

Synthetic Graphite Powder Anode Material For High End Lithium Ion Batteries

Item Number: CL28



Introduction

High purity synthetic graphite powder engineered for high end lithium battery anodes delivering first discharge capacity over 360 mAh per g, initial efficiency exceeding 92 percent, tight particle sizing, ultra low moisture, and superior electrochemical cycling stability.

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Application	Description	Key Benefit
Premium Electric Vehicle (EV) Cells	High-capacity anode formulation for prismatic and pouch format traction battery cells requiring extended range and rapid fast-charging capability.	High initial coulombic efficiency ($\geq 92.0\%$) and high tap density maximize volumetric energy density and minimize cell mass.
High-Drain Consumer Electronics	Anode active material for ultra-thin pouch and cylindrical cells powering smartphones, high-performance laptops, and portable power tools.	Reversible discharge capacity of ≥ 360 mAh/g provides long runtime between charges and superior high-rate discharge stability.
Grid Energy Storage Systems (BESS)	Long-life lithium-ion energy storage installations requiring thousands of deep discharge cycles with minimal capacity fade.	Tight d002 interlayer crystalline structure reduces lattice strain during intercalation, ensuring exceptional cycle longevity.
Solid-State & Hybrid Battery R&D	Advanced research substrate for exploring compatibility with solid polymer, sulfide, or oxide electrolytes in next-generation cell chemistries.	Controlled particle size distribution (D50: 18.0–22.0 μm) and low surface area provide clean, reproducible interfacial contact.
Aerospace and Drone Power Packs	Lightweight, high-reliability battery systems operating under demanding discharge rates and strict safety parameters.	Ultra-low metallic contamination ($\text{Fe} \leq 50$ ppm) minimizes self-discharge and virtually eliminates the risk of internal short circuits.
High-Consistency Battery Slurry Preparation	Scalable pilot-line and laboratory slurry formulation with standard PVDF or water-based SBR/CMC binder systems.	Uniform particle size distribution ensures smooth dispersion, stable viscosity, and uniform areal mass loading during doctor-blade coating.

Parameter	Specification (CL28)	Measurement Unit	Testing Standard / Notes
Product Item Number	CL28	—	High-End Anode Grade
First Discharge Capacity	≥ 360	mAh/g	Half-cell testing vs. Li/Li+, 0.1C rate
Initial Coulombic Efficiency (ICE)	≥ 92.0	%	First cycle (0.1C charge / 0.1C discharge)
Interlayer Distance (d002)	3.358 ± 0.003	Å	X-ray Diffraction (XRD) analysis
Particle Size Distribution (D10)	8.0 – 12.0	μm	Laser diffraction particle size analyzer
Particle Size Distribution (D50)	18.0 – 22.0	μm	Laser diffraction particle size analyzer
Particle Size Distribution (D90)	35.0 – 41.0	μm	Laser diffraction particle size analyzer
Tap Density (TAP)	≥ 0.80	g/cm^3	Mechanical tapped density measurement
Specific Surface Area (SSA)	2.0 – 5.0	m^2/g	Multi-point BET nitrogen adsorption
Moisture Content	≤ 0.2	%	Karl Fischer titration / thermogravimetric
Ash Content	≤ 0.1	%	High-temperature furnace combustion residue
Trace Metal Impurity (Fe)	≤ 50	ppm	Inductively Coupled Plasma (ICP-OES)
Standard Packaging	500	g/bag	Sealed aluminum-plastic vacuum barrier bag