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US2013108922A1 ELECTROLYTIC COPPER FOIL, ELECTROLYTIC COPPER FOIL FOR LITHIUM ION SECONDARY BATTERY, ELECTRODE FOR LITHIUM ION SECONDARY BATTERY USING THE ELECTROLYTIC COPPER FOIL, AND LITHIUM ION SECONDARY BATTERY USING THE ELECTRODE

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ELECTROLYTIC COPPER FOIL, ELECTROLYTIC COPPER FOIL FOR LITHIUM ION SECONDARY BATTERY, ELECTRODE FOR LITHIUM ION SECONDARY BATTERY USING THE ELECTROLYTIC COPPER FOIL, AND LITHIUM ION SECONDARY BATTERY USING THE ELECTRODE

Abstract

A lithium ion secondary battery, which uses a negative electrode wherein an active material is deposited on a collector, and which is characterized in that no wrinkles are formed on the collector, the collector does not fracture, the adhesion between the active material and the collector is high, and stable performance can be maintained for a long period of time; an electrode for the secondary battery; and an electrolytic copper foil that constitutes the electrode. Specifically disclosed is an electrolytic copper foil for a lithium ion secondary battery, in which a surface-roughened layer of copper or copper alloy particles having a particle diameter of 0.1-3 mum is formed on both surfaces of an untreated copper foil by roughening treatment by means of electrolysis, and the surface-roughened layers on both surfaces have a surface roughness Rz of 1.0-5 mum and a surface roughness Ra of 0.25-0.7 mum, with the Rz difference between the front and back surfaces being within 3 mum and the Ra differences between the front and back surfaces being within 0.3 mum.

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