

A-Core Container

Battery panel service life



Overview

What is battery service life?

Battery service life considers how application, installation, real-world operating conditions and maintenance practices impact battery aging. Failure to understand the difference between design life and service life can lead to improper battery maintenance and less than optimal battery performance.

Why does battery service life never measure up to design life?

This is one of the principal reasons battery service life never measures up to design life, even when temperature and number of discharges are scrupulously controlled. On most occasions, when batteries fail, manufacturers, design engineers, and end users are not at fault.

How long does a Tesla Powerwall battery last?

Most lithium-ion batteries, including the Tesla Powerwall, last 10 to 15 years or 5,000 to 7,000 charge cycles. Lead-Acid Batteries: These are cheaper but less efficient and typically last only 5 to 7 years. Battery warranties often guarantee a certain percentage of capacity (e.g., 70%) after a specific number of years or charge cycles.

Should you consider battery design life or warranty?

Only considering battery design life or the manufacturer's warranty often results in batteries being set up and then ignored for years without preventive maintenance or testing throughout their life cycle.

When do battery systems fail?

In the field, battery systems tend to fail after 50-60% of design life. Why?

In calculating published design life, manufacturers typically take into account optimal operating conditions as concerns float voltage, temperature, and discharge cycles.

How often should a UPS battery be replaced?

The lifecycle of a UPS is about 20 years. After that time, it becomes necessary to renew the equipment. The battery strings during that time frame are typically replaced three times after the initial install. By properly balancing voltage, we stipulate reducing replacement to two times only.

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