Heraeus

| Conductive | Transparent | Flexible |

Printable Hole Injection Layers (HILs) for OLED Displays and Lighting

Printable Clevios™ HIL (hole-injection layer) materials – based on PEDOT conductive polymer dispersions – can maximize OLED device efficiency and lifetime. Heraeus offers water-free, non-aqueous, as well as aqueous HIL materials for inkjet printing, spin- and slot-die coating. Clevios™ HIL materials are optimized to form smooth layers with low roughness and outstanding optical transparencies at even thicker layers. HILs with high lateral conductivities are offered with excellent planarization properties, e.g. for metal-mesh electrodes.

Heraeus has been developing dedicated materials for OLED applications for over two decades. Ton scale Clevios™ HIL materials have been supplied for OLED displays. With extensive synthesis and processing laboratories Heraeus can customize its OLED materials to your specific requirements.

Key benefits of Clevios™ HIL materials

- Inkjet printing, slot die- and spin-coat versions
- New, non-aqueous, water-free PEDOT HIL dispersions
- pH neutral aqueous types
- Excellent transmission even at thick layers
- Controlled dispersion properties for very low film roughness
- Volume production in place

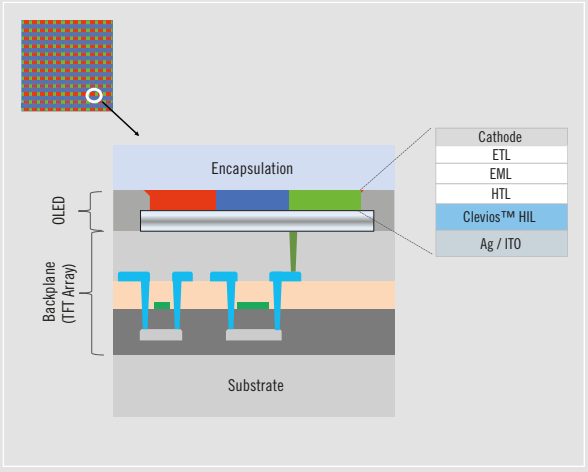
E 02.2019/VN, Layout: www.data-graphis.de

Clevios™ HIL product overview

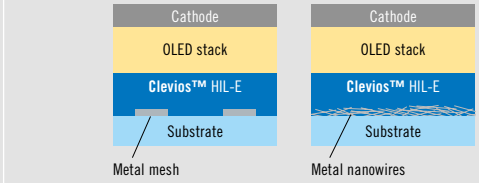
	Water-based	Solvent-based	pH neutral	Acidic	High conductivity	High resistivity	Inkjet printing	Spin coating	Planarization, thick layer
HIL 8 Jet		○					■	□	
P Jet (OLED)	○		○				■	□	
P VP AI 4083	○			○				■	
P VP CH 8000	○			○		○		■	
HIL-E 100	○		○		○			□	■

○ applicable □ recommended ■ highly recommended

Inkjet printable Clevios™ HIL for OLED displays



Highly conductive Clevios™ HIL-E for planarization



Heraeus Deutschland GmbH & Co. KG
Heraeus Epurio
Building B202, Chempark
51368 Leverkusen, Germany
clevios@heraeus.com
www.clevios.com I www.heraeus.com

Clevios™