



Building-Integrated Photovoltaic (BIPV) Glass System



## A Legacy of Sustainability Charges Ahead

Vitro Architectural Glass, North America's largest and most trusted glass manufacturer, is responsible for many of the commercial glass industry's most-specified products, including highperformance *Solarban*<sup>®</sup> low-emissivity (low-e) glasses, *Starphire Ultra-Clear*<sup>®</sup> glass and a range of performancetinted glasses.

Vitro Glass was the first U.S. glass manufacturer to have its entire collection of architectural glass products recognized by the *Cradle to Cradle Certified*<sup>™</sup> Products Program and the first North American manufacturer to publish third-party verified Environmental Product Declarations (EPDs) for its flat glass and processed glass products. Our products have been installed on hundreds of LEED<sup>®</sup> certified buildings, including three of the world's 11 certified net-zero "living" buildings and eight of the AIA Committee on the Environment (COTE) award-winners for 2020 and 2021. Learn more at vitroglazings.com/sustainability.

### **Unveiling New Possibilities**

The Vitro legacy of sustainability continues with the *Solarvolt*<sup>™</sup> buildingintegrated photovoltaic (BIPV) glass system. To realize this offering, Vitro Architectural Glass acquired assets from *Solarnova*: a proven, Germany-based manufacturer of BIPV glass systems with successful commercial installations throughout Europe and North America.

Seamlessly integrated into the building structure, *Solarvolt*<sup>M</sup> BIPV glass unveils new possibilities for renewable power generation and design. *Solarvolt*<sup>M</sup> BIPV glass combines aesthetics, CO<sub>2</sub>-free power generation and protection from the elements for commercial buildings.

### Why Solarvolt<sup>™</sup> BIPV?





## Elegant, Reliable Energy Generation & Protection

**Balcony systems** provide protection from falls while collecting energy

**Vision glazing** maximizes light transmission and exterior views



**Overhead glazing** and **skylights** offer weather protection while providing shade

**Sunshading elements** help reduce glare and lower interior temperatures while supporting occupant comfort

**Façades** integrate structural, insulated and/or opacified spandrel glass for maximum energy generation

### An Integrated Building Envelope Solution

Solarvolt<sup>™</sup> BIPV glass systems replace traditional façade cladding materials, such as stone or ceramic materials, and enhance just about any part of commercial building exteriors: balustrades and balconies, skylights, spandrel glass, roof elements, canopies and more. Upon request, *Solarvolt*<sup>™</sup> BIPV glass can become components of many traditional façade solutions.

Vitro manufactures customizable lites, including popular glass-glass composite solar panels with solar cells arranged between two glass lites, as well as glass substrate lites in 2,500mm x 3,700mm (98.4" x 145.6") and in thicknesses up to two 10mm (0.39") lites.



## A World of Design Possibilities



Once you determine a size, Vitro engineering services can design the right photovoltaic glass lite for your needs. Cell density, transparency, colors and shapes will be adapted to your exact aesthetic, performance and technical requirements.

Our glass lites can be used in commercial buildings to enhance their aesthetics and energy generation performance. Two examples include the Public Safety Building in Salt Lake City, Utah, and the National Academy of Sciences in Washington, D.C.

### Harness Light & Shadow

The term "solar painting" is often used to refer to the interplay of light and shadow resulting from the spacing between individual solar cells. This technique is commonly leveraged for overhead glazing and skylight applications. Learn more at **vitrosolarvolt.com**.



# Photovoltaic (PV) Crystalline Silicon Types

Monocrystalline PV renders a black appearance on solar cells with maximum energy-generation performance. For a patterned appearance with some of the energy generation benefits of monocrystalline PV and higher visible light transmission, monocrystalline PV strips are also available.



Monocrystalline PV

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Monocrystalline PV Strips



### Renewable Energy Revolution.



Why choose BIPV glass lites over other building envelope materials?

They help your project achieve zero energy.

At NEURONAL in Mexico City, Mexico, the *Solarvolt*<sup>™</sup> BIPV glass façade can generate up to 44,000 kWh per year. It also results in energy savings by providing shade from the sun, it reduces air conditioning costs by 25% to 30%. It also diminishes noise from the outside and provides wind and weather protection. With the help of *Solarvolt*<sup>™</sup> BIPV glass, tomorrow's buildings will be constructed as visually attractive, small-scale power stations, driving the CO<sub>2</sub>-free zero energy transformation through self-sufficiency. The renewable energy revolution has already begun. Are you ready? *Solarvolt*<sup>™</sup> BIPV glass by Vitro Architectural Glass can take your sustainability goals to the next level.







## Resources, Certifications & Accreditations

Solarvolt<sup>™</sup> BIPV glass systems are being tested to achieve the newest UL certification. Previous certificates include:

### IEC 61215 / EN 61215

### IEC 61730 / EN 61730

Crystalline silicon terrestrial photovoltaic (PV) modules – Design qualification and type approval Photovoltaic (PV) module safety qualification – Requirements for construction

#### IEC 61730 / EN 61730

Photovoltaic (PV) module safety qualification — Requirements for testing

All *Solarvolt*<sup>™</sup> BIPV certifications and warranties are registered under ILUMIMEX S.A. de C.V., a Vitro company. *Solarvolt*<sup>™</sup> BIPV also is undergoing new certification testing to **IEC**, **UL** and **CAN/CSA** standards and is pursuing **CEC** and **SGCC** certification.



**Download** certificates, performance guarantees and more at **vitrosolarvolt.com**. A warranty is available.



**Explore** the full range of Vitro Glass products, including literature and technical information, at **vitroglazings.com**.

### Charge Ahead. Reach Out.

For specification information and additional technical details, reach out to your Vitro National Architectural Manager.

vitroglazings.com/rep







vitroglazings.com 1-855-VTRO-GLS (887-6457)

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