





barriers, roofs and tiles, which meet aesthetic criteria. This is requested in certain regions or required by heritage protection authorities etc...

Ongoing projects

The Solaxess film is now being produced through strategic partnership, with industrial partners in Europe. With its production chain now set up, Solaxess is in a favourable position to showcase the technology through various projects this coming year.

Following some initial installations, including a residential building in Switzerland, other projects will be launched in the coming months in Denmark, Sweden, and South Korea, including a major project of more than 16,000 sqm in Switzerland.

Conclusion

Our primary objective is to offer the best solution in terms of efficiency, without

compromising the aesthetics of the building. Architects can continue to build structures with light or homogeneous colours, without having to integrate unsightly elements to produce energy.

We no longer consider the photovoltaic panel in the traditional sense of the term, i.e. only as a source of energy, but also as a building material. The building envelope thus becomes active and defines not only its aesthetics, but also provides it with the necessary energy it needs for its autonomy.

If you are a PV panel manufacturer looking for new markets and want to participate in the development of architectural projects that focus on the design of intelligent, beautiful and integrated buildings, then our product is the right one for you.

Several panel producers are already working with our technology and we would be happy to assist you in the installation and qualification of your future aesthetic panels.

We are confident in the sunny future of the active facade.

www.solaxess.ch/en/home/

Awards and recognitions

- Winner of the Zurich Switzerland & Liechtenstein 2016 Climate Prize, construction & housing
- pv magazine award 2017 for top innovation
- Winner of Inventer - Demain 2018 award
- Winner of 'Prix SUD 2018' for sustainable start-up
- Nominated for TOP100 Swiss start-up Award 2019
- Partner in the European Be-Smart project
- Member of the World Alliance for Efficient Solutions, created by the Solar Impulse foundation.