High Purity Acetylene Black Battery Conductive Agent Powder For Energy Storage And Polymer Applications

Item Number: CL25

Introduction

Engineered for advanced energy storage and conductive polymer systems, this ultra-pure acetylene black delivers superior electrical conductivity, exceptional liquid absorption, and minimal impurity levels, ensuring lower cell internal resistance and highly stable electrochemical performance across demanding electrode fabrication processes.

Learn More

Application	Description	Key Benefit
Lithium-Ion Battery Cathodes	Blended with metal oxide active chemistries (such as LFP, NMC, and LCO) during slurry preparation to build three-dimensional conductive networks.	Decreases internal cell resistance (IR), improves rate capability, and maximizes active material electrochemical utilization.
Primary Dry Cell Batteries	Incorporated into cathode depolarizer mixtures in conventional zinc-carbon and alkaline battery architectures.	Enhances continuous discharge efficiency, maintains uniform current collection, and extends shelf life.
Conductive Polymers & Masterbatches	Compounded into thermoplastics and engineering resins to impart controlled volume resistivity and static dissipative properties.	Achieves anti-static and semi-conductive performance with low additive loadings, preserving the resin's mechanical ductility.
Shielding & Anti-Static Rubber	Dispersed into synthetic and natural elastomers used for automotive seals, fuel hoses, conveyor belts, and cable jackets.	Eliminates electrostatic discharge risks and provides dependable electromagnetic interference (EMI) attenuation.
Radio & Electronic Components	Used in the fabrication of resistive elements, ceramic-carbon composites, and high-frequency electronic attenuators.	Delivers consistent high-frequency signal absorption and long-term ohmic stability under varying ambient conditions.
Specialty Industrial Pigments	Formulated into heavy-duty protective coatings, masterbatches, and industrial inks requiring deep black color.	Offers maximum covering power, neutral optical tone, and permanent resistance to UV radiation, acids, and weathering.

Specification Parameter	Standard Value / Metric	Test / Evaluation Standard
Product Item Number	CL25	Internal Quality Reference
Chemical Abstracts Service (CAS) No.	1333-86-4	Chemical Identity Standard
Physical Appearance	Pure Black Fine Powder / Micro-Granules	Visual Inspection
Specific Resistivity	1.4 Ω·m	Powder Resistivity Method
Iodine Absorption Value	98 mg/g	Standard Volumetric Titration
Acid Absorption Value	4.4 cm^3/g	Liquid Titration Technique
Apparent Specific Volume	16.5 cm^3/g	Volumetric Density Measurement
Statistical Thickness Surface Area (STSA)	106 ± 9 × 10^2 m^2/kg	Nitrogen Adsorption (STSA)
Ash Content	0.06%	High-Temperature Ignition Test
Coarse Particle Residue	0.009%	Sieve Analysis Residue
Heating Loss (Moisture / Volatiles)	≤ 0.08%	Gravimetric Drying Method
pH Value	5.8	Aqueous Slurry Potentiometry

Specification Parameter	Standard Value / Metric	Test / Evaluation Standard
Solubility	Insoluble in water, acids, and alkalis	Chemical Resistance Test
Combustion Characteristics	Burns in air to form Carbon Dioxide (CO_2)	Thermal Oxidation Behavior
Primary Composition	Elemental Carbon (with trace H, O, S, ash, tar, moisture)	Elemental Analysis