

1. Product Overview

1.1 Product Identifier

Product Name: Ballesta® 300F System Strip Panel

Product Code: [Customizable, e.g., 300F-300×Custom×0.8]

Description: The Ballesta 300F is a 300mm-wide flat strip ceiling system featuring four standing edges that significantly improve panel flatness and rigidity. The long-side butt-joint connection creates a seamless, flush ceiling plane with tight, consistent joints. The overlapping panel design ensures each panel locks securely onto the next, delivering superior dimensional stability. Manufactured from high-quality AA3003/AA5005 aluminum alloy with custom lengths up to 6000mm.

2. Technical Specifications

Item	Specification	Test Standard
Aluminum Substrate Material	Indoor: AA 3003 (H24 Temper) Outdoor: AA 3003/5005 (H24 Temper)	YS/T429.1, GB/T3190-2020
Panel Width	300mm Error: Width±0.5mm, Length±2mm	YS/T429.2, ISO 128
Panel Thickness	0.7 - 1.0mm (Substrate) Thickness Error: ±0.03mm	YS/T429.2, ASTM B209 (thickness)
Surface Treatment	PVDF (Fluorocarbon) / Powder Coating / Anodized / UV Printing / Wood Grain Default: PVDF for exterior, Powder coating for interior	PVDF: AAMA 2605 Powder Coating: AAMA 2604 Anodized: AAMA 611, GB/T 5237.2 Gloss: ISO 2813

Coating Thickness	PVDF: $\geq 25\mu\text{m}$ Powder Coating: $\geq 60\mu\text{m}$ Anodized: $\geq 15\mu\text{m}$ (AA15, architectural grade)	ASTM D7091
Joint Type	Butt-joint (long side) Lap-joint (short side, overlapping) Standing edges on all four sides Flush seamless connection	JG/T 450 (Metal Ceilings), GB/T 23444
Color Performance	Full RAL/Pantone color range available Monochrome color difference: $\Delta E^*_{ab} \leq 1.5$ Custom color matching	ISO 7724-1, ASTM D2244
Adhesion Strength	High adhesion (no peeling/delamination under standard cross-cut test)	ASTM D3359 Method B (Cross-cut), GB/T 9286
Pencil Hardness	$\geq \text{HB}$ (coated surface, scratch resistance per ASTM D3363)	ASTM D3363
Fire Resistance Rating	Grade A combustion performance (Non-combustible) GB 8624 Class A ASTM E84: Flame Spread Index ≤ 25 , Smoke Developed Index ≤ 50 BS 476: Class 1	GB 8624, ASTM E84, BS 476
Flatness	$\leq 1.0\text{mm/m}$ (enhanced flatness, four standing edges)	YS/T429.1, YS/T429.2

Acoustic Performance	Up to 0.80 NRC with acoustic backing	ISO 354, ASTM C423
Corrosion Resistance	High temperature resistance: $\leq 70^{\circ}\text{C}$ High humidity resistance: $\text{RH} \geq 95\%$ Salt spray resistance: 5% NaCl, $\geq 1000\text{h}$ (no blistering/pitting)	ASTM B117, GB/T 10125
Tensile Strength	3003 series: 145-180MPa 5005 series: 145-185MPa	GB/T 3880, ASTM B209 (tensile per ASTM E8/E8M)
Length	Custom up to 6000mm Standard lengths: 3000mm, 6000mm	YS/T429.1
Density	2.70 g/cm ³	ASTM D792

3. Manufacturing Process

3.1 Aluminum Substrate Cutting:

Precision cutting of 3003/5005 series aluminum sheet into 300mm×Custom length strips, standard thickness 0.7-1.0mm, ensuring dimensional tolerance (Length $\pm$ 2mm, Width $\pm$ 0.5mm, Thickness $\pm$ 0.03mm).

3.2 Surface Pretreatment:

Degreasing, cleaning and chemical conversion treatment on aluminum strip surface to enhance coating adhesion and improve overall corrosion resistance.

3.3 UV Printing

Application of PVDF (fluorocarbon), powder coating, anodized finish, wood grain, or UV printing to the pretreated strip surface. PVDF provides premium weather resistance with 30-year durability. All finishes meet standard thickness and adhesion requirements.

3.4 Forming & Splicing Processing

Precision roll-forming of the aluminum strip into the standing-edge profile. All four edges are formed upward to create rigid, reinforced sides. The long edges feature a butt-joint design for seamless panel-to-panel connection. Short edges use overlapping lap joints for secure sequential installation.

3.5 Post-Processing:

Edge trimming, deburring and flatness calibration of finished panels. Multi-point testing of

standing edge geometry, surface finish, color consistency and dimensional accuracy to ensure all indicators meet standards.

3.6 Installation Accessory Matching:

Configure standard tee-bar grid system including main tees, cross tees, perimeter wall angles, hangers and suspension components for the 300F flat strip ceiling installation.

4. Application Scope

This flat strip ceiling system is widely used in architectural applications requiring superior flatness and seamless appearance, including but not limited to:

- Office buildings and corporate headquarters
- Educational facilities and lecture halls
- Healthcare spaces and clean environments
- Retail malls and commercial showrooms
- Conference halls and large public spaces

5. Compliance Standards

- **GB/T 23444: Metal and Metal-Composite Ceilings**
- **JG/T 450: Metal Ceilings**
- **GB 8624: Classification for Burning Behavior of Building Materials**
- **YS/T429.1: Aluminum Curtain Wall Panels - Part 1: Panel**
- **YS/T429.2: Aluminum Curtain Wall Panels - Part 2: Testing**
- **AAMA 2605: Voluntary Specification for High Performance Organic Coatings (PVDF)**
- **AAMA 611: Voluntary Specification for Anodized Architectural Aluminum**
- **ASTM B117: Standard Practice for Operating Salt Spray (Fog) Apparatus**

6. Packaging & Storage

Packaging: Each panel is covered with PE film to prevent scratches, then packed in wooden crates with foam padding to avoid collision and deformation during transportation. The folding edge and splicing part are protected by special anti-collision accessories.

Storage: · Store in a dry, ventilated and rainproof warehouse, avoid direct sunlight, high temperature ($>70^{\circ}\text{C}$) and high humidity ($\text{RH}>95\%$) environment.

- Avoid contact with sharp objects, chemicals and corrosive substances to prevent surface damage and substrate corrosion.
- Stacking height shall not exceed 3 layers to prevent flatness damage caused by excessive pressure.
- The storage site shall be far away from fire sources to meet the fire safety requirements of Grade A fire-resistant materials.

7. Quality Assurance

All panels undergo strict multi-item quality inspection before delivery, including dimensional tolerance, thickness error, surface gloss, color difference, flatness, coating adhesion, wear resistance and fire resistance test.

All panels undergo strict multi-item quality inspection before delivery, including dimensional tolerance, standing edge geometry, surface finish, color difference, flatness, coating adhesion, fire resistance and corrosion resistance tests per applicable standards. We provide a warranty period of not less than 15 years for the product (under normal use conditions and compliance with installation and storage requirements). Within the warranty period, the surface coating shall have no obvious fading, peeling or cracking; the aluminum substrate shall have no corrosion or deformation; and the panel standing edges shall remain dimensionally stable.
