

Price of lead-acid battery energy storage





Overview

What is a lead acid battery?

A lead acid battery consists of a negative electrode made of spongy or porous lead. The lead is porous to facilitate the formation and dissolution of lead. The positive electrode consists of lead oxide. Both electrodes are immersed in an electrolytic solution of sulfuric acid and water.

How do lead acid batteries store energy?

Lead acid batteries store energy by the reversible chemical reaction shown below. The overall chemical reaction is: $PbO_2 + Pb + 2H_2SO_4 \rightleftharpoons PbSO_4 + 2H_2O$ At the negative terminal the charge and discharge reactions are: $Pb + SO_4^{2-} \rightleftharpoons PbSO_4 + 2e^-$.

What are the components of a lead-acid battery?

A lead-acid battery consists of two main components: the anode, which is made up of a group of lead-bismuth alloy grids filled with spongy metal lead, and the cathode, which is made up of lead-bismuth alloy grid filled with alumina. In a lead-acid battery, the anode is the negative electrode, and the cathode is the positive electrode.



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