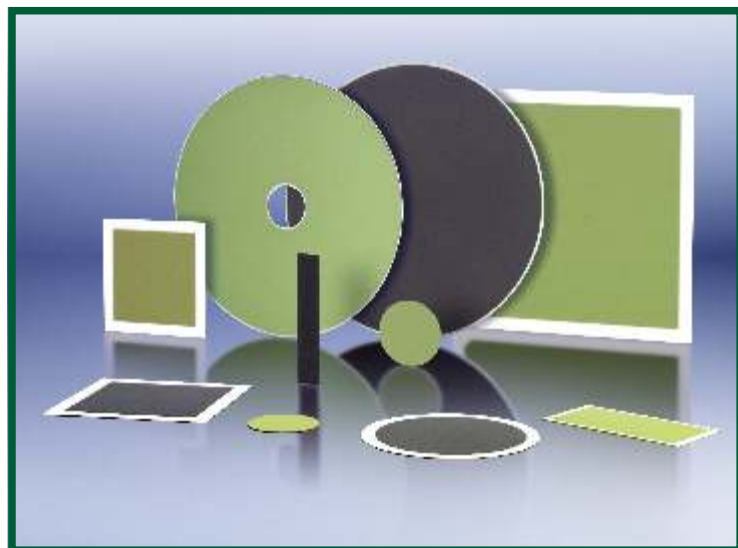


Electrolyte Supported Cells

Technical Information

With scientific support of Fraunhofer Institute for Ceramic Technology and Systems pastes were developed for electrolyte supported cells (MEA: Membrane Electrode Assembly) which are now produced at Kerafol®.



KEY FEATURES:

- electrolyte supported cells based on zirconia substrates
- high planarity and mechanical stability
- efficient NiO cermet anodes and LSM cathodes
- high ionic conductivity and power density
- long term stability, redox stability, thermal cycling stability

TECHNICAL DATA:

Characteristics	Unit	3YSZ	8YSZ	10Sc1CeSZ	YScSZ
Electrolyte thickness	[μm]	110	150	140	140
OCV*	[V]	0.924	0.924	0.924	0.924
Typical electrochemical performance					
$i_{0.7V}$ *	[mA/cm ²]	290	450	725	530
Area specific resistance (ASR) * **	[cm ²]	0.74	0.48	0.29	0.39

* $T=850^{\circ}\text{C}$ / $V_{\text{H}_2}=20\text{l/hr}$ / $\text{H}_2:\text{H}_2\text{O}=1:1$ / active area 16 cm²

** measured by Fraunhofer Institute for Ceramic Technology and Systems

GEOMETRIES AND THICKNESSES:

- electrolyte thicknesses between 100 and 300 microns depending on material ($\pm 10\%$)
- standard dimensions: 50 x 50 mm², 100 x 100 mm² (tolerances $\pm 1.0\%$)