Carbon Nanotube Nmp Slurry Conductive Paste For Advanced Battery Electrodes

Item Number: FZ33

Introduction

High performance carbon nanotube NMP slurry engineered for advanced lithium ion battery cathodes delivering superior electrical conductivity low volume resistivity ultra low metallic impurities and stable viscosity for uniform electrode coating in precision energy storage cell manufacturing processes

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Application	Description	Key Benefit
High-Nickel NCM/NCA Cathodes	Integration into high-energy NCM (622/811) and NCA cathode slurries to provide long-range electron pathways between micron-scale active particles.	Drastically lowers internal resistance, mitigates capacity degradation at high C-rates, and enhances structural stability during cycling.
Lithium Iron Phosphate (LFP) Cells	Blending with low-conductivity LFP particles to bridge isolated grains and compensate for inherent bulk electrical limitations.	Delivers substantial rate-capability gains and thermal resilience while lowering the required total conductive additive percentage.
Fast-Charging EV Battery Systems	Utilization in high-power cylindrical, prismatic, and pouch cells engineered for ultra-fast charging protocols (3C to 6C).	Minimizes Joule heating and polarization overpotentials, ensuring safe, rapid charge acceptance without lithium plating.
Thick-Electrode High-Capacity Designs	Application in high-mass-loading electrode coatings (>20 mg/cm²) requiring deep electronic conduction through the full thickness profile.	Prevents localized electronic starvation near the current collector, promoting uniform depth-of-discharge and high active material yield.
Solid-State Battery Cathode Composites	Formulation into dry-coated or solvent-processed composite cathodes incorporating solid electrolyte particles.	Enhances solid-solid interfacial contact and ensures continuous charge transport pathways despite solid electrolyte grain boundaries.
Supercapacitor and Hybrid Storage Systems	Incorporation into high-surface-area activated carbon electrodes and pseudo-capacitive hybrid formulations.	Enhances power density, accelerates ion-coupled electronic response times, and maintains exceptionally low equivalent series resistance (ESR).

Parameter	Unit	Standard Specification	Measured Value (FZ33)	Test / Detection Method
Product Code / Identifier	—	FZ33	FZ33	Quality Assurance Tracking
Solid Content	%	5.38 ± 0.20	5.38	Thermogravimetric Analysis (TGA)
Conductive Agent (CNT) Content	%	4.30 ± 0.20	4.30	Formulation Ratio Verification
Dispersant Content	%	1.08 ± 0.20	1.08	Formulation Ratio Verification
Solvent (NMP) Content	%	94.62 ± 0.20	94.62	Formulation Ratio Verification
Slurry Viscosity	mPa·s	≤ 12,000	3,850	DV2T Rotational Viscometer
Electrode Sheet Volume Resistivity	Ω·cm	≤ 20.0	12.5	Four-Probe Method
Magnetic Impurities & Free Metals	ppm	≤ 2.0	Not Detected (N.D.)	Atomic Absorption Spectroscopy (AAS)
Cobalt (Co) Content	ppm	≤ 30.0	8.4	Atomic Absorption Spectroscopy (AAS)
Copper (Cu) Content	ppm	≤ 5.0	Not Detected (N.D.)	Atomic Absorption Spectroscopy (AAS)
Zinc (Zn) Content	ppm	≤ 5.0	Not Detected (N.D.)	Atomic Absorption Spectroscopy (AAS)
Iron (Fe) Content	ppm	≤ 30.0	15.7	Atomic Absorption Spectroscopy (AAS)

Parameter	Unit	Standard Specification	Measured Value (FZ33)	Test / Detection Method
Nickel (Ni) Content	ppm	≤ 30.0	8.2	Atomic Absorption Spectroscopy (AAS)