



LITHIUM COBALT OXIDE

Rosatom Chemical develops and produces chemical products across a wide range of fields, including materials for batteries.

LiCoO_2 is a lithium cobalt oxide. The dominant cathode material for lithium-ion batteries in the portable electronics market. It is characterized by long-term cycling stability, power, high bulk density, and high lithium diffusion coefficients.



APPLICATION AREA

The cathode material is an essential component of high-power lithium-ion batteries.

Element	Value
Lithium content, wt %	6,60 - 7,40
Cobalt content, wt %	58,0 - 60,7
Molar ratio Li:Co	0,98-1,08:1
Powder identification by X-ray phase analysis	LiCoO_2
Impurity content, wt % not more than:	
Iron (Fe)	$\leq 0,05$
Sodium (Na)	$\leq 0,05$
Calcium (Ca)	$\leq 0,05$
Chromium (Cr)	$\leq 0,008$
Moisture content, wt %	$\leq 0,2$
Tapped density, g/cm ³ , within	1,2 - 2,9
Specific surface area, m ² /g, within	0,1 - 1,2
Particle size:	
- D ₁₀ μm	≥ 2
- D ₅₀ μm	4 - 16
- D ₉₀ μm	≤ 40
Hydrogen index (pH) of the aqueous extract at 25°C within the range of	$\leq 11,6$

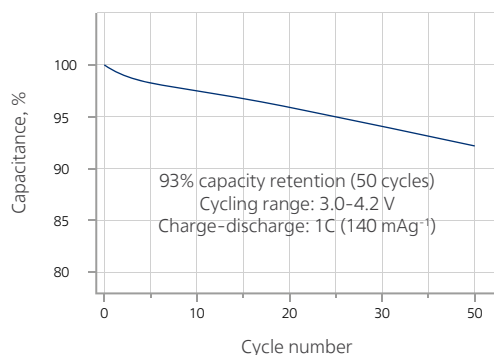
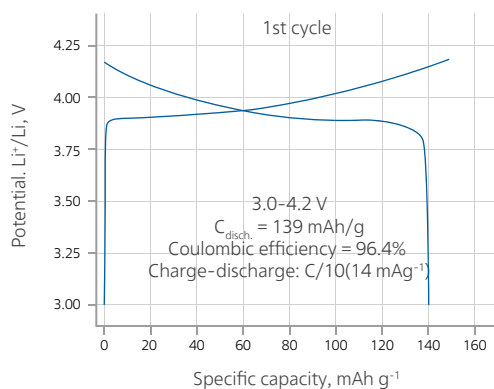




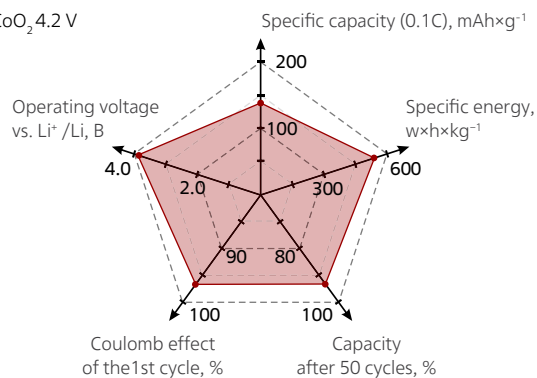
LITHIATED COBALT OXIDE

Coin cell 2032, lithium metal counter electrode, loading ~10 mg/cm² LiCoO₂

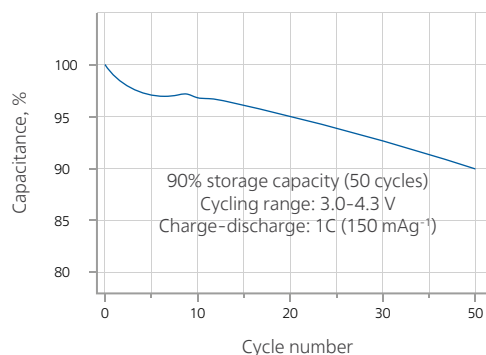
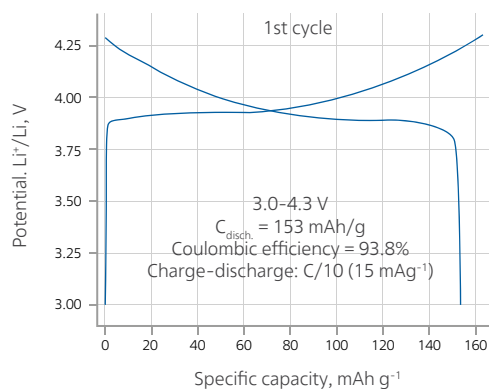
Cycling in the 3.0-4.2 V vs Li⁺/Li potential range



LiCoO₂ 4.2 V



Cycling in the 3.0-4.3 V vs Li⁺/Li potential range



LiCoO₂ 4.3 V

