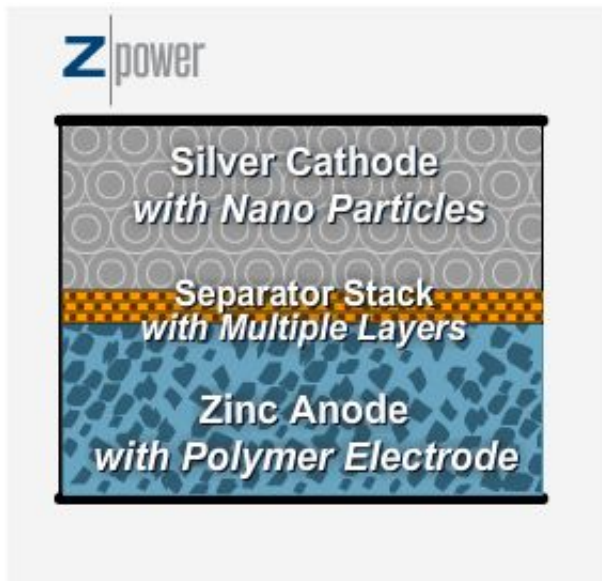


ZPower claims its silver-zinc batteries last 40% longer than lithium-ion

October 8 2008, by Lisa Zyga



ZPower's silver-zinc battery chemistry uses the latest in advanced polymers, nanotechnology, power electronics and processing methods to create a rechargeable battery that lasts up to 40% longer than lithium-ion batteries.

Image: ZPower.

A company called ZPower has designed batteries with silver- and zinc-based electrodes that it says will offer up to 40% more computer time per charge than today's lithium-ion batteries. Consumers won't have to wait long to see if the new batteries live up to the claim, as ZPower plans to release the first silver-zinc battery-powered laptop in 2009.

The Camarillo, California company's CEO, Ross Dueber, is discussing the technology at Batteries 2008, a conference located in Nice, France, starting today. Batteries 2008 is a worldwide exhibition focused on power supply, with more than 400 attendees.

Silver-zinc batteries are not new - they were used on NASA's Apollo spacecraft in the 1960s and 1970s - but until recently they could only be recharged a few times before they stopped working. At the conference, Dueber will explain the improvements to and advantages of silver-zinc batteries for applications such as notebook computers, mobile phones, and other consumer electronics.

The biggest advantage is the batteries' longer lifetime, which is due in part by using special polymers in the zinc anode, which inhibit dendrites from growing. In lithium-ion batteries, dendrites tend to form after extended use, distorting the anode and decreasing battery lifetime.

As Dueber explains, silver-zinc batteries are also safer than lithium-ion batteries. Because silver-zinc batteries have a water-based chemistry, they are nonflammable and so they shouldn't burst into flames. This will help them avoid several of the safety recalls that plagued some lithium-ion products.

Another benefit is that silver-zinc batteries are easy to recycle. ZPower claims that silver-zinc batteries can last for 200 or more power cycles at 100% discharge, and thousands of cycles at intermediate discharge. When the batteries do reach the end of their useful life, they are up to 95% recyclable since they contain no toxic chemicals. Most of the silver and zinc can be easily recovered and reused, cutting both environmental and economic costs. Although the cost of silver itself is high, ZPower plans on implementing a trade-in recycle policy that will help to offset costs.

Currently, one downside of the new technology is that the silver-zinc batteries operate at a different voltage from lithium-ion batteries, so the two aren't interchangeable. Manufacturers will have to adjust their computers to work with the new batteries, but ZPower is also collaborating with computer suppliers to develop laptops that are compatible with both batteries.

The first computer to be powered by silver-zinc batteries has not yet been named, but the company says that it will be "a major notebook computer."

More information: ZPowerBattery.com

via: Gizmodo

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