

1. Product Overview

1.1 Product Identifier

Product Name: Ballesta® Hook-On Mesh Ceiling

Product Code: HOOK-MESH-1.5mm

Description: Ballesta Hook-On Mesh Ceiling features mesh panels pre-fitted with a custom-matching aluminum frame at the factory, ready for standard hook-on suspension installation. The frame uses a universal hook-on mounting system compatible with Z-keel and C channel accessories, allowing mesh panels and solid panels to be used together on the same support system. Standard sizes: 1250x2200mm, 1100x1250mm, and 1000x1700mm. Panel thickness: 1.5mm. Joint options: visible-edge or seamless. Frame material: AA3003/AA5005 aluminum alloy. Ideal for airports, metro stations, shopping malls, and other large-scale public spaces requiring a uniform yet flexible ceiling design.

2. Technical Specifications

Item	Specification	Test Standard
Aluminum Substrate Material	AA 3003 / AA 5005 (H24 Temper)	GB/T3190-2020, GB/T3880
Panel Size (Standard)	1250x2200 / 1100x1250 / 1000x1700mm	ISO 128, JG/T 450
Panel Thickness	1.5 mm (standard)	JG/T 450, ASTM B209
Frame Material	Aluminum Alloy (AA3003/AA5005)	GB/T3190-2020
Mesh Material	Aluminum / Stainless Steel	Customizable per project
Mounting System	Standard hook-on (Z-keel + C Channel)	JG/T 450
Joint Options	Visible edge or Seamless (hidden joint)	Design option

Surface Finish	PVDF / Powder Coating / Anodized	JG/T 450, ASTM D3359
Coating Thickness	60-80 µm	ASTM D7091
Color	Full RAL/Pantone range ($\Delta E^*_{ab} \leq 1.5$)	ISO 7724-1
Fire Resistance Rating	Grade A (non-combustible, ASTM E84)	GB 8624, ASTM E84
Flatness	≤ 1.5 mm/m	JG/T 450
Panel Combination	Mesh + Solid panels on same system	Factory-fitted frame
Corrosion Resistance	Salt spray ≥ 1000 h (ASTM B117)	ASTM B117
Tensile Strength	AA 3003: 145-180 / AA 5005: 145-185 MPa	GB/T3880, ASTM E8
Density	2.70 g/cm ³	ASTM D792

3. Manufacturing Process

3.1 Frame Extrusion & Cutting:

Aluminum alloy (AA3003/AA5005) is extruded into frame profiles designed for standard hook-on suspension. Profiles are precision-cut to specified panel dimensions with clean, burr-free ends.

3.2 Surface Pretreatment:

Degreasing and chemical pretreatment of aluminum profiles to remove surface oxides. Ensures maximum adhesion of the coating finish.

3.3 Coating Application:3 UV Printing

Application of PVDF, powder coating, or anodized finish in controlled environment. Uniform coverage at specified thickness (60-80µm). Full RAL color range available. Cured at high temperature for durability.

3.4 Mesh Manufacturing:4 Forming & Splicing Processing

Woven wire, expanded metal, or perforated mesh manufactured from aluminum or stainless steel. Precision-trimmed to match frame dimensions. Mesh thickness: 1.5mm.

3.5 Frame Fitting:5 Post-Processing:

Frame profiles assembled and fitted to the mesh panel at the factory. Each panel unit is jig-checked for squareness within $\pm 1\text{mm}$. Factory-installed hook fittings ready for on-site suspension.

3.6 Installation Accessory Matching:6 Installation Accessory Matching:

Complete suspension kit supplied: Z-shape hook keel, C channel, hanger for C channel, hanger for Z keel, and suspension rods. All accessories corrosion-resistant and compatible with standard hook-on ceiling systems.

4. Application Scope

This Hook-On Mesh Ceiling system is widely used in architectural decoration fields, including but not limited to:

- Airport terminals, metro stations and railway concourses requiring durable, high-traffic ceiling surfaces
- Shopping malls, hotel lobbies and exhibition centers needing flexible design integration
- Office building atriums, conference halls and sports venues
- Projects requiring mixing of mesh panels and solid panels on the same suspension system
- Custom ceiling layouts requiring visible-edge or seamless joint options

5. Compliance Standards

- **GB/T 23444: Metal and Metal-Composite Ceilings**Aluminum Curtain Wall Panels - Part 1
- **JG/T 450: Aluminum Alloy Ceilings**Aluminum Curtain Wall Panels - Part 2
- **GB/T3190-2020: Chemical Composition of Wrought Aluminum and Aluminum Alloys**Chemical Composition of Wrought Aluminum and Aluminum Alloys
- **GB/T3880: Aluminium and Aluminium Alloy Plates and Sheets for General Industrial Use**Aluminium and Aluminium Alloy Plates and Sheets for General Industrial Use
- **National Fire Resistance Standard for Building Materials (Grade A combustion performance)** (Grade A combustion performance)
- **ASTM B209: Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate**Standard Test Method for Thickness of Organic Coatings
- **ASTM D3359: Standard Test Methods for Measuring Adhesion by Tape Test**Standard Test Methods for Measuring Adhesion by Tape Test
- **ISO 354: Measurement of Sound Absorption in Reverberation Rooms (acoustic performance)**Standard Practice for Installation of Exterior Wall Cladding Panels

6. Packaging & Storage

Packaging: Each mesh panel with factory-fitted frame is wrapped in protective film and packed individually in plywood crates. Panels separated by protective interlayers to prevent surface abrasion. Accessories packed separately in labeled cartons.

Storage: · Store in a dry, ventilated and rainproof warehouse, avoid direct sunlight, high temperature and humid environments.

- Avoid contact with sharp objects, chemicals and corrosive substances to prevent

surface damage and coating deterioration.

- Stack panels flat on wooden pallets. Maximum stacking height: 5 layers to prevent frame deformation.
- The storage site shall be far away from fire sources to meet the fire safety requirements of Grade A non-combustible materials.

7. Quality Assurance

All Hook-On Mesh components undergo strict multi-item quality inspection before delivery, including: frame dimensional accuracy ($\pm 1\text{mm}$), mesh opening consistency, coating thickness and adhesion, color uniformity, flatness ($\leq 1.5\text{mm/m}$), and hook fitting verification. Each batch is tested to meet the applicable standards listed in Section 5.

We provide a warranty period of not less than 15 years for the product (under normal use conditions and compliance with installation and maintenance guidelines).
