

LITHIUM-ION BATTERY

VOLTIX Series

VOLTIX 139

VOLTIX 139 is a high-structure, high-surface-area conductive carbon black for lithium-ion electrodes. Added to the cathode or anode formulation, it forms a continuous conductive network through the active-material matrix at low loading, lowering electrode and inter-particle resistance and improving electron transport to and from active particles. Its low percolation threshold means target electrode conductivity is reached with less conductive additive, freeing mass and volume for active material and supporting higher areal capacity and energy density.

Because the network forms at low addition, VOLTIX 139 supports high-rate capability and stable cycling while minimising the conductive-carbon fraction in the electrode. It suits NMC/NCA and LFP cathodes, graphite and silicon-blended anodes, and high-power cell designs. **Dispersion note:** high-surface-area conductive blacks need adequate mixing energy and dispersant to realise low-loading conductivity without excessive slurry viscosity. Low iron and transition-metal content limits self-discharge and side reactions.

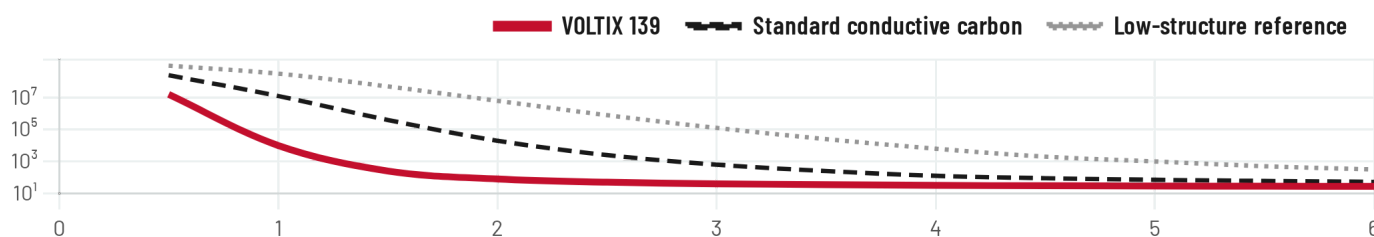
KEY APPLICATIONS

- NMC / NCA cathodes
- LFP / LMFP cathodes
- Graphite & silicon-blend anodes
- High-power / fast-charge cells
- Conductive slurry & electrode masterbatch

PERFORMANCE FEATURES

- Low percolation threshold
- Conductive network at low loading
- Frees electrode mass for active material
- Supports high-rate capability
- Low iron / transition-metal content
- Uniform dispersion in NMP & aqueous slurries

Electrode Resistivity (Ω -cm) vs Conductive-Additive Loading (wt %)



TYPICAL VALUE

Test Items	Unit	Standard
Physical Form	-	Bead
DBP Absorption No.	cc/100g	300 ± 10
Iodine Adsorption	mg/g	810 ± 20
pH Value		8.0 ± 1.0
Tint Strength VS IRB#3	%	120 ± 5
Heating Loss	%	≤ 0.5
Sieve Residue 325M	ppm	≤ 15
Particle Size	nm	24 ± 2
Ash	%	≤ 0.2
Fe Content	ppm	≤ 5
Other Metals (Ni,Cr,Cu,Co,Zn)	ppm	≤ 5

APPLICATION FIELD

Application	Recommended Dosage
NMC / NCA Cathode	1.0 – 3.0%
LFP / LMFP Cathode	1.5 – 4.0%
Graphite / Si Anode	0.5 – 2.0%
High-Power / Fast-Charge Cells	2.0 – 4.0%
Conductive Slurry / Masterbatch	1.0 – 3.0%
High-Loading / Thick Electrodes	1.5 – 3.5%

■ Recommended dosage can vary with cell chemistry, electrode design, slurry system and dispersion conditions.

Physical Form: Bead | Packaging: 5 kg paper or PE bag

ISTAR MATERIALS

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