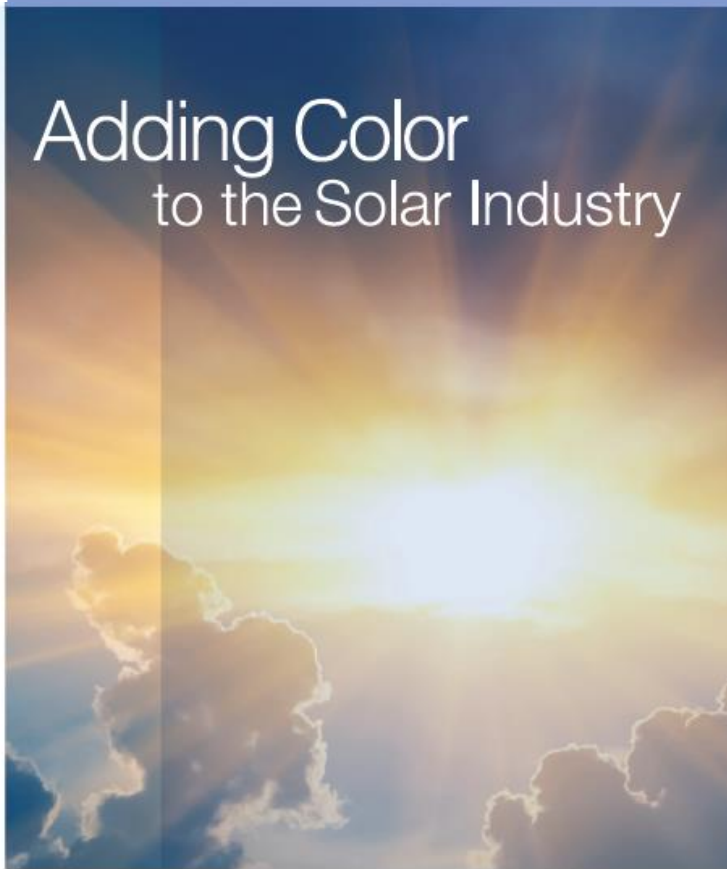




EMIRATES INSOLAIRE

Kromatix™
Technology

Adding Color
to the Solar Industry





EMIRATES INSOLAIRE

INTRODUCTION

Solar energy is the cleanest and most abundant renewable energy source available on the Earth. Modern technology can harness the solar energy for a variety of uses, including generating electricity, providing light or a comfortable interior environment, and heating water for domestic, commercial or industrial use.

Some interesting comparisons to grasp the massive potential of solar energy include:

- One year's worth of solar energy reaching the surface of the Earth would be twice the amount of all non-renewable resources, including fossil fuels and nuclear uranium.
- The solar energy that hits the Earth every second is equivalent to 4 trillion 100-watt light bulbs.
- The solar energy that hits the one square mile in a year is equivalent to 4 million barrels of oil.

There are no doubts on the potential of the solar energy. Over the years, the acceptance of solar energy systems as integrated elements of the building's envelope was mainly limited by their unpleasant aesthetic aspects.

This is, however, a thing of the past!

A NEW REVOLUTION

Emirates Insolaire, a UAE-based pioneering company dealing with the development and application of new solar technologies and products, has revolutionized the industry with the first-of-its-kind technology which allows solar solutions to be integrated completely with any type of architectural designs in buildings across the globe.

The innovative technology opens a whole new world of opportunities in terms of harnessing solar power without compromising the aesthetics design and façade of buildings, thus leading to enhanced energy savings and sustainable future!

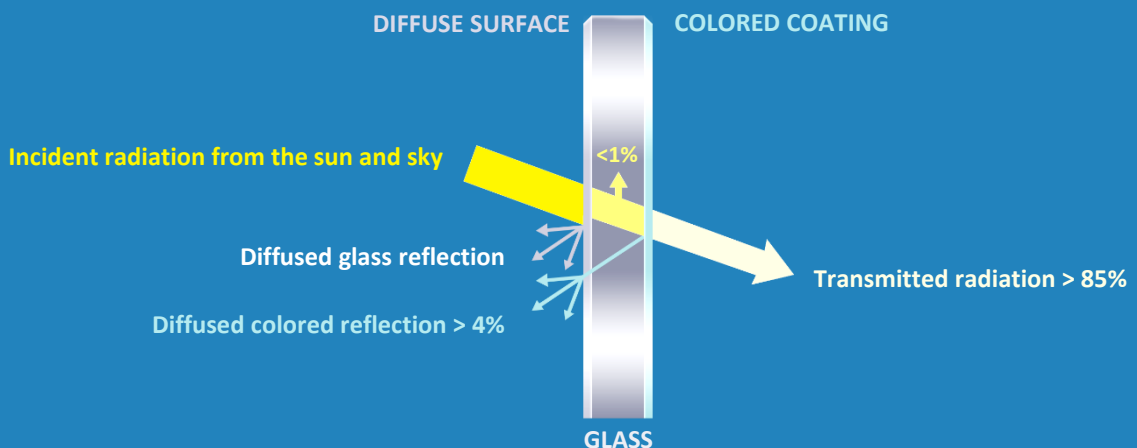


Kromatix™

PATENTED TECHNOLOGY

Emirates Insolaire uses the Kromatix™ patented technology which provides colored solar glass for both photovoltaic modules and solar thermal collectors.

The Kromatix™ technology has been developed in close collaboration with the Swiss Federal Institute of Technology [EPFL] and offers the only attractive alternative to the black and dark blue panels, without compromising on the performance, efficiency or architectural designs.



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 and high durability. No pigments or dyes are used so that the color does not fade out with the passage of time or due to sun exposure.

The colored 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 colored coating stacks are optimized to offer the best compromise between color intensity and solar panel efficiency.



Kromatix™ SOLAR GLASS

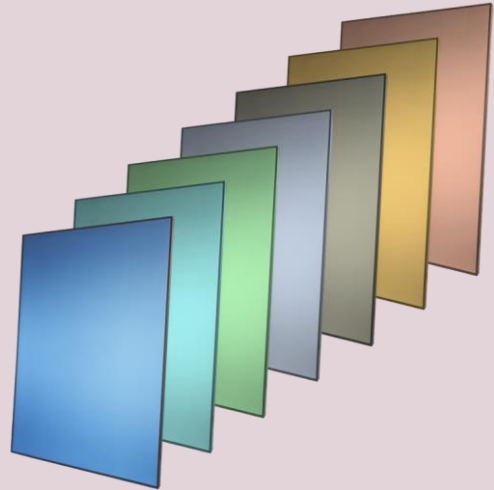
The IFT Certified Kromatix™ Solar Glass is available in various colors and has a beautiful opaque finish, making the inner workings of the solar panels invisible and thus enhancing the overall aesthetics of the solar panels and avoiding glare effects. Kromatix™ Glass can be applied on all available PV technologies.

Kromatix™ PV MODULES

Kromatix™ Modules are OEM manufactured using Kromatix™ solar glass to the highest industry standards and having all required certification specifications

Colour	Solar transmittance
Grey	90 +/- 1 %
Light-Grey	85 +/- 1 %
Blue	88 +/- 1 %
Blue-green	88 +/- 1 %
Green	87 +/- 1 %
Bronze	89 +/- 1 %
Gold	86 +/- 1 %
Terracotta	87 +/- 1 %

* Measurements done on 3,2 mm-thick glass.



Color remains stable with time and sun exposure and thanks to the unique technology average transmittance is above 85%.

The colored solar glass is produced in various dimensions and thicknesses, can be processed in the same way as standard solar glass in order to fit the customer production process.

The Kromatix™ modules are available as crystalline modules, framed (including colored frames), unframed and as glass/glass modules.

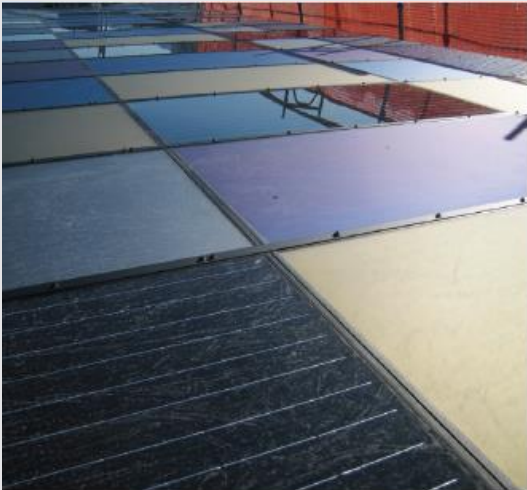
The module efficiency varies depending on the color used but is above 15%.

The modules carry industry standard guarantees.



APPLICATIONS

New opportunities for architectural design and energy savings



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

KEY BENEFITS

- Attractive opaque colored solar glass with mat finish and excellent performance
- Relevant for Photovoltaic modules, Solar Thermal Collectors and Cladding elements



- Maximum use of the building envelope to collect Solar Energy
- Overcomes legal restrictions in protected areas as there is no visual pollution. Particularly relevant in restricted usage areas in close proximity to airports as there is no glare effect.





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www.emiratesinsolaire.com

Kromatix™ solar glass and modules are produced and distributed by Emirates Insoaire LLC. Established in 2013 and headquartered in Dubai, Emirates Insoaire is part of Glass LLC, the glass pioneers in the Middle East, Emirates Insoaire is a joint venture of Dubai Investments PJSC – a leading company in the UAE with 40 subsidiaries & joint ventures operating across a diverse range of sectors, and Swissinso Inc., a company pioneering in the development and application of new solar technologies.



www.dubaiinvestments.com

Incorporated in 1995, Dubai Investments PJSC is a leading investment company listed on Dubai Financial Market and owns over 40 subsidiaries and joint ventures across sectors including manufacturing, financial investments, real estate development and mergers and acquisitions. One of its subsidiaries is Glass LLC, the first glass holding company in the Middle East, dedicated to meeting the growing needs of the regional glass industry. Glass LLC incorporates five companies: Emirates Glass LLC, Emirates Float Glass, Lumiglass Industries, Saudi American Glass Company and Emirates Insoaire.



www.swissinso.com

Swissinso Inc. is a company pioneering in the development and application of new solar technologies. Over the last decade it developed the Kromatix™ technology in close cooperation with the Swiss Federal Institute of Technology [EPFL]. This sustainable technology allows solar solutions to be completely integrated into the architectural design of all types of buildings, the first-of-its-kind.

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