

عنوان مقاله:

Preparation of LSCF Ceramic Tubular Membranes for Oxygen production

محل انتشار:

چهاردهمین همایش بین المللی نفت، گاز و پتروشیمی (سال: 1389)

تعداد صفحات اصل مقاله: 9

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خلاصه مقاله:

a mixed oxide -electron conducting ceramic $\text{La}_{0.6}\text{Sr}_{0.4}\text{Co}_{0.8}\text{Fe}_{0.2}\text{O}_{3-\delta}$ LSCF powder was synthesized by complex method by EDTNAD and EDTA agent and then tubular membrane was prepared and optimized by two methods uniaxial Die pressing and extruder. The prepared paste for formation was first spun from a starting solution containing 60wt%LSCF powder , 3.1wt%PVA binder 0.5 wt%glycerin additive, and 26.54wt%sovent and then sintered at elevated temperatures between 1200 and 1300 c for 6 h to obtain membranes with a gastight property. the prepared tubular precursors and the sintered membranes were characterized by XRD ,SEM and gas permeation tests. Oxygen permeation fluxes through the tubular membranes were measured under different temperatures and sownstream oxygen partial pressures . the results indicated that the oxygen flux obtained from the tubular membrane is higher than that obtained from conventional LSCF disk -shaped. the operating temperature plays a more important role in determining the oxygen permeation flux of LSCF membranes. once the operating temperature is over 700 C, the .oxygen permeation flux increases sharply as a result of an order -disorder transition of the oxygen vacancies

کلمات کلیدی:

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