

Public Safety Building, Salt Lake City, UT



FAÇADES & BEYOND

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 high-performance *Solarban®* low-emissivity (low-e) glasses, *Starphire Ultra-Clear®* glass and a range of performance-tinted glasses.

Vitro Architectural Glass is dedicated to continuously raising the industry standard for sustainability and innovation. In line with our mission:

- All our architectural glass products meet the Low Embodied Carbon (LEC) glass standards established by the U.S. General Services Administration (GSA)
- We were the first U.S. float glass manufacturer to have our entire product offering recognized by the *Cradle to Cradle Certified®* program
- We were the first North American glass manufacturer to publish third-party verified Environmental Product Declarations (EPDs) for our products

We are proud to say our products are featured globally in over 90 LEED certified buildings and in several buildings that have achieved or are pursuing Net-Zero Energy (NZE) or Living Building Challenge (LBC) certifications. Additionally, our products are showcased in projects that earn AIA Committee on the Environment (COTE) honors each year.

Learn more at vitroglazings.com/sustainability.

Unveiling New Possibilities

The Vitro legacy of sustainability continues with the *Solarvolt™* building-integrated 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™* BIPV glass unveils new possibilities for renewable power generation and design. *Solarvolt™* BIPV glass combines aesthetics, CO₂-free power generation and protection from the elements for commercial buildings.

Why *Solarvolt™* BIPV?



Made-to-order



Aesthetic flexibility



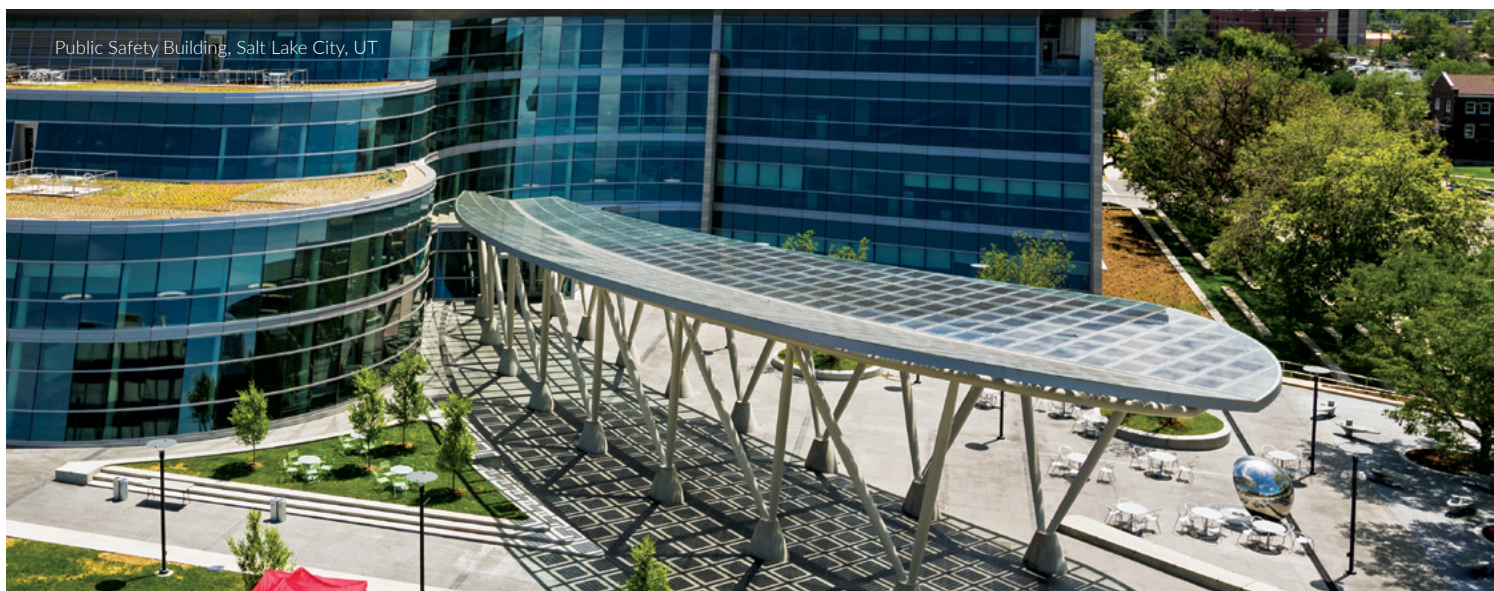
High-performance



Replaces conventional cladding



Sustainable



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™ 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™* 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.



Power Generation



Design Element

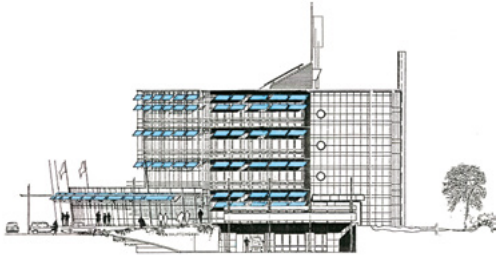


Building Component



All in One

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.

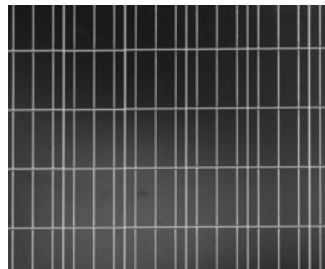
Harness Light & Shadow

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 vitorsolarvolt.com.



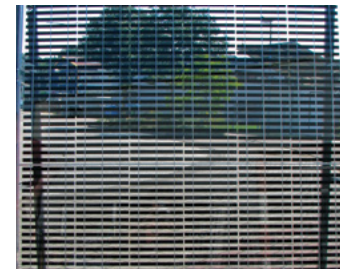
Photovoltaic (PV) Crystalline Silicon Types

Monocrystalline PV renders a black appearance on solar cells with maximum energy-generation performance.



Monocrystalline PV

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 Strips



National Academy of Sciences, Washington, D.C.

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™* 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™* BIPV glass, tomorrow's buildings will be constructed as visually attractive, small-scale power stations, driving the CO₂-free zero energy transformation through self-sufficiency. The renewable energy revolution has already begun. Are you ready? *Solarvolt™* BIPV glass by Vitro Architectural Glass can take your sustainability goals to the next level.

NEURONAL (Santa Fe Offices), Mexico City, Mexico





EWE Arena, Oldenburg, Germany



EWE Arena, Oldenburg, Germany

Resources, Certifications & Accreditations

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

IEC 61215 / EN 61215

Crystalline silicon terrestrial photovoltaic (PV) modules – Design qualification and type approval

IEC 61730 / EN 61730

Photovoltaic (PV) module safety qualification – Requirements for construction

IEC 61730 / EN 61730

Photovoltaic (PV) module safety qualification – Requirements for testing

All *Solarvolt™* BIPV certifications and warranties are registered under ILUMIMEX S.A. de C.V., a Vitro company. *Solarvolt™* 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.

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