

SWISS
INSO

innovative solar solutions



The rise of solar architecture

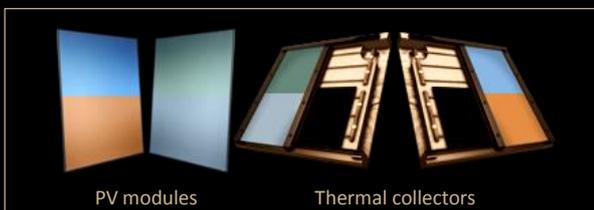
The acceptance of solar energy systems as integrated elements of the building's envelope is mainly limited by their unpleasant visual aspect. They are often considered as technical components to be hidden and confined to rooftop applications.

SwissINSO is a pioneer in the development and application of new solar technologies and products targeted at enhancing the aesthetics and overall efficiency of Building Integrated Photovoltaic and Thermal solar energy solutions.

Developed in partnership with the EPFL (Swiss Polytechnic Institute), Kromatix™ technology offers the only attractive alternative to today's black and dark blue panels, without compromising on performance, efficiency, or architectural design.

Kromatix™ solar glass is available in various tuneable colours (all colours are virtually possible, white and sparkling red excepted) and has a beautiful opaque finish, making the inner workings of the solar panels invisible and thus further enhancing the overall aesthetics of the panel.

Made for both thermal collector and PV panels.



The technology is optimised for both thermal collectors and photovoltaic modules allowing for the very first time to mix them in a homogeneous and aesthetical manner.

Non-active panels, dedicated to building areas that do not have an appropriate orientation or location (north orientation, shaded area...) to produce solar energy are available to enhance façades or roofs' homogeneity.

New opportunities for architectural design and energy savings

With Kromatix™ technology, solar panels are no longer architectural intruders. They can be harmoniously integrated into the building envelope. Roofs, facades, balconies, etc. are now fully available to collect the sun radiation and maximize the solar energy production.

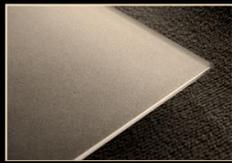
Key benefits

- Attractive opaque coloured solar glass with mat finish and excellent performances.
- Relevant for photovoltaic modules, solar thermal collectors, and cladding elements.
- Maximum use of the building envelope to collect solar energy.
- Overcome of the legal restrictions in protected areas (no visual pollution) and restricted usage near airports (no glare effect).

A true breakthrough for the Solar Industry!

Kromatix™ glass process

Applications



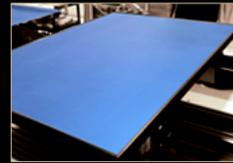
Solar glass



Colouring process



Heat treatment



Panel assembly



On-site installation

Glass substrate

Extra-white float glass, is used as raw material. The outside surface is treated to become mat without deteriorating glass solar transmittance.

Coloured coating

A multi-layered coating is deposited on the inner glass surface by low pressure plasma processes. Its constitutive materials are exclusively characterised by high solar transmittance, minimal absorption (no pigments or dyes, meaning that the coloured glass will not fade out with time and sun exposure) and high durability.



Coloured coating deposition line

Glass processing

The coloured solar glass is produced in large dimensions (up to 3210 mm x 6000 mm), in various thicknesses (from 3 to 12 mm) and can be subjected to the same treatments (cutting, heat-strengthening, lamination) as standard solar glass.

Mounting on solar panels

The coloured solar glass is simply mounted on solar panels instead of the standard glass cover.



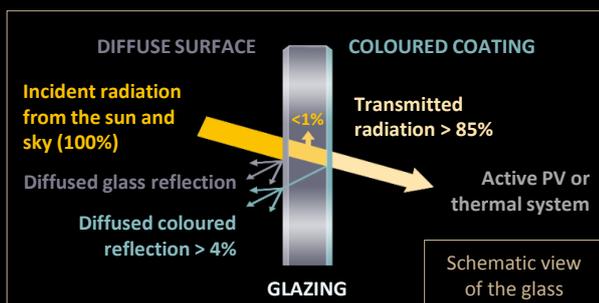
Panel assembly: visual inspection

The coloured appearance results from the reflection of a narrow spectral band in the visible part of the solar spectrum. The rest of the solar radiation is transmitted to the solar panel to be converted into energy. The coloured coating stacks are optimised to offer the best compromise between colour intensity and solar panel efficiency (solar transmittance above 85%).

Solar panel on-site installation



Example of roof installation



Example of façade integration

Uncompromising new opportunities

Kromatix™ glass applied to solar panels of all shapes and sizes

Photovoltaic modules:

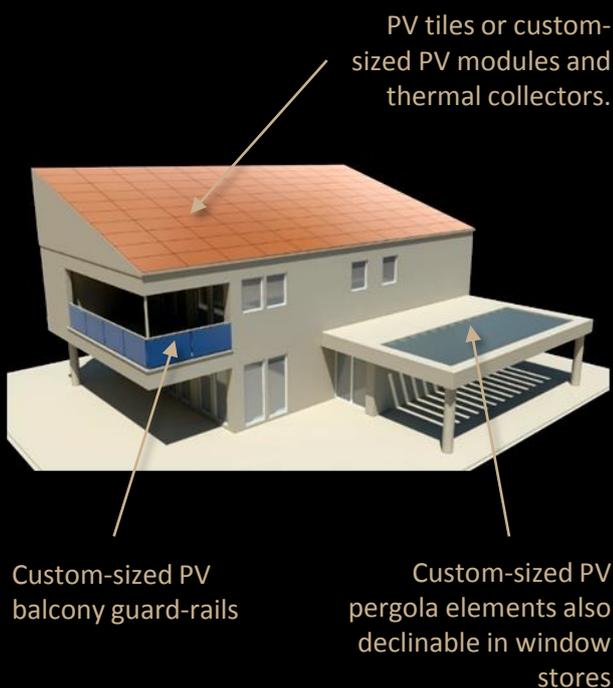
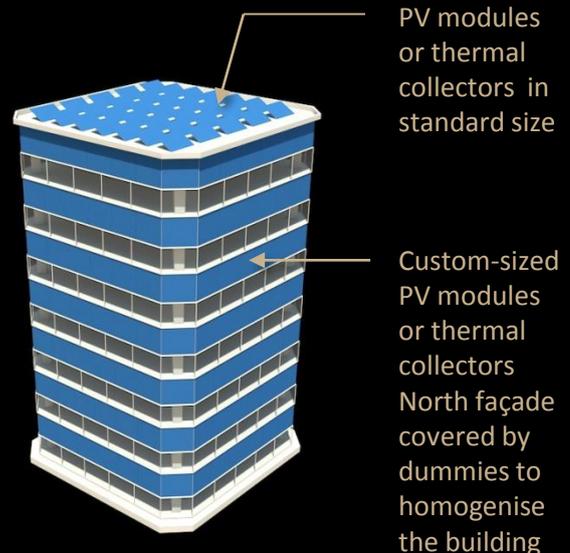
SwissINSO provides coloured PV modules, based on various technologies (monocrystalline cells and micromorphous tandem, CdTe, CIGS thin film cells), in various shapes and custom sizes, with or without frame.

Thermal collectors:

Thermal collectors are also proposed in various sizes with a simple glass sheet for roof applications or with a double laminated coloured glazing to fulfil safety requirements in case of façade installation.

Dummy elements:

Custom-sized non-productive elements of any shape are producible for building parts that are not ideally oriented or submitted to high shading effects.



Optimised integration and solar energy production

For each architectural project, SwissINSO proposes the best possible technology, as a function of the customer needs (electricity generation, hot water production, cooling) as a function of the house or building geographical location, orientation and available surface.

Regarding PV installations, monocrystalline technology, particularly performing in case of direct sun radiation, is preferred for roof applications, whereas thin film technologies, more efficient in case of diffuse light and less impacted by shadowing effects and high are recommended for façade integration and warm climates.

Kromatix™

Coloured glass for solar applications

Patented Swiss technology

Attractive colours
Beautiful mat finish
Harmonious architectural integration
Relevant for PV and thermal products

Anti-glare effect
Robust technology
High solar transmittance
Same mounting as standard solar glasses

A true breakthrough
for solar industry !