

Natural Graphite Powder For High End Lithium Battery Anode Material

Item Number: CL27



Introduction

Engineered for superior electrochemical performance, this high purity natural graphite powder delivers exceptional reversible specific capacity, low moisture content, optimized particle distribution, and high tap density for advanced high end lithium battery anode material fabrication and development.

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Application	Description	Key Benefit
High-Energy Lithium-Ion Pouch Cells	Utilized as the primary anode active material in laminated pouch cell configurations for EV and consumer electronics prototyping.	Delivers high volumetric energy density with stable long-term capacity retention.
Cylindrical Cell Development	Integrated into wound electrode architectures for 18650, 21700, and 4680 format high-capacity power cells.	Excellent calendaring compressibility maintains electrode integrity under continuous winding tension.
Battery Slurry Formulation Research	Employed as an industry-standard baseline active material for evaluating novel conductive agents, dispersants, and functional polymer binders.	Highly repeatable physical properties provide reliable, reproducible experimental benchmarks.
Advanced Calendaring & Compaction Studies	Used in roll press and heated calendaring trials to determine optimal electrode porosity (target ~35%) and mechanical flexibility.	High tap density allows smooth consolidation without particle fragmentation or current collector debonding.
Grid-Scale Energy Storage Systems	Applied in long-life prismatic cell electrodes designed for stationary grid stabilization and renewable storage.	Low trace metal impurities minimize capacity fade over thousands of deep charge-discharge cycles.
Academic Materials Science Prototyping	Serves as high-purity active powder in laboratory coin-cell (CR2032/CR2016) half-cell and full-cell performance evaluations.	Complies with international testing standards for direct cross-comparison of electrochemical metrics.

Parameter Item	Unit	Specification	Inspection Instrument	Testing Standard	Sampling Frequency	Defect Classification
Product Identifier	-	CL27	Visual / Documentation	Internal QA Standard	Per Batch	Critical
Particle Size Distribution (D10)	μm	10.5 ± 1.5	Malvern Laser Particle Size Analyzer / MASTERSIZER 2000	Laser Diffraction Method GB/T 19077.1-2008 / ISO 13320-1:2000	1 sample / Bulk Batch	Major
Particle Size Distribution (D50)	μm	18.0 ± 1.5	Malvern Laser Particle Size Analyzer / MASTERSIZER 2000	Laser Diffraction Method GB/T 19077.1-2008 / ISO 13320-1:2000	1 sample / Bulk Batch	Major
Particle Size Distribution (D90)	μm	29.0 ± 3.0	Malvern Laser Particle Size Analyzer / MASTERSIZER 2000	Laser Diffraction Method GB/T 19077.1-2008 / ISO 13320-1:2000	1 sample / Bulk Batch	Major
Moisture Content	%	≤ 0.1	Karl Fischer Coulometric Moisture Titrator / DL39	Karl Fischer Method for Chemical Products GB/T 6283-2008	1 sample / Bulk Batch	Minor
Fixed Carbon Content	%	≥ 99.9	SARTORIUS-BP121S Analytical Balance & Muffle Furnace KSW	Graphite Chemical Analysis Method GB/T 3521-2008	1 sample / Bulk Batch	Major
Tap Density	g/mL	≥ 0.95	AutoTap Tap Density Tester	Metallic Powders Tap Density Test GB/T 5162-2006 / ISO 3953:1993	1 sample / Bulk Batch	Major
Specific Surface Area (BET)	m²/g	3.0 ± 1.0	Specific Surface Area Analyzer	Gas Adsorption BET Method GB/T 19587-2004	1 sample / Bulk Batch	Major

Parameter Item	Unit	Specification	Inspection Instrument	Testing Standard	Sampling Frequency	Defect Classification
Iron (Fe) Impurity Content	ppm	≤ 50	Inductively Coupled Plasma Atomic Emission Spectrometer / Optima 2100DV	ICP-AES Method EPA 6010C	1 sample / Bulk Batch	Major
Specific Discharge Capacity	mAh/g	≥ 360	Half-Cell Testing System (0.05C to 5.0 mV, 0.1C to 2.0 V)	General Specification for Li-ion Batteries GB/T 18287-2000	1 sample / Bulk Batch	Reference
Initial Coulombic Efficiency	%	≥ 93	Half-Cell Testing System (0.05C to 5.0 mV, 0.1C to 2.0 V)	General Specification for Li-ion Batteries GB/T 18287-2000	1 sample / Bulk Batch	Reference