

High Purity Lithium Ribbon With Customizable Thickness And Width For Advanced Battery Manufacturing

Item Number: FZ41



Introduction

Discover high purity battery grade lithium ribbon featuring customizable thickness and width options ultra low impurity profiles and airtight argon protective packaging engineered specifically for next generation solid state and lithium metal cell development and precision research applications.

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Application	Description	Key Benefit
Solid-State Battery Assembly	High-purity lithium strip used as the metallic negative electrode in contact with solid electrolyte layers (sulfides, oxides, or polymers).	Eliminates interfacial void formation and suppresses dendrite growth under elevated stack pressures.
Lithium-Sulfur (Li-S) Cells	Anode substrate providing an abundant active lithium reservoir for high-energy-density multi-electron sulfur conversion chemistry.	Low trace sodium and potassium impurities mitigate severe polysulfide shuttle deterioration on the anode surface.
Lithium Primary & Secondary Cell Production	Standard raw anode stock for primary lithium-thionyl chloride, lithium-manganese dioxide, and rechargeable pouch cell prototyping.	Precision thickness tolerances ensure predictable cell balancing, high specific capacity, and uniform discharge curves.
Roll-to-Roll Anode Pre-Lithiation	Continuous feeding of thin lithium metal ribbons for pre-lithiating silicon or graphite-based composite anodes prior to cell winding.	Tight width tolerances and smooth, burr-free edges allow stable mechanical laminating without web tear or foil jamming.
Advanced Materials Electrochemical Research	Analytical sample material for half-cell impedance spectroscopy, cyclic voltammetry, and lithium stripping/plating kinetic evaluations.	Certified typical purity exceeding 99.95% guarantees reproducible baseline data devoid of unknown metallic parasitic effects.
Thermal & Chemical Synthesis Precursor	Metallic reagent utilized in organometallic synthesis, organic reduction reactions, and specialized alloy fabrication.	Controlled surface-to-volume geometry enables precise stoichiometric additions and steady chemical dissolution rates.

Category	Parameter	National Standard Specification	Typical High-Grade Value (FZ41)
Physical Properties	Chemical Formula	Li	Li
	Melting Point	180.5 °C	180.5 °C
	Density (at 20 °C)	0.534 g/cm ³	0.534 g/cm ³
	Form & Appearance	Metallic Ribbon / Strip; Bright, flat, oil-free, no visible oxides/nitrides	Metallic Ribbon / Strip; Bright, flat, oil-free, no visible oxides/nitrides
	Edge Quality	Neat, slit-edge, no tears, burrs, or wrinkles	Neat, slit-edge, no tears, burrs, or wrinkles
Chemical Composition (%)	Lithium (Li) Content (Min.)	≥ 99.9%	99.95%
	Sodium (Na) Content (Max.)	≤ 0.02%	0.005%
	Potassium (K) Content (Max.)	≤ 0.005%	0.001%
	Calcium (Ca) Content (Max.)	≤ 0.02%	0.005%
	Silicon (Si) Content (Max.)	≤ 0.008%	0.002%
	Iron (Fe) Content (Max.)	≤ 0.005%	0.002%
	Aluminum (Al) Content (Max.)	≤ 0.005%	0.002%

Category	Parameter	National Standard Specification	Typical High-Grade Value (FZ41)
	Nickel (Ni) Content (Max.)	≤ 0.003%	0.001%
	Chlorine (Cl) Content (Max.)	≤ 0.006%	0.002%
	Nitrogen (N) Content (Max.)	≤ 0.02%	0.005%
Dimensional Range & Tolerance	Thickness Range: 0.10 mm – 0.20 mm	± 0.01 mm	± 0.01 mm
	Thickness Range: >0.20 mm – 0.60 mm	± 0.02 mm	± 0.02 mm
	Thickness Range: >0.60 mm – 0.80 mm	± 0.02 mm	± 0.02 mm
	Thickness Range: >0.80 mm – 1.0 mm	± 0.04 mm	± 0.04 mm
	Thickness Range: >1.0 mm – 4.0 mm	± 0.05 mm	± 0.05 mm
	Width Range: 4.0 mm – 30.0 mm	± 0.2 mm	± 0.2 mm
	Width Range: >30.0 mm – 75.0 mm	± 0.3 mm	± 0.3 mm
	Width Range: >75.0 mm – 300.0 mm	± 0.4 mm	± 0.4 mm
	Custom Dimensional Formats	Available upon request (thickness & width customized)	Available upon request (thickness & width customized)
Packaging & Preservation	Primary Internal Packing	Dried metal round can or aluminum-plastic composite barrier pouch	High-barrier hermetic pouch / canister
	Protective Atmosphere	High-purity inert Argon (Ar) gas filling	High-purity inert Argon (Ar) gas filling
	Secondary External Packing	Heavy-duty corrugated carton or steel drum with internal anti-vibration soft buffer	Heavy-duty corrugated carton or reinforced steel drum
	Storage Conditions	Rain-proof, clean, dry, non-corrosive, well-ventilated dry room / glovebox	Rain-proof, clean, dry, non-corrosive environment
	Shelf Life Guarantee	6 Months (from production date under sealed condition)	6 Months (from production date under sealed condition)