What if the large surfaces of industrial storage tanks could be covered with solar panels, if we could overcome issues such as curve, weight and the environment in which the panels need to operate. Wouldn’t this be a significant step forward in creating more sustainable tank storage facilities? Even beyond storage tanks alone the possibilities of such a solution would be endless. We took up this challenge and developed a suitable solar solution. Our SolarFlex panels make it possible!

With our high tech partners we have been able to secure the latest technologies in solar cells which are perfectly suited to be used on industrial surfaces, such as tank roofs. In combination with an energy storage concept, offered by Pro-Energy we supply a renewable energy solution, that is not only sustainable, but also economical.
We have taken into consideration the most strict quality and safety requirements. Being light weight, maintenance free, walkable and self-cleaning is the basis, the very high efficiency of both technologies complete the solution.

In solar technology the crystalline panel is most common. These are quite efficient, but the high weight, lower performance in low light conditions and chemical composition makes them less suitable for industrial applications, such as tank roofs.

**We use IBC and Thin film**

There are very technical explanations for these terms and how they apply to solar panels. However, all that is really needed to understand these terms in relation to solar panels is that they relate to the material in the solar panel that takes in the sunlight.

**Flexible thin film**

On curved surfaces we use flexible thin film flexible solar panels. We are convinced that thin-film and IBC cells will be the choice for future solar solutions. Both technologies feature the exclusive advantages of renewable energy based on environment-friendly, pollution free production, cost-effectiveness, high power output on average and unsurpassed low-light performance.

The additional weight of the solar solution for most roofs can easily be borne by the existing roof structure.

To ensure a long service life and optimal performance of the solar solution, our Quality Control specialists continuously check the quality of the supplied systems in the factory. Our team has a foothold in Europe and works closely together with QA/QC inspectors based in Asia. Their long experience in the PV production industry, and knowledge of the language and culture, ensures both the technical as well as behavioral aspects of QA/QC. Our highly developed Quality Control standards are embedded in our quality services.

Together with this team we constantly improve our Quality Control standards. In this way we do not only follow the latest standards, we also inspire our partners to upgrade their quality awareness for an even better product in the future.

**Advantages**

- Weight is significantly lower when compared to crystalline panels
- Installation can be done without hot work
- The angle of the panels does not influence the capacity
- Panels can be made suitable for future Ex certification
- Durable, non-breakable
- Designed especially for roofs
- Performs in all light conditions
- Little installation hardware required
Our solar solutions

SolarFlex

The SolarFlex solution offers two types of cells. The Interdigitated back contact solar (IBC) cells and Thin film (CIGS) cells. The cutting-edge IBC technology offers unsurpassed efficiency. They are made by screen printing dopant materials onto the back surface of a semiconductor substrate in a pair of interdigitated patterns, see the image below.

This new technology has many advantages, such as flexibility, light weight, superior low light performance, and diversified color and shapes. These unique qualities make it very suitable for industrial applications. It allows us to use these light and durable panels with a very high energy efficiency up to 25% on virtually all surfaces exposed to sunlight.

Our second flexible technology is the thin film, which relates to the semiconductor material in the solar panels. The semiconductor is the material that picks up the sun’s light and conducts it to the next stage in the process. Traditional solar panels use a layer of Monocrystalline or Polycrystalline silicon. Thin film panels tend to use a thinner layer of a different material called GICS.

Modern thin-film modules, particularly those with CIGS technology, achieve significantly higher module efficiency levels—comparable efficiency to crystalline silicon modules. We are confident this technology can also deliver efficiency levels of up to 20% in commercial production. Regardless of the efficiency level, CIGS thin-film modules can also produce more energy when compared to traditional solar panels even when the power rating is the same. This is due to its good low irradiance performance. This is particularly valuable if it’s partly cloudy or if there’s diffuse or low light.

Especially in a fairly low light areas or areas with high temperatures with a large roof space thin film is a cost efficient option to consider.

ZnO (front contact)  CdS  Cu (In, Ga) Se2 (absorber)  Mo (back contact)  SiOx (barrier)  Glass (substrate)

Schematic cross-section of thin film CIGS (CuInGaSe2) - solar cell

Advantages

- Extremely flat and light
- Easy and cost efficient installation, without hot work
- Lightweight, so can be applied on all possible roofs
- Very good efficiency in diffuse light
- Wide solar irradiation spectrum
- Suitable for all weather conditions
- Expected service life used materials is more than 30 years
- No scarce raw materials are used for the production process
- Sustainable and renewable, also in production

Properties

- No scarce raw materials are used for the production process
- Sustainable and renewable, also in production
CREATING MORE SUSTAINABLE TANK STORAGE FACILITIES
HEAD OFFICE

CTS NETHERLANDS B.V.
Riga 10
2993 LW Barendrecht
The Netherlands

TEL +31 (0)180 531 027
FAX +31 (0)180 531 848
EMAIL netherlands@cts.global
WEB www.cts.global

OFFICES

Europe
Belgium
Czech Republic
Germany
Romania
Spain

America’s
Chile
Colombia
Costa Rica
Cuba
Venezuela
Panama
Peru
USA

Far East
Australia
India
Indonesia
Malaysia
Singapore
Thailand

Middle East
Bahrain

Offices
Representative offices