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Aluminum panel Product Catalogue



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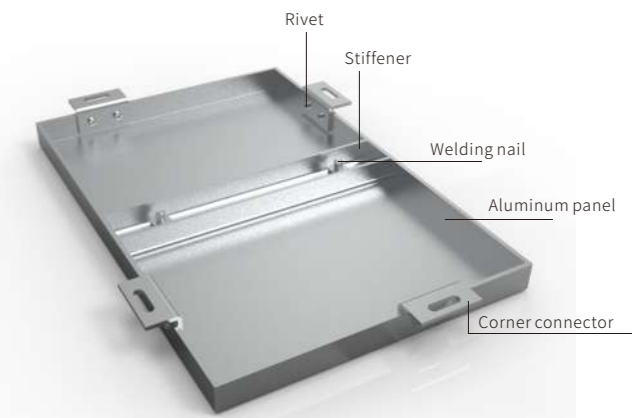
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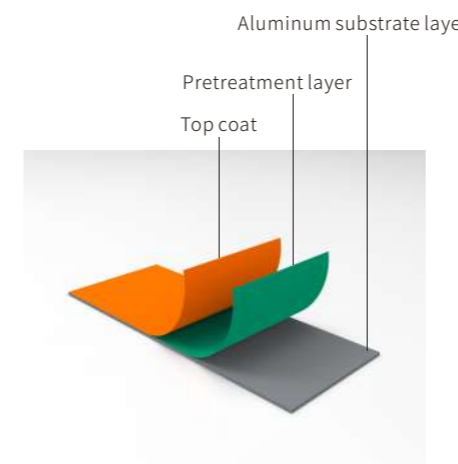
Aluminum panel

Aluminum panel is mainly composed of aluminum plate, reinforcement, corner connector, rivets, welding nails. The corner connector can be directly bent and stamped by the panel, or the corner connector profile can be riveted on the folding edge of the panel. Reinforcing bars are fixed on the back of the board through welding nails to enhance the strength and rigidity of the board surface and ensure the board flatness and seismic ability of surface in long-term use. If need sound insulation and warmth retention, sound insulation materials can also be installed on the back.

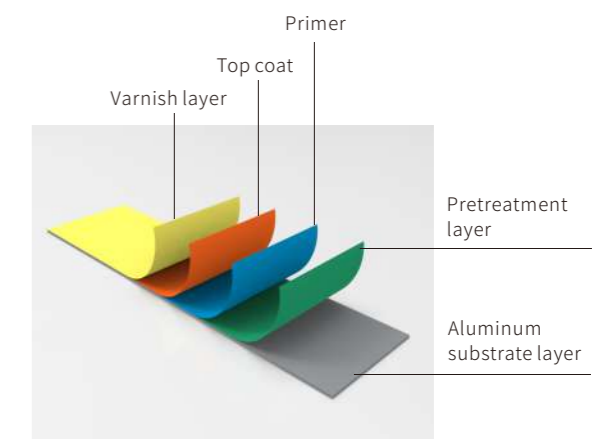
It is suitable for exterior wall and interior wall decoration of buildings, such as airport station, hospital, gymnasium, residential building, conference hall, opera house and other styles of large buildings and their suspended ceiling, beams and columns.



Aluminum panel common materials are 1100 and 3003 series, common specifications are between 2.0 and 3.0mm.

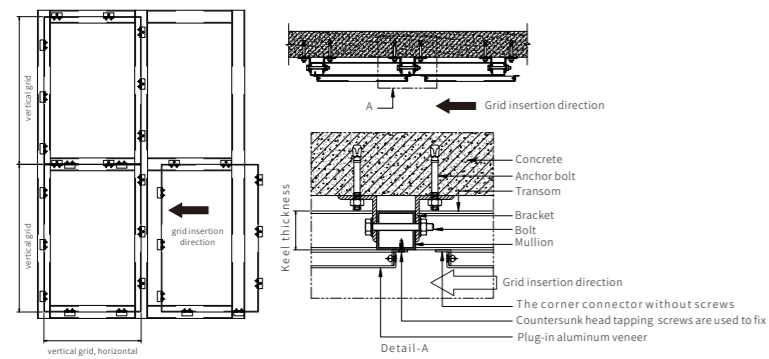


Powder spraying

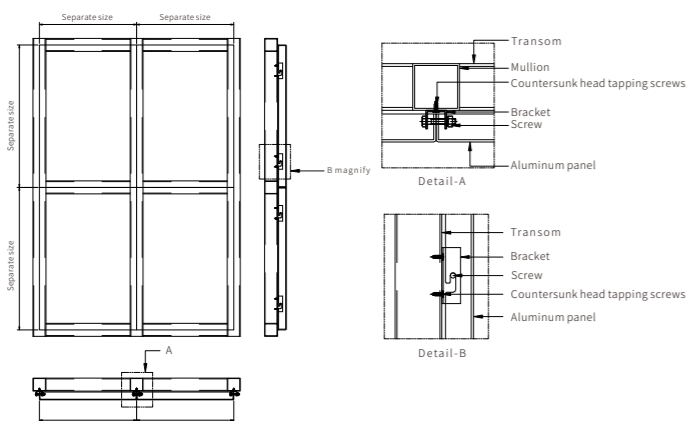


Paint spraying

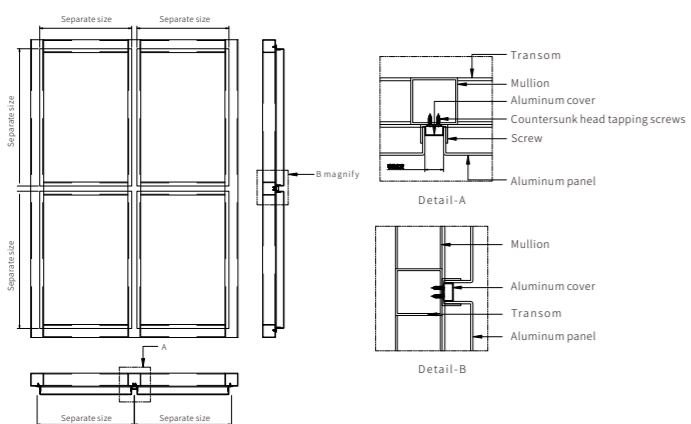
Typical Aluminum Panel System



Plug-in System



Plug-in System



Exposed Gap System

Installation instructions:

1 Installation procedure:
As shown in the drawing, the installation sequence is from left to right and from bottom to top. The bracket on the left side of each plate is inserted into the gap between the flange of the left aluminum plate and the mullion, and the right and upper side brackets are fixed with countersunk self-drilling screws.

2 Cautions: keep hands clean, no sweat, oil and other impurity on aluminum panel surface.

Installation instructions:

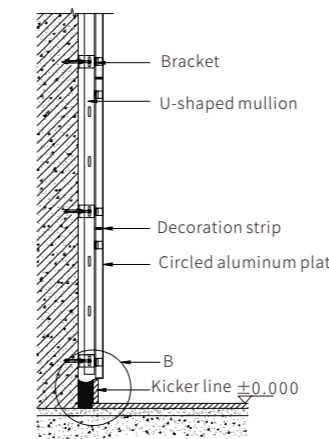
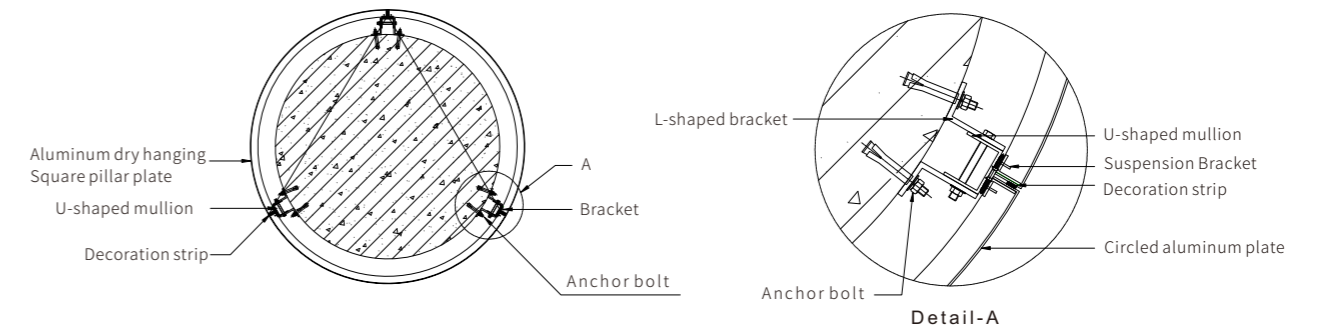
1 Installation procedure:
Firstly, fix the hook bracket on the mullion on right location, and then fix aluminum panel hook bracket.

2 Cautions: keep hands clean, no sweat, oil and other impurity on aluminum panel surface.

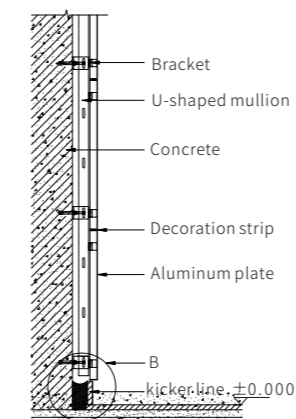
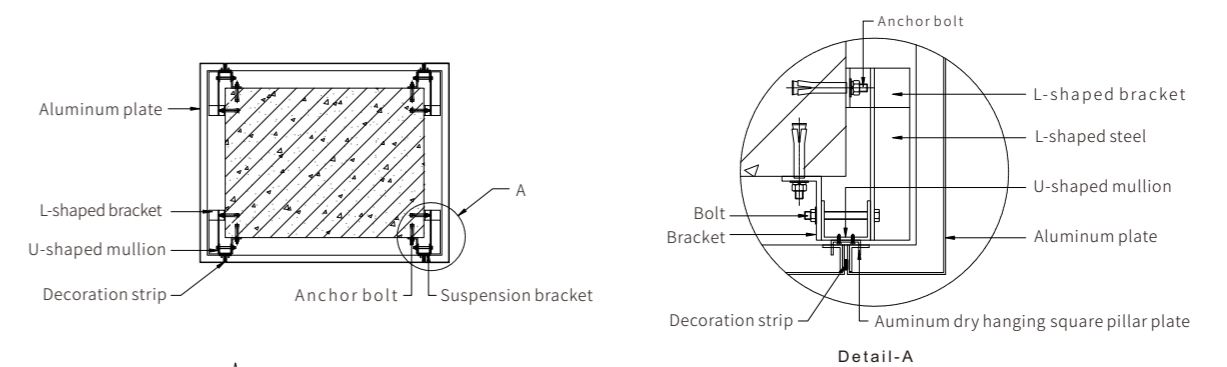
Installation instructions:

1 Fix the aluminum panel on the mullion with bracket and screw, and then insert aluminum strip into the gap.

2 Cautions: keep hands clean, no sweat, oil and other impurity on aluminum panel surface.



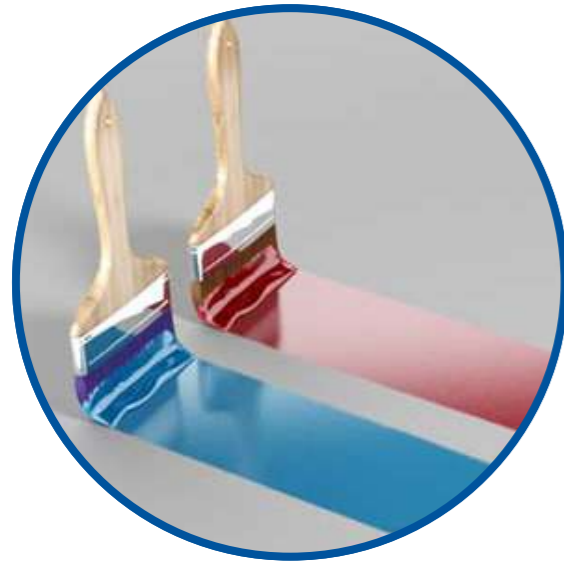
Cylindrical installation scheme



Installation scheme of square column

Surface Treatment

There are two common surface treatments for aluminum panel: powder spraying and painting. Powder spraying-Electrostatic powder spraying, with the aid of compressed air, the arch powder is dispersed into powder mist particles under the action of high voltage static electricity, and is adsorbed on the surface of the coated object through an electric field; Spray painting, two or three coats, using compressed air to disperse liquid paint (commonly known as paint) into paint mist particles that adhere to the surface of the coating.



Spray painting



Powder spraying

Due to the characteristics of long-term outdoor sunlight exposure and temperature changes, the surface coating should have certain weather resistance requirements when the aluminum panel is used to decorate the exterior wall. Among all kinds of coatings, fluorocarbon coatings have excellent properties such as weather resistance, chemical resistance and low friction due to the introduction of fluorine element electronegativity and strong carbon-fluorine bond energy. Fluorocarbon coating film is non-adhesive, so that the dust on the surface of the aluminum panel can be self-cleaning through the rain, with excellent hydrophobicity.

Fluorocarbon coatings refer to powder and paint coatings with fluorine resin as the main film-forming component, also known as fluorine coating, fluorine resin coating

PVDF Fluorocarbon resin introduction:

PVDF fluororesin coating is a high-grade decorative material made of polyvinylidene fluoride (PDVF) resin, acrylic resin, and inorganic composite pigments, which has excellent weather resistance and acid and alkali resistance. According to the experiment and practice, it has been proved that it can exert super strong weather resistance for more than 20 years.

Weather resistance principle: The fluorocarbon bond of fluorocarbon resin is the most stable chemical bond in organic synthetic compounds.

- a. The fluorine carbon (F-C) bond binding force between fluorine and carbon atoms with the maximum negative charge is as high as 105.4 kcal/mol, which means that it requires at least 105.4 kcal/mol of energy to destroy the fluorine carbon (F-C) bond.
- b. The bonding distance of fluorocarbon (F - C) bond is 1.36A, which is shorter than that of carbon-carbon (C - C) bond 1.54A. Because of the three-dimensional barrier produced by fluorine atoms, its structure is very tight, it is difficult to break the fluorine - carbon (F - C) bond.

Advantages

1. High adaptation performance, high weather resistance, wind pressure resistance.
2. The surface is smooth and firm.
3. light weight, convenient transportation, simple loading and unloading.
4. Beautiful appearance and strong metal texture.
5. Environmentally friendly, 100% recyclable.



Standard aluminum veneer is made of high quality aluminum alloy plate, processed by precision sheet metal process, pretreated with cleaning, degreasing, rust removal, dirt removal, and film removal, and then sprayed with powder or paint coatings on the surface.

The weather resistant coating has excellent corrosion resistance and weather resistance, and can resist acid rain, salt mist, and various air pollutants. It has excellent cold and heat resistance, and can withstand strong ultraviolet radiation. It can maintain long-term fastness and non pulverization, and has a long service life.



Surface Treatment

Advantages

1. Realize personalized and batch indoor and outdoor decoration requirements.
2. High strength plate, light weight per unit area.
3. Moistureproof, mildew proof, good sound absorption and noise elimination effect .
4. light weight, convenient transportation, simple loading and unloading.



The art perforated plate adopts advanced CNC stamping equipment and 3D typography software, by adjusting the aperture, hole pattern, and perforation rate, it produces rich light and shadow changes under sunlight or light, which makes the main body and outer surface of the building have a special sense of obscurity and lightness. Breaking the boundaries between the interior and external spaces of the building without losing privacy, bringing openness and transparency to the originally independent two spaces, and bringing the architectural decoration effect to a simple and sublimated level.

Widely used in style architectural decoration, perforated characteristic plate weight is light, and can also improve the exhaust of special buildings. Efficient sound insulation materials can also be installed on the back to create a comfortable environment.



Perforated Aluminum Panel



Curved Aluminum Panel

Advantages

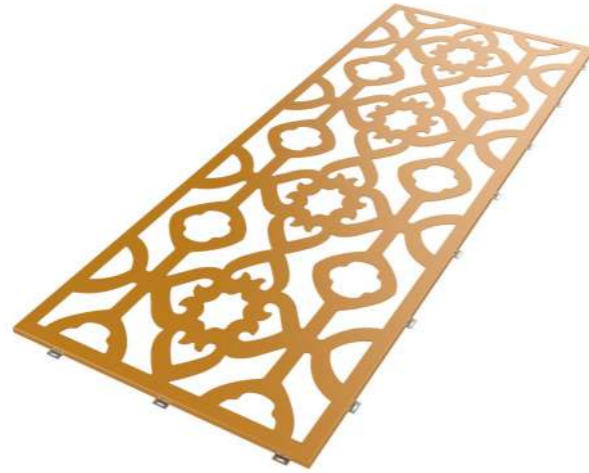
1. Natural and smooth outline.
2. Meet the diverse needs of architect.
3. Various complicated 2D and 3D shapes can be made.
4. Rust prevention, ultraviolet protection, wear resistance and damage prevention.



With the personalization of architectural appearance and style, curved aluminum panel are gaining more and more favor among designers. The new curved aluminum panel designed and produced by three-dimensional modeling has better flatness than the hyperboloid produced by traditional split welding, smoother installation arc than the "straight instead of curved"fake curved surface,fully releasing their unique charm.

Advantages

1. Different patterns, sizes and shapes.
2. Meet the diverse needs of designers.
3. Light weight, convenient transportation, easy loading and unloading.
4. Transparent, breathable, visual easy security management.
5. Rust prevention, UV protection, wear resistance and damage prevention.



As a kind of carving art board, hollow aluminum panel adopts advanced CNC laser technology to accurately control the accuracy. Various patterns can be produced and installed together with carved boards. Transparent and breathable flat boards are stacked layer by layer, continuously extending a sense of space and full of artistic flavor. Break through the traditional modeling concept, design more unrestrained, open up a broad thinking space.



Carved Aluminum Panel



Mitation Wood Grain Aluminum Panel

Advantages

1. Rich wood grain, color and realistic texture.
2. Meet the diverse needs of architect.
3. Light weight, convenient transportation, simple loading and unloading.
4. Rust prevention, UV protection, wear resistance and damage prevention.



Using the heat transfer printing process, based on the principle of thermal sublimation, the wood-like pattern is printed onto the aluminum veneer, under the special process, the ink evenly permeated into the surface of the aluminum veneer, forming a stable, clear and vivid, solid wear-resistant texture.

Nowadays, the pursuit of people's return to nature and the concept of advocating green environmental protection constitute a new trend in the field of decoration. In this atmosphere, there is a new type of aluminum panel led by imitation wood grain and imitation stone grain. Wood grain elements bring people a quiet and soothing feeling, often used in the design of indoor leisure places, at the same time imitation wood grain instead of natural wood, to protect our human survival of the green world to make a contribution.

Advantages

1. Wide selection of stone grain and color.
2. Meet the diverse needs of architect.
3. Convenient transportation and easy loading and unloading.
4. The unit area is lighter than natural stone and more safe.
5. Rust prevention, UV protection, wear resistance and damage prevention.



Using stone pattern aluminum panel spray process, pattern and background color can be adjusted, the texture is delicate and realistic.

Nowadays, the pursuit of people's return to nature and the concept of advocating green environmental protection constitute a new trend in the field of decoration. In this atmosphere, there is a new type of aluminum panel led by imitation wood grain and imitation stone grain. Imitation stone texture can be comparable to natural stone, broaden the design idea, replace natural stone to protect our human survival of the green world to make a contribution.



Wood Grain Aluminum Panel

Quality control:

Establish a systematic quality management system, strictly follow the product execution standards for quality control in the four major links of incoming materials, design, production, and delivery, and strictly treat each batch of products to ensure that the product quality meets the standard requirements before being released.

Raw materials:

Stable and reliable procurement and supply.



Design:

Accurate shop drawing

Production:

Advanced and precise equipment



Delivery:

High quality and high standard

Technical Date Sheet



Testing Capability

Kinlong is the first company build a laboratory center certified by CNAS in Chinese construction field, and 54 categories test item are recognized by CNAS.

Table 1- Mechanical Properties of Aluminum Materials

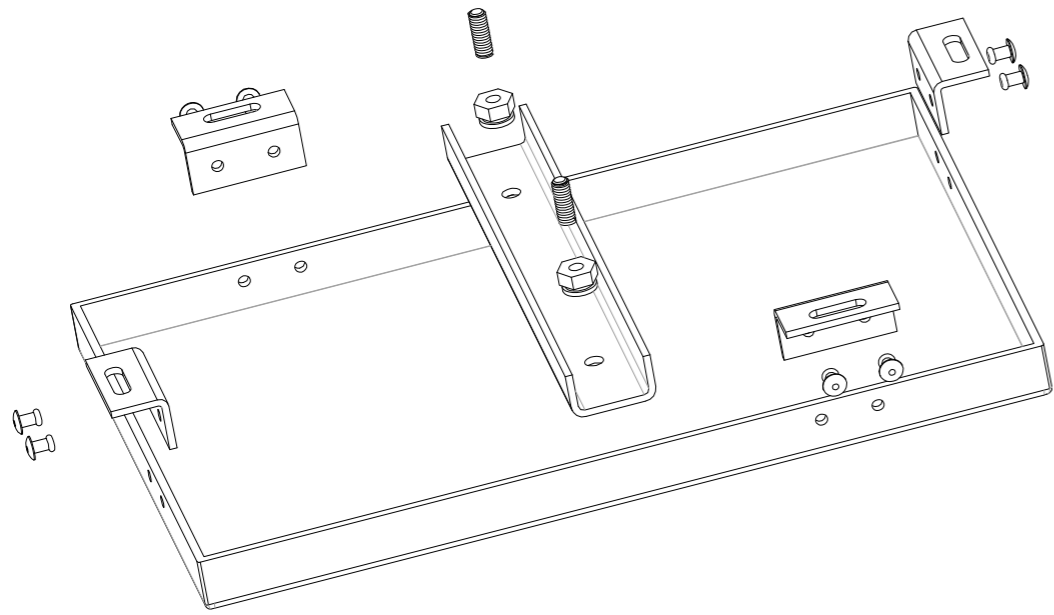
Grade	Supply Status	Thickness/mm	Tensile strength R _m /MPa	Specified non-proportional R _{p0.2} /MPa	Elongation after breaking ^a /%		Bending radius ^b (90°)
					A _{50mm}	A	
1100	H14/H24	> 1.5~4.0	H14:110~145 H24:110	H14:95 H14: -	5	-	-
3003	H14	>1.5~3.0	145~195	125	3	-	1.0t
		>3.0~6.0			4	-	2.0t
	H24	>1.5~3.0	145~195	115	5	-	1.0t
		>3.0~6.0			6	-	2.0t

Table 2 Technical specifications of fluorocarbon aluminum paint

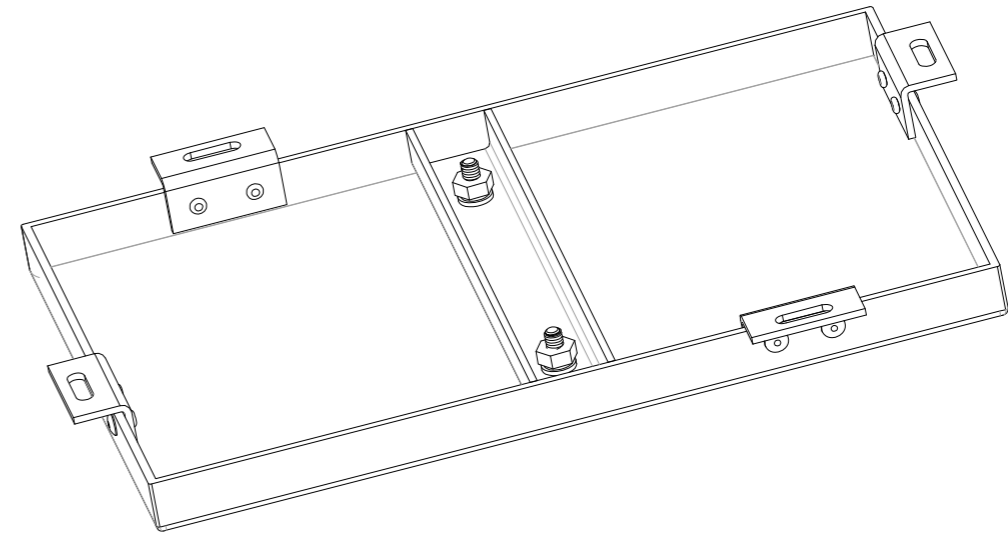
Project	Indicator requirements	Result
Appearance quality	the coating shall be free of flow marks, cracks, bubbles, inclusions or other surface defects.	Meet requirements
Basic thickness	meet the requirements of GB/T 3880.3	
Side length	side length ≤2000, ±2.0 for outdoor use; Side length > 2000, outdoor use ±2.5	
Diagonal	side length ≤2000, outdoor use ±2.5; Side length > 2000, ±3.0 for outdoor use	
Opposite side size	side length ≤2000, outdoor use ±2.5; Side length > 2000, ±3.0 for outdoor use	
Plate flatness	≤2.0	
Folding Angle	±1.0	
Folding height	≤1.0	
Film thickness	three coatings of fluorocarbon paint, average film thickness ≥40um, minimum local film thickness ≥34um	
Glossiness deviation	30≤glossiness 70 ±7	
Dry adhesion	grid method 0 grade	
Wet adhesion	grid method 0 grade	
Boiling water Adhesion	grid method 0 grade	
Pencil hardness	≥1H	
Hydrochloric acid resistance	no change nitric acid resistance	
Nitric acid resistance	no bubbles and other changes E≤5.0	
Mortar resistance	no change Wear	
Abrasion performance	≥5	
Impact resistance	After impact of 50kg · cm, there should be no cracks on the front and back surfaces of the aluminum material, and there should be no cracks on the coating	
Salt spray resistance	neutral salt spray 4000h, not inferior to grade 1	
Artificial weathering accelerated aging	4000h, color difference ≤3.0, gloss retention rate ≥70%, other aging performance is not inferior to grade 0.	
Humidity and heat resistance	4000h, not inferior to Grade 1	

The above information is based on the performance test of fluorocarbon paint conducted by the Kinlong Experimental Center, and the rest of the products are subject to the test report.

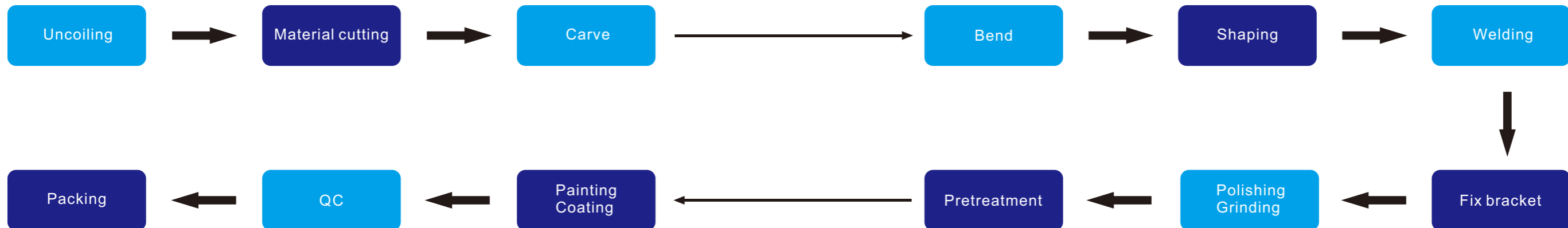
Process Flow



Aluminum panel exploded view



Aluminum panel assembly drawing



Process Equipment



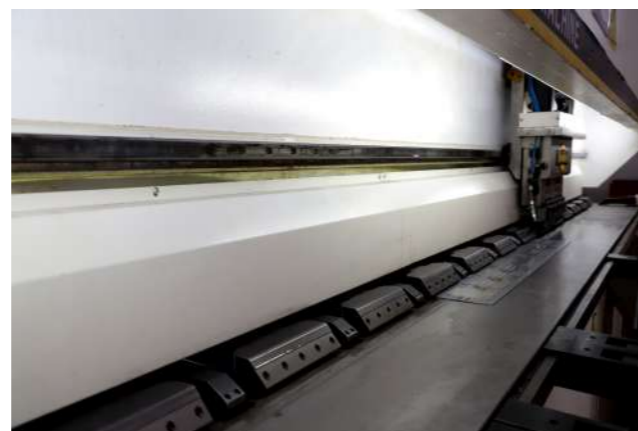
Laser Material Cutting



Bending Machine



Grooving Machine



Grooving Machine