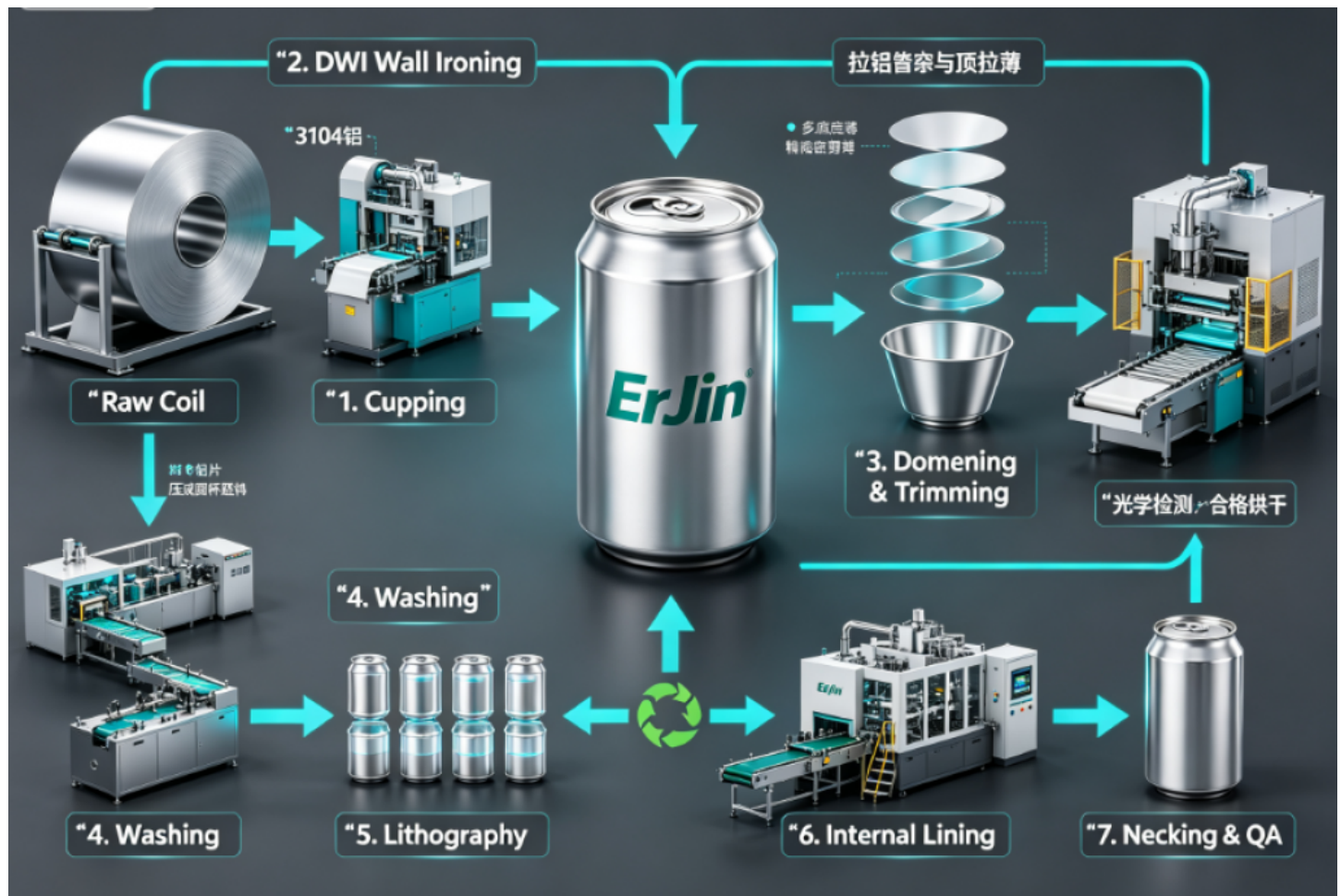


Inside a High-Speed Factory: The Step-by-Step Lifecycle of a Two-Piece Aluminum Can



Jinan, Shandong Aug 7, 2026 ([Issuewire.com](https://www.issuewire.com)) - When you open a cold craft beer, soda, or sparkling water, the lightweight aluminum container in your hand feels deceptively simple. Yet, beneath that sleek exterior lies one of the most sophisticated, high-precision mass-manufacturing feats in modern engineering.

At [ERJIN PACK](#), our automated production lines run at blinding speeds—exceeding 2,000 cans per minute with equipment tolerances held under 0.01mm. Across our manufacturing network, a single line turns raw metal coils into over 1 million pristine, food-grade cans every single day.

For beverage brand managers and procurement heads, understanding how raw aluminum evolves into a shelf-ready package is the first step toward optimizing your own filling lines and avoiding supply chain risks.

Here is an insider's walkthrough of how an [ERJIN PACK two-piece aluminum can](#) is born.

Cupping Pressing – Blanking the Metal

The manufacturing line starts with giant, high-tensile master coils of 3104 aluminum alloy. These heavy

coils are unrolled and fed directly into a multi-die Cupping Press.

Under immense, synchronized mechanical pressure, the press punches circular metal discs from the flat aluminum sheet and immediately draws them into shallow, wide-bottomed cups.

Engineering Insight: The cupping stage sets the baseline wall uniformity for the entire container. If the metal thickness varies even slightly at this point, the cup will tear during downstream stretching operations.

The skeleton scrap remaining after the circular blanks are punched is instantly collected and sent to thermal smelting furnaces for closed-loop recycling.

Deep Drawing & Ironing (DWI) – Wall Elongation

The shallow cup blanks are pneumatically transferred to the heart of the plant: the Bodymakers. This is where the container undergoes its most dramatic physical transformation using DWI (Drawn and Wall Ironing) technology.

A high-speed reciprocating punch forces each cup through a sequence of progressively narrower tungsten carbide ironing rings:

Redrawing: The cup is pulled to its targeted final diameter.

Wall Ironing: The punch forces the aluminum through ultra-tight clearances, compressing and stretching the sidewall metal upward.

Through this process, the sidewall is thinned down from 0.28 mm to an astonishing 0.10 mm , while the container height stretches past 130 mm . This extreme lightweighting minimizes shipping weight without sacrificing structural stability.

Bottom Domening & Precision Trimming

At the very end of the bodymaker stroke, the base of the cylinder is pressed against a stationary tool to stamp an inward-curved, concave dome.

Why Is the Bottom Curved?

A flat metal bottom would bulge outward under the high internal pressure of carbonated soft drinks or liquid nitrogen dosing. The inward dome shape distributes gas pressure evenly across the base, preventing bottom-buckling during transport and thermal shifts.

Once domed, the raw cans enter automated Trimmers. Because the metal stretches unevenly during ironing, the top rim of the cylinder is wavy. High-speed rotary knives shear off the top edge, leaving a clean, perfectly uniform rim ready for eventual flanging.

Multi-Stage Washing & Tunnel Drying

Forming metal at 2,000 units per minute generates heat and requires heavy industrial lubricants. Before the can body can accept exterior inks or internal liners, its surface must be completely purified.

Cans are inverted and placed onto wide mesh conveyors that pass through a 6-stage industrial washing system:

Acid Wash & Ultrasonic Degreasing: Strips away all soluble lubricants and loose aluminum fines.

Deionized Water Flushes: Eliminates chemical residues.

High-Temperature Tunnel Drying: Bakes off all moisture, leaving the raw alloy chemically neutral, pristine, and ready for decoration.

High-Speed Lithography & Custom Surface Finishes

This is where the raw cylinder becomes a brand's visual ambassador. The pristine cans pass through 6-to-8 color rotary dry-offset printing presses. The can rolls against a central rubber blanket for a fraction of a second, transferring complex, high-resolution graphics instantaneously.

At ERJIN PACK, our printing lines support specialized tactile and visual effects to ensure maximum retail shelf standout:

Glossy Finish: High-reflectivity clearcoats for vivid contrast.

Matte Finish: Reflection-free, tactile surfaces for modern or organic brand aesthetics.

White Base Coatings: Pre-coats applied to preserve original ink tones on bare metal.

Tactile Inks: Raised-ink textures that offer a unique sensory grip.

Our technical teams specialize in strict color-difference control, smooth gradient rendering, and streak-free solid color blocks across large volume production runs.

Internal Food-Grade Barrier Application

To protect the liquid's flavor profile and prevent acidic beverages from coming into contact with the raw aluminum alloy, the interior of every can requires a protective barrier.

Automated spray guns inject a microscopic, fine mist of food-grade lining into the spinning container.

Corrosion Resistance: Prevents craft beers, wine, CSDs, and juices from reacting with the metal substrate.

Organoleptic Protection: Eliminates metallic off-tastes, securing a stable 12-to-24 month shelf life.

The lined cans then pass through a high-temperature curing oven to bake and seal the polymer coating. ERJIN PACK supplies both industry-standard Epoxy and advanced BPANI (BPA-Non-Intent) liners to satisfy global compliance standards across North America and Europe.

Die Necking & Flanging

The top opening of the printed container is still the same diameter as its main body (around $\$60\text{mm}$). To save material costs on the lid (can end) and improve structural integrity, the top opening must be narrowed.

The cans enter a continuous Die Necker, where 20 to 30 individual dies gently compress the top opening in micro-increments, reducing the neck down to $\$52\text{mm}$ or $\$54\text{mm}$ (such as 202 or 200 neck finishes). The very top edge is then flanged outward to prepare for double-seaming at the beverage filling plant.

High-Definition Inspection & Automated Palletizing

Before any lot leaves an ERJIN PACK facility, it passes through a multi-point Quality Assurance (QA) matrix:

[Camera Optical Scan] [?] [Dome Pressure Test] [?] [Pin-Hole & Light Leak Check] [?] [Palletizing & Export Wrap]

Optical Camera Scanning: High-resolution cameras inspect 100% of the cans for print flaws, neck dents, or interior lining voids.

Light-Leak & Pin-Hole Testing: High-intensity light sensors detect micro-fissures down to the micron level.

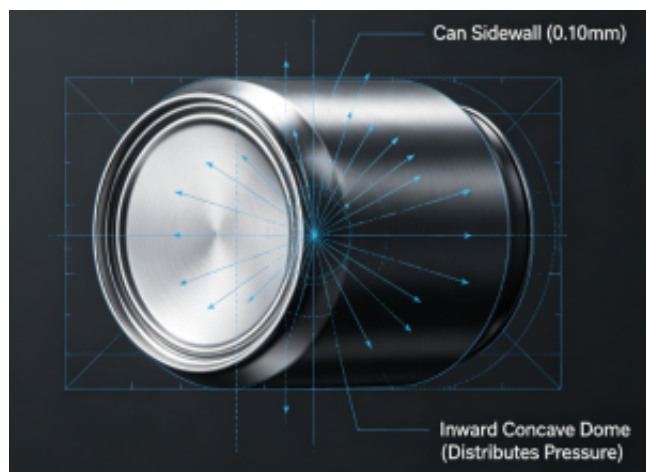
Dimensional & Dome Pressure Testing: Random batch testing confirms sidewall gauge, flange width, and pressure limits under load.

Cans that clear inspection are automatically stacked on export-ready wood or plastic pallets, strapped, shrink-wrapped, and loaded for shipping to partner filling facilities worldwide.

Partnering with ERJIN PACK

From raw alloy coils to global delivery, ERJIN PACK combines heavy-gauge manufacturing capacity with strict export quality control. With over 20 years of international trade expertise and 300+ brand partnerships across Europe, the Middle East, and Southeast Asia, we supply factory-direct wholesale aluminum cans that run seamlessly on high-speed filling machinery.

Whether you need Standard, Sleek, or Slim profiles, our technical teams ensure zero downtime for your filling lines and maximum visual impact on retail shelves.



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