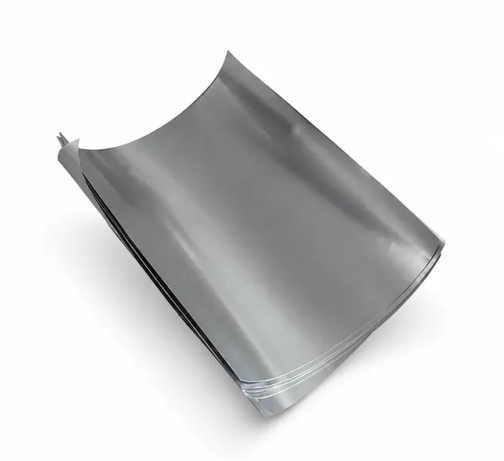
153Mm Aluminum Laminated Film Laminated Composite Foil Material For Pouch Cell Battery Case

Item Number: FZ66



Introduction

This premium 153μm aluminum laminated composite film delivers exceptional electrolyte resistance superior heat seal strength and deep drawing formability for lithium pouch cell battery packaging providing robust moisture barrier protection and reliable hermetic sealing in demanding energy storage applications.

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Application	Description	Key Benefit
Electric Vehicle (EV) Battery Pouch Cells	Outer shell encapsulation for high-energy-density automotive battery modules subjected to vibration and wide thermal shifts.	Extreme puncture resistance and long-term hermetic seal prevent electrolyte leakage under severe dynamic stress.
Stationary Energy Storage Systems (ESS)	Protective flexible housing for large-format lithium iron phosphate (LFP) and NMC pouch cells in grid-scale energy storage.	Ultra-low moisture vapor transmission rate guarantees multi-year cell longevity and minimal degradation.
Solid-State & Next-Gen Battery R&D	Flexible enclosure material for prototype solid-state, lithium-sulfur, and sodium-ion pouch battery development.	Compatible with aggressive electrolyte formulas and high-pressure assembly techniques.
Consumer Electronics & Mobile Devices	Ultra-thin yet robust encapsulation for slim pouch cells used in smartphones, laptops, wearables, and drones.	Flexible deep-drawing properties enable high volumetric energy density in compact battery enclosure shapes.
Aerospace & Defense Power Packs	High-reliability pouch packaging for flight-grade lightweight battery packs operating under extreme ambient pressure changes.	High inter-layer bond strength prevents delamination during atmospheric pressure fluctuations and vacuum cycles.
Cordless Power Tools & Medical Devices	Enclosure material for high-discharge rate pouch cells requiring robust mechanical outer protection and thermal stability.	High heat-seal bond strength withstands elevated internal pressure and thermal spikes during fast charging.

Specification Parameter	Standard Requirement	Measured Test Range	Test Method / Instrument
Model Identifier	FZ66 (Variant FZ66-153)	FZ66-153 Standard Batch	Inspection Protocol FZ66
Standard Roll Width	400 mm	400 mm	JIS Class 1 Precision Ruler
Nominal Total Thickness	153 μm ± 10%	152 μm – 154 μm	1/1000mm Dial Gauge Micrometer
Layer-to-Layer Bond Strength	≥ 50 N/15mm (Room Temp)	121 – 125 N/15mm	Tensile Automatic Recorder
Overall Bond Strength (ONy / ALM)	≥ 3.0 N/15mm (Room Temp)	8.5 – 9.1 N/15mm	Tensile Automatic Recorder
Elevated Temp Bond Strength (ONy / ALM)	≥ 2.5 N/15mm (at 120°C)	4.7 – 5.1 N/15mm	Tensile Recorder with Temp Bath
Heat-Seal Strength (ALM / PP)	≥ 5.0 N/15mm (Room Temp)	15.6 – 17.1 N/15mm	Tensile Automatic Recorder
Electrolyte Resistance Strength (ALM / PP)	≥ 4.0 N/15mm (Room Temp)	12.9 – 13.9 N/15mm	Tensile Automatic Recorder

Inspection Item	Inspection Method	Acceptance Threshold	Batch Conformance (FZ66-9316 to FZ66-9319)
Surface Cracks, Pinholes & Punctures	Light Transmission / Visual	None allowed (Verified via light beam)	PASS (OK)
Surface Dust, Stains & Grease	Visual Inspection	No foreign adhesion allowed	PASS (OK)
Foreign Matter Contaminants	Visual Inspection	No particulate contaminants ≥ Φ0.5mm	PASS (OK)

Inspection Item	Inspection Method	Acceptance Threshold	Batch Conformance (FZ66-9316 to FZ66-9319)
Surface Indentations & Dents	Visual Inspection	No physical dents or marks ≥ Φ0.5mm	PASS (OK)
Polypropylene Layer Fish Scale	Visual Inspection	Fish scale texture within Φ1.0mm	PASS (OK)
Surface Wrinkles & Waves	Visual Inspection	Within approved limit sample standard (*1)	PASS (OK)
Winding Alignment Deviation	Precision Ruler	Alignment deviation within ±1.0mm	PASS (OK)

Roll Identification	Thickness (Outer / Core)	Layer Bond Strength (Outer / Core)	ONy/ALM Strength (RT Outer / Core)	ONy/ALM Strength (120°C Outer / Core)	ALM/PP Strength (RT Outer / Core)	Electrolyte Resistance (Outer / Core)
FZ66-9316	154 µm / 154 µm	121 N/15mm / 121 N/15mm	8.8 N/15mm / 8.5 N/15mm	5.1 N/15mm / 4.8 N/15mm	15.6 N/15mm / 16.6 N/15mm	12.9 N/15mm / 13.1 N/15mm
FZ66-9317	153 µm / 153 µm	124 N/15mm / 125 N/15mm	9.1 N/15mm / 8.8 N/15mm	5.1 N/15mm / 4.7 N/15mm	15.7 N/15mm / 16.5 N/15mm	13.5 N/15mm / 13.9 N/15mm
FZ66-9318	152 µm / 154 µm	124 N/15mm / 123 N/15mm	8.7 N/15mm / 8.9 N/15mm	4.9 N/15mm / 4.7 N/15mm	15.7 N/15mm / 16.5 N/15mm	13.4 N/15mm / 13.9 N/15mm
FZ66-9319	154 µm / 154 µm	124 N/15mm / 122 N/15mm	9.0 N/15mm / 8.8 N/15mm	5.0 N/15mm / 4.7 N/15mm	15.9 N/15mm / 17.1 N/15mm	13.4 N/15mm / 13.7 N/15mm

Variant Code	Nominal Thickness	Layer Composition Breakdown (Outer to Inner Layer Stack)
FZ66-64	64 µm	ONy (12µm) / DL (3µm) / AL (25µm) / PPa (14µm) / PP (10µm)
FZ66-72	72 µm	ONy (15µm) / DL (3µm) / AL (30µm) / PPa (14µm) / PP (10µm)
FZ66-73	73 µm	ONy (15µm) / DL (3µm) / AL (30µm) / PPa (14µm) / PP (10µm)
FZ66-88	88 µm	ONy (15µm) / DL (3µm) / AL (35µm) / PPa (20µm) / PP (15µm)
FZ66-113	113 µm	ONy (25µm) / DL (3µm) / AL (40µm) / PPa (22.5µm) / PPa (22.5µm)
FZ66-153 Standard	153 µm	PET (12µm) / DL (3µm) / ONy (15µm) / DL (3µm) / AL (40µm) / PPa (40µm) / PP (40µm)
FZ66-67 Matte	67 µm	Matte (3µm) / ONy (12µm) / DL (3µm) / AL (25µm) / PPa (14µm) / PP (10µm)
FZ66-75 Matte	75 µm	Matte (3µm) / ONy (15µm) / DL (3µm) / AL (30µm) / PPa (14µm) / PP (10µm)
FZ66-91 Matte	91 µm	Matte (3µm) / ONy (15µm) / DL (3µm) / AL (35µm) / PPa (20µm) / PP (15µm)
FZ66-122	122 µm	ONy (25µm) / DL (4µm) / AL (40µm) / DL (3µm) / CPP (30µm) / PP (20µm)
FZ66-152	152 µm	ONy (25µm) / DL (4µm) / AL (40µm) / DL (3µm) / CPP (30µm) / PP (50µm)