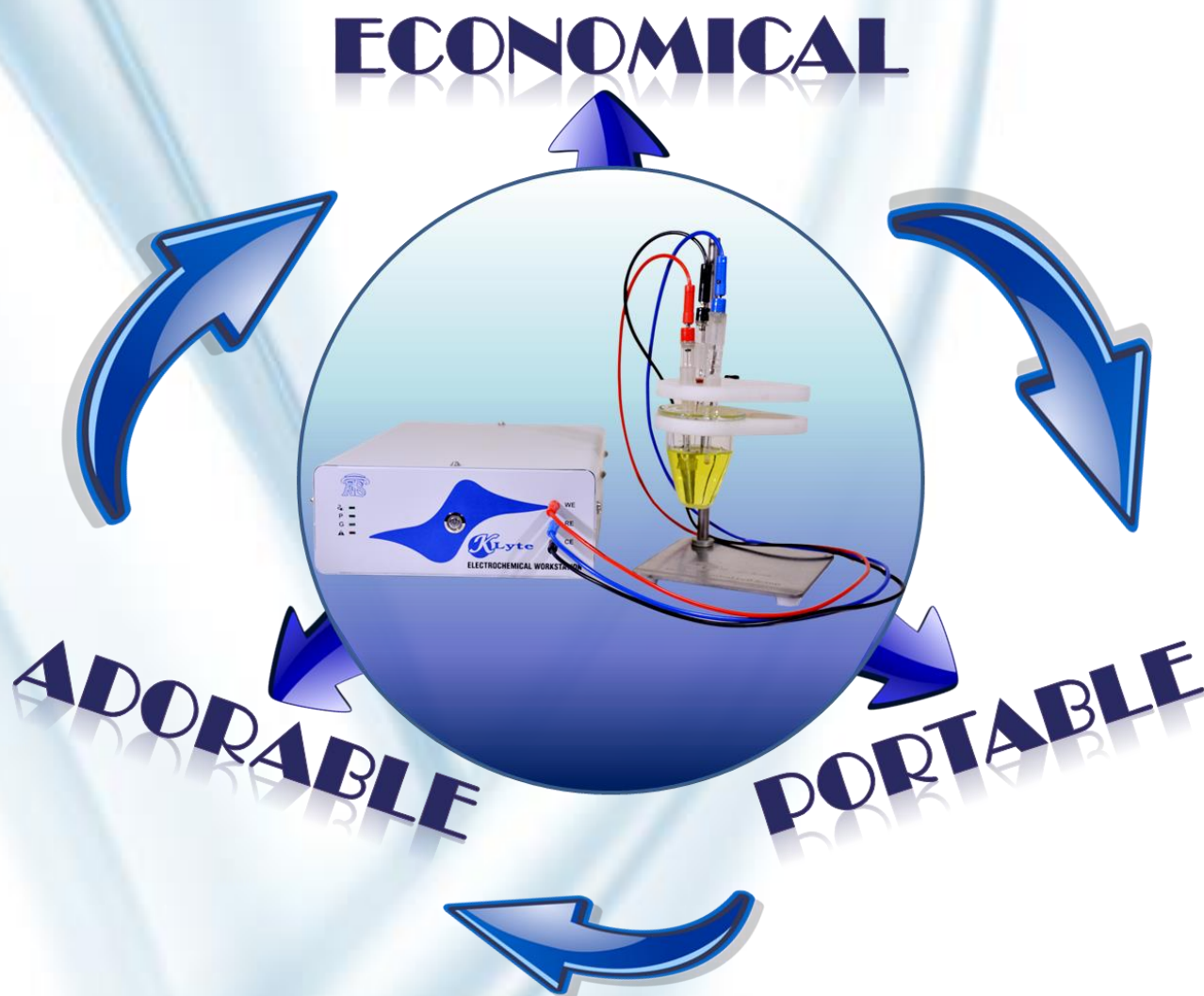


Kanopy Techno Solutions

**A complete solution for your
Electrochemistry research initiative...**



Kanopy Techno Solutions introduces one stop solution for your Electrochemistry research initiative which helps you exploring electrochemistry fundamentals & its applications.



About the Company

Kanopy Techno Solutions is an organization comprising experts in electrochemistry and nanotechnology. Our team includes a team of highly experienced researchers from one of the most renowned technological institute in India. In electrochemical science and engineering, we provide solutions in electrocatalysis and electrochemical process engineering. Expert areas are that of electrochemical instrumentation, multiscale simulation, and electrochemical reaction engineering. In nanotechnology, we are experts in nanofluidics and nanofabrication technologies, including click-chemistry and nanolithography. We are heavily equipped with state-of-art laboratories and techniques, including published papers and patents.

Our research and development base is situated in TechnoPark, IIT Kanpur, which is India's one of the largest research hub. Our research & development collaborate with the institute.

Our key solutions include electrochemical laboratory instruments and accessories, which include Potentiostat, Galvanostat, electrodes, and various electrochemical cells. Our consultancy service promotes research institutes and industries to do quality research.



Contact us:



www.kanopytech.com

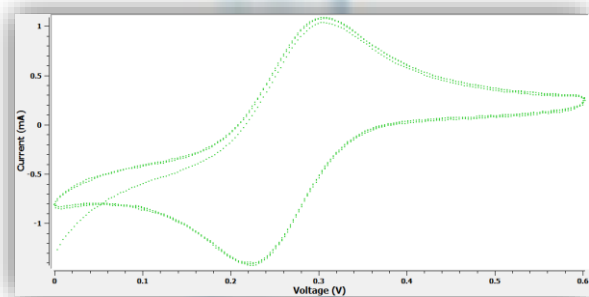


contact@kanopytech.com



+91-9555410424, 8010779277

Potentiostat



Specification	K-Lyte 1.0 [KEW01]	K-Lyte 1.2 [KEW02]
Methods:	- Linear Sweep Voltammetry - Cyclic Voltammetry - Chronoamperometry	- Linear Sweep Voltammetry - Cyclic Voltammetry - Chronoamperometry - Pulsed Voltammetry (SCP, NPV, DPV & SWV) - OCP Measurement - Tafel Analysis - Linear Polarization
Electrode Configuration	2 Electrode & 3 Electrode	2 Electrode & 3 Electrode
Applied Voltage Range	-2.0 V to +2.0 V	±5 V, ± 10V
Compliance Voltage	Up to +12 V	Up to +15 V
Applied Potential Resolution	Up to 1 mV	Up to 150 μ V
Applied Potential Accuracy	Within 0.1% of voltage scale	Within 0.05% of voltage scale
Scan Rate	1 mV/s to 100 mV/s	1 μ V/s to 1000 mV/s
Maximum Current	±10 mA Continuous & ±20 mA Peak	±1A Continuous & ±1.2 A Peak
Current Ranges	5 Ranges (1 μ A, 10 μ A, 100 μ A, 1 mA & 10 mA)	8 Ranges (100 nA, 1 μ A, 10 μ A, 100 μ A, 1 mA, 10 mA & 1A)
Current Resolution	80 nA (at 10 μ A Current Range)	15 pA (at 100 nA Current Range)
Reference Input Impedance	> 1 G Ω	> 10 T Ω
ADC & DAC Resolution	12 bits	16 bits
Input Bias Current	< 30 pA	< 30 pA
Unity Gain Bandwidth	1.4 MHz	1.4 MHz
Control	Software Control through computer	Software Control through computer
Communication	USB interface communication with the computer	USB interface communication with the computer

Potentiostat / Galvanostat

Specification

K-Lyte 1.3 (PG-Lyte 1.0) [KEW03]

Methods:

Potentiostat

- Linear Sweep Voltammetry
- Cyclic Voltammetry
- Chronoamperometry
- Pulsed Voltammetry (SCP, NPV, DPV & SWV)
- OCP Measurement
- Tafel Analysis (Corrosion Measurement)
- Linear Polarization (Corrosion Measurement)

Galvanostat

- Chronopotentiometry
- Galvanostatic Charge-Discharge

Cell Connection

2, 3

Compliance Voltage

±15V

Slew Rate

Rising

1.5 V/μs

Falling

8 V/μs

Settling Time

7.5 μs

Input Impedance Reference

> 10 TΩ

Unity Gain Bandwidth

1.4 MHz

Input Bias/Leakage Current

±15 pA

DAC and ADC bit

16 bit

Data Acquisition Rate/Sampling Rate

100 Ksps

CMRR

106 dB

Potentiostat

Applied Voltage Range

±5 V, ± 10V

Applied Voltage Accuracy

Within 0.05% of voltage scale

Applied Voltage Resolution

Up to 150 μV

Measured Current Range

Max ±1A (Continuous) in 8 Ranges (100 nA, 1 μA, 10 μA, 100 μA, 1 mA, 10 mA & 100 mA & 1A)

Measured Current Resolution

15 pA @ 100 nA Range

Scan Rate

1 μV/s to 1000 mV/s

Galvanostat

Applied Current Range

Up to ±1A (Continuous)

Applied Current Resolution

Up to 15 nA

Applied Current Accuracy

Within 0.1% of the current scale

Scan Rate

1 μA/s to 1000 μA/s

Maximum Current

±1A (Continuous)

Chassis Information

L x W x H

320 mm x 220 mm x 90 mm

Weight

3.05 Kg

Features

IR Compensation (1 Ω to 10 kΩ)

Cyclic Voltammetry Data Analysis Options

Zero Resistance Ammeter

Data AutoSave & Manual Save Option

User-defined Data Sampling Rate

Save data files in image & excel format

K-Lyte 1.5 [KEW04]

(Potentiostat – Galvanostat with Impedance Analyzer)

Specifications

- Number of channels: 1
- Current Range: 100 nA to 1A (8 Ranges)
- Control Voltage: ± 10 V
- Compliance Voltage: ± 12 V
- EIS Range: 10 μ Hz to 1 MHz
- Cell connections: 2, 3, 4, or 5 electrode
- ADC/DAC Resolution: 16 bit resolution
- Slew Rate (No Load): 5 MV/s
- Maximum Sampling Speed: 100,000 samples/s
- Floating and/or Earth-grounding: Both (Switchable)
- Input Impedance: > 10 Tera-ohm
- Input Bias Current: < 1 pA
- Data Backup Memory (On-board): 16 GB
- Dimensions: - 24 cm x 17 cm x 6 cm
- Weight: - 0.9 Kg (Including external power supply)

Software

- Cyclic voltammetry/ amperometry
- Linear sweep voltammetry/ amperometry
- Open circuit monitoring
- Chronoamperometry/ chronocoulometry
- Chronoamperometry with linear potential sweep
- Chronopotentiometry
- Differential pulse voltammetry/ amperometry
- Normal pulse voltammetry/ amperometry
- Square-wave voltammetry/ amperometry
- Triangular wave voltammetry/ amperometry
- Relaxation voltammetry
- Staircase voltammetry
- Tafel scan
- Pulse plating
- Stripping voltammetry
- Electrochemical Impedance Spectroscopy (EIS)
- EIS Series Measurements vs. Parameters
- Corrosion/ Polarization Measurement AC/DC/AC
- Universal Frequency Response Analysis
- Constant current charge-discharge
- Constant resistance discharge
- Constant power discharge
- Maximum power-point tracking discharge
- Capacity-limited charge-discharge
- EIS between charge-discharge cycles
- Steady-state current/ voltage curves

Electrodes

Pt Electrode:

- Platinum
- Mesh/Tip/Foil/Coil
- High mesh surface area
- Long term stability
- Robust design
- Banana pin connector
- Holder for gripping
- 99.95% Pure Pt
- Customization Available

Note: Customization is available.



Disc Type Electrode:

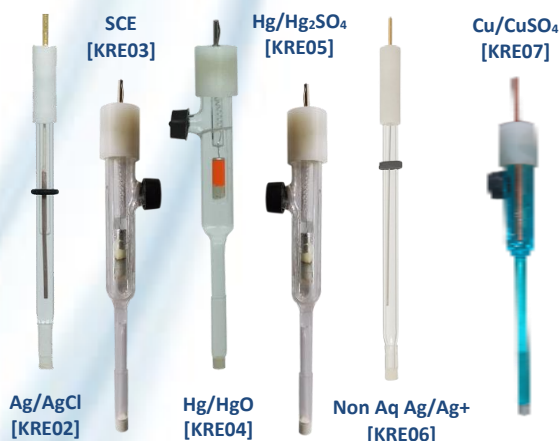
- Glassy Carbon / Gold / Platinum
- Available with 2mm, 3mm, 5mm Dia
- Cylindrical casing
- PTFE casing material
- Mirror-finish surface



Reference Electrode (Ag/AgCl, SCE, Hg/HgO, Hg/Hg₂SO₄, Cu/CuSO₄, Non Aq Ag/Ag⁺):

- Porous Glass Frit
- Long term stability
- Working temperature range 0°C to 100°C
Depending on the reference electrode type
- **Standard Solution:**
 - Ag/AgCl (3M KCl)
 - SCE (Saturated KCl)
 - Hg/HgO (1M NaOH)
 - Hg/Hg₂SO₄ (1M H₂SO₄)
 - Cu/CuSO₄ (1M CuSO₄)
 - Non Aq Ag/Ag⁺ (10mM AgNO₃, 0.1M TDAB in Acetonitrile)

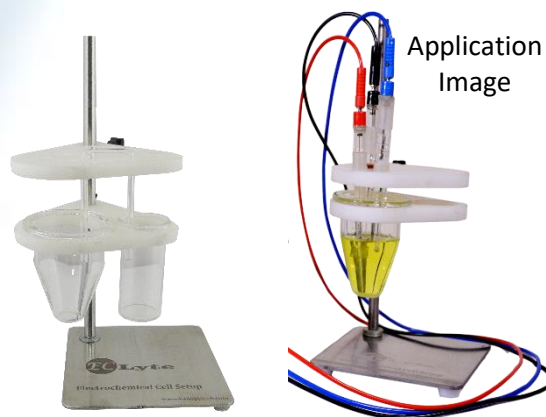
Note: Customization is available.



Electrochemical Cells

Electrochemical Cell Set-up:

- Combined with salt bridge compartment
- Cell Volume up to 100 mL
- Available with a specific salt bridge
- Easy to handle
- Removable/Adjustable holders
- Working electrode connector
- Applicable at moderate temperature range (0 to 100°C)
- Customization Available
- Material: Borosilicate glass

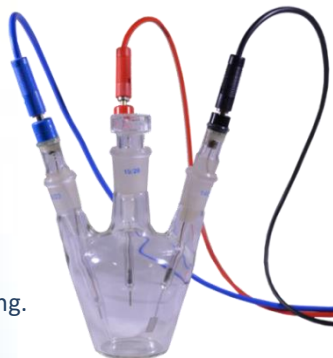


Electrochemical Cell Setup
[KEC01]

Gas-tight cell:

- Available volumes: 100mL & 50mL
- Cell type: Conical
- Neck type: 4 Necks (3 B14 & 1 B19)
- Material: Borosilicate Glass
- Max Temperature: 100°C

Note: Electrodes & Cables in the image are not included in cell pricing.



Gas-tight Cell
[KEC03V100]

Mini gas-tight Cell:

- Available with 20 mL & 50 mL
- Borosilicate & PTFE material
- Hole Size on the lid: 5mm
- Max Temperature: 100°C
- Available with & without Stand



Mini gas-tight Cell without stand
[KEC02V20NS]



Mini gas-tight Cell with stand
[KEC02V50WS]

Gas-tight thermal jacket cell:

- Cell Type: Conical
- Neck type: 4 Necks (3 B14 & 1 B19)
- Material: Borosilicate Glass
- Volume: 100 mL
- Max. temperature: 150°C



Gas-tight thermal jacket cell
[KEC04V100]

PEC with H-Cell:

- Available volume: 100 mL
- Quartz optical window for a light source
- Window size: 20mm in 100mL cell
- Separator available
- Membrane Separation set-up
- Detachable optical window
- PTFE lid for holding electrodes
- Gas-tight fitting



PEC with H-cell
[KECQHCV100]

Flat Corrosion Cell:

- Available Volume: 50mL, 100mL & 250 mL
- 10 mm x 10 mm Pt mesh as Counter Electrode
- 10 mm x 10 mm Working Electrode Slot
- Reference Electrode (SCE)
- With & without a luggin capillary for a reference electrode
- Max Temperature (80°C)
- Material: Borosilicate glass



Flat Corrosion cell
[KEC08FCV50]

Round Bottom Cell:

- Cell Type: Round Bottom
- Neck Type: 4 Neck (3 B14 & 1 B19)
- Material: Borosilicate Glass
- Volume: 100 mL
- Max. temperature: 200°C



Round Bottom Cell
[KEC06V100]

Photoelectrochemical Cell:

- Available volume: 150 mL & 250mL
- Quartz optical window for a light source
- Window size: 20mm in 150mL cell & 30mm 250mL cell
- Detachable optical window
- PTFE lid for holding electrodes
- Gas-tight fitting
- Provision for attaching the working electrode holder

Note: Electrode holder price is not included In the Cell price.



Photoelectrochemical Cell
[KEC11V150]

H CELL:

- Two-compartment cell
- Gas-tight fitting
- Each Compartment volume: 50 mL
- Separator available
- Porous glass-frit separation
- Membrane Separation set-up
- PTFE lid available for both compartments
- Provision for purging gas



H-Cell (with frit)
[KEC13V50]

H-Cell (with Membrane Holder)
[KEC14HCV50]

Other Products

Working Electrode Holder:

- Available with Screw-type & Crocodile-type
- Gold coated copper Rod for Connection
- Teflon body holder



FTO & ITO Plate:

- Substrate: Soda-lime float glass
- Dimension: 2cm x 1cm
- FTO Coated Glass
 - Resistivity: <10 ohms/sq
 - Film thickness: 1800-2000Å
 - Plate thickness: 2.2mm
 - Transmittance at 550nm – ≥ 79%
- ITO Coated Glass
 - Resistivity: ~10 ohms/sq
 - Film Thickness: 1800-2000Å
 - Plate thickness: 0.7mm
 - Transmittance at 550nm – ≥ 87%

Note: Customized dimensions available

ITO Coated Glass
[KA03]

FTO Coated Glass
[KA04]



Banana Connector Cables:

- Highly Flexible & Less Noise
- Current Rating: 5A
- Length: 1 meter
- Connector type: 3.5mm Banana Pin
- Available Color: Red, Blue & Black



Banana Connector Cables
[KEC10A]

High-quality Alligator Clip:

- Corrosion Resistive
- Banana Female Connector
- Available Colors: Red & Black
- Optimum for Holding Samples
- Current rating: 15 Amp



High Quality Alligator Clips
[KA01]

Polishing Kit:

- 1 bottle of 1.0-micron Alpha alumina powder (~10 gm)
- 1 bottle of 0.3-micron Alpha alumina powder (~10 gm)
- 1 bottle of 0.05-micron Gamma alumina powder (~10 gm)
- 4 pieces of 70 mm diameter Micro-cloth polishing pads (brown in color)
- 2 pieces of base pad (Transparent)



Polishing Kit
[KA05]

Screen Printed Electrodes:

- Dimensions: 50 x 13 mm (h x w)
- Working electrode: 3 mm diameter disk
- Materials: graphitic carbon powder (working and auxiliary electrodes), Ag/AgCl pellet (reference)



Screen Printed Electrodes
[KA08]

Nafion Dispersion:

- D1021 Nafion™ Dispersion - Water-based 1100 EW at 10 wt%
- D2020 Nafion™ Dispersion - Alcohol-based 1000 EW at 20 wt%
- D2021 Nafion™ Dispersion - Alcohol-based 1100 EW at 20 wt%
- D520 Nafion™ Dispersion - Alcohol-based 1000 EW at 5 wt%
- D521 Nafion™ Dispersion - Alcohol-based 1100 EW at 5 wt%



Nafion Dispersion
[KA06]

Screen printed electrode connector:

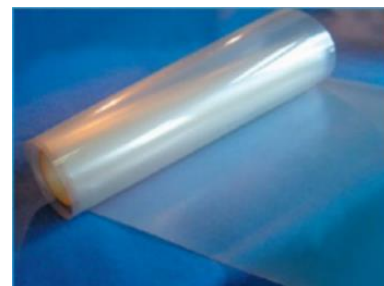
- Green - WE
- White - RE
- Red - CE
- Black - GND



Screen Printed Electrode Connector
[KA09ZSPEC]

Nafion Membrane:

- Nafion™ 1110
Length: 30cm
Width: 30cm
Thickness: 254 μm
- Nafion 115 & Nafion 117
Length: 30cm
Width: 30cm
Thickness: 183 μm



Nafion Membrane
[KA07]

Coin cell components CR2032:

- Top and Bottom insulated Cases includes Spacers and Spring
- Spring: SS316 material, 15.4mm dia, 0.25mm thickness
- Cellcase: SS316 material, 20mm dia, 3.2mm thickness
- SS spacer: 15.4mm dia, 0.5mm thickness



Crimping Machine:

- Structure Parts Material: Steel or Alloy
- Aluminum Dimension: 250mmx 150mmx 450mm (L x W x H)
- Weight: 40Kg
- Power supply: 110- 240V AC 50/60Hz for universal use 24VDC motor with reducing gear, 20W



Glove Box:

- Automatic maintenance of oxygen and moisture level in main chamber
- Microprocessor based Controlling for antechamber and main chamber
- Digital Touch Screen Display
- User friendly Interface for data Input
- Negative and positive pressure operation using foot Padel switch
- Proprietary algorithm to maintain moisture and O2 conc less < 1 PPM.
- Solid state sensor, Digital Vacuum/Pressure sensors and PT100 sensors.
- Particle removal, Charcoal and moisture and HEPA filters,
- Florescence light for general purpose.
- Power Electric Switch and Shelves



Battery Testing System:

- Voltage range up to 5V with 6A current capacity
- High-precision charge and discharge control
- Real-time data monitoring and recording
- Supports testing of Li-ion, Li-polymer, NiMH, and other batteries
- User-friendly software interface for easy operation



Silicone Rubber Sheet:

- Silicone Rubber Sheet for Seals and Gasket (Transparent White, 1ft x 1ft x 1mm)



Carbon Tape:

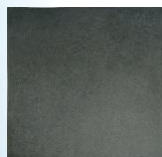
- W 8mm x L 20mm x T 0.16mm



Electrode Materials

Conducting Carbon Paper:

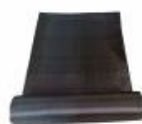
- Thickness: 0.3 mm
- Width: 100 mm
- Length: 100 mm



Conducting
Carbon Paper
[KA14]

Conducting Carbon Cloth:

- Thickness: 320 μm
- Width: 100 mm
- Length: 100mm



Conducting
Carbon Cloth
[KA10]

Graphite Electrode:

- Dia: 6 mm
- Length: 100 mm



Graphite Electrode
[KA13]

Activated Carbon:

- BET: 2000~2500 m^2/g
- ASH (%): <0.5
- Moisture (%): <10
- Bulk specific weight: >0.4g/mL
- Grain (D50): ~10 μm
- Water system Reference capacitance: 160-200 F/g



Activated Carbon
[KA20]

Copper Foam:

- Thickness: 1.5 mm
- Width: 100 mm
- Length: 100 mm



Copper Foam
[KACUD100]

Aluminum Foam:

- Thickness: 1.5 mm
- Width: 100 mm
- Length: 100 mm



Aluminum Foam
[KAAID100]

Nickel Foam:

- Thickness: 1.5 mm
- Width: 100 mm
- Length: 100 mm



Nickel Foam
[KANF17D100]

Titanium Foam:

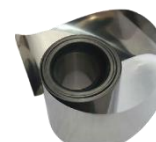
- Thickness: 1.5 mm
- Width: 100 mm
- Length: 100 mm



Titanium Foam
[KATiD100]

Iron Foil:

- Thickness: 0.1 mm
- Width: 100 mm
- Length: 100 mm
- Purity: >99.95%



Iron Foil
[KA18]

Copper Foil:

- Thickness: 1 mm
- Width: 150 mm
- Length: 150 mm
- Purity: >99.50%



Copper Foil
[KA17]

Aluminum Foil:

- Thickness: 16 μm
- Width: 100 mm
- Length: 100 mm
- Purity: >99.45%



Aluminum Foil
[KA19]

Nickel Foil:

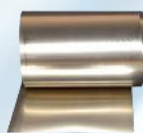
- Thickness: 0.1 mm
- Width: 100 mm
- Length: 100 mm
- Purity: >99.95%



Nickel Foil
[KA11]

Titanium Foil:

- Thickness: 0.15 mm
- Width: 100 mm
- Length: 100 mm
- Purity: >99.95%



Titanium Foil
[KA12]

Zinc Foil:

- Thickness: 1.5 mm
- Width: 100 mm
- Length: 100 mm



Zinc Foil
[KAZF]

SS Foil:

- Thickness: 0.2 mm
- Width: 100 mm
- Length: 100 mm

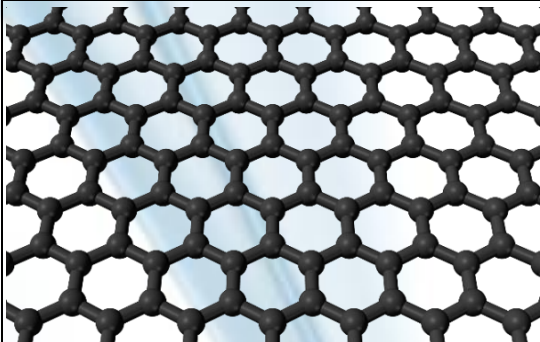
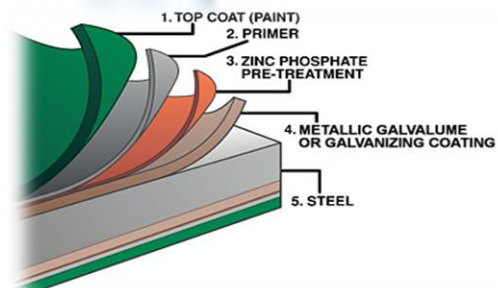


SS Foil
[KASS19]

Applications

Corrosion research:

Kanopy instruments are suitable for corrosion rate testing and protection. Electrode fabrication can also be performed for corrosion protection.

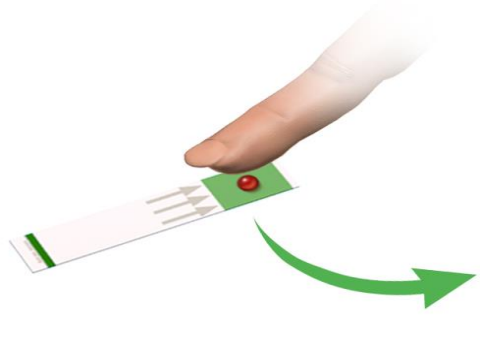
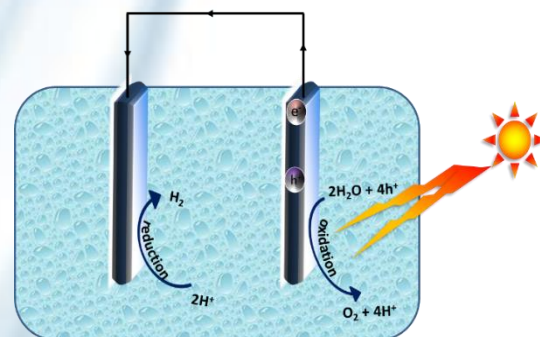


Nanotechnology:

With Kanopy instruments one can explore nano world which includes electrochemical synthesis of nanomaterials, nano-electro etc.

Photoelectrochemistry:

Kanopy instruments are capable of performing Photoelectrochemical analysis for photoelectrochemical water splitting/hydrogen generation.

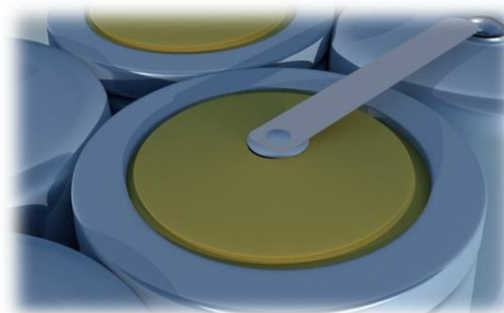


Sensing applications:

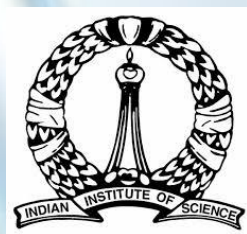
Kanopy instruments are useful to characterize/synthesize/analyze different electrochemical sensors.

Battery / Supercapacitor Synthesis and Analysis:

Kanopy instruments are useful to characterize/synthesize/analyze different batteries, supercapacitors & pseudocapacitors.



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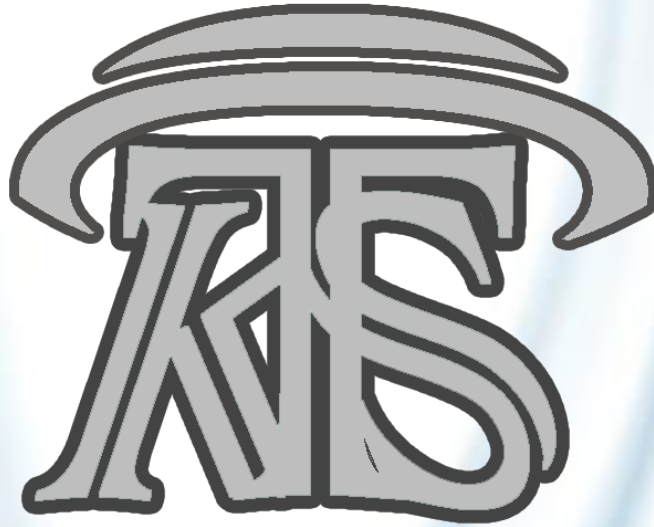
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nanobinoids



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