

New dimensions in building-integrated photovoltaics: ASCA and BGT realize record-breaking solar facade for an administration building

In the western Münster region of Germany, the new administration building of the Gronau municipal utility has a facade that will generate environmentally friendly solar power in the future. BGT Bischoff Glastechnik GmbH integrated the custom-designed solar modules manufactured by ASCA – an ARMOR Group company and world market leader in organic photovoltaics (OPV) – into the facade glass.

The project was conceived and carried out by the architects of H III S - harder stumpfl schramm freie Architekten from Stuttgart. "The display window facing the street visualizes the themes of energy and sustainability," is how the architects explain the design. For this purpose, the glass modules with integrated ASCA solar film measuring 3.66 by 2.25 meters were attached to the south facade of the new building, alternating with conventional glass panes. "The size of the solar modules is world-class and no more complicated to produce than normal laminated glass panes. This represents a milestone for building integration of photovoltaics (BIPV)," explains Hermann Issa, ASCA's senior vice president in charge of Business Development & Project Management.

The glass façade at the administration building in Gronau covers an area of 222 square meters. Issa adds: "With this project, we are demonstrating how easy it is to manufacture solar-active façade elements with ASCA OPV products. Planners and designers no longer have to worry about technical hurdles, even with customized façade modules of this enormous size."

Transparent glass modules produce electricity

The municipal utility moved into the building in late 2022. While the glass modules allow light into the building from the outside, they also offer a sense of enclosure and security despite their transparency – but also provide employees with a full view outside. The electricity is produced by organic photovoltaic cells (OPV), which ASCA applies to films using a special printing process. For the project in Gronau, ASCA produced green foils to match the surrounding clinker brick facade of the adjacent structures. "We were convinced that we could take advantage of many design options," say the architects, who were impressed by how much influence they had in designing the solar foils. "Building-integrated photovoltaics is a hot topic that will continue to grow in importance in the future," the architects say.

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About ASCA

ASCA designs and develops smart, customized and flexible solar energy solutions with a low carbon footprint on an industrial scale for its international partners. The 60-strong team of experts is spread across sites in France and Germany. ASCA is a subsidiary of ARMOR Holding. ARMOR is a manufacturer specialized in the formulation of inks and in thin film coating. The group is the world leader in the design and manufacture of thermal transfer ribbons for variable data printing for traceability on labels and flexible packaging. ARMOR has a global presence and employs approximately 2,450 people in more than twenty countries. The company generated sales of €372 million in 2020.
www.asca.com

About HIIIS

Founded in 2004, the architectural office H III S harder stumpfl schramm freie architekten Part mbB plans and realizes future-oriented, sustainable and user-oriented buildings. Its main areas of expertise include buildings for the public sector and building in existing structures. Under the direction of Franz Harder, Gabriele Harder, Andreas Mädche, Florian Schramm and Matias Stumpfl, the versatile and diverse office team accompanies all projects from the first draft to completion. H III S attaches particular importance to solutions that are sustainable in the long term. For this reason, it precedes all its planning by carefully analyzing requirements together with client and users. Specialist planners and consultants from energy technology and other disciplines assist H III S harder stumpfl schramm in project implementation.
H III S is a member of the DGNB German Sustainable Building Council.
www.harderstumpflschramm.de