

Ref. 123 - Thermal ageing of ZrO_2 : 8 mol% Y_2O_3 solid electrolytes.

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Impedance spectroscopy measurements have been carried out in the 10^4 Hz - 104 Hz frequency range in ZrO_2 : 8 mol% Y_2O_3 thermally aged at $600^\circ C$ for times up to 2000 h. Different metal electrode setups have been tested for future design of oxygen sensor cells. The specimens, prepared from coprecipitated hydroxide powders and also by mixture of zirconia and yttria powders, have been sintered in the $1300^\circ C$ - $1650^\circ C$ temperature range during 1h to 5h. The results show that specimens prepared with powders of coprecipitated origin have dc conductivity more stable at $600^\circ C$ than the ones obtained from powder mixture, suggesting the latter process for preparing solid electrolytes to be used in disposable oxygen sensors. (CNEN, FAPESP, PADCT-TR)