Laptop Battery

What is the difference between NiCad, NiMH and Lithium-ion laptop batteries?

Batteries in laptops, camcorder and cell phones are typically made using one of three battery chemistries: Nickel Cadmium (Ni-Cd), Nickel Metal Hydride (Ni-MH) or Lithium Ion (Li-Ion) battery cell chemistry.

NiCad and NiMH:

NiCad (nickel Cadmium) batteries are best known as the battery type that has the ''memory effect''. In order for these batteries to work efficiently, the battery must be completely discharged before recharging. If you recharge these batteries while there is still power stored in the cells, your battery will ''reset'' itself so that it now only holds the amount of power stored from the last recharge. Many electric tooth brushes, power tools and other consumer items still utilize NiCad battery chemistry. If you have devices with NiCad batteries, you will save yourself some aggravation and money by having a fully charged spare battery to insert while you recharge your depleted battery. NiCad batteries are the least expensive to produce, but because of the ''memory effect'' problem, these type of batteries are slowly being phased out with other improved battery materials.

NiMH batteries are less prone to develop this problem and thus require less maintenance and conditioning. In addition, NiMH batteries can store about twice as much energy as NiCad batteries without adding any additional weight. NiMH batteries are also environmentally friendlier than NiCad batteries since they do not contain heavy metals (which present serious landfill problems). Note: Not all devices can accept both NiCad and NiMH batteries.

Lithium Ion:

Lithium-Ion (Li-Ion) has become the new standard for portable power in consumer devices and laptop batteries. Li-Ion batteries produce the same energy as NiMH battery but weigh approximately 20%-35% less. This can make a noticeable difference in devices such as cellular phones, camcorders or notebook computers where the battery makes up a significant portion of the total weight. Another reason Li-Ion batteries have become so popular is that they do not suffer from the "memory effect" at all. They are also environmentally friendly because they don't contain toxic materials such as Cadmium or Mercury.

Unique solution ID: #1007
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Last update: 2022-11-25 10:33

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URL: https://faq.secure-battery.com/content/1/8/en/what-is-the-difference-between-nicad-nimh-and-lithium_ion-laptop-batteries.html