

음극지지형 고체 산화물 연료전지의 공소결 거동

Co-firing behavior of a solid electrolyte/anode
in anode supported SOFC

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Planar type solid oxide fuel cell is widely chosen geometry, because of its high power density and an easiness of stack fabrication. In order to reduce a production cost, co-firing processes of electrolyte/anode half cell are proposed. Due to different shrinkage rates of components during co-firing, the sintering defects such as warpage, crack formation and debonding are occurred. These problems are dealt in constrained boundary condition of sintering. To predict a constrained sintering defect of bi-layer, the viscoelastic approaches are employed. We measured sintering parameters such as uniaxial viscosity and viscous Poisson's ratio of components of half cell with laser assisted sinter forging facility. The validity of measurement of sintering parameters of components and prediction of a constrained sintering behavior of half cell are discussed in the presentation.