

锂硼合金

Lithium-Boron Alloy



产品综述

Product summary

锂硼合金为多孔隙结构的脆性 Li_7B_6 基体相和韧性 Li 填充相组成的一种复合材料，密度 $0.88 \pm 0.04\text{g/cm}^3$ ，外观为银白色金属，极不稳定，遇空气易变质，遇水反应剧烈。锂硼合金主要应用于锂系热电池负极材料，具有高比能量、高比功率和低极化、电化学电位与纯锂相近， 600°C 以上仍为固态等突出优点，是新型锂系热电池的极佳负极材料。与目前广泛使用的锂硅合金相比，锂硼合金作为负极材料所装配的单元电池在最高电压和放电工作时间这两方面具有更好的性能。

Lithium boron alloy is a kind of composite material composed of Li_7B_6 matrix phase with porous structure and Li toughness filling phase, with a density of $0.88 \pm 0.04\text{g/cm}^3$. It has a silver-white metal appearance and is extremely unstable. It is easy to deteriorate when exposed to air and react violently when exposed to water. Lithium boron alloy has advantages of high specific energy, high specific power, low polarization and high melting point, what's more, its electrochemical potential is similar with that of pure lithium, which makes the lithium boron alloy become excellent anode material for the new thermal battery. Compared with the lithium silicon alloy which is widely used in thermal battery at present, the lithium boron alloy as the anode material of thermal battery has better performances in the highest voltage and discharging time.



化学成分

Chemical composition

牌号 Category	锂含量 (wt%) Mass fraction of lithium	镁含量 (wt%) Mass fraction of magnesium	硼含量 (wt%) Mass fraction of boron
Li55	55 ± 2	≤ 4	余量 the residue
Li60	60 ± 2	≤ 4	余量 the residue
Li65	65 ± 2	≤ 4	余量 the residue



尺寸规格

Dimensions

宽度 (mm) Width range	厚度 (mm) Thickness range	宽度 允许偏差 (mm) Allowable deviation of width	厚度 允许偏差 (mm) Allowable deviation of thickness
60 ~ 100	0.4 ~ 1.8	± 0.2	± 0.015

备注：产品尺寸规格可依据客户商定要求确定。
Remark: The dimensions of products can be determined according to customers' requirements.



表面质量

Surface quality

产品表面光亮、平整、无氧化和油斑，为银灰色质软金属带材。

The product is a soft silver-gray metal chip or strip, the surface of the product is bright and smooth without oxidation and oil spots.



热稳定性

Thermal stability

产品在 600°C 条件下保持稳定固体形态，无锂渗漏。

The product is stable without liquid lithium outflowing at 600°C .



包装、储存

Packaging and storage

包装采用开顶金属圆罐或采用铝塑复合袋充干燥氩气密封。本品应密闭隔绝空气保存，注意防潮、防水，远离热源、火源及氧化性物质。

The product is packaged with open-top round metal cans or aluminum-plastic composite bag filled with dry argon sealed. The product should be sealed off from air, moisture, water, heat sources, source of ignition and oxidizing substances.

