Kaneka's Hybrid PV technology combines the features of both amorphous silicon and micro-crystalline silicon PV.

Kaneka Hybrid PV(Thin-film silicon)

Feature

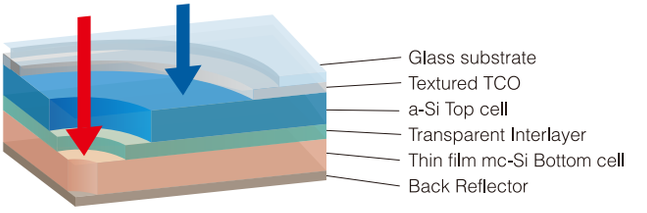
- **Hybrid PV produces up to 30% higher power output than conventional thin-film amorphous silicon panels.**
- **The Hybrid cell structure is shadow tolerant.**
- **Hybrid panels are ideal for low angle installations.**

Overview (Technical principles, actions, etc.)

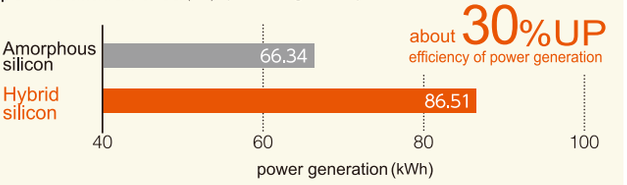
Kaneka's HYBRID technology combines the features of both amorphous silicon and micro-crystalline silicon to create higher energy production.

The words "solar panel" are often associated with crystalline solar panels, but Kaneka's HYBRID solar module offers some unique features over traditional crystalline. Its dual-layer structure of microcrystalline and amorphous silicon can capture both short and long wavelengths of the light spectrum, allowing the HYBRID to convert even more sunlight into electricity.
This enhances the efficiency of power generation, and produces up to 30% higher power output than conventional thin-film amorphous silicon panels. The HYBRID delivers greater performance capabilities and offers a lower open circuit voltage for enhanced design flexibility. Kaneka's HYBRID panel is the future of solar power.

HYBRID absorbs both ultraviolet (short) rays and infrared (long) rays.



Comparison: forecast of annual electricity generation per installation area (m^2) (alternating current)



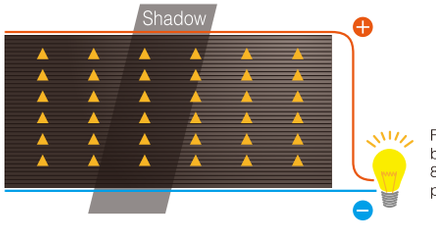
*Osaka-city. A case of low angle (5 degrees) installation, due south.
Based on Kaneka's power generation forecast

Effects

The HYBRID cell structure is shadow tolerant.

The HYBRID panel measures 1,210x1,008 mm. Unlike traditional crystalline panels, the HYBRID cells allow it to perform even if part of the panel is shaded*.

*The cell configuration allows it to prevent power output deterioration under shadow dropped conditions like picture below.



For example, if 20% of one cell becomes shady, remaining 80% of the cell can generate power normally.

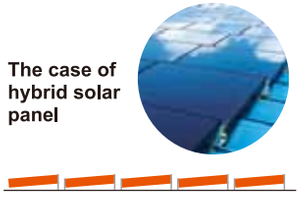
HYBRID panels are ideal for low angle installations.

Because of HYBRID's cell structure, low angle (5 degree) roof installations are possible without a significant loss of power generation by shadow. Panels can be installed close together, allowing for more roof coverage and higher power output.

The case of high angle set up

about two times longer than A (height)

The case of hybrid solar panel



low angle (5 degrees) installation can be laid over the roof

KANEKA CORPORATION Solar Energy Division 3-2-4, Nakanoshima, Kita-Ku, Osaka 530-8288 ,Japan
● TEL / +81-6-6226-5315 ● FAX / +81-6-6226-5144 ● http://www.pv.kaneka.co.jp/