

Acrylonitrile Multi Copolymer Water Based Binder La132 La133 For Lithium Battery Cathode And Anode Slurry

Item Number: FZ31



Introduction

Premium acrylonitrile multi-copolymer water-based binder solutions LA132 and LA133 provide excellent electrochemical stability, high adhesion strength, and superior thermal resistance for lithium-ion battery cathode and anode electrode manufacturing, ensuring crack-free coating and exceptional long-term cycling performance.

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Application	Description	Key Benefit
Lithium Iron Phosphate (LFP) Cathodes	Aqueous binder integration for LFP active materials with elevated binder ratios (1.5%–4.0%+) to accommodate high specific surface areas.	Enhances active material retention on aluminum foil, improves cathode flexibility, and lowers production costs by replacing NMP.
Silicon-Carbon Composite Anodes	High-elasticity slurry binding designed to buffer severe volumetric expansion and contraction during continuous lithiation/delithiation.	Prevents electrode pulverization, mitigates particle isolation, and maintains stable electrical pathways for extended cycle life.
Graphite Anode Formulations	Standard aqueous slurry preparation for natural and synthetic graphite anodes utilizing 2.0%–5.0% binder dosage by active weight.	Delivers uniform active mass loading, minimal binder migration during drying, and superior high-rate discharge performance.
Ternary (NCM / NCA) Cathodes	Specialized aqueous processing for nickel-rich layered oxide cathode materials in advanced energy storage applications.	Provides high-voltage oxidation resistance and stable interfacial charge transfer impedance across deep cycling routines.
Ultra-Thick High-Energy Electrodes	Formulation of high-areal-capacity electrodes for grid storage and heavy-duty electric vehicle battery cells.	Eliminates drying-induced film cracking and ensures continuous adhesive anchoring throughout the cross-section of thick electrode films.
Flexible Pouch Cell Electrodes	Slurry preparation enhanced with plasticizing additives to increase electrode bendability and mechanical compliance.	Eliminates edge fracture during winding and z-stacking processes, ensuring pristine electrode geometry prior to pouch packaging.

Specification Parameter	FZ31-132 Variant	FZ31-133 Variant
Product Identifier	FZ31-132	FZ31-133
Chemical Composition	Acrylonitrile Multi-Copolymer	Acrylonitrile Multi-Copolymer
Physical Appearance	Milky white to slightly yellowish aqueous emulsion	Milky white to slightly yellowish aqueous emulsion
Solid Content (%)	15.0 ± 0.2 %	15.0 ± 0.2 %
Dynamic Viscosity (mPa·s at 40°C)	≥ 4800 mPa·s	7300 – 9300 mPa·s
Median Particle Size D50 (µm)	≤ 1.2 µm	≤ 1.0 µm
pH Value	7.0 – 9.0	7.0 – 9.0
Target Application Polarity	Anode and Cathode Electrodes	Anode and Cathode Electrodes
Recommended Anode Dosage	2.0 % – 5.0 % (by active solid weight)	2.0 % – 5.0 % (by active solid weight)
Recommended Cathode Dosage	1.5 % – 4.0 % (higher for LFP active solids)	1.5 % – 4.0 % (higher for LFP active solids)
Recommended Processing Additive	~5 % PC or EC relative to total solvent	~5 % PC or EC relative to total solvent

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Maximum Single-Sided Coating Temp	≤ 80 °C	≤ 80 °C
Pre-Mixing Viscosity Management	Dilute with deionized/distilled water under slow agitation	Dilute with deionized/distilled water under slow agitation
Viscosity Shelf-Life Behavior	Moderate natural increase during storage (nominal)	Moderate natural increase during storage (nominal)