Doe Run Backgrounder

The Uses of Lead

The most recycled consumer product, lead batteries, starts more than 1 billion vehicles globally, and stores and optimizes energy from renewable energy sources. Lead also is vital for radiation protection, nuclear storage, and in medical, military, and telecommunications applications.

THE MOST COMMON USE: BATTERIES

According to the Battery Council International (BCI), lead batteries are the most commonly used rechargeable battery. What's more, lead batteries have a 99 percent recycle rate, returning valuable metal to future use and making them the lowest-impact battery technology.

Traditionally used to start cars, trucks and buses with internal combustion, today's advanced lead batteries also are designed for start-stop hybrid vehicles, which reduce fuel consumption and emissions. Worldwide, 100 percent of mass-produced hybrid and full-electric vehicles use a lead battery. By 2020, its predicted that start-stop technology using lead batteries will help eliminate 2 million tons of vehicle greenhouse gas emissions annually in the U.S. And, advanced lead batteries are predicted to be the most cost-effective way to meet vehicle fuel economy standards.

POWER & RENEWABLE ENERGY

- Lead batteries are a primary source for uninterruptible power supply (UPS). In the U.S. alone, a $1 trillion communications infrastructure relies on lead batteries for UPS. Lead battery banks provide quiet, pollution-free, emergency power for critical operations such as air traffic control towers, hospitals, railroad crossings, military installations, and cell phone towers.
- Lead battery banks also can be used in remote area power supplies (RAPS), combining renewable energy sources and batteries for energy storage, to bring electricity to remote areas.
- Lead batteries also support the growing solar and wind industries by storing the energy generated from these renewable sources. Lead batteries are in use at approximately 25 percent of solar and wind facilities. In addition to storing renewable energy, lead sheathing protects the transmission cables of offshore renewable wind and wave power.

LEAD BATTERIES: INFINITELY RECYCLABLE

Lead batteries account for more than 85 percent of today's lead consumption. Despite incredible demand, battery recycling continues to stand out as an industry success story.

According to the U. S Environmental Protection Agency, the more than 99 percent recycle rate for lead batteries ranks as the highest among all recycled consumer products. By comparison, the recycle rates are 65 percent for paper and paperboard and 55 percent for aluminum cans.

Doe Run's Resource Recycling facility is one of the world's largest, single-site lead recycling facilities. It recycles more than 13.5 million lead batteries annually.

OTHER USES OF LEAD

Many industries rely on lead for specialty items. Lead is vital in certain architectural applications like lead-lined sheet rock and plywood, and roof flashings. It's also used in ammunition, anodes for electroplating, and select electronic applications.

Lead also has protective applications. Lead is used in aprons to shield patients from X-rays, and provides a barrier in medical scanning equipment used in hospitals, dental offices and laboratories. Lead also lines doors and walls in diagnostic and medical treatment rooms (oncology and other nuclear medicine).

Lead-lined "boxes" protect security personnel as luggage is screened at airports.

Lead is used to store and transport spent nuclear fuel. Doe Run's Seafab Metals Company subsidiary manufactures lead for nuclear shielding.

ADDITIONAL RESOURCES

- Essential Energy Everyday
- Consortium for Battery Innovation
- Battery Council International
- International Lead Association
- The Doe Run Company