

FLEXINANO

INDIUM FREE TRANSPARENT ELECTRODES ON FLEXIBLE GLASS SUBSTRATES FOR ENERGY EFFICIENT DEVICES

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FlexiNano has allowed to develop a transparent electrode (TE) on flexible glass substrate with electro-optical performance comparable to widely used indium tin oxide (ITO). In fact the optical transmission is very similar (see fig. 1) while the electrical sheet resistance is at least twice smaller. In addition the developed ultrathin metal based TE presents several key advantages:

- the possibility to be deposited at room temperature, making it compatible with the process flow of almost any device, including those based on organic materials which would not withstand the high temperature processing of ITO;
- the mechanical flexibility thanks to the ductility of the ultrathin metal. ITO easily breaks under bending due to its fragile oxide nature;
- the Indium free composition, which makes it much less expensive than ITO.

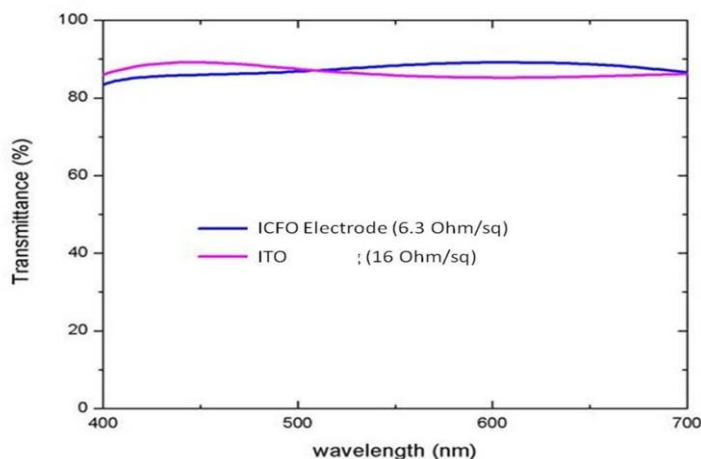


Fig. 1 Optical and electrical performance of indium free transparent electrode on flexible glass substrate of Corning Inc. (Willow glass). Comparison with commercially available and widely used indium tin oxide (ITO)