

8Mm Double Sided Smooth Battery Copper Foil For Anode Current Collectors

Item Number: FZ14



Introduction

Engineered for advanced lithium battery production, this ultra-thin 8μm double sided smooth copper foil provides exceptional electrical conductivity, zero pinholes, high tensile strength, and controlled roughness for superior negative electrode active material adhesion and cell energy density.

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Application	Description	Key Benefit
High-Energy EV Power Cells	Used as the negative current collector in high-capacity NCM/NCA and LFP prismatic and pouch automotive battery cells.	Reduces cell dead weight, increases gravimetric energy density, and withstands heavy electrode calendaring pressures.
Consumer Electronics Batteries	Applied in compact, ultra-thin polymer lithium-ion pouch cells for smartphones, laptops, wearables, and portable devices.	Minimizes stack thickness while maintaining high mechanical reliability and flexural endurance in tight enclosures.
Silicon-Carbon Anode Systems	Acts as the flexible conductive substrate for high-expansion silicon-dominant and silicon-graphite composite anodes.	High elongation properties accommodate cyclic volumetric expansion and contraction without substrate tearing or delamination.
Solid-State Battery Research	Serves as the ultra-flat, pinhole-free anode substrate for sulfide-, oxide-, and polymer-based solid-state electrolyte systems.	Uniform double-sided smoothness ensures consistent interfacial contact impedance and eliminates microscopic pinhole leakage paths.
High-Rate Cylindrical Cells	Integrated into high-drain 18650, 21700, and 4680 tabless cylindrical battery architectures for power tools and micro-mobility.	Superior tensile properties support high-speed continuous winding and clean ultrasonic or laser tab welding without tearing.
Laboratory Pilot Coating Lines	Deployed in university and industrial R&D battery coating facilities for roll-to-roll active material formulation testing.	Predictable slurry wetting behavior and precise areal mass consistency ensure reproducible electrochemical test data.
Energy Storage Systems (ESS)	Employed in long-lifespan stationary energy storage battery racks for grid stabilization and renewable energy integration.	Low mass resistivity and excellent oxidation stability ensure stable long-term cycling performance and thermal safety over thousands of cycles.

Parameter Category	Inspection / Test Item	Unit	Specification Standard	Typical Value	Item Number / Reference
General Identification	Nominal Thickness	μm	8.0	8.0	FZ14
Material Composition	Copper Purity	%	≥99.8	≥99.95	FZ14
Physical Integrity	Penetration / Pinholes	count	Zero Pinholes (None)	Zero Pinholes (None)	FZ14
Mass & Dimensional	Areal Mass Density	g/m²	70 - 76	73	FZ14
Mass & Dimensional	Thickness Tolerance	μm	0 - 2	1	FZ14
Electrical Properties	Mass Resistivity	Ω·g/m²	≤0.17	0.168	FZ14
Mechanical Properties	Tensile Strength	kg/mm²	≥38	43	FZ14

Parameter Category	Inspection / TestItem	Unit	Specification Standard	Typical Value	Item Number / Reference
Mechanical Properties	Room Temperature Elongation	%	≥3.5	4.2	FZ14
Mechanical Properties	High Temperature Elongation	%	≥4.0	5.5	FZ14
Surface Roughness	Smooth Side Roughness (Ra)	μm	≤0.4	0.24	FZ14
Surface Roughness	Smooth Side Roughness (Rz)	μm	≤3.0	1.6	FZ14
Surface Roughness	Matte / Treated Side Roughness (Ra)	μm	0.35 – 0.75	0.40	FZ14
Surface Roughness	Matte / Treated Side Roughness (Rz)	μm	≤3.0	≤1.6	FZ14
Thermal Stability	Oxidation Resistance (140°C, 10 min)	—	Pass (No Discoloration/Oxidation)	Pass (OK)	FZ14
Surface Condition	Visual Appearance Quality	—	Flat, no wrinkles, no dents, no bruises; clean cut edges; uniform color; oil-free; slight electroplating stripes permitted if non-interfering with coating	Pass (OK)	FZ14
Storage & Handling	Recommended Storage Conditions	—	Relative Humidity ≤65%, Temperature ≤25°C; isolated from corrosive chemicals and moisture	Standard Controlled Environment	FZ14
Quality Guarantee	Shelf Life Period	days	90 Days from receipt under specified storage	90 Days	FZ14
Packaging Standard	Protective Packaging Specification	—	Outer plastic film + EPE pearl cotton hermetic seal, packed in wooden crate with reinforcing straps	Multi-layer Industrial Export Packaging	FZ14