

**iBOND**

Aluminum Composite Panel



## Aluminum Composite Panel for Advertising



PIVOT DECORATIVE MATERIALS CO., LTD.

# IBOND-First professional brand supplier for advertising in China

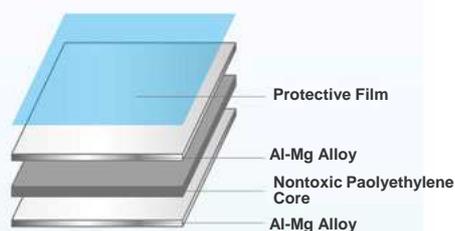
In China, IBOND with 3M、HUNTER DOUGLAS、PPG and other strategic partners supply the high-quality aluminum-plastic signboards and professional design, installation integration services for the 2008 Beijing Olympics, Sinopec, ICBC, Zheshang Bank, China Post, McDonald and other customers.

In the world, IBOND has established long-term and stable strategic cooperation with the European and American well-known advertising design group, applies to the Expo signs, sign marks, regie and so on.

IBOND has passed the test by the SGS and PSB professional testing institution, has been certified as Class 1.

## Structure

The aluminum surface is polyester or PVDF paint. Because of its polyester or PVDF paint. Because of its modern design and other features, the panel is widely used as sign board materials in the world.



## Raw Materials

**Basis aluminum: high-strength aluminum alloy**

**Plastic Core: no-toxic low density polyethylene**

**Surface coating: PVDF, Polyester paint**

## Specification

**Panel thickness: 2mm-6mm, recommend 2mm, 3mm**

**Panel width: 1000mm-1575mm, recommend 1220mm, 1250mm, 1500mm**

**Panel length: Max.5800mm, recommend 2440mm, 3050mm, 4050mm**

**Aluminum skin thickness: 0.2mm-0.5mm, recommend 0.2mm, 0.3mm**

## Physical Features Physical Parameter

Item	Standard Index	Test Value
Weight	ASTM D792	T3mm=3.8kg/m <sup>2</sup>
Thermal Expansion Coefficient	ASTM D696	24-28
Temperature of Thermal	ASTM D648	115 °C
Conductivity of Thermal	ASTM 976	0.102kcal/m.hr °C
Bending Rigidity	ASTM C393	14.0*10 <sup>Λ5</sup>
Penetrating Resistance	ASTM D732	1.640 kgf
Adherence Intensity	ASTM D903	0.77kg/mm
Bending	ASTM D790	4032kg/mm <sup>2</sup>
Cutting Resistance	ASTM D732	2.7kgf/mm <sup>2</sup>
Combustion Expansion Coefficient	ASTM E84	Qualified
Performance of wind pressure resistance	ASTM E330	Passed
	ASTM E331	Passed

## Features

**Excellent printable paint surface, fit various designs**

**Lightweight, high strength, extreme rigidity and flatness**

**weather-resistance, rub-resistance, used indoor or outdoor**

**Outstanding color and gloss retention**

**Adopt series of superior coating, easy maintenance, simply cleaning**



## The excellence of aluminum-plastic signboard

- 1 Smooth Surface, Rich Texture, Various Color : We can provide the RAL and Pantone colors, including the high gloss, matt gloss, brushed, mirror, wooden finished board and customized as your requirement.
- 2 Various Designs and Length : Width is from 1000mm to 1550mm. Length could be customized as your requirement beyond the standard size accord with the processing techniques, no need to piece together.
- 3 Simple Processing, Various Modalities : It could be processed to various forms and has much process such as cutting, bending, punching, sticking and
- 4 painting.

Lowest Rate of Expand and Shrink : Dimensions stable, does not expand and shrink

IBOND Signboard Technical Data  
under the adverse circumstance, with wide temperature resistance (-50°C~80°C)

Panel thickness		2mm	3mm	4mm	6mm	
Thickness of Aluminium Layers	(mm)	0.30				
Weight	(kg/m <sup>2</sup> )	2.90	3.80	4.75	6.60	
<b>Technical Properties:</b>						
Section Modulus	W	(cm <sup>3</sup> /m)	0.51	0.81	1.11	1.71
Rigidity(POsson'ratio =0.3)	E.1	(KNcm <sup>3</sup> /m)	345	865	1620	1840
Alloy of Aluminium Layers						
Modulus of Elasticity	E	(N/mm <sup>2</sup> )	Rm:145-185 Rp0.2: 110 - 175 A50>3%			2.0mm/m (100. C temperature difference)
Tensile Strength of Aluminum		(N/mm <sup>2</sup> )				
0.2% Proof Stress		(%)				
Elongation						
<b>Thermal Expansion</b>						
Thermal Resistance	R	(m <sup>2</sup> K/m)	0.0047	0.0080	0.0131	0.0180
Heat Transition Coefficient	U	(w/m <sup>2</sup> k)	5.72	5.61	5.90	5.30
Range of Application		°C	-50~+80			

- 5 High adhesive intensity : The American DuPont technology could insure the board would not distortion, cockle, shelling during the cutting and bending.
- 6 Environment friendly : It is the green building material, no radiation and pollution

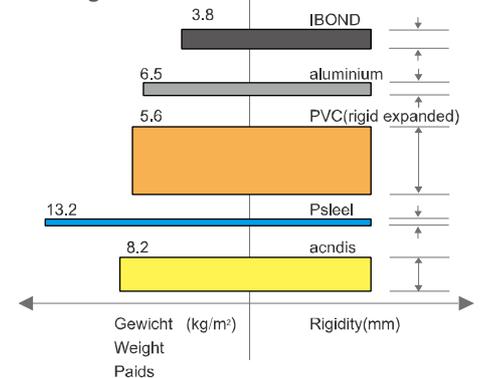
- 7 Superior weather-resistance and rub-resistance: Surface treatment with high-grade ultraviolet-resistant polyester paint (ECCA) request, guarantee 8-10 years; if use the KYNar500 PVDF paint, guarantee 15-20

IBOND Weather-resist Parameter

Time	Color Variation	Chalking
	ECCA/T3 ASTMD-2244-89	ASTMD-659-86
	dE	Index: 1-10
5 year	3	8
7 year	3	7
10 year	4	7v

dE 3= Very Good      Index 10= No Chalking  
dE 4= Good            Index 1= Strong Chalking  
dE 5= Satisfactory

- 8 Superior Rigidity : Unbelievable light with amazing hardness.





## ■ Use Standard

- 1 Take care during loading and discharging, as well as transport, to avoid watering and scraping the aluminum surface.
- 2 The aluminum composite panel should be laid flat no matter during transport or storage. If side-laid, the panel should be vertical to the floor, panels should lean closely. The storage should be not more than 6 months.
- 3 Ibond could be sawing, cutting, slotting, bending, punching and painting.
- 4 Slotting should use the "V" shaped and sharp blade. The width of the groove bottom should be 2.5-4mm, the rotating speed is 2000-3000/min and the groove speed is 3-5m/min. To avoid the aluminum panel peel off as melting the adhesive while slotting, we should reserve 0.2-0.4mm polyester above the aluminum panel and reserve 20mm to the edge of the panels.
- 5 When we fold the Ibond, we should fold uniformly with once, do not fold repeatedly.
- 6 If raining, do not fill silica-gel.
- 7 When decorativing with globoidal panel, we should use the bending equipment, and the semidiameter of curvature is more than 20cm.
- 8 To avoid the color-difference, please install in accordance with the arrow in the direction of the installation.
- 9 Don't tear protective film off before completion of the work in case of any scratch and abrasion to the panel surface before the project is finished. We suggest to tear it within 45 days after the project is finished.
- 10 The panel will be not flat, if we use the resin or sclerous adhesive to install the indoor panel. It is better to use the splint or similar material for bottom board instead of direct adhere to the cement wall when installing.
- 11 The measure of the framework equipment is not more than 600mm\*600mm. The interior panel only used for the indoor decoration, not for the outdoor decoration.
- 12 Clean with soft cloth by mild detergent or water, strong acid, alkali and other solvent such as Butanone, Acetone, Xylene, Bananas-water are forbidden.

## ■ Package

Ibond adopts the closed-all solid wooden box, adds one layer of foam and corrugated paper above and under the panels, then uses moistureproof film winding the panels.



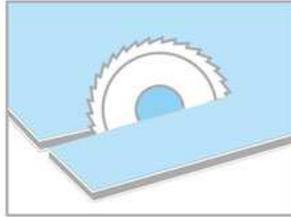


**Processing**



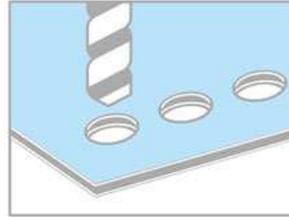
**Gluing**

Use standard metal and aluminium adhesives. Ensure you avoid contact with the polyethylene centre, some adhesives will attack and decay the core. The use of conventional double faced tapes is acceptable.



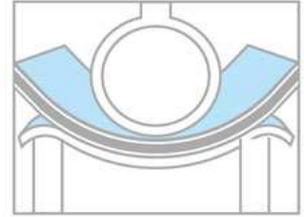
**Sawing**

Circular Saw: trapezoidal/flat tooth blade. Flat teeth chamfered at 45° carbide tipped.



**Drilling**

IBOND is easily drilled-we suggest for best results, the use of bits designed for drilling aluminium and plastic are used.



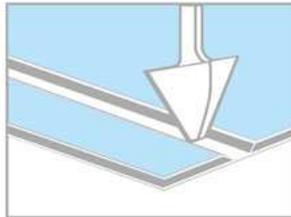
**Bending**

Use a folding table. Min inside radius  $r = 15xt$  ( $t$ =panel thickness).



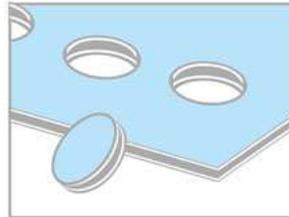
**Digital printing**

There have been numerous inks tested for compatibility and adherence to IBOND. The company has the large-scale digital printing machine for the customers.



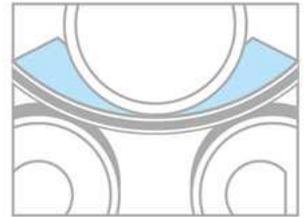
**Slotting**

Grooves can also be easily cut using a special cutting machine that comes complete with a guide. The "V" shaped groove is automatically cut into IBOND, which can then be easily fold by hand. A minimum thickness of 0.3mm of the polyethylene must be left on the bottom of back of the decorative face.



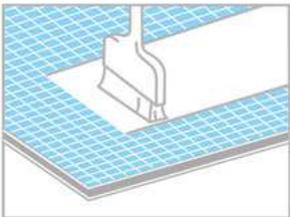
**Punching**

Use a steel band tool on a punching base for 2mm and 3mm thickness. Conventional punching machines are excellent for this process.



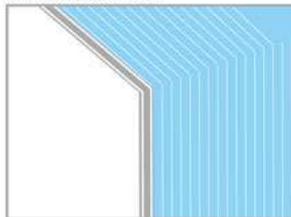
**Roll bending**

3-roller panel bender is preferable for bending large internal diameters.



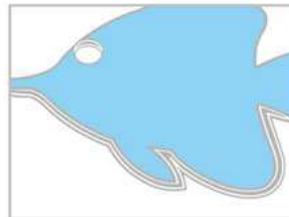
**Silk-screen**

There have been numerous inks tested for compatibility and adherence to IBOND.



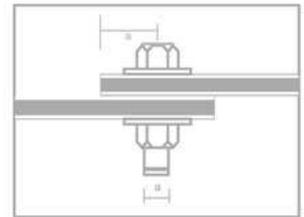
**Folding**

IBOND can easily be folded by slotting or routing a groove on the rear of the product, as describes in the slotting and routing section.



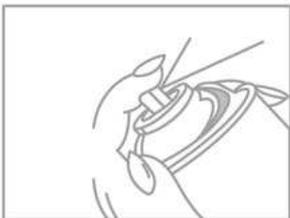
**Contour cutting**

IBOND can be laminated manually or by machine using cast or calendared self adhesive foil. The quality of polyester finish ensures it does not come off if the foil is changed. Photographs can be applied with adhesive film or wet dispersion adhesive. Panel must be clean and free from grease.



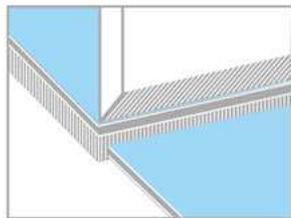
**Clamping and bolting**

Can be clamped with a serrated corner joint and butt sections for IBOND thickness of 3mm and 4mm. When bolting,  $e=2D$  is the formula to use to calculate the distance of fixing to the end of the panel



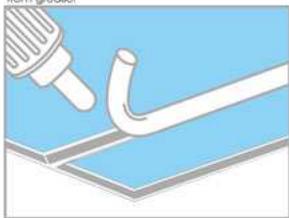
**Spray painting and coating**

Standard air drying painting acrylic or two part polyurethane coatings are suitable.



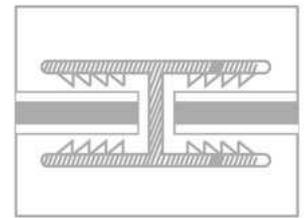
**Cutting**

Use a standard guillotine for this purpose. Ensure the top cover sheet is inserted properly



**Hot air welding**

A polyethylene welding rod is available for use with an electric hot air welding set.



**Fastened installation**

When link two panels, you could use the fastened settings.



**Application & Project**

Sign board, light boxes, furniture, regie store  
Platform, shopping mall, advertisement board  
Other commercial industrial usage



Signs



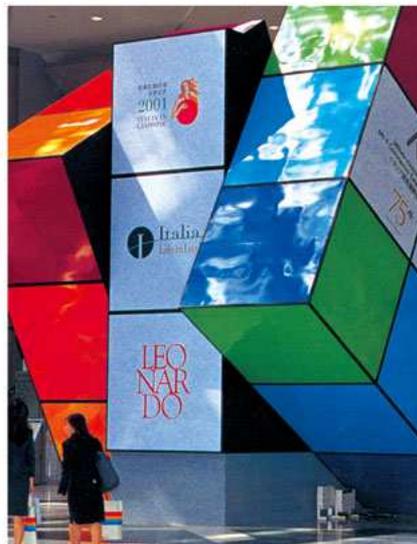
Olympic News Office Centre



Shell Oil Station



Digital Printing



Display



Audi 4S

**PIVOT DECORATIVE MATERIALS CO., LTD.**

ADD: Pivot Industrial Park, Huashi, Jiangyin, Jiangsu, China  
Post: 214421  
Tel: 0086-510-86218220 Fax: 0086-510-86218185  
E-mail: info@pivotacp.com  
Web: www.pivotacp.com www.ibond.cn

**Distributor**