

Battery Maintenance and Guidelines for LINAK Products with Rechargeable Lithium-Ion Batteries



This document outlines how to maintain LINAK's rechargeable lithium-ion batteries to obtain the longest possible life. Generally, lithium-ion batteries lose roughly 5-10% of their capacity per year, regardless of charging and maintenance habits. The rate at which capacity is lost is largely temperature dependent. For best capacity retention, the recommended storage temperature is 15°C (59°F) at a roughly 50% charge.

General Guidelines (BA21 & BAL50):

Initial Charge:

In general, our lithium-ion batteries come from the factory with a 30% SoC (State of Charge) to comply with air transportation requirements. LINAK recommends that the battery be charged within 12 months from the production date.

Deep sleep mode:

Following production, all lithium-ion batteries are put into a deep sleep mode to allow for the batteries to maintain their 30% SoC until reaching their final destination. This mode protects against deep discharge (a state which can damage the life of the battery) by preventing the batteries from draining unnecessary power during storage and transit. To exit the deep sleep mode, the battery must be charged.

Because the deep sleep mode can be useful for manufacturers intending on storing assembled product for an extended period of time, it can be beneficial to use one battery on the production line for all application testing. By doing this, a new battery, still in deep sleep mode or fully charged, can be added to the application before shipping to the customer.

Time between charging	Trying to run without charging?
Up to 3 months	Able to use the battery without charging.
3 to 6 months	Charging recommended, but movement is possible.
6+ months	No movement. Will require 24+ hours of charging before operation.

Our lithium-ion batteries keep track of their own SoC and can only determine their current capacity by calibrating at the fully charged or discharged state.