

# Danish solar energy Exclusive modules for building integration -



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**Dansk Soenergi ApS**  
Danish Solar Energy Ltd.

# Solar energy gives architectural freedom

COLORED SOLAR MODULES

WITHOUT LIMITATIONS

Danish Solar Energy Ltd. presents a revolutionary breakthrough with their patent: CFR - Colored photovoltaic modules that surpass all previous limitations. The colored solar roofs and facades not only provide aesthetic appeal but also unlock new possibilities in architectural design, paving the way for a highly energy-efficient architecture without constraints.

All types of facades and roofs can now function as active elements in the energy supply, granting architects unprecedented freedom. This innovative approach transcends the traditional dichotomy between green energy and beauty, establishing a symbiosis between technology and aesthetics, opening up entirely new and unimaginable dimensions.

## ADVANTAGES:

- High light transparency ranging from 85% to 98%, ensuring unique and exceptional efficiency.
- New aesthetic design options.
- Economically viable production.
- Significant expansion of applications for solar roofs and facades.



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## CFR-module Unique design - Choose:

Module shape

Module size

Module color or colors

Light reflection

## Design your own exclusive sustainable power plant.

Danish Solar Energy offers our partners the unique opportunity to customize their solar modules for roofs, facades, and more. This includes choosing colors, shapes, sizes, and the degree of module reflection. The flexibility extends to adapting module patterns to blend seamlessly with the surrounding environment.

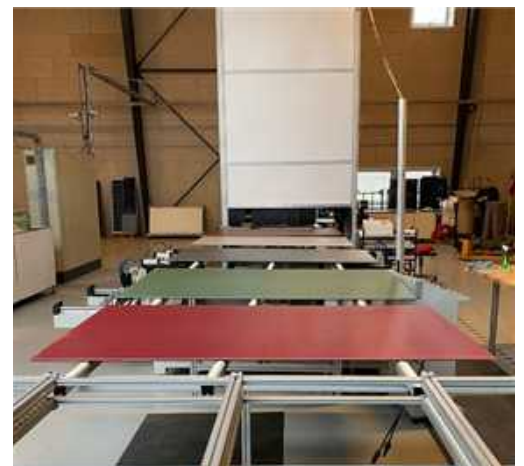
During the photovoltaic module design process, decisions must be made regarding integration into the building. This choice minimizes visibility, creating a sleek and modern appearance, or positions the photovoltaic modules as a prominent feature, making them the „face“ of the building exterior. This approach not only elevates the architect's reputation within the industry but also enhances the building's green profile by incorporating renewable energy into its construction.

Collaborating with Danish Solar Energy involves joint design efforts for the desired roof or facade. We act as active sparring partners, offering guidance on both technical and aesthetic possibilities. Our team conducts necessary calculations to ensure not only a visually appealing structure but also optimal energy production.

Building-integrated solar cells emerge as an ideal solution for reducing CO2 emissions from buildings. By seam-

lessly integrating them, structures contribute actively to addressing climate challenges, providing CO2-free energy without visible disruption. We offer complete systems, facilitating communication with installers, professionals, and suppliers to streamline the process for our partners.

Boasting over 25 years of industry experience, our extensive know-how allows us to navigate challenges that may seem insurmountable to others. All our photovoltaic modules are manufactured at our Danish facility, designed to minimize CO2 emissions during production. Despite operating Denmark's largest solar production facility, we remain highly flexible to accommodate diverse preferences and specifications.



Dansk Solenergi ApS  
Danish Solar Energy Ltd.

# From idea to Realization



## CUSTOM DESIGN We can help you with

### Aesthetics

- Color or colors
- Patterns
- Surfaces (Reflection degree)

### Mechanics

- Dimensions (LxWxH)
- Fastening
- Water seal

### Electrical

- Configuration
- Junction box
- Cables and connectors

### Performance

- Energy production
- Orientation and angles
- Shadows

### Certifications

- IEC61215
- IEC EN730
- UL

We have been consulting small Design customer to some of the biggest companies in Denmark as the UN buildings in Copenhagen.

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## Professional Consultancy with more than 30 years experience

Architects and builders desire a personalized color selection for solar modules, vibrant colors, a uniform appearance from every possible viewpoint, and simultaneously, high module efficiency.

The demand for these products is growing significantly. Builders worldwide are increasingly emphasizing the sustainability and self-sufficiency of their constructions.

When designing the solar module, a decision must be made on whether it should be seamlessly integrated into the building, minimizing visibility and blending with surrounding materials, or if the building's design should adopt a futuristic appearance with solar modules serving as the external "face."

Incorporating green energy in construction can rightly establish the architect's or supplier's name in the industry and enhance the building's green profile.

Our team collaboratively designs the desired module, serving as an active sparring partner, advising on aesthetic possibilities, and conducting all necessary calculations to ensure the plant is not only visually pleasing but also optimally performing. Building-integrated solar modules represent an ideal

solution for reducing the carbon footprint and lowering electricity costs.

We go beyond supplying solar modules; we offer complete systems if desired. We liaise with installers, professionals, and suppliers, streamlining communication for our partners.

Whether you're a manufacturer, distributor of building materials, or involved in a building project, if you seek an exclusive, aesthetically pleasing solar power solution that reduces electricity costs and contributes to sustainable construction while making a difference in CO2 emissions, contact us:

Let our team of top professional engineers and designers assist you in creating your own CFR solar power module.

[www.DanishSolarEnergy.com](http://www.DanishSolarEnergy.com)



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Danish Solar Energy Ltd.



Project Simulation: BIG designs a new headquarters for Dymak in Odense, Denmark

## Solar energy gives architectural freedom

Solar cells in all colors - All types of roofs and facades, can be an active element in the future energy supply, while the architecture is completely free.

- The benefits of the new product are many. In addition to providing new exclusive aesthetic design options and the opportunity for more ways to integrate photovoltaic, they have outstanding:

High European efficiency and quality.

Contact us at:

Tel. +45 3536 7777

info@dansksolenergi.dk



## Danish Solar Energy - CFR colored solar Modules

An impressive solar project developed by BJARKE INGELS GROUP (BIG).

The construction is expected to be completed in fourth quarter of 2024.

The entire roof is equipped with Danish Solar Energy Ltd. CFR colored modules, in a copper-brown shade. This not only adds a clean and fossil-free energy supply to the construction but

also contributes to its beauty and aesthetic expression, serving as the very roof itself. This approach opens up the use of photovoltaic as an integrated part of building elements that can be customized to the architect's desired expression.

The roof's angle is carefully designed to harvest most solar energy throughout the year, while also creating shade and reducing noise pollution in the inner courtyard.



**Dansk Solenergi ApS**  
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## Revolutionize Your Architecture with Solar Elegance!

Revolutionize energy with vibrant solar cells for all roofs and facades.

Our product, a future energy solution, seamlessly integrates into any architecture.

Enjoy exclusive designs and versatile integration, backed by top European efficiency and quality.

Join the solar revolution!

Contact us at:  
Tel: +45 3536 7777  
Email: [info@dansksolenergi.dk](mailto:info@dansksolenergi.dk)

## CFR solar modules for red environments

Explore Danish Solar Energy's remarkable project in Svendborg, Denmark – an exclusive building adorned with our CFR brick-red solar roof modules. The modules, slightly darker than the bricks, create a captivating aesthetic as they harmonize over time. This unique symbiosis of technology and aesthetics addresses climate challenges.

Our solar modules, available in various shades, offer adaptability to the surroundings, blending seamlessly or standing out as a design feature. With sizes up to LxW 2.7x1.7m, these modules feature built-in mounting systems for roofs and facades, ensuring the same sealing quality as traditional building materials.

With over 25 years of experience, Danish Solar Energy possesses unparalleled industry expertise, overcoming challenges that seemed impossible. All modules are produced at our eco-friendly, low-CO2 emission factory – Denmark's largest solar module production facility.

Technical Specifications:


Module Type: CFR HEM-HHV80.3xR110GG6  
Plant Power: 6.4 kWp  
Degree of Reflection: RHEM600  
Mounting Bracket: Yes  
Mounting Solution: Yes

Witness the future of solar integration.

Contact us for sustainable solutions:

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## Solar energy gives architectural freedom

Danish Solar Energy's latest project in Frederiksberg/Copenhagen redefines the green transition by proving sustainability doesn't have to sacrifice aesthetics. Today's solar cells, available in a variety of colors and shapes, seamlessly integrate into the urban environment. No more inappropriate colors or annoying reflections; instead, our solar cells enhance the building's appearance.

All roofs and facades can now actively contribute to the energy supply, allowing for architectural freedom. The solar cells are not only technologically advanced but also proudly made in Denmark.



Proj. Fuglebakkevej 88, 2000 Frederiksberg, Denmark  
Module type: CFR TERABC  
Degree of reflection: RHEM600



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Archive picture before



**Project: cooperative housing association Matosa**  
The roofs are covered with tiled roofs combined with Danish solar energy's Terra red CFR solar modules, the modules are sized to replace 4, 6 and 8 whole tiles, which makes them very easy to integrate and install. They are strategically angled to harvest the most solar energy. Matosa is a well-maintained brick building from 1935 with tiled roofs. The property is located in a cozy and attractive area in Copenhagen, the area is quiet and very undisturbed.

Statholdervej 15, 2400 Copenhagen NV



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Proj. Fuglebakkevej 88, 2000 Frederiksberg, Denmark

Module type: CFR TERABC

Degree of reflection: RHEM600

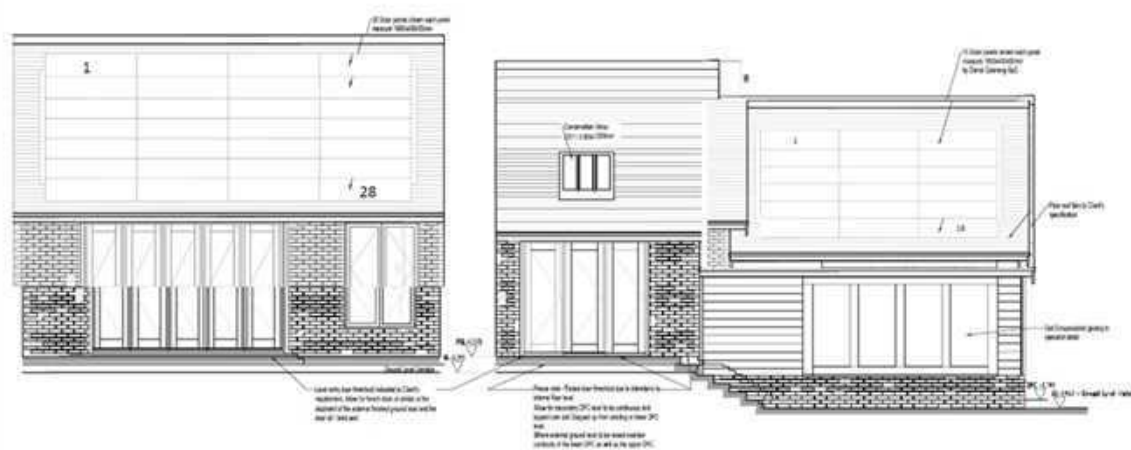


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## Solar tile installation in Sussex, UK.



### Color and solar gives architectural freedom

This new project shows that the green transition does not have to be ugly, today solar cells are available in colours and shapes that can be implemented architecturally naturally in the urban environment, without inappropriate colours and annoying reflections that characterize standard solar cells today, with the new solar cells they can instead adorn the building.

- All types of roofs and facades can be an active element in the energy supply, while the architecture is completely free.

And the solar modules are produced in Denmark.

For more information:

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Dansk Solenergi ApS  
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Exclusiv roof modules  
Top quality, design&performance



Ideal for:

- Listed buildings
- Churches
- Architectural projects
- New constructions
- Residential projects
- Reducing CO2
- and much more...

Contact Us:

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### Reference project: Vejlesøvej 78A, Holte (Copenhagen)

Our customers can't believe it! It is a solar plant; they are almost invisible and flat, recessed and flush completely with the vertical lines, replacing fully the slate roof where they are installed.

With this solution, not only do roofs repay themselves over a short period, but they also achieve a beautiful and sustainable building that does not detract from the aesthetics of the buildings and without compromising technological or environmental factors, making the product a leader in exclusive solar solutions.

Technology "made in Denmark": proof that Europe is innovative and technologically leading. The product can be customized to suit all colors.

Dansk Solar Energy Ltd.  
Head office and production:  
Flensbjerg 8  
4960 Holebymark.



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Solar roof  
East side



Solar roof  
West side



Ideal for various applications:

Areas with strict restrictions

Listed buildings

Architectural projects

New constructions

Residential projects

Reducing CO2

and much more...

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### Nysted: Charming village in southern Denmark.

Introducing an unconventional coastal roof with Dansk Solenergi’s CFR modules, breaking through Denmark’s strict coastal property restrictions. Approved by the Coastal Directorate, these modules, available in any color, blend seamlessly into the coastal landscape. Unbelievably invisible, they replace the roof, ensuring a robust, watertight, and aesthetically pleasing dark green finish with familiar horizontal lines.

This solution not only recoups its cost quickly but also delivers a sustainable building that enhances aesthetics without compromising on technology or the environment. A leader in exclusive solar Building Integrated Photovoltaic (BIPV) solutions, this “made in Denmark” technology exemplifies European innovation and technological prowess.

Customize your roof’s color while embracing cutting-edge technology.

Beauty, sustainability, and efficiency – all in one. Contact us:





## Customized solutions

The customer determines the slate color and tone of the “solar modules.”

We develop and produce the solar module in the color, size, and surface that fit your requirements for your project.

### KEEPING AESTHETICS

Our photovoltaic modules integrate seamlessly with the roof, preserving the appearance of the building.

### HIGH PERFORMANCE

We use the highest-performing solar cells on the market to achieve the best quality.

### REFERENCE, Rander

See them in our website, reference Rander.

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[info@dansksolenergi.dk](mailto:info@dansksolenergi.dk)



## Exclusive Gray Slate Modules: Top Quality, Design, and Performance

Reference Project in Rander, Denmark: Slate Integration with Invisible Solar Cells!

In Rander, Denmark, we’ve successfully integrated slate with solar cells, and the result is stunningly invisible! The solar cells are seamlessly integrated into the roof, replacing traditional slates. Whether you wish to change a part of the roof or replace all slates, our solar modules are easily adaptable for roof replacements or new constructions.

This solution is notably cost-effective, as the roof investment pays

for itself over time. Our solar cell modules, integrated into the slate roof, offer an optimal way to reduce electricity consumption and CO2 emissions.

Furthermore, these modules can be customized to match the slates or to create your own architectural expression for the building. The installation is hassle-free with our built-in mounting system, featuring ultra-low glass reflection. Choose sustainability and aesthetics with our integrated solar solutions!



Dansk Solenergi ApS  
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# A New Solution by Rockwool and Danish Solar Energy for Solar Power and Insulation



Top quality, design and performance  
- Made in EU

A solar roof - project in Hedehusene at Rockwool's headquarters in Denmark, combining solar PV and insulation.

Note that the integration of the solar cells is completely invisible, but blends naturally into the aesthetics of the building!

The solar cells replacing other roofing materials, and the substructure is built with high-quality Rockwool insulation, and the PV modules weigh is no more than 11 kg. m<sup>2</sup>

The PV modules form a waterproof roof with a built-in system and are very easy to install.

So what do you get with this roof!

A robust and weatherproof roof made of laminated tempered glass, free power from the sun, insulation and at the same time it is fireproof.

The construction of the PV Rock Roof is made in separate parts, so it is easy to replace parts of the roof, if it is necessary to replace a PV module.

This is significantly cost effective as it is known that the roof will pay for itself back many times, over its lifetime.

This is the optimal solution if you want to reduce your energy bill and lower your CO<sub>2</sub> emissions.



Dansk Solenergi ApS  
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Ideal for:

- Areas with strict restrictions
- Listed buildings
- Architectural projects
- New constructions
- Residential projects
- Reducing CO2
- and much more...

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### Veyrier du Lac France - Solar Roof (BIPV)

Veyrier-du-Lac is a pretty village which sits on the edge of Lake Annecy.

It is in a splendid position hugging the mountains on one side of the village and commanding great views of Lake Annecy on the other. It is just five kilometres from Annecy and on the sunny side of the lake, the side known as the Rive Plein Soleil.

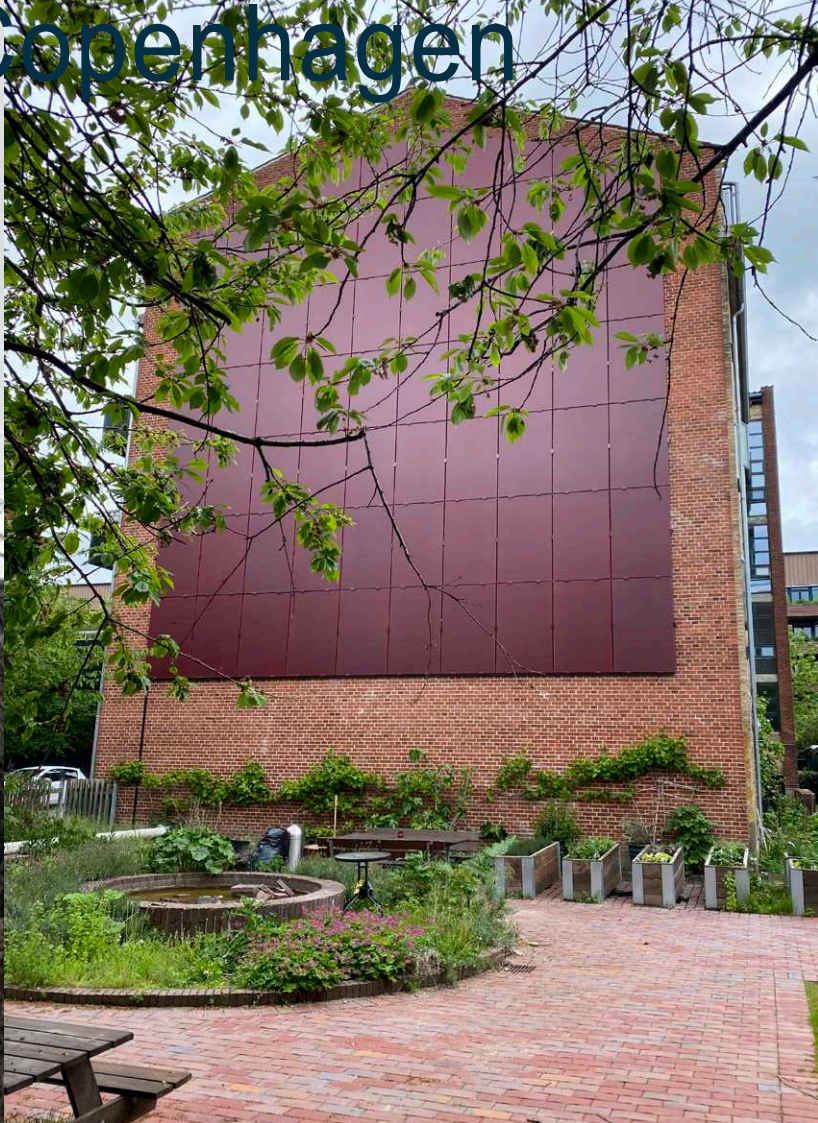
Bounded with strict restrictions for properties and thus not possible to install standard solar modules in blue or black colours, but Danish Solar Energy Ltd. building integrated red solar modules (BIPV) have been approved for their roofs.



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# Facade in Copenhagen



## A clean energy Solution

CFR Modules on the Facade: A Powerful Green Signal for Sustainable Building

When CFR modules adorn the facade, they send a strong green signal, indicating that sustainability is intricately woven into the fabric of the building.

### UNLIMITED OPPORTUNITIES

The new modules offer architects a plethora of innovative options, unlocking unlimited opportunities for creative and sustainable designs.

### HIGH PERFORMANCE

Our CFR modules consistently utilize the highest-performing solar technology, ensuring optimal performance and delivering climate-friendly energy to our customers.

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## Together we can design the future - Made in EU

A Striking Facade Solution with High-Efficiency Red CFR Solar Modules

Behold a stunning facade transformation featuring red high-efficiency CFR solar modules, tailored for one of Copenhagen's iconic red stone properties. Not only is this the inaugural red solar facade solution in Copenhagen but likely the first of its kind worldwide. This innovative facade is designed to generate approximately 13,000 kWh per year of climate-friendly energy, simultaneously providing insulation by shielding the facade from wind cooling.

This project serves as a testament to how Dansk Solenergi's CFR technology seamlessly integrates into all surfaces, respecting and enhancing the building's original architecture.

### Key Project Data:

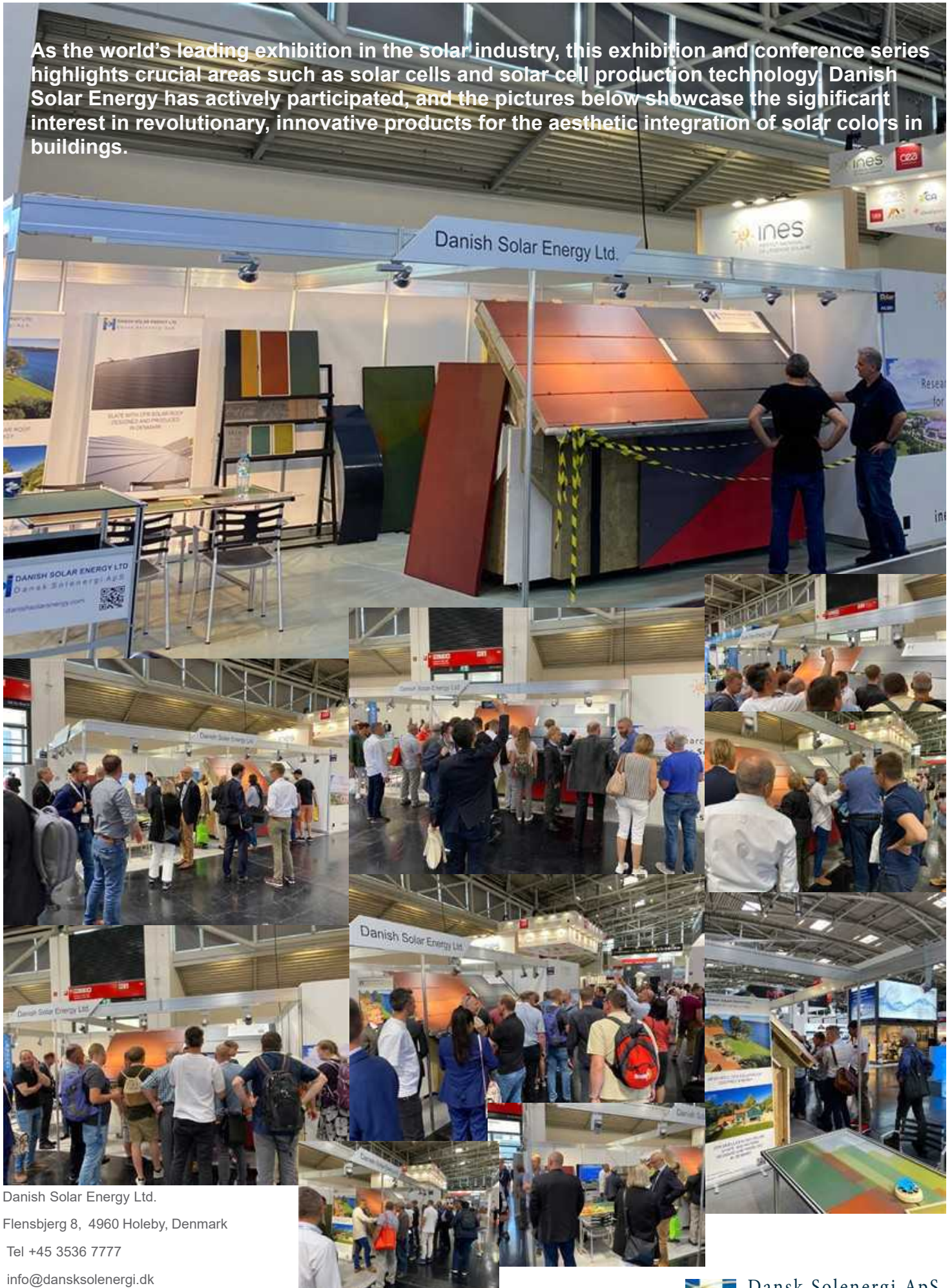
CFR Module: HV802XR200  
Area: Approximately 100 m<sup>2</sup>  
Power: 14.27 kWp  
Color: TERA Dark Red  
Reflection: Ultra low, no beam  
Project Location:  
Muregade 7, Copenhagen N,  
Denmark.



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Danish Solar Energy Ltd.

# INTERSOLAR Munich

As the world's leading exhibition in the solar industry, this exhibition and conference series highlights crucial areas such as solar cells and solar cell production technology. Danish Solar Energy has actively participated, and the pictures below showcase the significant interest in revolutionary, innovative products for the aesthetic integration of solar colors in buildings.



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