

## Photovoltaic roof and facade system.



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## Future

### Securing the future with solar energy



Our aim is to make solar panels as easy and natural to use as conventional roof and façade Systems.

### **We want to help build the future.**

Solar technology will have an important part to play in our energy supplies. It is also indispensable for reducing CO2 emissions.

Solar technology is a modern, highquality, flexible System which can be used as roofing and façade elements. It offers many advantages, both economical and ecological.

Its innovative design features and forwardlooking technology make Solar technology a reliable long-term investment.

Solar technology is also certified to IEC 61 646 and TÜV Protection Class II.

## Generating energy on the roofs and façades of industrial and residential buildings.



Solar technology is a complete roofing and façade System comprising solar film laminated onto galvanized and plastic-coated steel sheet. In roofs it completely replaces conventional roofing Systems and requires no additional substructures or other mounting fixtures. The System is ideal both for new buildings and for roof or façade renovation projects.

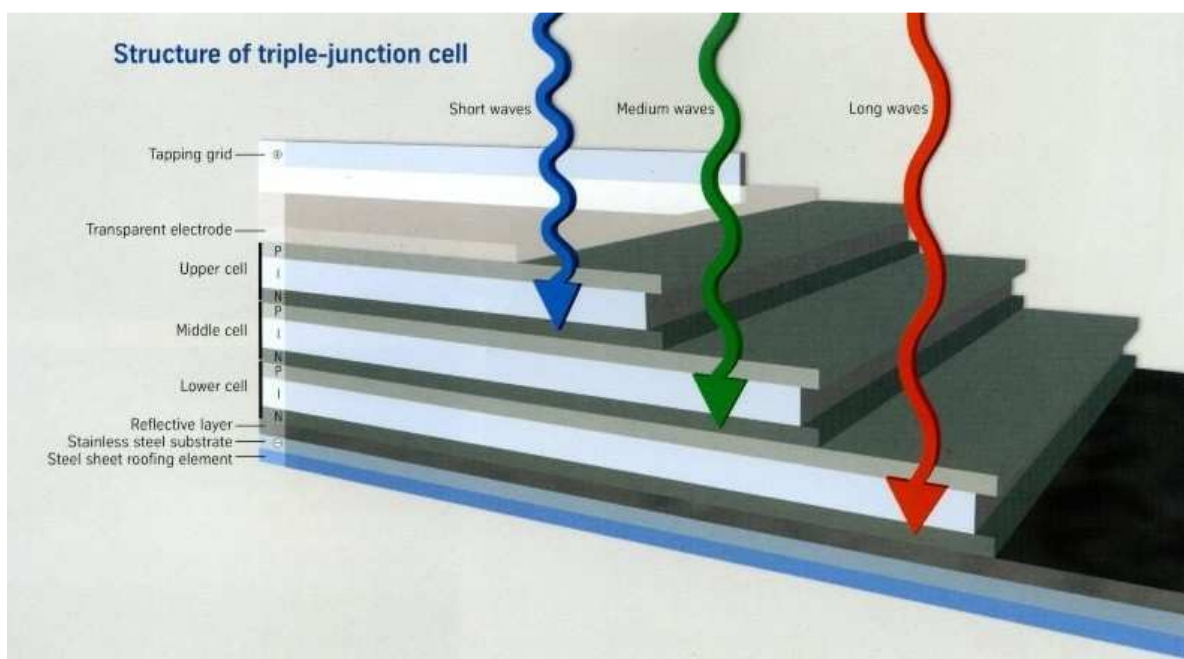
Solar technology is suitable for both residential and industrial building. Single-shell elements are available in two performance types. The modules can also be supplied as Sandwich elements with varying performance ratings. The large, unbreakable panels are easy to install, can be walked over and offer greater operating safety.

Using steel sheet as the Substrate makes it possible to realize complex building designs. In fact, the flexibility of our Systems opens up interesting new architectural possibilities. Structural requirements relating to building height can be incorporated and out-of-the-ordinary color designs accommodated.

Depending on requirements, our elements are utilized in industrial and housing construction. Our proven sandwich elements have been used as Standard for many years in industrial buildings, where ease of Installation combines with the large surface areas involved to allow the economical generation of electricity. Our flexible single-shell panels can be adapted to the demanding geometries frequently found in residential construction. One thing common to all types is that they are specially manufactured for your specific construction project. That makes it possible to integrate surfaces into the roofing and facade concepts which are unsuitable for other PV modules, thus avoiding clashes of style.

Moreover, the innovative triple-junction technology used by Solar technology generates more energy than conventional PV Systems. That translates into a higher annual yield per kWp of installed power. Considering the savings made on roofing material, the Solar technology System offers an economical and attractive solution

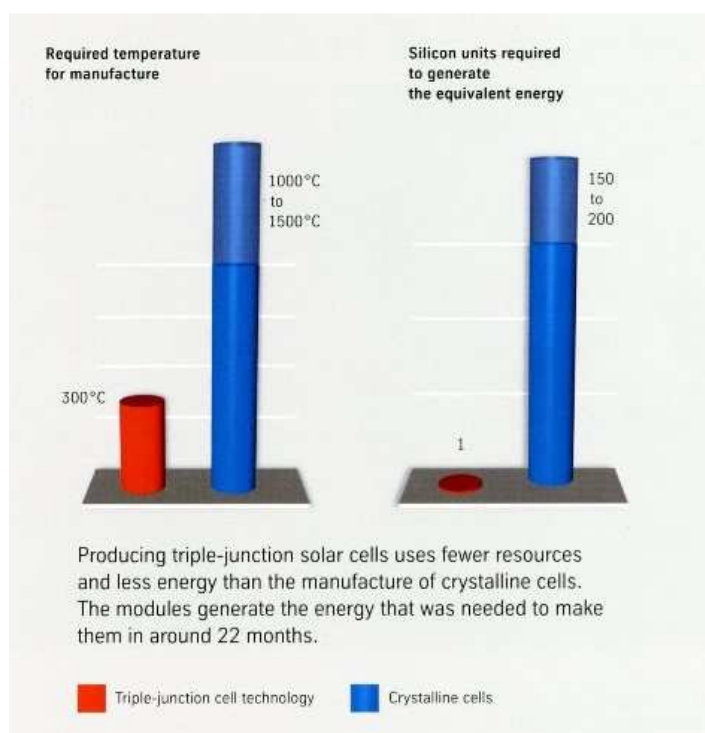
## Technological edge provides higher energy yields.



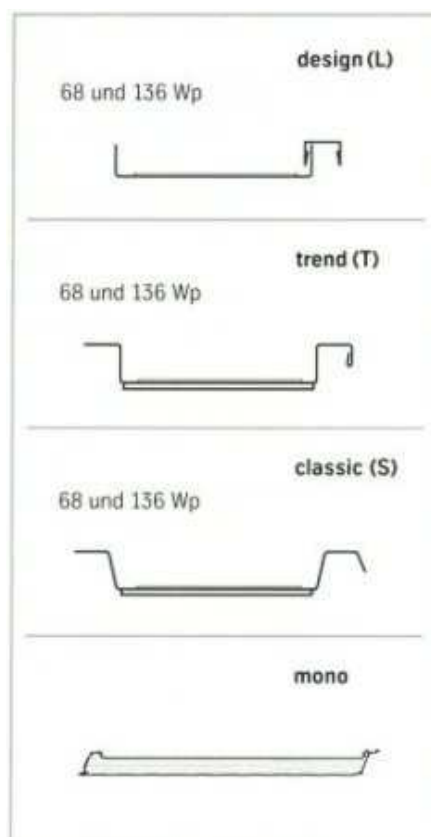
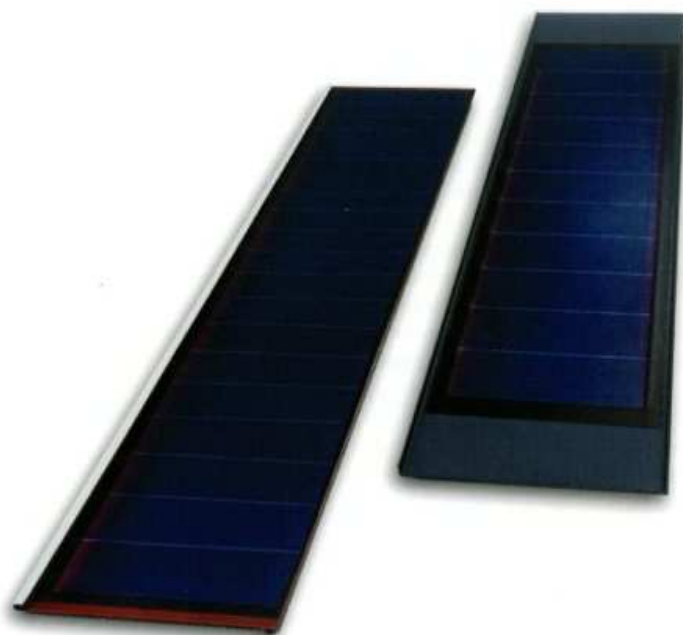
The solar laminate comprises three solar cells stacked on top of each other. Each of these cells is sensitive to a different spectral range to improve energy yield. Nine thin-film layers of nanocrystalline silicon alloy are laminated together using a continuous roll-to-roll deposition process.

### Advantages:

- enhanced sensitivity to blue-green light delivers higher annual yields even under diffuse light
- bypass diodes for improved shadow tolerance
- reduced performance loss at higher temperatures
- higher annual yield than from conventional PV Systems



## Technical data.



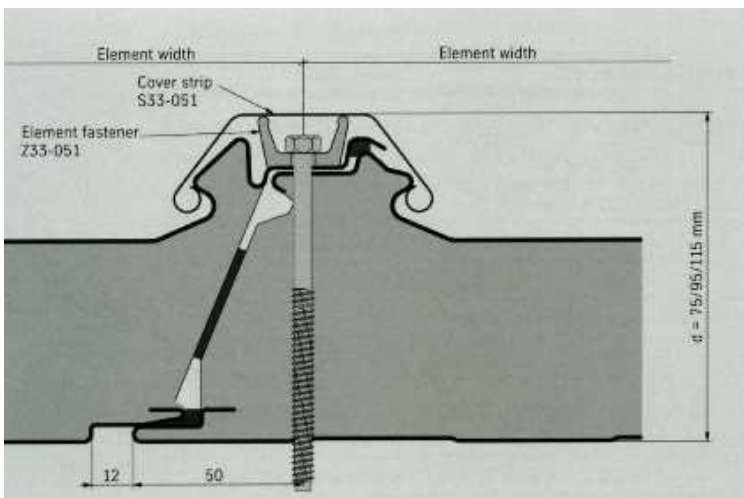
### Data

|  |  |  |
|--|--|--|
| Solar technology type                          | design (L), trend (T), classic (S)   | mono 1000**  |
| Rated power                                    | 68 Wp und 136Wp  | 136-1.088 Wp   |
| Length m                                       | 3,00-8,00 5,80-8,00  | 3,00-24,00   |
| Width mm                                       | 450 (design), 452 (trend), 478 (classic)                                   | 1.000  |
| Weight kg/m <sup>2</sup>                       | 8,57 8,46  | 12,00-16,30**  |
| Thickness of steel sheet mm                    | 0,75 0,75  | on request   |
| Cell type                                      | triple-junction thin film technology                                       | triple-junction thin film technology   |
| Maximum Output (P <sub>max</sub> ) Wp          | 68 136   | on request   |
| Triple-junction cells per module               | 11 22  | on request   |
| Nominal voltage VDC                            | 12 24  | on request   |
| Current at max. Output (I <sub>mpp</sub> ) [A] | 4,13 4,13  | on request   |
| Voltage at max. Output (U <sub>mpp</sub> ) [V] | 16,5 33,0  | on request   |
| Open circuit voltage (Uoc) V                   | 23,1 46,2  | on request   |
| Short-circuit current (Ige) V                  | 5,10 5,10  | on request   |
| Connection                                     | Multi-contact cable  |  |
| Steel element colors                           | TC 7016 (RAL) charcoal gray or TC 3009 (RAL) oxide other colors on request | TC 7016 (RAL) charcoal gray or TC 3009 (RAL) oxidered; other colors on request |

# Solar technology - the System.

## Product description.

- Solar elements are available in single-shell design for air- insulated roofs, in double-shell design for non-insulated roofs and as heat-insulating sandwich components.
- The elements provide a complete roofing and façade System with integrated triple-junction solar cells, saving the building owner the costs of conventional roofing and wall cladding.
- No additional substructures are required for mounting.
- The large-area panels are linked together during Installation by just two plug connections, while the individual solar cells in each panel are factory interconnected.
- With no glass used, the Solar technology elements are lightweight yet robust enough to allow them to be walked on. Their low weight allows the entire roof substructure to be made lighter and thus less expensive
- Solar technology 'shadow' modules without PV laminate are available for north-facing or other shaded areas. The required AC Converters, DC cables and molded edgings are also available.



## References



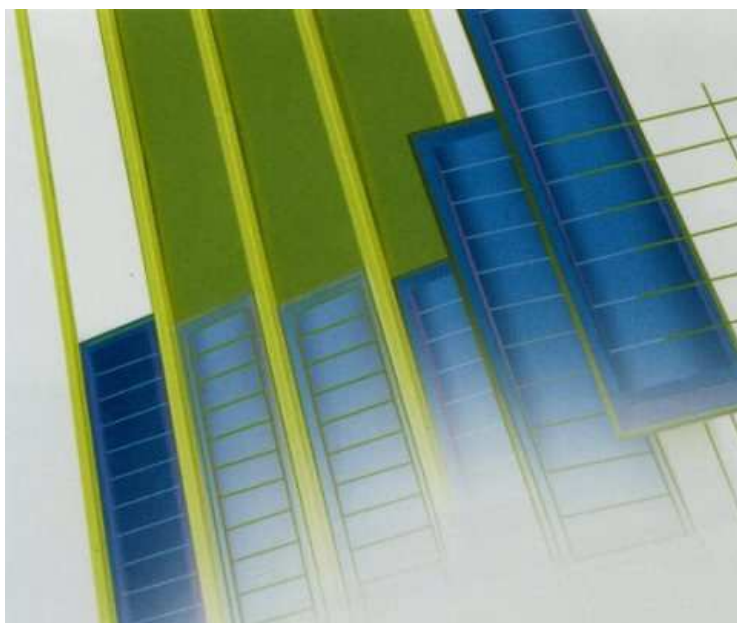
- 1 New Kindergarten, 8,64 kWp.
- 2 Wieland horse riding center 66,09 kWp.
- 3 New factory/warehouse unit , 65 kWp.
- 4 Roof renovation on a land-marked building at the University , 22,53 kWp.
- 5 New "energy house, 2,08 kWp.
- 6 Industrial facade design , 54 kWp.

## References



- 7 Project: 13,824 kWp.
- 8 Project: 20,470 kWp.
- 9 Project: 17,408 kWp.
- 10 Project: 50,688 kWp.
- 11 Project: Covered paddock, 65,000 kWp.
- 12 Project: Covered paddock, 65,000 kWp.
- 13 Project: Fire Station, 35,360 kWp.

## References



- 1 New architectural office, 6.12 kWp
- 2 Roof renovation Schmiedl, 33.18 kWp
- 3 New covered paddock, 65 kWp.
- 4 Renovation of flat roof on school/hall buildings, 48 kWp.

## Assembly



**After receiving your plans, we will send a personalized offer.**