

1. Product Overview

1.1 Product Identifier

Product Name: Ballesta® I-Shape Linear Baffle Ceiling System

Product Code: [Customizable, e.g., IS-LB-100/150/200-3000]

Description: The Ballesta I-Shape Linear Baffle Ceiling is a single-blade aluminum baffle system formed from one-piece AA3000 series aluminum sheet (0.6–0.7mm thick). Each blade threads directly through a dedicated steel suspension keel — no main tees, no clips, and no separate framing required. Available in 100mm, 150mm and 200mm blade heights with adjustable spacing (typically equal to blade height). The system delivers 50–70% open area, weighs only 2–5 kg/m², and supports powder coating or wood grain transfer finishes in all RAL colors. Designed for fast, tool-free installation in open-plan commercial, transit and public interior spaces.

2. Technical Specifications

Item	Specification	Test Standard
Aluminum Substrate Material	AA 3003 (H24 Temper)	GB/T3190-2020, ASTM B209
Blade Heights	100mm, 150mm, 200mm Tolerance: ±1mm	ISO 128, GB/T1804
Standard Blade Length	≤4000mm	ISO 2768-m
Panel Thickness	0.6–0.7mm (substrate)	ASTM B209, GB/T3880
Spacing Between Blades	Adjustable (typically = blade height)	Project-specific module layout
Surface Treatment	Powder coating / Wood grain transfer	AAMA 2604
Coating Thickness	60–80µm (powder coating)	ASTM D7091
Suspension System	Dedicated steel baffle keel	JG/T 450

Weight	2–5 kg/m ² (depends on blade height/spacing)	ISO 9001 calibrated scale
Color Performance	All RAL colors + custom wood grains	ISO 7724-1, ASTM D2244
Fire Resistance Rating	Class A1 (non-combustible)	EN 13501-1, ASTM E84
Flatness	≤1.5mm/m	ISO 2768, JG/T 450
Corrosion Resistance	Salt spray ≥1000h	ASTM B117, ISO 9227
Tensile Strength	3003 series:145-180MPa5005 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 Coil Cutting:

Precision cutting of AA3000 series aluminum coil into blade strips at specified width. Cut-to-length tolerance ±1mm with deburred edges.

3.2 Surface Pretreatment:

Degreasing, rinsing and chromate-free chemical conversion coating to enhance coating adhesion and corrosion resistance.

3.3 Powder Coating / Wood Grain Application:

Application of polyester powder coating (60–80µm) via electrostatic spray, cured at 180–200°C. Wood grain transfer applied via heat sublimation process for realistic timber textures.

3.4 Roll Forming:

Continuous roll forming of coated aluminum strip into I-Shape profile with precise blade width and edge geometry. Forming tolerance ±0.5mm.

3.5 Quality Verification:

100% visual inspection for coating uniformity, dimensional accuracy and surface finish.

Sample-level adhesion, hardness and color difference testing per ASTM standards.

3.6 Accessory Matching:

Dedicated steel baffle keel, keel connectors, hanger rods and mounting hardware supplied pre-matched for each project module layout.

4. Application Scope

The I-Shape Linear Baffle Ceiling is designed for open-plan interior spaces where linear aesthetics, acoustic management and fast installation are required:

- Airport terminals, concourses and transit lounges with long-span ceiling grids
- Metro and railway station platforms, ticketing halls and corridor zones
- Shopping malls, retail atriums and commercial lobby ceiling systems
- Hotel entrance, reception, restaurant and ballroom feature ceilings
- Conference centers, exhibition halls and educational campus buildings

5. Compliance Standards

- **EN 13501-1: Fire Classification of Construction Products (Class A1 non-combustible)**
- **ASTM E84: Standard Test Method for Surface Burning Characteristics**
- **GB/T3190-2020: Chemical Composition of Wrought Aluminum and Aluminum Alloys**
- **GB/T3880: Aluminium and Aluminium Alloy Plates and Sheets for General Industrial Use**
- **GB 8624: Classification for Burning Behavior of Building Materials**
- **ASTM B209: Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate**
- **ISO 9227: Corrosion Tests in Artificial Atmospheres (Salt Spray Testing)**
- **AAMA 2604: Performance Requirements for High-Performance Organic Coatings**

6. Packaging & Storage

Packaging: Blades are interleaved with protective paper or PE film to prevent surface scratches during transit, then packed in export-grade plywood crates or steel-banded bundles with foam corner protection.

Storage: · Store in a dry, ventilated and rainproof warehouse, avoid direct sunlight exposure and moisture condensation.

- Keep bundles horizontal on flat pallets. Avoid contact with sharp objects, chemicals and corrosive substances.
- Stacking height shall not exceed 3 layers to prevent blade deformation caused by excessive weight.
- The storage site shall be kept away from fire sources in compliance with local fire safety regulations.

7. Quality Assurance

All I-Shape Baffle blades undergo strict multi-item quality inspection before dispatch, including dimensional verification, coating thickness measurement, color difference evaluation ($\Delta E^*_{ab} \leq 1.5$), adhesion testing (ASTM D3359), and flatness calibration.

Sample blades from each production lot are retained for traceability.

Ballesta provides a warranty period of not less than 15 years for the I-Shape Baffle Ceiling System under normal interior use conditions. Coating durability, dimensional stability and structural integrity are covered per the warranty terms. Contact Ballesta for full warranty documentation.
