

Abstract

This experiment explores the design and operation of a hydrogen fuel cell. A hydrogen fuel cell was constructed and tested to show its ability to generate electrical power. The fuel cell design used in this experiment was from the work done by Philip Hurley in his book *"Build your own fuel cells."* A key element of the fuel cell is known as the Membrane Electrode Assembly (MEA) that was purchased in order to help in the construction. Other materials used in the fuel cell construction were available in hardware stores. The hydrogen needed for the fuel cell was purchased in a container and the oxygen needed was naturally available in the air. During the experimentation a variable resistor was used as an electrical load to make measurements of the power generated by the fuel cell. The voltage generated by the fuel cell was measured and the current passing through the resistance load was calculated using Ohms law. The power generated by the fuel cell was calculated by multiplying the voltage times the current.