



# SCREEN **PRINTED** ELECTRODES



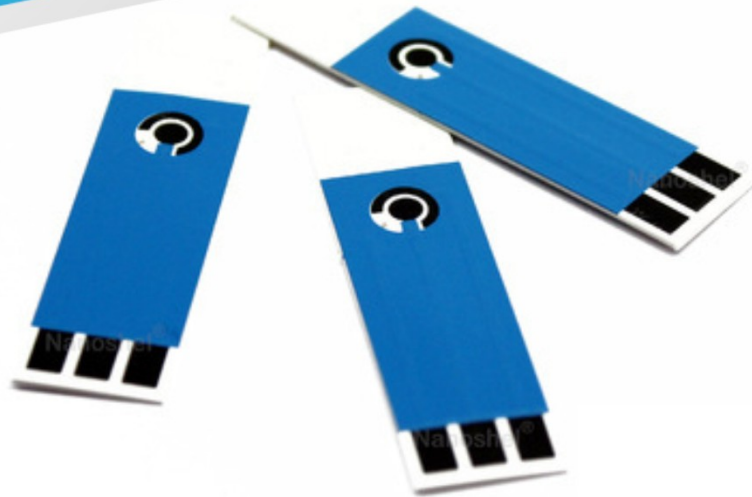
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### ✓ Used As Economical Electrochemical Substrates

Screen printed electrodes (SPEs), which are used as economical electrochemical substrates, have gone through significant improvements over the past few decades with respect to both their format and their printing materials.

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Screen-printed electrodes (SPEs), which are used as economical electrochemical substrates, have gone through significant improvements over the past few decades with respect to both their format and their printing materials.

### ✓ Use In Miniaturized Systems

Screen-printed electrodes (SPEs) possess a major advantage over the traditional electrodes the possibility of use in miniaturized systems, whose applications demand portable devices.

### ✓ Advantageous Material Properties,

Because of their advantageous material properties, such as disposability, simplicity, and rapid responses, SPEs have been successfully utilized for the rapid in situ analysis of environmental pollutants.

### ✓ Electrical Sensors Are Sensitive

Screen-printed electrodes (SPEs) contribute greatly to this task; these electrical sensors are sensitive, selective and have low detection limits.

### ✓ Spes Are Widely Used in Electrochemical Analyzing

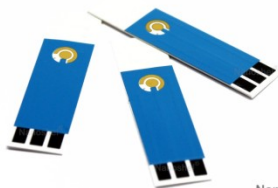
SPEs are widely used in electrochemical analyzing the environmental pollutants.



# Technical Specification



## SCREEN PRINTED ELECTRODES



Nanoshel®

Stock No: NS6130-10-1169

Overall Dimension : 50 x 10mm

Thickness : 0.5mm

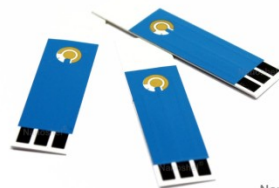
Thickness of Coated Material : 10  $\mu$ m

Working Electrode : Graphite

Counter Electrode : Graphite

Reference Electrode : Ag/AgCl

## ZENSOR SCREEN PRINTED



Nanoshel®

Electrodes Stock No : NS6130-10-1233

Diameter of WE : 2 mm

Size of RE : 0.5 x 1 mm

Overall Dimension : 50 x 10mm

Thickness : 0.5mm

Thickness of Coated Material : 10  $\mu$ m

Working Electrode : Graphite

Counter Electrode : Graphite

Reference Electrode : Ag/AgCl

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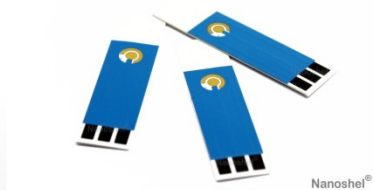
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## GOLD SCREEN PRINTED ELECTRODES



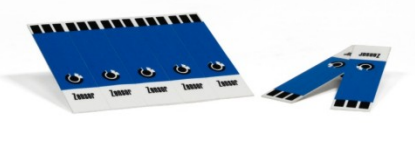
Stock No : NS6130-10-1234  
Diameter of WE : 2 mm  
Size of RE : 0.5 x 1 mm  
Overall Dimension : 50 x 10mm  
Thickness : 0.5mm  
Thickness of Coated Material : 10  $\mu$ m  
Working Electrode : Graphite  
Counter Electrode : Graphite  
Reference Electrode : Ag/AgCl

## CARBON SCREEN PRINTED ELECTRODES



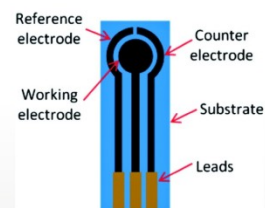
Stock No : NS6130-10-1235  
Diameter of WE : 2 mm  
Size of RE : 0.5 x 1 mm  
Overall Dimension : 50 x 10mm  
Thickness : 0.5mm  
Thickness of Coated Material : 10  $\mu$ m  
Working Electrode : Platinum  
Counter Electrode : Graphite  
Reference Electrode : Ag/AgCl

## CUSTOM SCREEN PRINTED ELECTRODES



Electrodes Stock No : NS6130-10-1236  
Diameter of WE : 2 mm  
Size of RE : 0.5 x 1 mm  
Overall Dimension : 50 x 10mm  
Thickness : 0.5mm  
Thickness of Coated Material : 10  $\mu$ m  
Working Electrode : Gold  
Counter Electrode : Graphite  
Reference Electrode : Ag/AgCl

## SCREEN PRINTED CARBON ELECTRODE



Stock No : NS6130-10-1237  
Diameter of WE : 2 mm  
Size of RE : 0.5 x 1 mm  
Overall Dimension : 50 x 10mm  
Thickness : 0.5mm  
Thickness of Coated Material : 10  $\mu$ m  
Working Electrode : Gold  
Counter Electrode : Graphite  
Reference Electrode : Ag/AgCl

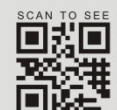


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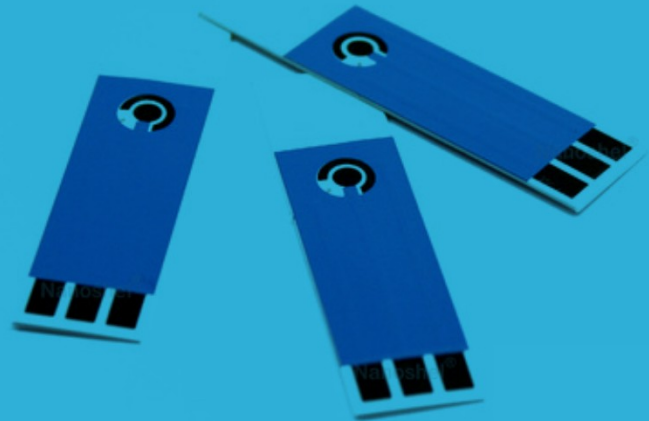
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# Properties of **Screen printed** ELECTRODES

**The key properties of Screen printed electrodes are as follows:**

- ✓ Electroanalytical properties
- ✓ Ultralight material
- ✓ High compression strengths
- ✓ High stiffness
- ✓ Better damping
- ✓ Thermal insulation




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# Applications of **Screen printed** ELECTRODES



- ✓ Very pristine surface for analytical electrochemistry
- ✓ An entire electrochemical cell can be printed into a very small area
- ✓ The same electrode can be used again and again with polishing
- ✓ The material in a glassy carbon electrode is predominately carbon.
- ✓ Homogeneous surface
- ✓ Disposable/semi-disposable.
- ✓ Low cost when manufactured in volume.

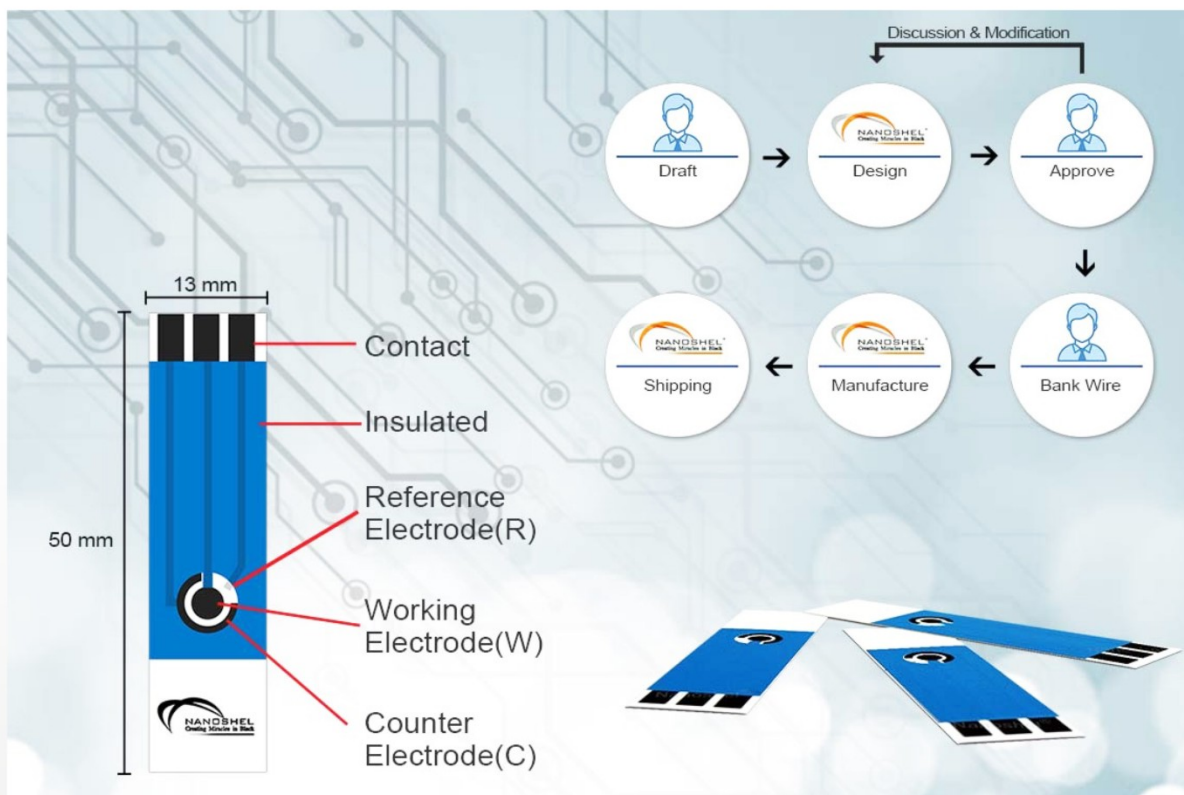




## Characteristics of **Screen printed** ELECTRODES

Screen printed electrodes possess unique microstructural characteristics and physical properties that make them attractive for sensing, as well as other applications:

- ✓ Ultra-lightweight
- ✓ Disposable/ reusable
- ✓ Extendable applicability after preanodization
- ✓ Needleless of polishing electrode
- ✓ Easy for chemical modification
- ✓ Low cost
- ✓ High stiffness-to-weight and strength-to-weight ratios
- ✓ Fire resistance and thermal insulating properties
- ✓ Metal foams are readily recycled



## Ordering Information and Stock Availability

- |                                    |                                    |
|------------------------------------|------------------------------------|
| ✓ Screen Printed Electrodes        | ✓ Custom Screen Printed Electrodes |
| ✓ Stock No: NS6130-10-1169         | Stock No : NS6130-10-1236          |
| ✓ Zensor Screen Printed Electrodes | ✓ Screen Printed Carbon Electrode  |
| Stock No : NS6130-10-1233          | ✓ Stock No : NS6130-10-1237        |
| ✓ Gold Screen Printed Electrodes   | ✓ Stock Availability: Available    |
| ✓ Stock No : NS6130-10-1234        | ✓ Distribution: Global             |
| ✓ Carbon Screen Printed Electrodes | ✓ Packing Sizes: 1Piece, 2Piece,   |
| Stock No : NS6130-10-1235          | 5Piece, 10Piece, & Bulk Orders     |

### Deals with

Our aluminium foams purchased by well established and spectacular reasearchcentres and organizations:



### Safety Recommendations

Download MSDS/SDS which are available from the NanoshelWebsite at

<https://www.nanoshel.com/sections/screen-printed-electrodes>

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