1. Product Overview

1.1 Product Identifier

Product Name: Ballesta® Hook-on Ceiling System
Product Code: [Customizable, e.g., HO-{Size}-{Thickness}]
The Ballesta hook-on panel ceiling system is a sophisticated aluminum square/rectangular panel ceiling that embodies modern fashion-inspired design. Unlike standard lay-in ceiling panels (e.g., 600x600mm), the hook-on system supports fully customizable panel sizes to match any architectural layout. Precision-crafted aluminum panels (Alloy 3003/1100 series) with 0.6-0.8mm thickness offer exceptional flatness and structural stability. Panels are installed and removed tool-free by hand via a Z-shape hook keel system, making it ideal for areas requiring frequent ceiling access. The system has passed comprehensive wind-load testing for both positive and negative pressure under simulated storm conditions, enabling use in semi-exterior applications such as station entrances and covered canopies.

2. Technical Specifications

Aluminum Substrate Material	Alloy AA3003 / AA1100 Temper: H24	GB/T 3190, YS/T429.1
Panel Thickness	0.6mm - 0.8mm (standard) Custom thicknesses available	YS/T429.2
Panel Size (Customizable)	Fully customizable dimensions Not limited to standard modules 600x600mm, 600x1200mm common examples	ISO 128
Panel Shape	Square / rectangular flat panel 90-degree edge fold (+/- 1 deg)	GB/T 23444
Installation Method	Tool-free hook-on mechanism Hand-installed and hand-removed	Project-specific

	Individual panel demountable	
Suspension System	Galvanized steel hanger rods C-Channel main keel Z-shape hook keels + clip-in fixers	GB/T 23444
Wind Resistance	Passed storm-level wind load testing Positive and negative wind pressure Suitable for semi-exterior use	Project tested
Surface Finish	PVDF (Kynar 500): 25-35μm Polyester powder coating: 60-80μm	AAMA 2605 (PVDF) AAMA 2604 (Powder)
Gloss Level	15-30% (matte) 30-70% (semi-gloss) 70-90% (high-gloss)	ISO 2813, ASTM D523
Color Tolerance	ΔE*ab < 1.0 (PVDF) ΔE*ab < 1.5 (Powder)	ISO 7724-1, ASTM D2244
Pencil Hardness	HB (PVDF) H-2H (Powder coating)	ASTM D3363
Impact Resistance	No cracking at 50 in-lb (direct/reverse)	ASTM D2794
Adhesion	No removal (5B classification)	ASTM D3359 (Cross-cut)
Salt Spray Resistance	> 1,000 hours (PVDF) > 500 hours (Powder)	ASTM B117
Fire Rating	Class A - Non-combustible Flame Spread < 25 Smoke Developed < 50	ASTM E84, BS 476
Perforation Option	Available for acoustic	Customer specification

	performance Custom perforation patterns	
Warranty	Up to 15 years (PVDF) Up to 10 years (Powder)	Ballesta Standard Warranty

3. Manufacturing Process

3.1 Aluminum Substrate Cutting:

Precision cutting of 3003/1100 series aluminum sheet into panel blanks. Panel dimensions are fully customizable to match project requirements, unlike fixed-size lay-in ceiling panels. Standard thickness: 0.6-0.8mm. Dimensional tolerance: Length/Width +/- 1mm.

3.2 Surface Pretreatment:

Degreasing and chemical pretreatment of aluminum surface to enhance coating adhesion and corrosion resistance per ASTM B209 standards.

3.3 Forming & Edge Processing:

Precision press-forming of square or rectangular panels with 90-degree edge folds (+/- 1 degree). Fold width and edge detail are consistent regardless of panel size, ensuring uniform appearance and proper hook engagement across all custom dimensions.

3.4 Hook Mechanism Fabrication:

Specialized hook tabs are formed on panel edges during pressing. These hooks are designed to securely engage with the Z-shape carrier keels, providing positive locking against wind uplift while remaining easily disengageable for tool-free removal. Hook positions are calculated per panel size to ensure balanced load distribution.

3.5 Coating Application:

Application of PVDF (Kynar 500) fluorocarbon coating (25-35μm) or polyester powder coating (60-80μm). Color matched to RAL or Pantone specifications. Optional perforation patterns available for acoustic performance.

3.6 Installation Accessory Matching:

Configure galvanized steel hanger rods, C-Channel main keels, Z-shape hook keels, clip-in fixers, and fasteners. Carrier spacing is designed based on panel size and wind load requirements. All accessories are hot-dip galvanized for corrosion resistance.

4. Application Scope

This hook-on panel ceiling system is widely used in architectural ceiling applications, including but not limited to:

- Metro station ticket halls, platforms and entrance areas
- Airport terminals, departure halls and entrance canopies
- Railway station concourses and bus terminal facilities
- Covered walkways, underground passages and semi-exterior canopies
- Transit hubs and public facilities requiring frequent ceiling access and wind-resistant

performance

5. Compliance Standards

- YS/T429.1: Aluminum Curtain Wall Panels - Part 1
- YS/T429.2: Aluminum Curtain Wall Panels - Part 2
- GB/T 3190-2020: Chemical Composition of Wrought Aluminum and Aluminum Alloys
- National Fire Resistance Standard for Building Materials (Grade A combustion performance)
- ASTM B209: Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- ASTM D7091: Standard Practice for Nondestructive Measurement of Dry Film Thickness
- ASTM D3359: Standard Test Methods for Measuring Adhesion by Tape Test
- GB/T 23444: Metal and Metal Composite Ceilings

6. Packaging & Storage

Packaging: Each panel is covered with protective PE film, then packed in wooden crates with foam padding. Panels are grouped by size and orientation for easy on-site identification.
Storage: · Store in a dry, ventilated and rainproof warehouse. Avoid direct sunlight, high temperature (>70℃) and high humidity (RH>95%) environments.
· Avoid contact with sharp objects, chemicals and corrosive substances to prevent surface damage.
· Panel bundles shall be stored on level pallets. Stacking height shall not exceed 3 layers to prevent deformation.
· The storage site shall be far away from fire sources to meet Grade A fire safety requirements.

7. Quality Assurance

All hook-on panels undergo strict multi-item quality inspection before delivery, including dimensional tolerance, thickness, edge fold angle, surface finish quality, color difference (ΔE*ab < 1.5), gloss measurement, and hook mechanism function test.
We provide a warranty period of not less than 15 years for PVDF-coated products and 10 years for powder-coated products (under normal use conditions and compliance with installation and storage requirements).