

Nanopaint PR1 Ink

Due to the inherent properties of the Nanopaint piezoresistive ink, there is no need for any specific or expensive post treatment process to activate their electroactive proprieties. It can therefore be processed on various substrates, such as glass, PET, MELINEX or textile, by various techniques:

- Doctor blade printing/solvent casting

NOTE: The PR1 ink isn't suitable for screen printing technology, only the PR2 ink.

Nanopaint piezoresistive ink is easily solubilized in various solvents, showing unique properties such as:

- Strong variation of the electrical resistance upon mechanical deformation ideal for pressure, force and stirring sensors;
- Allows the implementation of deformation and force sensors and sensor matrixes on both rigid, flexible and stretchable substrates
- High flexibility and stretchability allowing truly innovative flexible sensors.

These materials can be used to build applications such as:

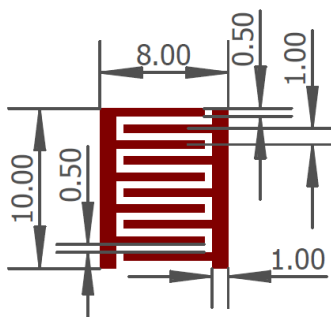
- Custom format buttons and keypads for multi-purpose interfaces
- Ground presence detectors
- Pressure map monitoring systems
- Sports performance measurement appliances
- Position detectors
- Pressure sensitive switches

Properties

Physical form	Solution
Cure processing	Thermal cure
Temperature (°C)	60
Time (min)	10
Viscosity (Pa.s)	5-10
Max. particle diameter (µm)	< 10
Expiration date after opening (months)	4

Results for a doctor blade/solvent casting sample

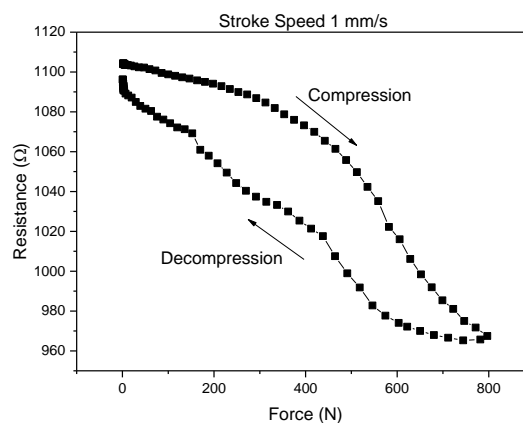
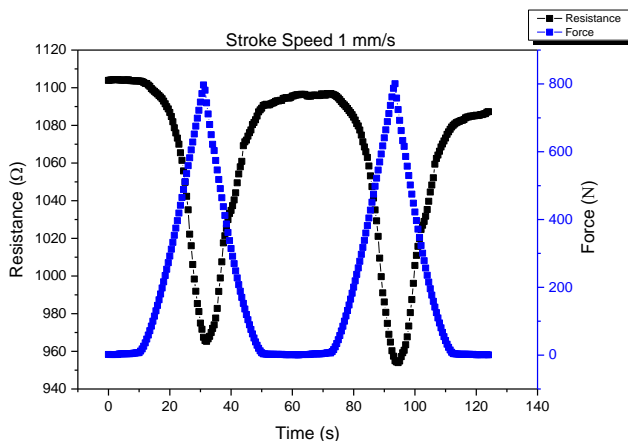
13 µm thickness film with 1 mm pitch interdigitated silver pattern with compression area of 80 square millimetres.



Instructions:

Place the ink in ultrasonic bath around 60 minutes. Then place it in a mechanical stirring between 30-60 minutes. The ink is ready to be used.

NOTE: The ink shouldn't be printed directly on the interdigitated silver pattern.



Average values:

Full scale output: 140 Ω

Span: 800 N

Sensitivity: 0.175 Ω/N