

Creep Resistance Properties of Green Sheet Anode NiAlCr for Molten Carbonate Fuel Cell

Phuc, 윤성필, 임태훈, 남석우, 오인환, 김진수, 한종희*

KIST

(jhan@kist.re.kr*)

Creepage in anode is one of the problems for MCFC. It is because the MCFC anode has to overcome the compressive load at high temperature operation condition. The conventional anode material Ni-(3,5)wt%Al alloy was modified with chromium powder in various ratios by heat treatment method and they were studied their creep resistance properties at three different temperature conditions 650oC, 620oC, and 600oC. Creep resistance properties of the anode samples were studied on creep test system under 100 PSI load in hydrogen atmosphere during operation time 100 hours. The lowest creep strain values were obtained with the samples modified with amount of chromium powder in the range of 3~5wt%. With different testing temperature conditions, the creep strain values of the samples were in proportion with increasing temperature.