

Design and Performance Data for Sealed Fiber Nickel Cadmium (FNC) Cells

Menahem Anderman
Acme Advanced Energy Systems
and
Sal DiStefano
Jet Propulsion Laboratory

Abstract

The sealed FNC cell deviates from the traditional space Ni-Cd cell in two major areas:

1. They utilize mechanically impregnated fiber electrodes for both negative and positive plates.
2. They employ recombination plates in a low pressure, split negative design.

Both new design elements offer significant improvement in life, weight, and cost over the traditional sintered plate, high pressure design. The plate is non-corrosive, light weight, and exhibits low swelling. The recombination plate design allows the incorporation of a small pore size separator and large amount of electrolyte per ampere hour. Both designs provide extended life.

Preliminary LEO test data reveal that the new FNC cell could out-perform traditional space cells. Design details and test data for the FNC cell will be presented.