

Curved BIPV bridge

Aesthetic integration

The customized colour of both the PV cells and the module glass layers creates a homogeneous overall appearance. The BIPV surfaces follow the construction shape thanks to the curved modules provided in 14 different sizes (without edges). The mounting structure is invisible.

Energy integration

The BIPV modules are estimated to produce around 2.8 GWh per year.

Technology integration

8600 glass-glass modules (eFORM colour) were integrated on the bridge, as custom products provided by SUNOVATION. They are double screen printed and contain high-efficiency crystalline cells. The unique Silicon Cell Embedding Technology (SCET) is applied in the creation of the BIPV modules, enabling the architects to seamlessly integrate curved solar glass elements into the curved roof shape.

Decision making

Green coloured modules were integrated since the green is an important and meaningful colour for Muslims people.

Lesson learnt

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PROJECT DATA

Project type	Retrofit
Building function	Religious
Integration system	Opaque tilted roof
Location	Al Haram, Mecca, Arabia Saudita

BIPV SYSTEM DATA

Module type	Custom made modules
Solar technology	Silicio cristallino
Nominal power [kWp]	1540
System size [m²]	13 000
Module size [mm]	14 diverse
Orientation	Varii

Tilt [°]	Varie
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BIPV SYSTEM COSTS

Total cost [€]	-
€/m²	-
€/kWp	-

PRODUCER DATA

Producer	Sunovation GmbH
Address	Glanzstoffstraße 21, Elsenfeld, Germania
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1. Curved BIPV bridge, Mecca
2. Overall view of the BIPV bridges © Sunovation