

Abstract

ELECTROCHEMICAL CELL CONTAINING A POLYMER ELECTROLYTE, AND PREPARATION PROCESS FOR SAID POLYMER ELECTROLYTE
The electrochemical cell comprises a pair of electrodes (2a, 2b) whose electrode body (3a, 3b) consists of porous base material with a catalyst deposited on carbon particles. Between the electrodes, a membrane film (4) made of a hydrophillic, proton-conducting polymer material is arranged which acts as electrolyte and separator.

The material of the membrane film (4) is a base polymer which is radiation-grafted with terminally sulphonated vinyl radicals and is selected from the group formed by substituted and unsubstituted polyolefins, substituted and unsubstituted vinyl polymers and their copolymers, the vinyl radicals being derived from vinyl monomers which are selected from the group formed by substituted and unsubstituted vinyl monomers.

Between the membrane film and the base material with the catalyst deposited thereon an interlayer is provided which comprises a proton-conducting hydrophillic copolymer of poly(perfluoroalkylene) which is substituted with ion-exchanging groups, and poly(perfluoroalkylene) which is substituted with non-ion-exchanging groups.

(Fig. 1)