

# Orgacon® EL-350

## Transparent Conductive Film



### Description

Orgacon® EL-350 is highly transparent, flexible conductive layer, which is wet-coated on PET (polyethylene terephthalate). Orgacon® EL-350 can be used as transparent flexible electrode or antistatic material for innovative electronics and optical film applications.

The conductivity of Orgacon EL is based on a coating of polyethylene dioxythiophene (PEDOT), a stable and transparent conductive polymer that has been already used for more than 10 years in photographic industry as component for back antistatic layer.

Simple and environmentally friendly (one step) patterning techniques are available, using screen-printing, resist mask printing or UV lithography technology. Using these patterning techniques, reasonable but yet flexible electrodes for electronic devices can be manufactured for new generation displays.

### Applications

- Electroluminescent Lamps
- Electrostatic Discharge (ESD) shielding
- Membrane Switches
- Digital (matrix) Touch Screens
- Liquid Crystal Displays (LCD)
- Electronic toys and games

### Test conditions

- Viscosity:  
AR1000-rheometer/  
Cone-plate geometry 4cm-2 degrees
- Surface conductivity:  
Ruby method
- Adhesion:  
Crosshatch tape test TESA #4122 on  
Autostat® CT7 available from Autotype.

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## EL-350

### [1] Specifications

#### Electrical properties

- surface resistivity
  - front side: < 350 Ohm/sq
  - reverse side: < 1.10<sup>8</sup> Ohm/sq
- spectral characteristics > 80%
- maximum current
  - front side > 10 mAmp/cm width
- temperature stability of surface resistivity
  - 100°C/72h < 10%
- humidity resistance on surface resistivity
  - 35°C/80%RH/90 days < 10%
- influence of water and solvents on sheet resistance
  - immersion/15min in acetone, butylacetate, isopropanol, MEK, water < +10%
  - high pressure cleaning with water < +10%

#### Thermal properties

- shrink characteristics
  - 30min/150 °C max 0,5%

#### Mechanical properties

- scratch resistance
  - max. force on saphire sphere radius 50 m for:
  - visual scratch ≥ 0,23 N
  - change of conductivity ≥ 0,30 N
- Stretchability: elongation > 6%

### [2] Patterning

Patterning methods (see respective leaflet for more details)

1. > 1mm resolution = Orgacon Strupas screen printing and deactivation
2. 50µm–1mm resolution = Polymer resist mask screen printing and deactivation
3. 50 – 20µm resolution = U.V. lithography and deactivation
4. < 20µm resolution = Laser patterning and deactivation

### [3] Deliverables

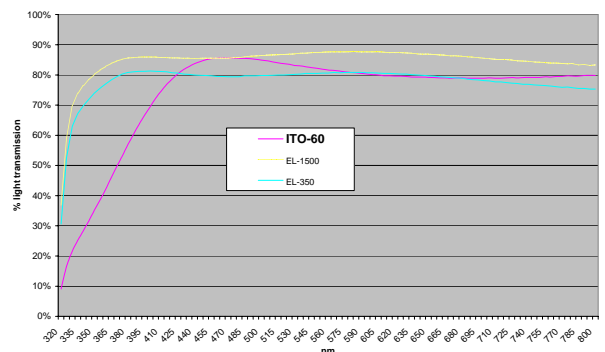
#### Rolls:

- width: 12, 18, 24 inch
- length: min 45 meters
- larger widths (max 65 inch) available upon request
- Base thickness: 63, 125, 175µ

#### Sheet

- A4 size
- Sampling purpose only

SPECTRAL TRANSMISSION: Orgacon EL-350, EL-1500, ITO-60



#### NOTE:

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