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(54) ELECTROCHEMICAL CELL HAVING THIN METAL FOIL PACKAGING AND A METHOD FOR MAKING SAME

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(57) **ABSTRACT**

An electrochemical cell is provided comprising a thin metal foil packaging made from at least one sheet of metal foil and having a perimeter extending around at least a portion of the electrochemical cell, as well as an electrochemical cell stack contained within the thin metal foil packaging, and a metal-to-metal welded seal around at least a portion of the perimeter of the thin metal foil packaging. The metal-to-metal welded seal is hermetic or nearly hermetic. Furthermore, the metal-to-metal welded seal is narrow, having a width of less than about 1 mm, and is less than about 5 mm away from the electrochemical cell stack. In some embodiments, the thin metal foil packaging functions not only as a hermetically or near hermetically sealed packaging, but also as either the negative or positive current collector, with one electrode of the cell bonded to the foil packaging. A method for making the foregoing electrochemical cell is also provided and involves using laser energy the metal-to-metal welded seal, wherein the laser energy is applied to the foil at high speed using a scanning laser.