

## Helios ETL Slot Die+ (H-SZ41044)

Helios ETL Slot Die+ (H-SZ41044) is a semi-conductive ink based on ZnO that has been developed for the printed electronics market and is particularly well suited for flexible OLED and OPV.

Helios ETL Slot Die+ (H-SZ41044) shows great performances on slot die coating and is compatible with various flexible substrates (polyimide, PET, PET/ITO, ...) but also glass/ITO.

### Processing: Slot die coating

#### Ready-to-Use Ink

Material	ZnO nanoparticles
Solvent type	Alcohol mix
Viscosity (20°C)	< 4 mPa.s
Surface tension	20 ± 5 mN/m
Storage stability	6 months at 18-25 °C

#### Typical Electrical Properties

Work function	4.0 ± 0.1 eV
Valence band	7.9 ± 0.1 eV
Conductivity (before illumination)	10 <sup>-8</sup> – 10 <sup>-7</sup> S/cm
Conductivity (under illumination with UV light)	10 <sup>-4</sup> – 10 <sup>-3</sup> S/cm

#### Key advantages & benefits

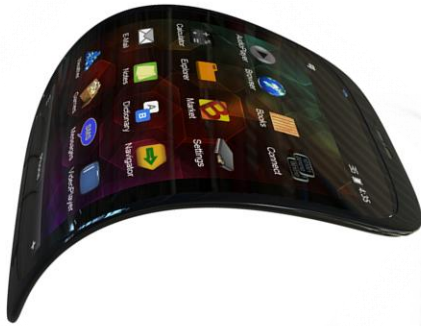
- Easy deposition under atmospheric conditions (Temperature and Pressure)
- Good optical performances (Visible light transmission > 90%)
- Non CMR ink
- Compatible with ITO and AgNWs layers
- Compatible with most flexible substrates
- Low drying temperature making printing onto flexible substrates possible
- Thin layers are obtained (20 nm) with low roughness (RMS = 3 ± 1 nm)

#### Typical Processing guidelines

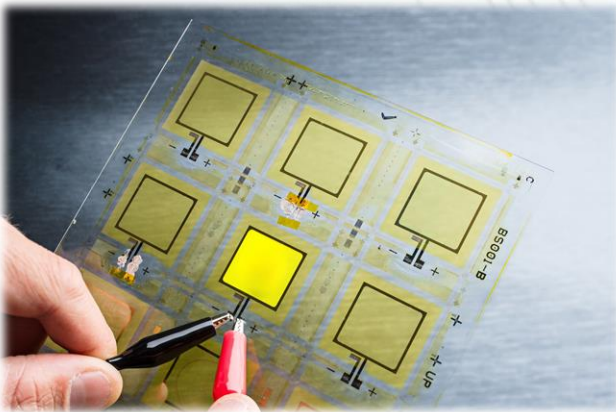
- Helios ETL Slot Die+ (H-SZ01044) Semi Conductive Ink can be homogenized for 5 minutes in an ultrasonic bath in order to get rid of any aggregates
- Filtration on a 0.45 µm PTFE filter syringe to avoid any nozzles clogging
- Drying conditions: Oven, IR oven, Vacuum oven
- Clean-up solution: Ethanol/Acetone

## Applications

### Flexible OLED Display



### OLED on glass/ITO



### Flexible Transparent OPV



## Shipping & Packaging

- Standard sample order is 100 ml
- Standard bulk order is 1 l
- Standard delivery time is 10 days

For more information on our semi conductive inks, please contact:



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#### Limited Warranty

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