

연료전지용 금속 분리판 코팅 기술 연구

A Study on the Coating Technology for the Metallic Bipolar Plate of PEMFC

윤용식*, 전유택

현대하이테크기술연구소(E-mail:iyong1024@hysco.com)

Stainless steel has attracted much attention as potential materials for metallic bipolar plate because of its high strength, chemical stability, low gas permeability and applicability to mass production. However, it has been reported that its inadequate corrosion behavior under PEMFC environment led to a deterioration of membrane by dissolved metal ions and a increase in contact resistance by growth of passive film, therefore, its corrosion resistance as well as contact resistance must be improved for bipolar plate application. Previously, we reported that surface modified stainless steels showed the good initial properties, for example, low surface resistance and high corrosion resistance. The present study reports the long-term corrosion resistance of surface modified stainless steel under PEMFC simulated environment. In addition, long-term durability tests were performed by 25cm² single cell.