

Solid Oxide Fuel Cells and Electrolyzers from the largest stack production facility in Europe

SolydEra is a key world player in the market of Solid Oxide Cells, Stacks and Solutions, with an annual production capacity of 25MW SOFC (75MW SOE) on its industrial site in Pergine Valsugana, Italy. Our Solid Oxide Technology has a proven track record in the field and delivers top in class performance and durability in both fuel cell and electrolysis mode. Our highly efficient solid oxide stacks can be integrated into systems from a few kW to MW sizes.

Would you like to know more? Please contact us!

SolydEra



SolydEra Cells



We stack it.

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SolydEra Cells

Technical data

- Fuel/Steam supporting Electrode: Ni/YSZ
- Electrolyte: 8YSZ
- Air Electrode: (La, Sr)(Co,Fe)O₃/Gd₂O₃-CeO₂
- Total thickness: 305 ± 25µm
- Standard size: 120x80mm²
- Mechanical Strength: $\sigma_0 > 500$ MPa (ASTM C-1499)
- Weibull modulus: $m > 8$

How it works

- Temperature of operation: 650–800°C

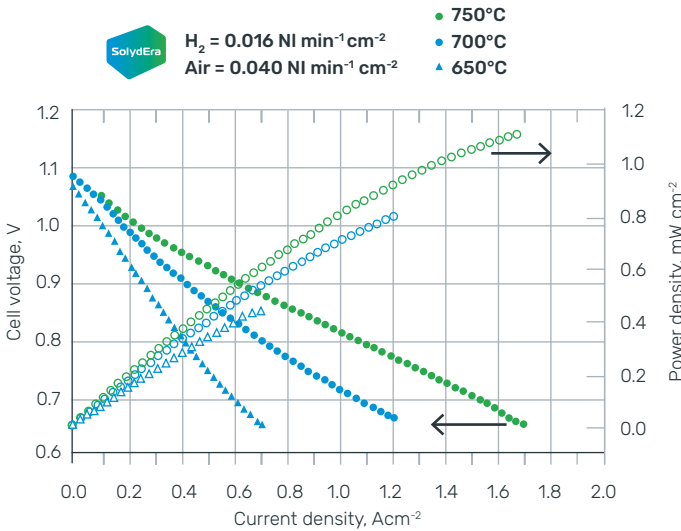
Advantages

- Different shape and size available upon request (up to max 180x180mm)
- Air-electrode customizable
- High mechanical strength and reliability
- Long term stability proven on stacks in SOFC and SOE mode

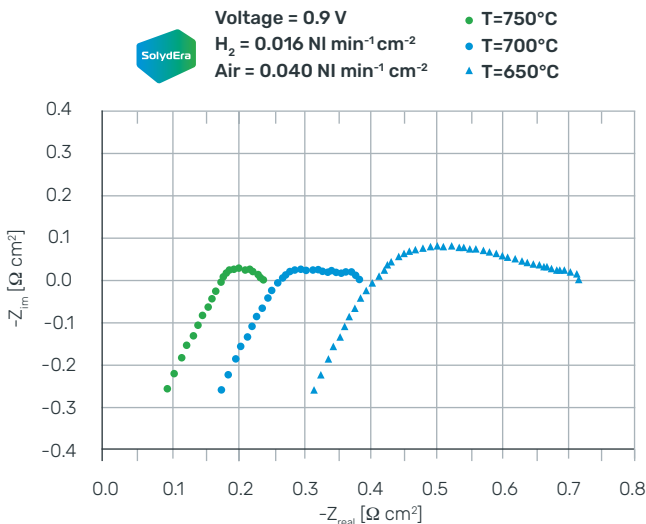
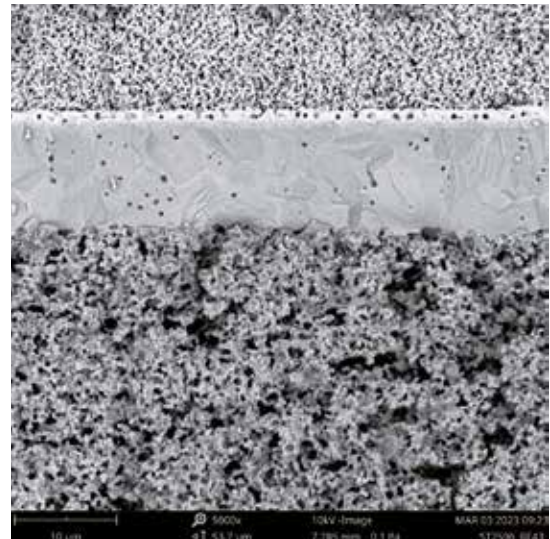
Application Areas

Integration in Solid Oxide Cells stacks for operation in H₂, H₂ carriers, Natural Gas, biogas, Steam electrolysis, CO₂/H₂O co-electrolysis

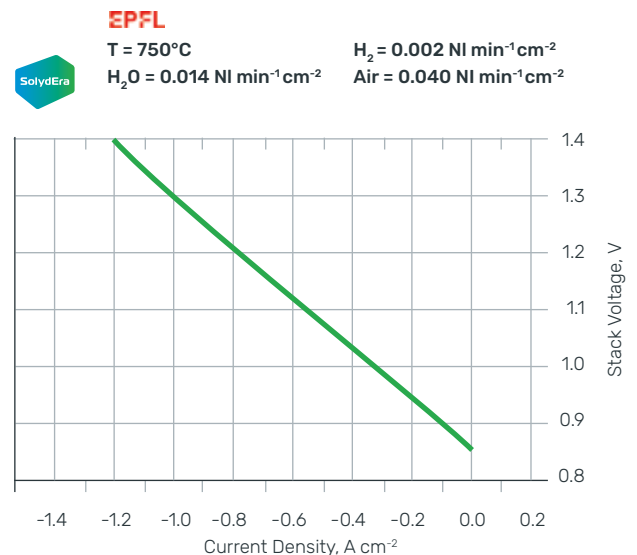
Performance



Voltage & Power vs current characteristics in SOFC-mode



EIS spectra in SOFC-mode



Voltage vs current characteristics in SOE-mode