

| Flexible | Conductive | Transparent |



Clevios™

Clevios™ PEDOT and LT Silver for Touch Sensor Applications

Transparent touch sensor electrodes made from Clevios™ PEDOT conductive polymers help next generation touch displays to become flexible, foldable, wearable, curved, 3D-shapeable and more.

Clevios™ Electrode – Key Benefits

Flexible, Foldable and 3D-Moldable

Passes > 300,000 cycle bending test at radii as low as 1 mm. 3D-touch sensors can be produced by thermoforming Clevios™ films.

Economic Printing and Coating

Clevios™ can be economically printed and coated in small or large volumes by gravure-, screen-, inkjet-printing or slot-die coating.

Patterning

Clevios™ Etch produces invisible patterns. Optimized DFR (dry-film resist) photolithography and screen-printing processes are available for accurate fine patterns, e.g. L/S 50/50 microns or less.

Sheet Resistance

As low as 100–150 Ohm/sq with transmissions of up to 90%. Clevios™ HY hybrid materials extend the range to less than 50 Ohm/sq.

Low Haze, Low Reflection

Haze < 0.3% after 1000 hrs. at 85 °C / 85% r.h. Low reflection of Clevios™ can enhance display contrast.



NEW LT Silver

Low temperature, fast curing silver paste for fine line screen-printing with low electrical resistance and good adhesion to ITO, etched ITO, Clevios™ and PET film.

Clevios™ PEDOT and LT Silver for Touch Sensor Applications

To construct a touch sensor a transparent electrode is necessary. At present the transparent electrode is mostly made of the ceramic indium tin oxide (ITO) vacuum sputter coated onto glass or plastic film. ITO is a brittle material and is the most common failure of touch devices caused by the formation of micro cracks.

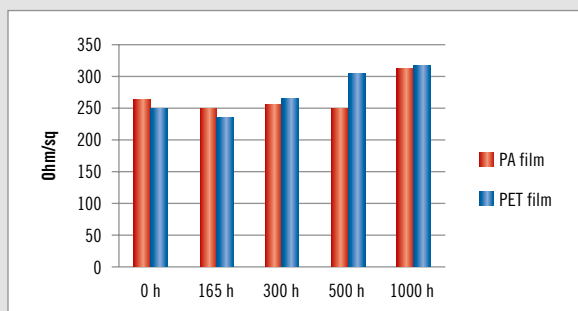
Clevios™ is an inherently conductive polymer with advantages over ITO:

- it can be applied from the liquid phase by wet-coating and printing
- PEDOT is a flexible polymer that does not crack
- it does not contain any scarce materials such as Indium

Clevios™ PH1000 and its formulated sister product Clevios™ F ET are used as technical film coatings for touch sensor and screen applications. Clevios™ F ET is highly stable in 85 °C / 85% relative humidity tests.

The coated films can be patterned by an etching process using Clevios™ Etch. Optimized processes for DFR (dry-film resist) photolithography or screen-printing to mask the films are available. The resulting patterns are accurate and hardly visible.

For capacitive touch switches, both flat and 3D-shaped, Clevios™ S screen-printing pastes are available for direct economic printing of the transparent electrodes.



Surface resistivity @ 85 °C and 85% rH (PA = polyamide, PET = polyester)

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Clevios™