






Aluminum Solid Panel

OUSILONG® PVDF-coated aluminum panel involves alloy panel as base material, which is coated with primer and color finish paint after pretreatment and sprayed with PVDF on surface layer.

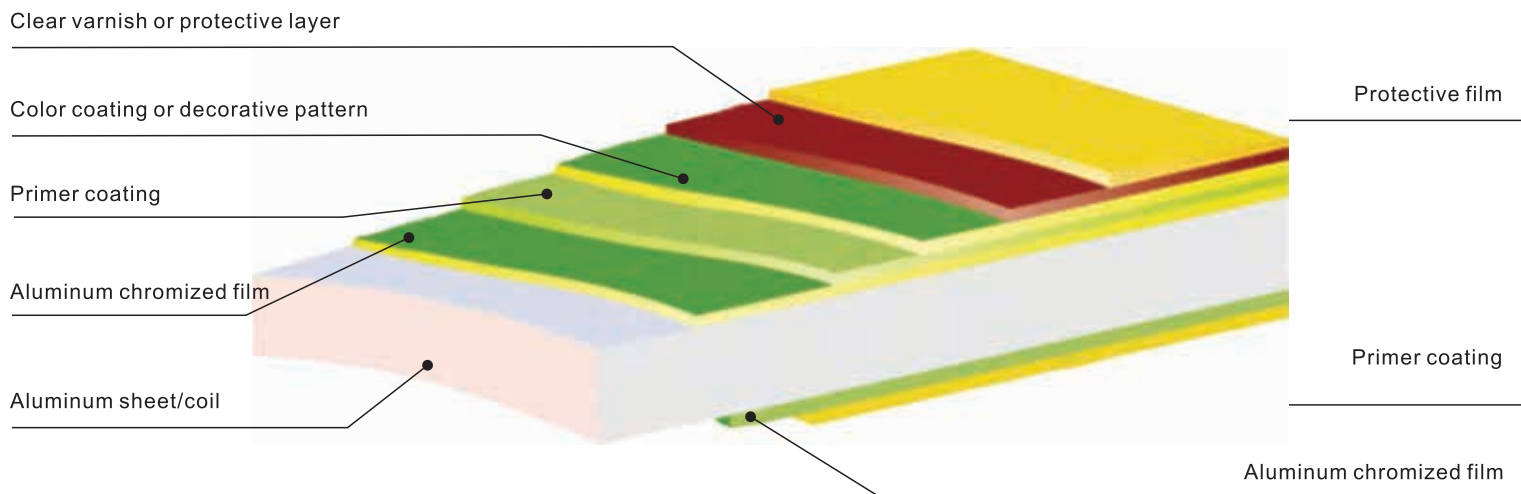
The product is fabricated by three-coating & one-baking of PVDF paint. Curing quality is the key for the product. Curing oven of air bridge-based design is adopted, which provides temperature of fluctuation within $\pm 2^{\circ}\text{C}$. The temperature evenness brings performance of PVDF paint film up to optimal state.

The company successively introduced LFK numerical control sheet metal equipment, German MILLER argon arc welding machine and Japanese RANSBAG full-automatic coating equipment, all advanced in the world. Adopting high-quality alloy aluminum sheet, German HENKEL pretreatment agent, AKZO-NOBEL, PPG and Valspar PVDF coating, the company strictly observes requirements in ISO9001-2008 quality management system to bring product quality up to the internal control standard of AAMA2605-98.

Material	Product specification	Product characteristics:			
Base material: rustproof high-strength alloy aluminum sheet	Ordinary thicknesses: 2.0mm, 2.5mm, 3.0mm		Free shape, aesthetics of personality Different geometric figures can be made by bending, punching and arc rolling subject to user demand, presenting designer's idea in full.		Even coating , diverse colors Application of conversion coating and filming technology brings attachment between coating and metal to an optimal state, uniforms shading and diversifies color. This provides larger space for user's selection and can manifest personality.
Surface coating: multi-layer PVDF coating involving international known paints e.g. PPG (USA), AKZO-NOBEL, Valspa as base materials	Subject to user demand Length: $\leq 6.0\text{m}$ Width: $\leq 1.8\text{m}$		Strong weather resistance, good self-cleaning performance The PVDF base materials Kynal 500 and Hylar 5000 (content: 70%) can effectively resist acid rain, air pollution and ultraviolet ray. Special molecular structure can prevent dust from attachment to surface thus provide good self-cleaning performance.		Convenience for installation and construction Aluminum panel is easy for handling and of good constructability so that it can be installed and processed with simple tools. Based on this, various changes can be implemented according to designer's ideas. Simple and rapid installation lowers construction cost.
Reinforcement, hanger	Color: subject to user demand		Good fire prevention in accordance with fire fighting requirements Acting as ornaments of the product, high-strength aluminum alloy, PVDF paint and stone panel are non-flammable thus fire acceptance can be passed in full.		

Coating Diagram

Aluminum Panel is based on aluminum sheet, with pre-treatment, primer coating, and top color PVDF spraying coating on the surface.

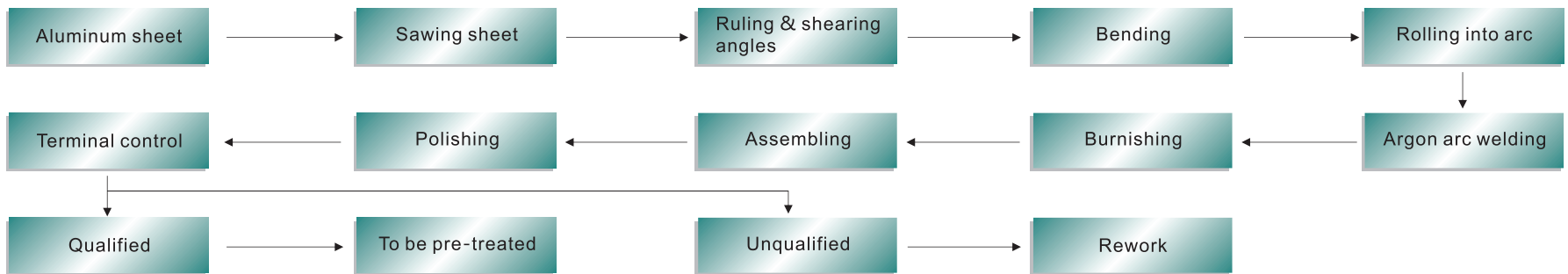


Parts Of Actual Models Of Aluminum Panel

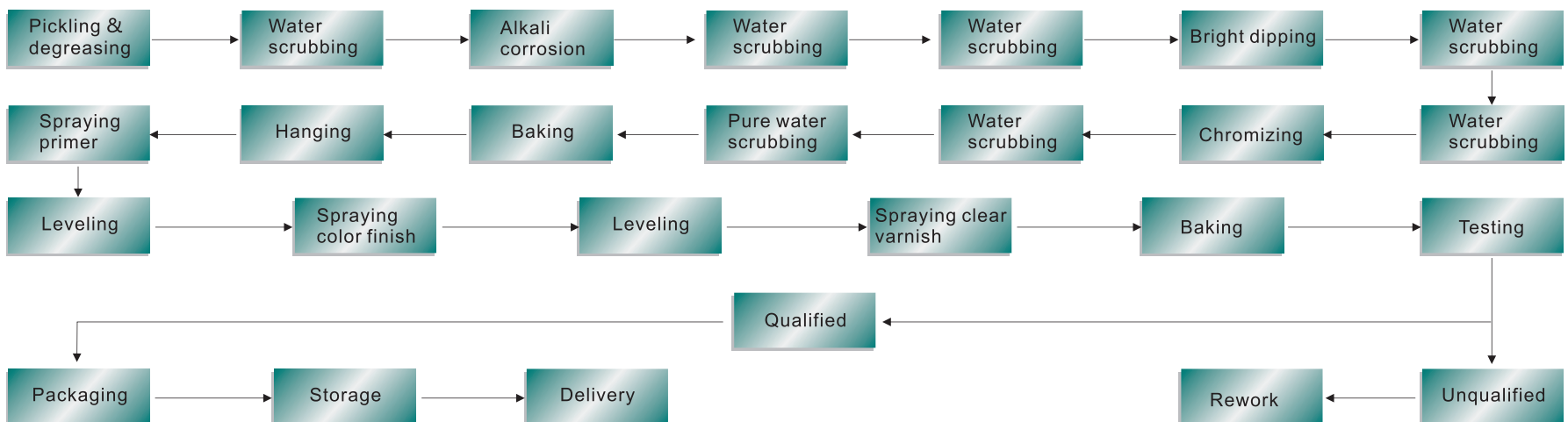




Production Process



Spraying Coating Process

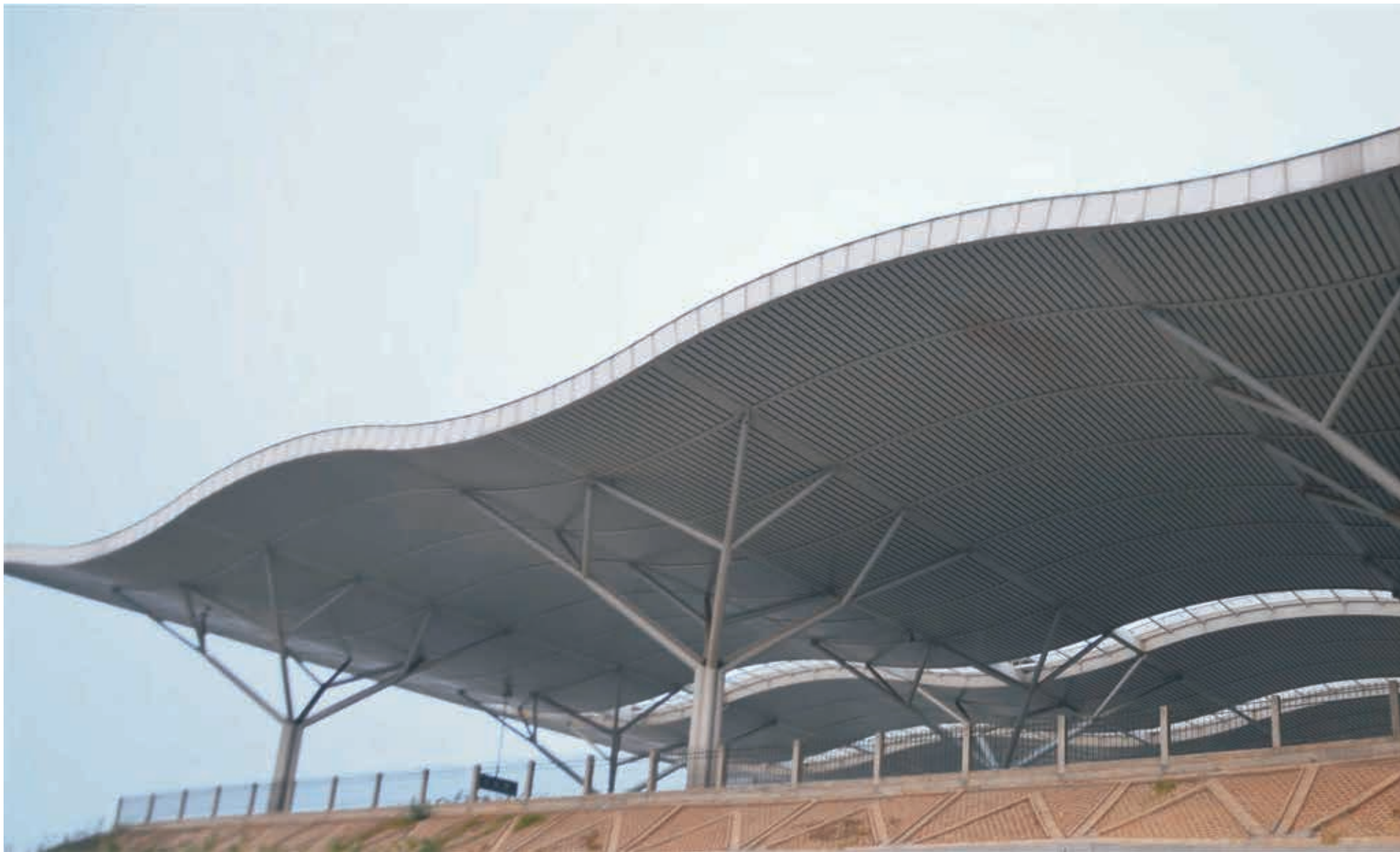


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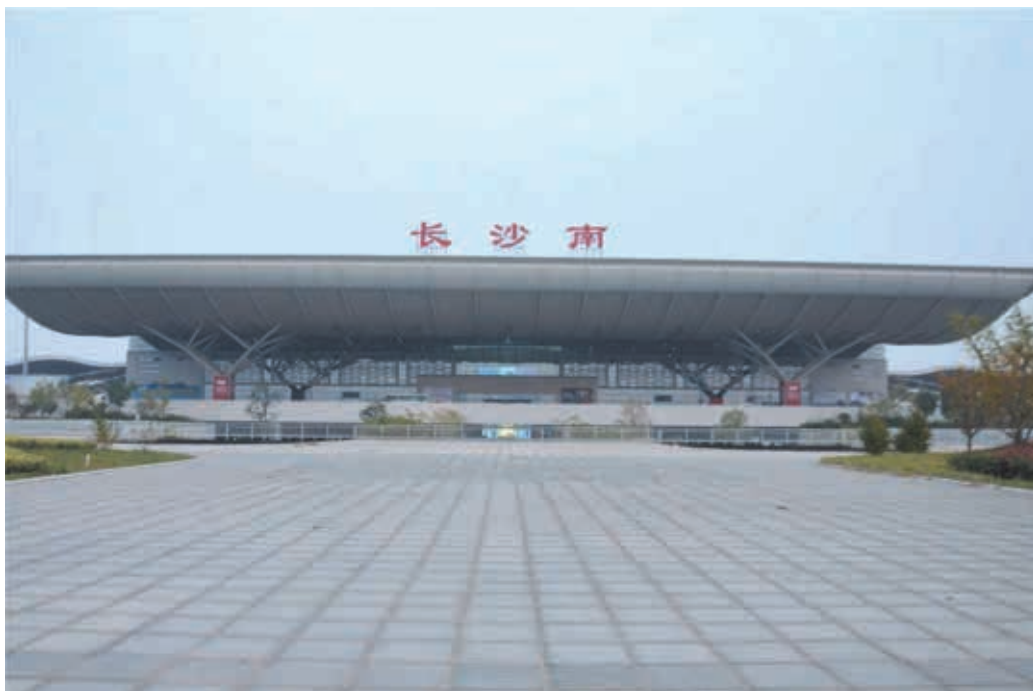
Physical & Chemical Properties

Testing Items	AAMA26505 Standard	Result	Remarks
Glossiness (60)	Low standard: minimum 19, medium 20 ~ 79 High standard: minimum 80	25-35	ASTM D523 60% gloss meter
Hardness	Minimum value F	H	ASTM D3363 (Seagulls turquoise pencil)
Adhesive Force	No peeling off (100/100)	100/100	Cutting interval 1mm, wet or dry film
Boiling Water Resistance	No dropping (100/100)	100/100	Cutting interval 1mm for 20 minutes, at 99~100°C
Impact Resistance	No dropping	No dropping	Diameter 16mm, Gardner impact test, ASTM D968
Abrasion Resistance	Loss coefficient (V/T) 40 minutes	65 Minutes	ASTM D968
Acid Resistance	No bubble, no change	No bubble, no change	Dropping 10% Hydrochloric acid on the surface for 15 minutes, at 18-27°C
Mortar Resistance	No loss of paint film, no change	No loss of paint film, no change	Patting test for 24 hours
Nitric Acid Resistance	Chromatic aberration maximum: $\Delta 5E$ ASTM D2244	3 ΔE	70% Nitric acid, for 30 minutes
Washing Resistance	No bubble, no change ASTM 3359	No bubble, no change	Glass cleaner
Glass Cleaner Resistance	No bubble, no change	No bubble, no change	3% cleaning dose 38°C x 72 hours
Sweat Resistance	Rusting maximum NO.8 ASTM D714	No bubble	ASTM D2247 (100%RH, 100°F, 4000Hrs)
Salt-fog Test	Corrosion maximum 1/32" ASTM D1654	1/32"	ASTM B117 (5% Brine, 100°F, 4000Hrs)
Weather Resistance	Chromatic aberration maximum: $\Delta 5E$ ASTM D224 Exposure rate minimum: 50% (60) ASTM D523	3 ΔE 80%	Exposure test in South Florida, USA for 10 years, at 45°C
Artificial Ageing Test	Ageing rate maximum: NO.8 (any color except white) NO.6 (white) ASTM D659	Any color except white: NO. 8 White: NO. 6	
Corrosion Resistance	Loss rate maximum: 10%	5%	

AAMA: American Architectural Manufacturers Association
ASTM: American Society for Testing and Materials



▲ **Project:** Changsha South Railway Station
Product: Windproof Blade Ceiling, Strip Ceiling, Triangle Grid Ceiling, Round Tube, Arc Aluminum Panel





Features Of PVDF:

- ① High adhesion
- ② Fast solidifying at low temperature 70–90°C
- ③ Nice pigment wet ability, no static, non-flammable
- ④ Overlong weather resistance, anti-acid, alkali
- ⑤ Resistance, anti-corrosion, 3 to 5 times chemical resistance to common resins.
- ⑥ Good self-cleaning, high gloss, abundant colors; Anti-pollution, easy to clean; Even coatings.

Application:

Building exterior wall, anti-corrosion of steel structures, oil platform, ships, chemical pipelines, airplane, bridges and etc.



OUSILONG[®]

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