

Effect of the pin-hole like cracks of MEAs on the performance of PEFCs

박구곤^{1,*}, 임수진^{1,2}, 박진수¹, 박석희¹, 윤영기¹, 이원용¹,
임태원³, 김창수¹
¹한국에너지기술연구원; ²한양대학교; ³현대자동차
(gugon@kier.re.kr*)

The durability and safety should be guaranteed for the commercialization of fuel cells. In this work, the effects of physical damages which can be caused in the process of MEA fabrication, cell clamping and cell operation were investigated. The scenario which covers the phenomena that may occur at the damaged MEAs was prepared. To simulate the real PEFC conditions, the various sizes of crack were intentionally formed at the MEAs. The I-V performance was evaluated for the prepared MEA samples. The result of I-V performances and H₂ crossover rates could be directly correlated. The visual characterizations for the damaged MEA from the actual PEFC stack were also conducted.