

Aluminum Laminated Film 113Um Thickness 400Mm Width Polymer Lithium Battery Pouch Cell Packaging Material

Item Number: FZ65



Introduction

Discover premium 113um aluminum laminated film in 400mm width for polymer lithium battery pouch packaging. Engineered with robust barrier layers, superior deep drawability, and exceptional heat seal strength to ensure maximum cell safety and long operating life.

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Application	Description	Key Benefit
Polymer Lithium-Ion Pouch Cells	Serving as the outer hermetic casing for consumer electronics, wearable devices, and mobile communication battery packs.	High dimensional stability, lightweight profile, and superior volumetric packaging efficiency.
Electric Vehicle (EV) Module Prototyping	Packaging pilot-scale high-energy NMC, LFP, and LTO pouch cells requiring deep drawing and superior mechanical vibration resistance.	Exceptional thermal stability, robust interlayer adhesion, and zero-defect deep draw capability up to 5.0 mm.
Solid-State Battery R&D	Encapsulating advanced sulfide-, oxide-, and polymer-based solid-state electrolytes sensitive to ambient moisture.	Ultra-low moisture transmission (<200 ppm / 5 yr) preventing rapid degradation of moisture-reactive solid electrolytes.
Next-Gen LTO Symmetrical Cells	Packaging zero-volt capable Lithium Titanium Oxide pouch cells utilizing lightweight aluminum current collectors on both electrodes.	Eliminates pouch corrosion risks while matching lightweight packaging goals for high-safety zero-volt storage cells.
High-Rate Supercapacitor Cells	Enclosing organic electrolyte supercapacitors and hybrid ultra-capacitors exposed to rapid charge-discharge thermal cycles.	Superior heat-seal retention and high solvent resistance against high-polarity organic electrolyte formulations.
Academic & Industrial Battery Laboratories	Providing standardized flexible packaging rolls for pouch cell cup forming, vacuum heat-sealing, and electrochemical cycle testing.	Consistent batch-to-batch thickness (113 µm) and uniform matte finish for reproducible experimental results.

Specification Parameter	Technical Detail / Value
Product Item Number	FZ65
Total Nominal Thickness	113 µm
Standard Reel Width	400 mm (Options: 100 mm, 114 mm, 133 mm, 160 mm, 200 mm, 266 mm)
Standard Roll Length	300 m (Options: 500 m for widths 100-200 mm; 300 m for 266 mm & 400 mm)
Layer 1: Outer Protective Layer	Polyamide / Nylon (JIS Z1714): 0.025 mm (±0.0025 mm / 25 µm)
Layer 2: Outer Adhesive Layer	Polyester-Polyurethane adhesive: 4-5 g/m²
Layer 3: Barrier Metal Core	Soft Temper Aluminum Foil (JIS A8079, JIS A8021): 0.040 mm (±0.004 mm / 40 µm)
Layer 4: Inner Adhesive Layer	Acid-modified non-polyurethane adhesive: 2-3 g/m²
Layer 5: Inner Sealing Layer	Cast Polypropylene (CPP): 0.040 mm (±0.004 mm / 40 µm)
Surface Finish	Matte finish (non-reflective, scratch-resistant)
Cold-Forming Depth	≥ 5.0 mm (tested with standard pouch forming punch die)
Moisture / Oxygen Permeation Rate	< 200 ppm / 5 years
Heat Seal Process Window	180°C - 190°C

Specification Parameter	Technical Detail / Value
Heat Seal Strength	> 22.5 N/15mm (Sealed at 200°C × 0.2 MPa × 2.0 seconds)
Interlayer Lamination Strength (Nylon/Al)	> 2.0 N/15mm
Interlayer Lamination Strength (Al/CPP)	> 5.0 N/15mm
Residual Solvent Content	< 5.0 mg/m ²
Coefficient of Friction (CPP / CPP)	< 1.0
Pinhole Standard	Compliant with applicable high-barrier aluminum foil specifications
Allowable Fisheye Imperfections	Transparent: ≤ 2.0 mm diameter; Colored: ≤ 1.0 mm diameter
Surface Impurity Threshold	≤ 1.0 mm diameter
Electrical Insulation Integrity	High dielectric breakdown resistance (no pinhole conductivity)