

1. Product Overview

1.1 Product Identifier

Product Name: Ballesta® 300C System Strip Panel (1.0mm)

Product Code: AP-UV-300×3750×1.0

Description: This aluminum panel is manufactured with high-quality 3003/5005 series aluminum alloy substrate, combined with environmentally friendly UV printing technology and matte surface treatment. It features Grade A fire resistance, excellent weather resistance, wear resistance and corrosion resistance, with seamless splicing design and high color consistency. It is suitable for indoor and outdoor architectural decoration scenarios, and even applicable to harsh environments such as high temperature, high humidity and salt spray.

2. Technical Specifications

Item	Specification	Test Standard
Aluminum Substrate Material	Indoor: AA 3003 (H24 Temper) Outdoor: AA 3003/5005 (H24 Temper) 3003 Mn:1.0%-1.5%; 5005 Mg:0.5%-1.1%	YS/T429.1, GB/T3190-2020
Panel Dimension	300mm × 3750mm (Length × Width) Error: Length±2mm, Width±1mm	YS/T429.2, ISO 128
Panel Thickness	1.0mm (Substrate) Thickness Error: ±0.05mm	YS/T429.2, ASTM D1186
Surface Treatment	UV Printing (Environmentally friendly UV ink) Default: Smooth matte surface,	UV Printing Industry Standard, Professional Gloss Meter Test

	Gloss:15-25°Customizable: Wood grain/stone grain texture	
Coating Thickness	UV Printing Coating: $\geq 60\mu\text{m}$ (Uniform thickness)	ASTM D1186
Splicing & Installation Method	Seamless splicing with edge folding (Fold angle: $90^{\circ}\pm 1^{\circ}$)Reinforcement: Intermittent welding/structural adhesiveCeiling installation: Hanger > 1.5m needs steel support	YS/T429.2, AAMA 501.6
Color Performance	Multi-color optionalMonochrome color difference: $\leq 1.5\text{NBS}$ No obvious color difference in 3m vertical visual inspectionColor stability of paint film: ≥ 10 years	Color Difference Tester Industry Standard
Adhesion Strength	High adhesion (UV ink firm bonding with substrate, no peeling)	ASTM D3359
Hardness	Mohs Hardness: HB 65-95 (Resist minor scratches/collisions)	Mohs Hardness Test Standard
Fire Resistance Rating	Grade A combustion performance (Non-combustible, non-combustion-supporting)	National Fire Resistance Standard for Building Materials
Flatness	$\leq 1.5\text{mm/m}$ (No wavy deformation/uneven defects)	YS/T429.1, YS/T429.2

Wear Resistance	No obvious wear/color loss under specified friction times/pressure	Professional Wear Resistance Test Standard
Corrosion Resistance	High temperature resistance: $\leq 70^{\circ}\text{C}$ High humidity resistance: RH $\geq 95\%$ Salt spray resistance: 5% salt spray concentration (No corrosion/deformation)	Salt Spray Test Industry Standard, High/Low Temperature Test Standard
Tensile Strength	3003 series: 145-180MPa 5005 series: 145-185MPa	GB/T3880, ASTM E8
Anti-slip Coefficient	Default: Meet industry standards Customizable: Anti-slip texture for special requirements	Anti-slip Performance Industry Standard
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×3750mm size with 1.0mm thickness, ensuring dimensional tolerance (Length $\pm 2\text{mm}$, Width $\pm 1\text{mm}$, Thickness $\pm 0.03\text{mm}$).

3.2 Surface Pretreatment:

Degreasing and dust removal treatment on aluminum substrate surface to enhance the adhesion between UV ink and substrate, and improve the overall corrosion resistance of the panel.

3.3 UV Printing

Coating environmentally friendly UV ink on the pretreated substrate, precisely controlling ink dosage, printing speed and curing time. The ink is cured by UV technology to form a uniform and firm coating ($\geq 60\mu\text{m}$), and the matte surface gloss is adjusted to 15-25°. Custom texture (wood grain/stone grain) can be printed according to customer requirements with high restoration degree.

3.4 Forming & Splicing Processing

Edge folding treatment of the panel with precise control of fold angle ($90^{\circ}\pm 1^{\circ}$) and

consistent fold width, no visible cracks/distortions at the folds. Seamless splicing design is adopted, and the joint is reinforced by intermittent welding or structural adhesive to ensure structural stability.

3.5 Post-Processing:

Edge trimming, deburring and flatness calibration of the panel. Multi-point testing of surface gloss, color difference and thickness by professional equipment to ensure all indicators meet the standard.

3.6 Installation Accessory Matching:

Configure special hangers for ceiling installation; steel support frames or counter supports are equipped for hangers longer than 1.5m to enhance the stability of the suspension system.

4. Application Scope

This aluminum panel is widely used in architectural decoration fields, including but not limited to:

- Indoor ceilings, interior walls, column cladding and ground decoration (special anti-slip customization)
- Exterior facades of commercial buildings, office buildings and residential buildings
- Decoration of public places such as shopping malls, hotels, airports and subway stations
- Customized decoration projects requiring Grade A fire resistance, seamless splicing and matte effect
- Decoration in harsh environments such as high temperature ($\leq 70^{\circ}\text{C}$), high humidity ($\text{RH} \geq 95\%$) and 5% salt spray concentration

5. Compliance Standards

- **YS/T429.1:** Aluminum Curtain Wall Panels - Part 1
- **YS/T429.2:** Aluminum Curtain Wall Panels - Part 2
- **GB/T3190-2020:** Chemical Composition of Wrought Aluminum and Aluminum Alloys
- **GB/T3880:** Aluminium and Aluminium Alloy Plates and Sheets for General Industrial Use
- **National Fire Resistance Standard for Building Materials** (Grade A combustion performance)
- **ASTM D1186:** Standard Test Method for Thickness of Organic Coatings
- **ASTM D3359:** Standard Test Methods for Measuring Adhesion by Tape Test
- **AAMA 501.6:** Standard Practice for Installation of Exterior Wall Cladding Panels

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.

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 UV printing coating shall have no obvious fading, peeling, cracking and color loss; the aluminum substrate shall have no corrosion, deformation and other defects, and the splicing part shall remain stable and firm.
