Cathode support for IT-SOFC

DESCRIPTION:

Cathode support made from a ceramic material – $La_{0,65}Ca_{0,25}MnO_3$ (LCM).

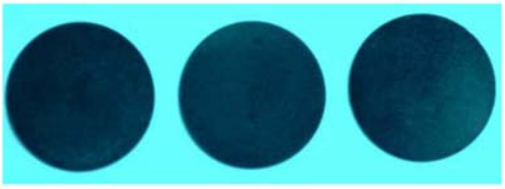
This LCM ceramic material has a main electronic type electrical conductivity. It is adequate as chatodic material in IT-SOFC (800^{0}C).

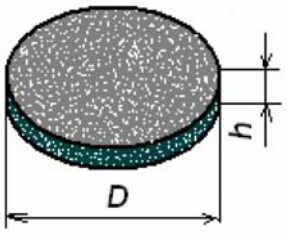
The chatodic support is used for electrolyte and anode layers by several deposition technologies (serigraphy, magnetron spattering, laser ablation, CVTD).

The cathode support has been designed for testing an intermediate SOFC single cell (800^{0}C).

TECHNICAL CHARACTERISTICS:

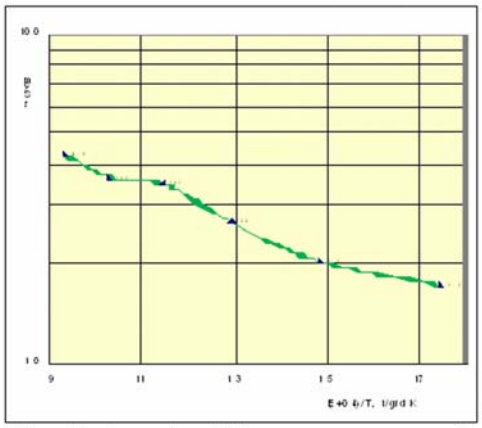
D 40.5 1.0 × h 1.4 0.30 mm



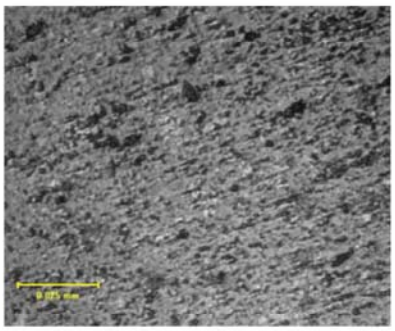


Cathode Support for SOFC-IT cell

Material characteristics	
Recept	$La_{0,65}Ca_{0,25}MnO_3$
Structure	perovskite
Porosity	28.40%
Electrical conductivity at 800 °C	42.4 S/cm
Thermal dilatation coefficient for 20 - 800^{0}C	11.1x10^{-6}/^{0}C



Electrical conductivity as temperature function



Cathode microscopic image

APPLICATIONS:

- Electrode for solid electrolyte fuel cells
- High temperature oxygen sensor
- Component for MHD equipment