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Top-class technologies for cell performance and reliability

Asahi Kasei FDK Energy Device Co., Ltd. (AFEC) has at its core the technologies of FDK, which boasts a global production scale in alkaline batteries, nickel-metal hydride batteries, and other fields, and of Asahi Kasei, which has discovered revolutionary materials and invented lithium-ion batteries.

AFEC uses its electrochemical and material development technology, indispensable to cell technology, we could launched the earliest with reliable and safe lithium-ion capacitors (LICs) with outstanding suitability for mass production. AFEC also develops low-resistance materials to expand the possibilities for high-power regeneration applications.

AFEC continue to use top-class technology to lead the expanding market and to answer a variety of needs. While pushing the performance of LICs ever further, AFEC continue to apply analytic technologies for material combination and structural design, in order to develop rapidly LICs with high performance and customer value.



Our Cell Technologies

- Material development technology
- Electrochemical technology
- Cell design technology
- Analytic technology

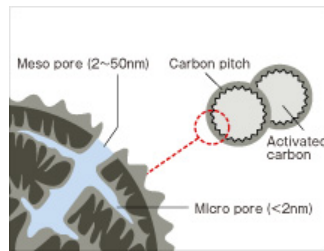
Material development technology

Decreasing the resistance is to achieve high-power charge and discharge ability. We have paid attention to pore structure of anode active materials and discovered that, when it is controlled, lithium ions can go in and out swiftly. Thus we have developed low-resistance materials. We are also engaged in

other kinds of material development to improve cell performance and quality.

Electrochemical technology

Electrodes are of particular importance for LIC performance. Big differences in electrode quality are made by the surface states of electrode materials and the methods of mixing paste. We handle powder technology and coating know-how to the electrodes for producing high-performance cells.



Cell design technology

Material selection, combination, and procurement are keys to bringing out the performance desired. We accumulate masses of data regarding performance changes from various materials' properties, design, and combination, cooperate closely with component manufacturers, and thus achieve cell design tailored for market needs.



Analytic technology

Analytic technology is indispensable for building up cell technology. We use our accumulated knowledge, experience, and know-how to establish evaluation methods that optimize equipment, environments, and procedures. We also utilize CAE and hunt down the principles of the reactions behind LICs. All this we apply to improving the performance and quality of cells.

What Is LIC?

Features of Lithium-Ion Capacitors
Performance of Lithium-Ion Capacitors
Markets Created by LICs
Application Fields

AFEC's Technology

Cell technology
Module technology
Production technology

Product Information

ECM015PR Series
ECM045SR Series

Application Examples

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