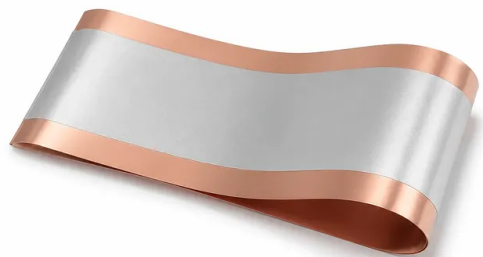


Single-Sided And Double-Sided Lithium Copper Composite Foil Strip For Solid-State Battery Anode Current Collectors

Item Number: FZ20



Introduction

High-purity single-sided and double-sided lithium copper composite foil for next-generation solid-state battery anode current collectors, offering ultra-thin metallic lithium lamination, minimal interfacial resistance, superior chemical purity, and dry argon packaging to ensure reliable electrochemical stability and long cell cycle life.

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Application	Description	Key Benefit
All-Solid-State Batteries (ASSB)	Utilized as an integrated negative electrode and current collector paired with sulfide, oxide, or polymer solid electrolytes.	Eliminates interfacial voiding, lowers charge-transfer resistance, and simplifies dry-room cell stacking.
Lithium Metal Pouch Cells	Integrated into high-energy pouch cells for automotive EV packs, unmanned aerial vehicles (UAV), and aerospace power.	Delivers ultra-high gravimetric energy density while enabling reliable ultrasonic tab welding on bare copper margins.
Anode Pre-Lithiation Source	Applied in silicon-dominant and advanced graphite anode systems to replenish active lithium lost during initial SEI formation.	Compensates precisely for first-cycle irreversible capacity loss, drastically enhancing initial coulombic efficiency.
Semi-Solid / Gel-Electrolyte Cells	Used in high-safety hybrid electrolyte architectures requiring a stable metallic lithium reservoir and uniform current distribution.	Prevents uneven lithium stripping and plating, significantly reducing dendrite proliferation during high-rate cycling.
High-Precision Battery R&D	Implemented in laboratory coin, split, and pouch cell research to evaluate solid-state interfaces, artificial SEIs, and solid electrolytes.	Guarantees high dimensional and chemical repeatability across experimental batches, eliminating manual lithium preparation errors.
Cylindrical Lithium Metal Winding	Processed on automated winding machinery for cylindrical cell form factors requiring flexible, non-delaminating metallic composite foils.	High mechanical flexibility and robust Cu-Li adhesion prevent peeling, wrinkling, or cracking along tight winding radii.

Specification Parameter	Single-Sided Composite Foil (FZ20-S)	Double-Sided Composite Foil (FZ20-D)
Model Item Number	FZ20-S	FZ20-D
Configuration Type	Single-Sided Lithium Clad	Double-Sided Lithium Clad
Lithium Foil Thickness	0.021 mm (21 μ m)	0.021 ~ 0.022 mm (21 ~ 22 μ m) per side
Copper Substrate Thickness	0.010 mm (10 μ m)	0.010 mm (10 μ m)
Total Composite Thickness	0.031 mm (31 μ m)	0.053 ~ 0.054 mm (53 ~ 54 μ m)
Lithium Strip Width	80.09 mm	80.11 mm
Copper Substrate Width	100.00 mm	100.00 mm
Left Edge Margin (Cu Exposed)	10.0 $\pm$ 1.0 mm	10.0 $\pm$ 1.0 mm
Right Edge Margin (Cu Exposed)	10.0 $\pm$ 1.0 mm	10.0 $\pm$ 1.0 mm
Lithium Purity (Li Content)	$\geq$ 99.9% min	$\geq$ 99.9% min

Specification Parameter	Single-Sided Composite Foil (FZ20-S)	Double-Sided Composite Foil (FZ20-D)
Surface Quality	Bright, metallic finish, free of oxides, nitrides, oil stains, holes, tears, wrinkles, and creases	Bright, metallic finish, free of oxides, nitrides, oil stains, holes, tears, wrinkles, and creases
Interfacial Bonding	Complete metallurgical weld; no delamination or foreign inclusions	Complete metallurgical weld; no delamination or foreign inclusions
Edge Quality	Neat, slit edges without cracks or burrs	Neat, slit edges without cracks or burrs

Element	Content Specification (%)	Element	Content Specification (%)
Lithium (Li)	≥ 99.9% min	Silicon (Si)	≤ 0.008% max
Sodium (Na)	≤ 0.020% max	Chlorine (Cl)	≤ 0.006% max
Nitrogen (N)	≤ 0.020% max	Aluminum (Al)	≤ 0.005% max
Calcium (Ca)	≤ 0.020% max	Nickel (Ni)	≤ 0.003% max
Magnesium (Mg)	≤ 0.010% max	Iron (Fe)	≤ 0.005% max
Potassium (K)	≤ 0.005% max	Copper (Cu)	≤ 0.004% max

Parameter	Specification & Operational Standard
Internal Primary Packaging	Spooled on rigid reels inside certified dry-room environment
Protective Barrier Bag	Heavy-duty aluminized polyester vacuum bag, pre-baked > 24 hours to eliminate moisture
Protective Atmosphere	Hermetically sealed with 99.999% high-purity dry argon purge gas
External Packaging	Reinforced UN-rated airtight steel shipping drums
Hazard Classification	Class 4.3 Dangerous Goods (Water-Reactive Lithium Metal)
Storage Conditions	Clean, dry, well-ventilated, non-corrosive indoor atmosphere; strictly fire- and moisture-proof
Handling Restrictions	Do not roll drums on the ground; avoid severe physical impact; outdoor storage strictly prohibited