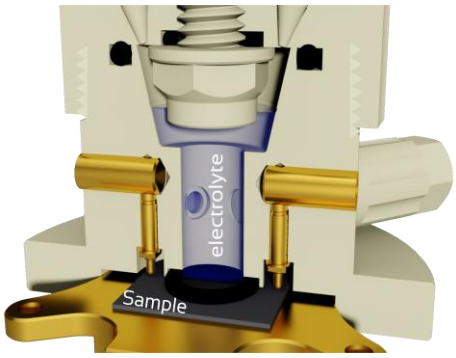
TSC Surface

The allrounder for studying liquid | solid interfaces

The TSC Surface cell enables electrochemical studies on **liquid air-** and **moisture-sensitive electrolytes in contact with solid samples**, requiring **only a low electrolyte volume**. The solid sample is contacted either from below via cell base or from above via contact pins. This enables experiments with insulating materials covered with conductive layers. By default, the test cell comes with a **glassy carbon counter electrode**. The PEEK housing contains **two lateral ports** for inserting **reference electrodes** or **capillaries**.



Typical Applications:

- Determination of **properties of thin layers** on conductive templates
- Investigation of the structure of **electrochemical double layers**
- Investigation of **redox reaction** and the influence of catalytic coatings

Suggested Accessories

840101

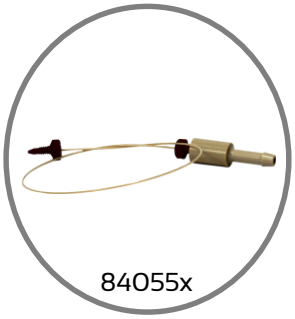
Microcell HC Basic Package

840582

Microcell Passive

84052x

Micro-Reference Electrodes



84055x

Gas Inlet & Filling Set

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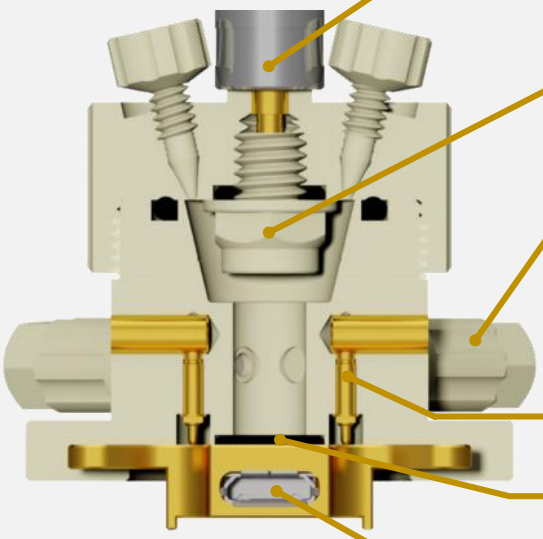
flexible cell solutions

TSC Surface



Technical Specifications

Suitable samples:	Flat (coated) samples, liquid electrolytes
Temperature range:	-40 °C ↔ +100 °C
Materials in sample contact:	PEEK, FFKM/EPDM, glassy carbon
Min. template size	12.0 mm (disc Ø) 10.0 mm (rectangle)
Max. template size	20.0 mm (disc Ø) 15.0 mm (rectangle)
Electrolyte volume	≈ 0.6 ml
Options:	• Other electrode materials, e.g. Pt • Re-fillable reference electrode

References

[1] J. Speulmanns et al., *'Atomic Layer Deposition of Textured Li4Ti5O12: A High-Power and Long-Cycle Life Anode for Lithium-Ion Thin-Film Batteries'*, *Small* **(2021)** *17*, *34*, 2102635.
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[2] M. Ochs et al., *'Influence of Wettability on the Impedance of Ion Transport Through Mesoporous Silica Films'*, *Advanced Materials Interfaces* **(2021)** *8*, *9*, 2002095.
https://doi.org/10.1002/admi.202002095

[3] T. Kranz et al., *'Interrelation between Redox Molecule Transport and Li+ Ion Transport across a Model Solid Electrolyte Interphase Grown on a Glassy Carbon Electrode'*, *J. Electrochem. Soc.* **(2017)**, *164*, *14*, A3777.
https://doi.org/10.1149/2.1171714jes

[4] J. Wallauer et al., *'Electrochemical Kinetics of Ferrocene-Based Redox-ILs Investigated by Multi-Spectrum Impedance Fitting'*, *J. Phys. Chem. C* **(2017)**, *121*, *48*, 26706.
https://doi.org/10.1021/acs.jpcc.7b09693

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