

# ALUMINIUM COMPOSITE PANEL

For Façade Construction



# SKY RAINBOW

ALUMINIUM-PLASTIC COMPOSITE PANEL

DESIGNER SERIES AN ARCHITECTS DREAM



## ABOUT US

JIANGYIN HRL NEW MATERIAL TECHNOLOGICAL CO.,LTD. a pioneer manufacturer in aluminum composite panel industry, is equipped with:

1 adhesive film line;

2 coating lines;

6 lamination lines ---- one is of extreme 2000mm width set up firstly in China.

With over 20 years' experience, we have successfully stretched our bones all over the world by providing our clients with quality and innovative products:

Sky Rainbow® Aluminum composite panel

Sky Rainbow® Aluminum Lattice composite panel

Sky Rainbow® Aluminum honeycomb panel

Sky Rainbow® Steel composite panel

All above Sky Rainbow® products are born in wide applications, such as interior decoration, cladding construction, elevator fabrication, transportation vehicles constitution and so on.

Sky Rainbow® commitments to the total fulfillment of our clients' expectations are achieved by a complete quality control system, beginning at the point of raw materials acquisition all the way through to delivery of the final guaranteed products. All activities are ensured by the professional QC team and delicate laboratory equipment in line with various international standards: European Germany DIN, Commonwealth UK BS, American ASTM, Middle East, etc. Furthermore, it is non-negotiable that all our products are environmentally friendly, compliant to RoHs, Reach and Green Leaf.

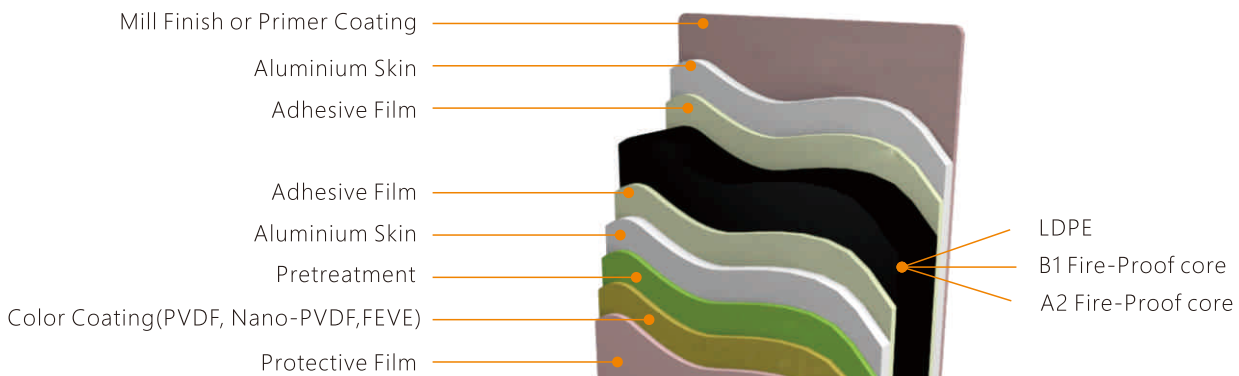
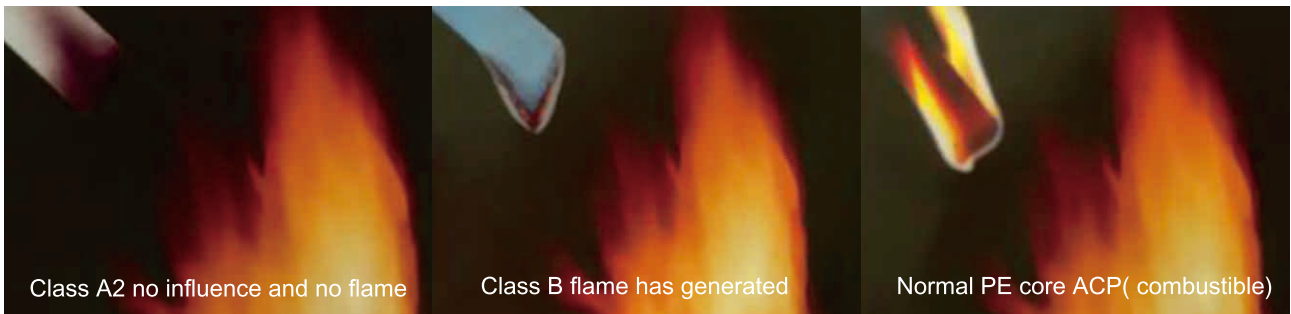
## PRODUCT DESCRIPTION



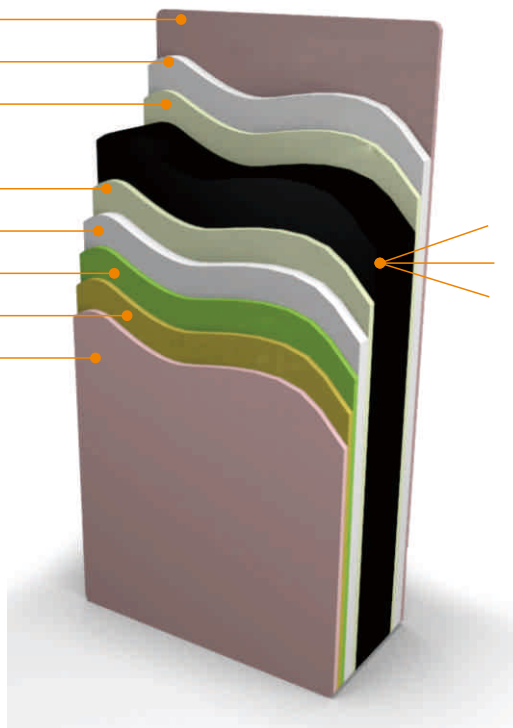
Sky Rainbow® aluminum composite panel is composed of two aluminum sheets and a polyethylene core that are laminated in the continuous process with high temperature.

Sky Rainbow® marches on the worldwide markets with its superb properties, such as light weight, high strength, flat surface, diverse colors and finishes, multiple specifications, easy processing, trouble-free maintenance, environmentally friendly, high resistance to weather and pollution and so on.

Sky Rainbow® has not only the normal but also the fire-proof aluminum composite panel. It is composed of two aluminum sheets and a fire-proof mineral core, which has impressive performance against fire accidents . According to the fire rating and fire retardancy, it is classified to A2, B1 and B2.



## PANEL STRUCTURE



# SKY RAINBOW

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## DIMENSIONS

DESCRIPTION	RANGE	STANDARD
Panel thickness(mm)	2-15	3, 4, 6, 8
Aluminium skin thickness(mm)	0.1-0.8	0.21, 0.3, 0.4, 0.5, 0.7
Width(mm)	1000-2000	1000, 1220, 1250 1500, 1570, 2000
Length(mm)	1000-10000	2440, 3050, 3200, 4000, 5000
Alloy	1000 series, 3000 series 5000 series	1100, 3003, 5005
Weight (kg/m <sup>2</sup> )	0.5/4mm:5.8	

## PHYSICAL PROPERTIES

ITEM	STANDARD	RESULT
Impact resistance	ASTM D2794-93	>100 kg*cm
Tensile strength	ASTM E8-04	40MPa
Elongation	ASTM E8-04	5%
Flexural Strength	ASTM D790-10	104MPa
Thermal Expansion	ASTM D696-08	1.94x10 <sup>-4</sup> /°C



## TOLERANCE

DESCRIPTION	TOLERANCE
Width (mm)	$\pm 2\text{mm}$
Length (mm)	$\pm 3\text{mm}$
Thickness (mm)	$\pm 0.2\text{mm}$
Diagonal Line Difference (mm)	$\leq 5\text{mm}$
Edge Straightness (mm)	$\leq 1\text{mm}$
Warping (mm)	$\leq 5\text{mm}$
Surface quality	The surface shall not have any imperfection such as , scratches, waves and paint lost.





## CERTIFICATION

TESTING ITEM	Result	
	FR A2	FR B1
ASTM E84	Class A	Class A
Bs476 part 6& 7	Class 0, Class 1	Class 0, Class 1
EN 13501-1	Class A2-s1, d0	Class B-s1, d0
DIN 4102	passed	passed
AS 1530	SMOGA A 0.630 m2/s2 0 ignitibility	SMOGA A 1.385 m2/s2 0 ignitibility



# SKY RAINBOW

ALUMINIUM-PLASTIC COMPOSITE PANEL  
DESIGNER SERIES AN ARCHITECTS DREAM

## ADVANTAGE

- Light weight yet superb rigidity and flatness;
- Unlimited color range and versatile finishes;
- Normal PE core with remarkable plasticity;  
Mineral-filled core with hard ignitibility and non-combustible core without toxic fumes and flaming droplets;
- Excellent mechanical formability allowing easy folding, curving and shaping;
- Outstanding resistance against weather, radiation, chemical and pollution;
- Environmentally friendly production and trouble-free maintenance;



## QUALITY INSPECTION

Sky-rainbow® commitments to the total fulfillment of our clients' expectations are achieved by a complete quality control system that all activities are carried out by means that:

- Adopting raw materials – paint, alloy, and adhesive film of excellent performance;
- Recruiting professional inspectors following through the whole production;
- Testing the raw materials to end products by advanced laboratory apparatus;
- Setting an exposure area with tremendous samples for quality tracking after delivery;
- Appointing a considerate aftersales team for quick problem-solving if any imperfection.



**PVDF:**

Sky Rainbow® PVDF (polyvinylidene fluoride) adopts PPG & Becker Kynar500 & Hynar5000 paint, which are mainly composed by PVDF resin (at least 70%), Acrylic resin and toner.

PVDF 2 coats is composed of primer and top coat with total thickness of  $26\pm 1\mu\text{m}$  while PVDF 3 coats includes primer, top coat and clear coat with total thickness of  $32\pm 1\mu\text{m}$ . It ensures durable resistance to weather, chemical, pollution and radiation. It also provides excellent surface flexibility not to crack and peel off under correct fabrication.

The standard warranty is 15~20 years based on the specific location. Its superb performance in gloss retention, color adhesion and chalk resistance has been proved for more than 40 years and is still being tested in Florida exposure base.

**NANO-PVDF:**

PVDF coat comprises a highly cross-linked surface, which means dirt retention on the surface is minimal. NANO-PVDF, with NANO coat on top of PVDF coat, fills the surface to be smooth, making dirt and oils difficult to stay in and also protect the PVDF coat from UV rays. Thus, NANO-PVDF behaves better in weather-resistance, pollution-resistance and self-cleaning than PVDF.

The standard warranty is 15~20 years based on the specific location.

**FEVE:**

Sky Rainbow® FEVE (Fluoroethylene-Alkyl Vinyl Ether), compared with PVDF, can achieve a brilliant color effect by higher gloss up to 80 degree and much fresher color choices. Meanwhile, it still keeps excellent durability. Thus it wins popularity in architecture application as well.

The standard warranty is 10~15 years based on the specific location.

**Anodized:**

Anodizing is an electrochemical process, not an applied coating. The surface of the aluminum is converted to an aluminum oxide as a result of reactions occurring in an acid and electricity. It uses everyday light to create shimmers and other arresting effects that change from every angle and reward every glance. Naturally protected by the anodic film, it creates a durable, low-maintenance finish. It is scratch-resistant and will never chip, flake or peel.

The standard warranty is 20~30 years based on the specific location.





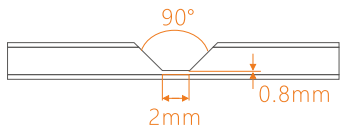


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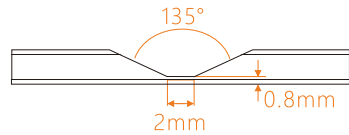
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PROJECT IMAGE

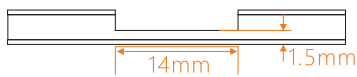
## GROOVING



90°V-groove for folds up to 90°



135°V-groove for folds up to 135°



Rectangular (U-) groove for folds up to 150°, depending on panel thickness.



Thanks to the excellent flexibility of the coating and superb formability of the plastic core, Sky Rainbow® aluminum composite panel can be easily grooved, curved, folded and shaped.

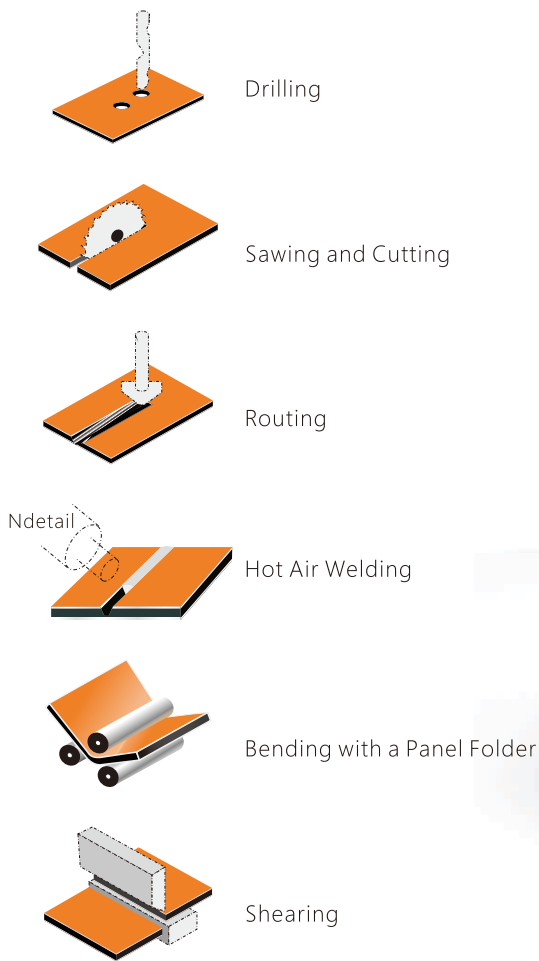
Please read above manufacturing instructions carefully on the processing and application.

## CLEANING AND MAINTENANCE

Thanks to the quality coating and advanced manufacturing process, the surface of the panels is extremely flat and pollution-resistant. This makes the panels to be trouble-free maintained. If applicable, wash off the slight dirt and soiling by water and sometimes by a neutral agent in a soft manner if necessary.

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# HORIZONTAL JOINT DETAIL



Drilling

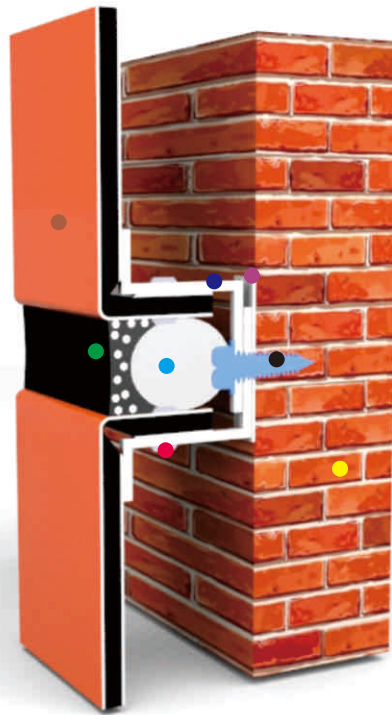
Sawing and Cutting

Routing

Hot Air Welding

Bending with a Panel Folder

Shearing



- 4mm Panel
- Weather Proofing Silicone
- PE Foam Rod
- Rivet
- Self-tapping Screw
- Aluminium profile
- Isolation Tape
- Square Tubes

## PACKAGING

To meet different clients' requirements, various ways of packaging are available. The wooden bars of the pallets could be of 5x7cm, 7x7cm, 7x10cm and the beams could be 3, 4, 5 to stand different weights. The side protection could be MDF, plywood and even protective film only to adapt different climate and unloading ways. Besides, panels in bulk are preferred by some clients by making full use of the container's space. In a word, the packaging should be strong yet easy enough during the loading, transportation, unloading and storage.





Designer Series An Architect's Dream

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