



1 The solar cells behind the colored glass are only visible at a close distance.

2 Different colored module samples, demonstrating the unlimited color variety.

## COLORED PV MODULES FOR BUILDING INTEGRATION

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Colored PV modules strongly support the acceptance and attractiveness of building integrated PV (BIPV). Especially architects and building planners desire an individual color choice, saturated colors, a homogeneous appearance for all possible viewing angles and at the same time a high module efficiency. The demand grows rapidly – builders from around the world increasingly ask for self-sufficiency of their buildings.

With our newly developed colored modules, Fraunhofer ISE contributes to appealing and energy-efficient buildings. The smooth and powerful, individually adjustable color and the high efficiency of the implemented modules is unique in the building sector.

### Characteristics of the Colored Layer

The layer is a 3D photonic structure, inspired by the Morpho-Butterfly and made of dielectric materials. The special layer set-up allows a very high color saturation

and a very good angular color stability to be reached.

Compared to an uncoated cover glass, the loss of generated solar power is 7%. The power loss is about the same for all colors.

### Features of Colored BIPV Modules

- only 7% transmission losses caused by the colored layer
- individual color choice
- saturated colors
- good angular color stability
- reduced glare effect

### Our Offer for Interested Partners

- architectural reference objects with individual designs, manufactured at Fraunhofer ISE
- partnership for the further development and upscaling of the processes with module or glass manufacturer or glass processor