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Rechargeable Battery Packs

Cornerstone offers rechargeable battery packs in a variety of chemistries and configurations. We provide innovative, high performance battery solutions for a broad range of industries and applications.

Our team has the expertise to create custom rechargeable battery packs that meet your unique requirements, drawing on 100-plus years of combined battery design experience. Cornerstone will deliver the dependable, cost-effective rechargeable battery packs your application requires. Request a custom quote or contact us today.

Rechargeable Lithium Batteries

Rechargeable lithium batteries are popular for a wide array of applications. These battery packs provide excellent energy density, hold their charge for long periods when not in use, and do not experience “memory effect” in charging. They can be manufactured in myriad shapes and sizes to fit the devices they power, and are much lighter than comparable rechargeable battery packs that utilize different chemistries.

Rechargeable lithium ion battery packs are available in a number of different chemistries, each with unique performance, cost, and safety characteristics. Contact Cornerstone for assistance in selecting the most effective chemistry for your specific application.

Rechargeable Lithium Ion Battery Packs

Rechargeable lithium ion (Li-ion) rechargeable battery packs continue to grow in popularity thanks to their greater energy density—up to twice that of nickel- and lead-based chemistries—and low self-discharge rates, as well as ever-improving technologies that continue to make them safer and less expensive than earlier lithium battery types. Rechargeable lithium ion batteries are commonly used in a broad spectrum of applications, including:

- Military/aerospace equipment
- Medical devices
- asset tracking
- and many others

Ready to get started on the custom rechargeable lithium ion battery packs you need? Request a quote from Cornerstone today.

Other Rechargeable Battery Pack Chemistries

Lithium Polymer Rechargeable Battery Packs

Lithium polymer rechargeable battery technology is similar to Li-ion in many ways. The key difference between the two is their packaging—instead of the steel or aluminum cans used for Li-ion batteries, lithium polymer cells are typically housed in foil-like pouches. This allows for packaging flexibility, and can provide lower costs and safer operation.

Lithium polymer cell technology is constantly improving, as manufacturers introduce ever smaller, lighter, and more powerful cells. Lithium polymer rechargeable battery packs are available in different, custom-tailored configurations that can deliver longer run times or higher discharge rates. Cells as thin as a credit card are possible. Common applications include:

- Small one- or two-cell consumer electronics
- industrial
- and many others

Cornerstone to discuss your custom battery pack requirements.

Note: Due to lithium's inherent volatility, and lithium polymer's generally high energy density, every lithium-ion and polymer battery and cell requires a battery management

circuit to control and monitor its upper and lower voltage thresholds during charge and discharge. Cornerstone designs and thoroughly tests the battery management system of each lithium-ion and polymer battery pack we assemble to guarantee optimum safety and performance.

Sealed Lead Acid Rechargeable Battery Packs

Sealed lead acid batteries (SLA batteries) are available at low initial cost and are easy to maintain, making them ideal for a wide range of rechargeable battery applications. Unlike other chemistries, such as lithium ion or lithium polymer, SLA batteries don't require sophisticated battery management circuitry, and are not as heavily regulated for transportation.

SLAs have the lowest energy density of any rechargeable battery chemistry. In instances where size and weight aren't critical factors, and where costs must be kept to a minimum, sealed lead acid rechargeable battery packs are an ideal solution.

SLA batteries are also uniquely suited to stationary and standby applications, such as uninterruptible power supplies and emergency lighting, where reliability and long working life are a must. And, because SLA cells are predictable and easy to maintain, they're commonly used for medical devices and electric wheelchairs requiring high power.

A popular SLA variation is "pure lead" technology, such as EnerSys Cyclon. We do produce an equivalent in quality at a much better price. Pure lead batteries are capable of faster charging, and perform well at lower temperatures. These batteries also exhibit much better charge retention and recovery after long periods of storage (1-2 years) and longer calendar life (5-8 years). Pure lead SLA rechargeable battery packs are popular for medical and defense applications.

Nickel Cadmium Rechargeable Battery Packs

Nickel cadmium (NiCd) is one of the oldest battery chemistries. Despite the development of numerous new chemistries in recent years, nickel cadmium remains a popular and reliable technology for rechargeable battery packs. When properly maintained, NiCd batteries can last for thousands of cycles.

Nickel cadmium batteries used in portable applications are usually either spiral wound cylindrical cells or button cells. Larger plate NiCd wet cell batteries are often used in aircrafts and long-term stationary applications.

Nickel Metal Hydride Rechargeable Battery Packs

Steady increases in nickel metal hydride (NiMH) cell performance have made this chemistry a popular choice for small, lightweight, portable electronic applications. Unlike lithium ion, lithium polymer NiMH batteries do not require sophisticated battery management circuitry to maintain their performance. Additionally, NiMH rechargeable battery packs are not as heavily regulated for transport as lithium cells.

NiMH batteries provide 30-50% more energy capacity than same-size NiCd cells. They are also less prone to the “memory effect” that can hamper NiCd batteries. And, compared to lithium ion and lithium polymer rechargeable battery packs, NiMH cells are a far more economical choice.

Contact Us for High Performance Rechargeable Battery Packs

Request a quote on custom rechargeable battery packs for your specific application. Contact Cornerstone to discuss your custom requirements or to learn more.