

Batt-Recon: Sulfation Elimination Process

For years, the motive battery industry has seen different methods of "Sulfation Elimination" from companies that promised battery restoration using small electronic "buzz boxes," special chargers, capacitors attached to the batteries and special additives, often called "snake oil" to the electrolyte. Those attempts were rejected by the battery community as scientifically insignificant and often harmful to motive batteries.

The BATTRECON Sulfation Elimination process is different because the entire process from the initial battery evaluation to the conclusion of the process, is based entirely on an industry accepted scientific approach. That approach is the field measurement of impedance, which is simply the internal resistance of the battery's individual cells. As the battery's impedance increases, the performance decreases. Removing the sulfation immediately lowers the impedance and dramatically restores the battery's performance.

As a lead-acid battery cycles between charge and discharge, or sits in storage, it begins to form a layer of sulfation on the plates of each cell. This layer prevents the efficient transfer of electrons between the electrolyte and the plate. The increasing charge times and lowered usage, raise the electricity costs for each battery cycle about 10 to 25%, while premature replacement costs could be thousands of dollars for each battery.

Sulfation elimination removes the sulfation, but lead shorting caused by either sedimentary or "mossing," effects remain. While sulfation elimination restores the battery performance loss caused by sulfation, the cell performance

"... batteries previously deemed unserviceable and discarded, are now being restored by the BATTRECON Process and placed back into service!"

is ultimately limited by the degree of shorting, other mechanical damage and acid adjustment processes. About 70% of battery failures are caused by sulfation alone, and can be restored by a simple process of sulfation elimination using the BATTRECON Model 4800 system.

Impedance on a new flat plate designed cell is typically zero and as the battery cycles it increases about .5 mill-ohms per year of normal operation. The battery is measurably slower on a load test and becomes a "three-hour" battery at about 1.2 milli-ohms of impedance, and ready for replacement as a "1-hour" battery at about 2.5 milli-ohms. The BATTRECON Model 4800 de-sulfation machine safely and measurably removes Level 2 sulfation in about 1-hour. Level 3 sulfation, an aggressive and crystalline form, may take two or three de-sulfation cycles followed by charging to minimize the cell impedance.

The BATT-RECON patent pending process compares the initial and final battery impedance values as a determination of successful sulfation elimination. BATTRECON developed the world's first hand-held, motive battery cell impedance

tester capable of measuring .1 mill-ohms, the field optimum impedance, which allowed the empirical collection of field impedance data.

Many clients believe that because they periodically use an "equalization" charge or perform battery maintenance, they have no sulfation accumulation. Having performed hundreds of empirical tests on batteries, even those batteries passing a load test have significant cells with higher than acceptable impedance levels. This is observed as a scattered 'stair step' cell voltage and specific gravity pattern on your load test data sheet. After a short BATTRECON treatment process, the cell voltages and specific gravities are again even and impedance is minimized.

According to the inventor of BATTRECON, Mr. Bruce Zeier, it is common to test a "5-hour" battery ready for return to the client after repair at a battery facility only to find the impedance values of individual cells varying from .3 to .9 mill-ohms. After a 20 to 30 minute de-sulfation process, all the cells typically drop in impedance to about .3 to .4 milli-ohms, or a level that is even rather than uneven. The return to service of a battery with a less than optimum impedance levels means that a cell with a .9 impedance, will quickly accumulate an additional .5 impedance level, causing the entire battery to again become noticeably slow, requiring another repair.

According to Mr. Zeier, "... batteries previously deemed unserviceable and discarded, are now being restored by the BATTRECON Process and placed back into service!" In fact, according to Mr. Zeier, the top engineer from one of the largest battery manufacturers commented that: "... you guys are the first ones to know what you are talking about," with respect to the battery de-sulfation systems they had previously evaluated.

In difficult economic times, companies are looking to save money, go green and increase efficiency. The BATTRECON system is a game changer because for the first time, a commercially viable, measurable system and process can quickly remove sulfate build up and restore expensive motive batteries to "like new" condition, at the end-user's facility! Because of the portability of BATTRECON, companies have installed systems in their warehouses and performed battery restoration themselves, without the expense and logistics of sending their batteries to the battery shop.

BATT-RECON

The Emerging Technology

Save A Battery
Save Money
Save The Planet

BATT-RECON is a REVOLUTIONARY NEW device that is used to remove damaging sulfate buildups on the internal lead plates of a lead acid battery. Since battery sulfation is the leading cause of battery failure, the removal of this sulfation will allow the battery to again transfer electricity efficiently in and out of the battery.

951-928-0595 | sales@battrecon.com | www.battrecon.com