Battery desulfurization high voltage and high current

What is the actual desulphating voltage of a battery?
The genuine desulphating voltage is indicated in the datasheets as 29 V.As it may be feasible for a intensely sulphated yet recoverable battery to arc internally if an increased voltage is fed,another SCR circuit could be included around BR2 to stop any voltage greater than 29-30V applied to the battery.

What is a battery desulfation?
This is what desulfation (desulphation)is about. Batteries are subject to an internal discharge,also called self-discharge. This rate is determined by the battery type,and the metallurgy of the lead used in its construction. Wet cells,with the cavities inside for electrolyte,use a lead-antimony alloy to increase mechanical strength.

How to desulfate a battery?
Besides,you need to trickle charge the battery using the desulfatorand continue it until the full charge. And,your battery will be desulfated automatically. In the final analysis,you can think about battery desulfation simply as the process of renewing sulfated areas of a lead-acid battery.

How dangerous is battery desulfation?
If you focus on the risk, inputting high voltage into the battery can damage the battery because of overheating. To add more, the tendency to produce excess gas will increase, and the battery can blast in the end. So, battery desulfation also requires pulse conditioning to avoid such dangerous risks.

Why is battery desulfation considered a susceptible repairing process?
That's why battery desulfation is always considered a susceptible repairing process. Firstly,you need to separate the solidified lead sulfate crystals from the chemicals. After that,these crystals need to dissolve again into the electrolyte. But,you cannot use standard charge voltage to start the dissolving process.

What is a battery desulfator?
The desulfator circuit a gadget that feeds the battery regularly with brief yet hard pulses whilst it discharges slightly between the pulses. As far as we know, this is the most efficient technique of breaking down undesirable sulphate crystal deposits and restoring the battery plates to an acceptable level.

Charging the battery is reversing the process above, and involves subjecting the battery to voltages higher than its existing voltage. The higher the voltage, the faster the charge rate, ...

An alternative approach is resistive based and was discovered accidently (by the author), and is still not totally understood. It was found that if a resistive load is applied and then released, a high over-voltage pulse results at the battery terminals and an oscilloscope plot is attached showing a more than 15V over-voltage pulse

(which is above and beyond the 12V of the battery).

Charging the battery is reversing the process above, and involves subjecting the battery to voltages higher than its existing voltage. The higher the voltage, the faster the charge rate, subject to some limitations. There is a gassing point to consider, and true gel batteries have a lower peak charge voltage, because bubbles can occur in the ...

The first method uses PWM pulses from a 555 PWM circuit, the second method implements an ordinary bridge rectifier for implementing a 100 Hz frequency based desulfation, the 3rd concept involves high voltage spikes, while the fourth design discusses desulfation using a 555 IC based high amplitude current pulsed circuit.

Recently, lithium-sulfur batteries (LSBs), with S as the primary active material of cathode, have been perceived as the most promising candidate for next-generation secondary batteries due to their high theoretical capacity ...

If the battery is adjusted early, reversible sulfation is remedied by applying a cheat to a completely charged battery as a controlled present of around 200 mA. The terminal ...

Some cells can experience excessive overvoltage and cause permanent battery damage. The equalization process only works on lightly sulphated plates. It will not work for heavily ...

You can desulfate a battery with energy stored through a PWM (Pulse-width modulation) control circuit, which also adjusts amp output. Using this method involves integrating a 555 IC timer. Two transistors intensify the IC"s ...

If the battery is adjusted early, reversible sulfation is remedied by applying a cheat to a completely charged battery as a controlled present of around 200 mA. The terminal voltage of a battery is rise to 2.50 and 2.66 V/cell (15 and 16 ...

Each lead acid battery has a total frequency of around 2 to 6 megahertz. If electricity pulses of low power, but high frequency and high voltage are sent into the battery, rhythmic resonance of the plates causes the crystal ...

Fact #1: The Battery Sitter"s high voltage desulfation mode cannot engage if vehicle electronics / wiring are sensed. Upon connection to a battery, the desulfation mode can only engage if no current enters the battery at a charge voltage of up to 14V. A sulfated battery"s voltage will initially be typically in the 2 to 6V range. Vehicle electronics require a higher ...

You can desulfate a battery with energy stored through a PWM (Pulse-width modulation) control circuit, which also adjusts amp output. Using this method involves integrating a 555 IC timer. Two transistors

intensify the IC"s output, allowing the battery to receive high-current pulses. And, to perform desulfation, the PWM"s control must ...

If you focus on the risk, inputting high voltage into the battery can damage the battery because of overheating. To add more, the tendency to produce excess gas will increase, and the battery can blast in the end. So, battery desulfation also requires pulse conditioning to avoid such dangerous risks.

Such high voltage Zn-I2 flow battery shows a promising stability over 250 cycles at a high current density of 200 mA cm-2, and a high power density up to 606.5 mW cm-2. Researchers reported a ...

FET T1 will switch on immediately when the Q output of IC1 turns high. This enables a (discharge) current to travel from the battery via L2, increasing linearly until the voltage across R4 is approximately 0.35 V; the current is subsequently approximately 1 A.

Usually desulfation is achieved by passing "high voltage" (often around 50V) through the battery. The simplest way to do this would probably be by using a 555 timer and a few other components to send the high voltage pulses into the battery.

Web: https://nakhsolarandelectric.co.za