Printing | Electrodes | Thermoforming

Clevios™ S Screen Printing Pastes

Innovative solutions

Clevios™ S pastes are PEDOT/PSS based formulations for screen-printing. They are used to print electrodes, especially transparent conductive electrodes that are used in many devices and novel technically advanced applications.

Advantages:

- Can be thermoformed into three dimensional shapes
- Flexible
- Transparent
- Highly conductive
- Screens can easily be cleaned by water

Transparent Electrode Applications:

- EL lamps
- Touch-sensor and -switches
- Electrochromic devices
- Piezoelectric devices
- Printed Electronics
- Smart textile / wearables
- Biosensors
- Thermoelectrics

Product	Description	SR** [Ohm/sq]	Transmission** [%]
Clevios™ S V3	Standard paste	350–500	85
Clevios™ S V3 STAB*	S V3 with improved environmental stability	450–600	86
Clevios™ S V4	Highly conductive	250–400	85
Clevios™ S V4 STAB*	S V4 with improved environmental stability	300–500	86
Clevios™ S V6	Development product, low resistance, fine line printing	150–250	83

* S V3.1 and S V4.1 equivalent products for U.S. market – all components listed on TSCA inventory

** typical sheet resistance and transmission values measured on prints made with standard 140/31 screen on Melinex 506, transmission value including substrate

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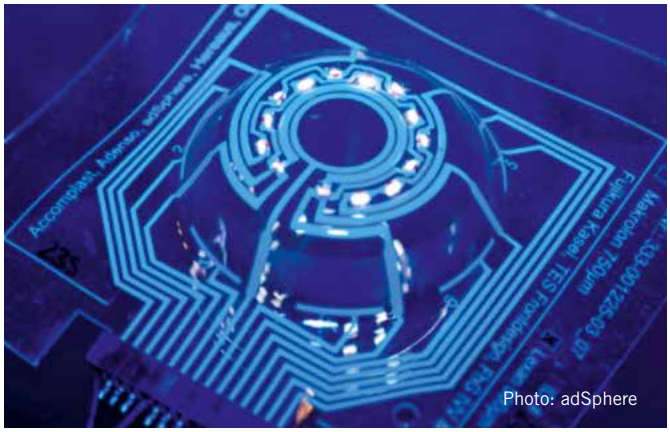
Clevios™ S pastes are easy to handle. Conventional hot air ovens can be used for drying. If sensitive substrates are used or if rapid drying for high production throughput is needed, the Heraeus Noblelight experts offer customized IR (infrared) emitters that allow gentle drying of Clevios™ within just a few seconds.

Screens can be conveniently washed and cleaned by water after printing. Emulsion has to be stable against water and solvents.

Printed Clevios™ electrodes and patterns show high transparency and low surface resistivities. The Clevios™ layers are highly flexible and the coated substrates can be 3D-shaped by thermoforming, for example.

“STAB” types are available that show excellent stability under harsh environmental conditions, such as dry or damp heat, e.g. 85°C/85% rh.

Injection-moulded 3D-touch sensor demonstrator developed in the publicly-funded Innovations with Organic 3D Electronics (ORIGAMI) project. Clevios™ screen printing pastes were used as transparent and highly flexible touch sensor electrodes.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