

NiMH Packs and Cells...

Straight talk on NiCd vs NiMH cells and packs

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As is true about many things in the life, there's a lot of confusion and misinformation about NiCd and NiMH technologies. Let's see if we can clarify things a little for you.

The advantage of NiMH cells is that for a given cell size, they have a higher capacity compared to NiCd cells. That means that many devices will work longer using NiMH cells. In addition, because they do not contain cadmium, they are more environmentally friendly.

The disadvantage of NiMH cells is that they usually have much higher internal impedance. That means that if you try to draw a lot of current from NiMH cells, they will drop excessively in voltage which can cause poor performance or the device they are powering to shut down. At SR, we only produce premium NiMH packs with low internal impedance NiMH cells. Although they aren't as low as our NiCd cells, they are close enough that you shouldn't see a difference in normal applications.

NiMH cells are a little heavier than the same physical size NiCd cell. Our 2400 Max Series NiCd cell is SubC in size, weighs about 2 oz. and has a capacity of about 2400 mah. Our SubC size 3000H Series NiMH cell has a capacity of over 3000 mah, but weighs about 2.2 oz., 10% heavier.

Don't expect the same life span from a NiMH cell compared to a NiCd cell. Our experience has been that you will need to replace NiMH packs about twice as often as NiCd packs regardless of who made the packs. Also, be careful about temperature extremes with NiMH cells as they tend to lose their charge much more quickly than NiCd cells in very hot or cold climates. They are happiest at any room temperatures just like you.

Finally, don't expect to charge a NiMH pack today and then use it a week or two from now as NiMH cells lose their charge two or three times faster than NiCd cells do. You also shouldn't fast charge a NiMH cell at as high a charge rate as you would a NiCd cell. That's because of the higher internal impedance.

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The big advantage of NiCd packs and cells is reliability. This is a mature technology that is practically "bullet proof." In critical applications, NiCd's are the only way to go.

In addition, NiCd cells have extremely low internal impedance which means you can draw a lot of current without a corresponding excessive voltage drop. This makes them perfect for high current draw applications.

The down side to NiCd cells and packs is that they contain cadmium which is not environmentally friendly. For that reason, the NiCd battery industry formed the RBRC (Rechargeable Battery Recycling Corporation) to help people dispose of their NiCd cells and packs properly. All members of the RBRC, including SR Batteries, will be happy to recycle your NiCd cells and packs for you. In addition, you can take them to any Radio Shack and most supermarkets and libraries for recycling. Please follow this link for more information...<http://www.rbrc.org/index.html>

Summary...

If it sounds like we're partial to NiCd cells and packs, we are. However, if your application demands the highest possible capacity, NiMH cells and packs will work fine in most applications. If in doubt as to which technology is for you, give us a call or drop us a note and we'll be glad to discuss your specific needs so that you get the performance you're looking for.

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