

Development of Sulfonated Polyether Ether Ketone(SPEEK)-Based Blend Membranes for Polymer Electrolyte Membrane Fuel Cells(PEMFCs)

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Blend membranes based on sulfonated polyether ether ketone (SPEEK) were developed for the polymer electrolyte membrane (PEM) fuel cells. The effect of blending ratio and the degree of sulfonation of SPEEK on the properties of the membranes were evaluated. The optimum values for the above parameters were identified. The membranes were characterized in terms of proton conductivity, FT-IR, differential scanning calorimetry (DSC), ion-exchange capacity (IEC), etc. The performance of the membranes under fuel cell operating conditions was evaluated by plotting the I-V curves.