

ADVANCES IN LIGHTWEIGHT NICKEL ELECTRODE TECHNOLOGY

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Studies are currently underway to further the development of lightweight nickel electrode technology. Work is focused primarily on the space nickel-hydrogen system and nickel-iron system but is also applicable to the nickel-cadmium and nickel-zinc systems. The goal is to reduce electrode weight while maintaining or improving performance thereby increasing electrode energy density. Two basic electrode structures are being investigated. The first is the traditional nickel sponge produced from sintered nickel-carbonyl powder and the second is a new material for this application which consists of a non-woven mat of nickel fiber. Electrodes are being manufactured, tested and evaluated at the electrode and cell level.