

Photovoltaic

Fabric based electrodes for several types of solar cells: Highly conductive foils (SEFAR TCS) and fabrics (SEFAR TCF) as electrodes for several types of solar cells.



Product Features

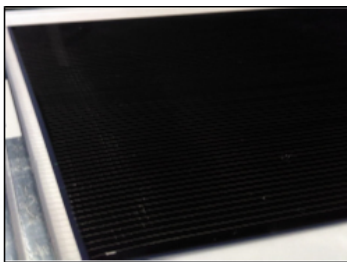
Whether as a substrate to be coated or as a fabric to be laminated on top of solar cells, Sefar's fabric-based electrodes work extremely well as highly efficient transparent electrodes. Larger cell sizes thus become a reality. Cost and time-consuming processes can be simplified or even eliminated, e.g. the printing of silver fingers can be avoided on the production line.

DOWNLOADS

Laminated fabric as top electrode (PDF
794 kb)

Silicon solar cells (c-Si, HIC, IBC) and inorganic thin film solar cells (CIGS, CdTe, a-Si)

SEFAR TCF containing special wires has the unique benefit of interconnecting solar cells or even replacing printed silver fingers at the same time. The fabric is specifically designed according to the technology's needs.



Heterojunction solar cell without Ag fingers, SEFAR TCF laminated on top as current collector (replaces silver fingers) and interconnector (replaces ribbon tabbing), made in 2016 together with CSEM.

[More details about SEFAR TCF](#)

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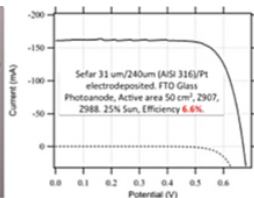
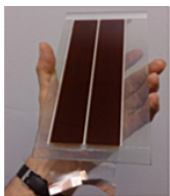
Dye sensitized solar cells (DSC)

SEFAR TCF and SEFAR TCS with corrosion resistant and highly conductive wires is the answer to the need for such transparent electrodes in the dye sensitized solar cell market, where corrosive electrolytes are generally used.



Flexible DSC, 100 cm² single cell, using SEFAR TCF as current collector (ITO free).

[More details about SEFAR TCF](#)



Rigid DSC, 100 cm² single cell, SEFAR TCF as electrode (ITO free).

Organic solar cells (OPV)

■ The use of high conductive semi-

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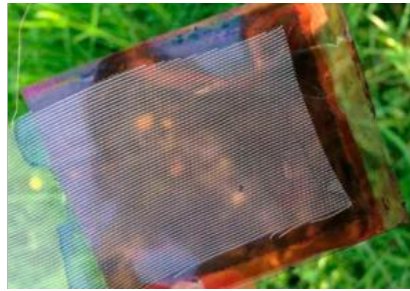
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■ transparent fabrics as bottom and/or top electrodes allows the design of large area devices without being limited by the conductivity of the electrode materials.



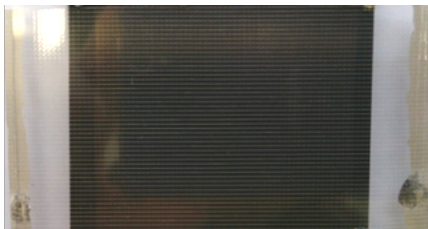
OPV cell with laminated fabric as top electrode

■ Devices can be processed directly on SEFAR TCS Planar while SEFAR TCF can be laminated on top of OPV devices as non-printed highly conductive electrodes.

- **More details about Transparent Electrodes**
- **Laminated fabric as top electrode for OPV**
- **OPV on Sefar substrate**

Perovskite solar cells (PSC)

SEFAR TCS can be used in Perovskite solar cells as transparent electrode enabling large cells.



Perovskite solar cell, 12% efficiency (at

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30% sun illumination), using SEFAR
TCS Planar

➤ **More details about Transparent
Electrodes**

Locations



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