

Conductive Carbon Black Super P Li Battery Grade Conductive Additive Powder For Lithium Ion Electrodes

Item Number: CL24



Introduction

Engineered for high performance energy storage systems this ultra pure conductive carbon black super P Li powder enhances electrode electronic conductivity minimizes internal cell resistance and delivers superior cycling stability across demanding lithium ion battery applications worldwide

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Application	Description	Key Benefit
Lithium-Ion Battery Cathodes	Blended with active materials such as NMC811, LFP, and LCO in slurry formulations alongside PVDF binder.	Forms a continuous conductive matrix that reduces cathode polarization and optimizes rate capability during rapid discharge.
Silicon-Graphite Anodes	Formulated into high-capacity composite anodes subject to significant volumetric expansion during lithiation.	Maintains continuous electrical contact across expanding silicon particles, mitigating capacity fade over prolonged cycling.
Next-Generation Solid-State Batteries	Distributed into solid composite cathode matrices alongside solid electrolytes (sulfide, oxide, or polymer types).	Lowens interparticle contact resistance across rigid solid-solid interfaces without degrading electrochemical stability windows.
Sodium-Ion and Potassium-Ion Cells	Used as the primary conductive agent for hard carbon anodes and layered oxide / Prussian blue analogue cathodes.	Accommodates larger ionic radii insertion dynamics by ensuring fast electron exchange at the active material interface.
Electrochemical Supercapacitors	Compounded with high-surface-area activated carbon or pseudocapacitive metal oxides on aluminum current collectors.	Lowens equivalent series resistance (ESR) and improves high-frequency response in pulse-power energy storage systems.
Primary Lithium Battery Chemistries	Incorporated into lithium-manganese dioxide (Li-MnO ₂) and lithium-thionyl chloride (Li-SOCl ₂) cell formulations.	Prevents cathode passivation and maximizes pulse current discharge reliability over multi-year operational lifespans.
Conductive Polymers and Antistatic Coatings	Compounded into thermoplastic elastomers, epoxy matrices, and ESD-safe packaging films.	Imparts permanent antistatic properties and electrostatic dissipation capability at low percolation thresholds without compromising mechanical strength.
Fuel Cell Catalyst Layers	Dispersed alongside platinum-group metal catalysts in proton exchange membrane (PEM) electrode layers.	Enhances catalyst layer electronic conductivity and mass transport porosity for optimized oxygen reduction reaction kinetics.

Parameter	Unit	Specification Standard	Typical Value (Item Code: CL24)
Apparent Bulk Density	kg/m ³	160 ± 20	160
Specific Absorption (DBP)	mL / 5g	32 ± 2	31.5
BET Specific Surface Area	m ² /g	62 ± 5	63
Moisture Content	wt%	Max 0.3	0.10
Total Sulfur (S)	wt%	Max 0.03	0.009
Volatile Matter	wt%	Max 0.15	0.11
Total Ash Content	wt%	Max 0.05	0.01
Trace Iron (Fe)	ppm	Max 10	2.1
Trace Nickel (Ni)	ppm	—	0.1

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pH Value	—	8.0 – 11.0	9.2