

Certificate and Accreditation

Commitment to Consistent Quality of Material

原料品質



(KMC:ISO 9001 ACCREDITATION 品保證書) (KMC ISO 14001環保認證)

Kaohsiung Monomer Company Ltd has been Cho Chen's supplier through the past decades. Our supplier, with strong commitment to high & consistent quality and through the advanced-tech assistance from the Lucite International, has acquired both ISO 9001 (Quality systems) accreditation and ISO 14001 (environment management system) accreditation.

玖成公司所使用的原料 MMA，多年來一直由高雄塑酯化學工業股份有限公司(Kaohsiung Monomer Co.簡稱 KMC)提供原料。KMC公司並獲得 ISO 9001 品保認證及 ISO 14001 環保認證。

Certificate and Accreditation

Commitment to Consistent Quality of Product

產品品質



(Cho Chen - ISO 9001:2008 certification) (玖成 ISO 9001:2008 認證)

Cho Chen is certified to ISO 9001 : 2008, our product also comply with regulations of RoHS (the restriction of the Use of Certain Hazardous Substances) by SGS to ensure product safety.

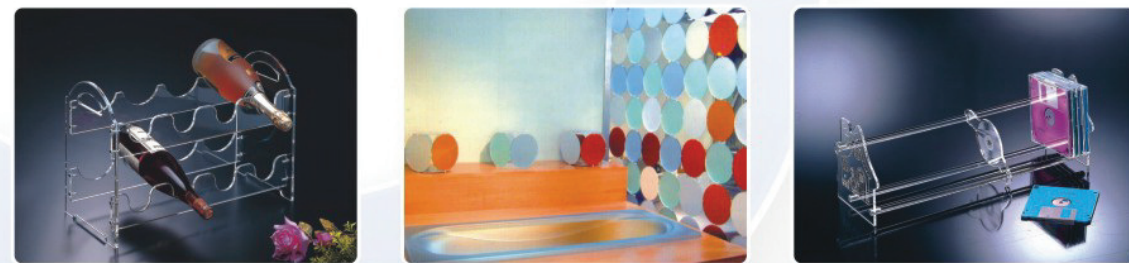
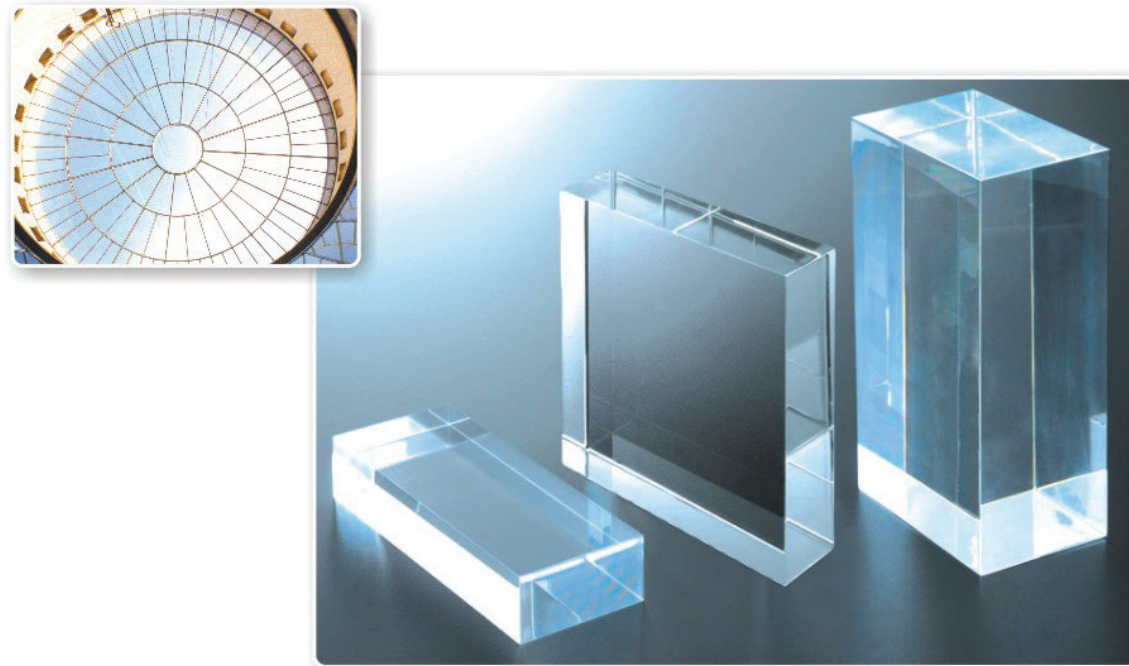
玖成企業通過ISO 9001: 2008認證，產品亦通過瑞士 SGS 認證符合歐盟 RoHS (六大限用有害物質檢驗規範)的標準。

Products and Applications

Cast Acrylic Sheet (GP)

Characteristics & Applications of Cho Chen Acrylic:

It has many excellent characteristics such as light in weight, weather resistance and formability. As it is the most gorgeous and magnificent in all of the plastics, it is used for light fixture, building material, industrial material, signboard, daily necessities, and so on.



- Optical Clarity
透明度高
- Light In Weight
輕美而強韌
- Various Colors
色彩多樣化
- Superb Weathering
耐候性極佳
- Ease of Fabrication
加工容易
- Chemical Resistance
耐化學藥品性良好

一般級壓克力板

壓克力之用途與特性

由於具有高透明性、耐候性及熱成型性，故廣泛用於照明器具、招牌廣告、建築門窗、隔間樓梯台、採光浪板、屋頂採光蓋、建築裝飾用板、傢俱、日常用品、電器機械產品(機器透明蓋、安全罩)、光學透鏡及車輛交通用途。



▲ 壓克力板
Max size : 2000mm × 3000mm
Thickness : 2mm ~ 50mm

More colors please check

<http://color.acrylicap.com>



Acrylic Sheet Color Selector

Products and Applications

壓克力浴缸板

Sanitary Sheet

1. Forming Temperature

The normal temperature for forming acrylic sheet is about 160°C~185°C (320F~365F), however if the part being formed has small sharp radii, it may be necessary to raise the temperature step by step to a maximum of 200°C (392F) **providing the sheet has not been exposed to moisture or high humidity.**

2. Heating Method

Regardless of the type of oven used, forced air or electric infrared, it is important to raise the sheet temperature step by step. Only when the entire sheet is heated thoroughly that is the top, middle and bottom to a consistent forming temperature, it is permissible to form the sheet.

2-1) Forced Air Circulating Oven

Since a fan evenly distributing the heated air throughout the oven, you can get good uniform forming temperatures.

2-2) Electric Infrared Oven

In the use of this oven for mass production, some problems may occur. The following are some of these problems and possible preventative measures to take.

- The difference in temperature, particularly in a thicker sheet, between the surface and the core of sheet during the heating or warming up. This problem can cause over-heating on the surface and mis-forming because the core is too cold. The solution to this problem is to lower the voltage and heat the sheet more slowly.
- The outside circumference for the sheet will not get enough heat. This may be caused by the clamping device cutting the infrared ray and transferring the heat away from the sheet into the metal causing the sheet to stretch unevenly resulting in thin bottom radii. The solution to this problem may be two-fold.

3. Cautions

Please keep in mind following special properties of acrylic sheet when you heat it.

3-1) Sheet shrinkage due to heating

Cast acrylic sheet shrinks about 2% after the first heating. When you cut a sheet, it is necessary to consider the sheet shrinkage and to have some allowance depending upon your choice of forming method and shape of formed products. With a forced air circulating oven special care should be taken in sheet size selection. Due to the fact that you must heat the sheet without clamping.



3-2) Bubbles or blisters due to over-heating

Different colors react to heat differently. Some colors are more easily overheated to the point of bubbles or blisters. In addition leaving acrylic sheet uncovered and open to moisture will cause the bubbles to appear at a lower temperature. Acrylic sheet is hygroscopic and absorb moisture. **Please keep stored in a dry warehouse leaving the polyethylene film attached until just prior to putting into the oven.**



◀ 衛浴板
Max size : up to 2000mm × 3000mm
Thickness : 2mm ~ 6mm

1. 成型溫度的設定

壓克力板正常合適成型溫度約在 160°C~185°C (華氏 320~365)。但如果成型品的角徑小或缸體比較深的情況，則需要逐步提升成型溫度到 200°C (華氏 392) 左右。
前提：板材不可儲存或放置在高溫、潮濕環境下。

2. 加熱方法

不管使用何種類型的烤爐－逐步地提升溫度是重要的。

重點：整片板材－頂部、中間及底部－都需要徹底得到足夠且均勻的溫度。

2-1 強迫氣流循環烤爐

優點：風扇會均勻分散熱氣在整個烤爐，有利設定既定溫度。

缺點：板材在烤爐裡移進移出耗時太久。

2-2 紅外線或石英管烤爐

優點：加熱時間短，溫度的差異性高。

缺點：厚的板材表面容易過熱變形，而中心溫度卻尚低。

3. 其他警告

加熱時需要注意壓克力板的特殊性質。

3-1 加熱引起板材收縮

板材第一次加熱後約會縮小 2~3%，裁切板材時，需要依成型方式及成型缸體形狀考慮預留收縮空間。

3-2 過熱產生的氣泡或者水泡

不同顏色的壓克力板受熱不一。某些顏色更容易出現過熱的氣泡或者水泡。

任由板材沒有貼膜就直接曝露在水氣或濕度高的環境下，會使得溫度還未過熱，氣泡即出現。壓克力板材有吸收水份的特性，**請保持倉庫乾淨及室內乾燥，不要撕除 PE 膜，直到入烤爐前一刻。**

Products and Applications

變色龍

Agama Sheet (Color Changeable Sheet)

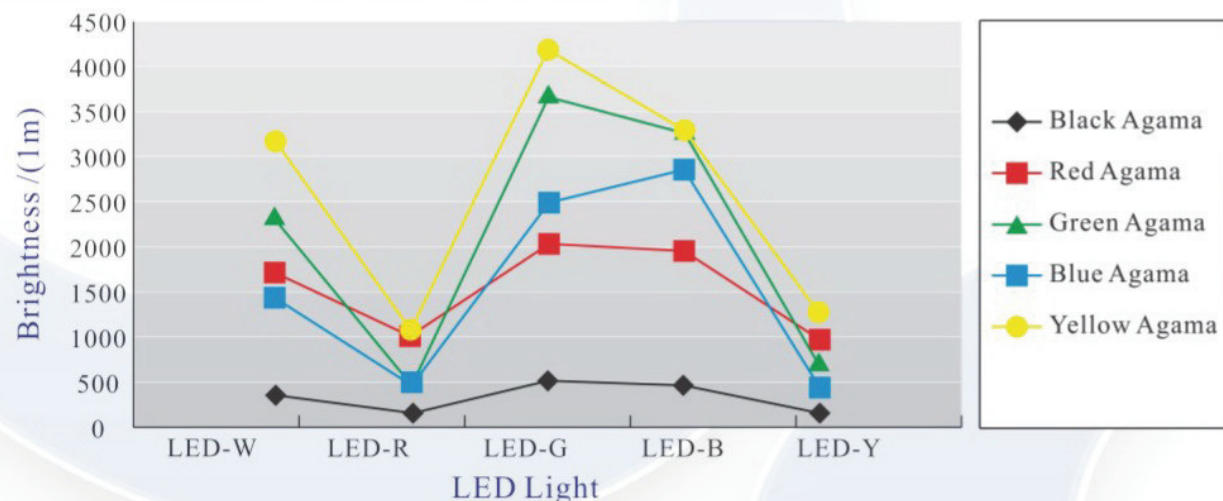
About Agama Acrylic Sheet

- * Color changeable acrylic sheets, made with 100% virgin MMA that are excellent weather-resistant also good physical properties.
- * Colors changeable subject to day and night time, one single sign can achieve double or versatile effects on advertisement.
- * Principle of color changeability involves the specific coloring compounds that the original colors(turn lights off by day) of acrylic signs be changed to colorful effects of neon lights or LED lights (better effects by using LED).

Connection Between Agama Sheet and LED light

LED:	MS	Distance		1.5 cm		PS:2cm from the edge to the light offers a better effect on brightness.
		Light:	4			
8 cm	LED-W	LED-R	LED-G	LED-B	LED-Y	
Black Agama	365	115	510	460	123	
Red Agama	1670	970	2000	1900	778	
Green Agama	2280	376	3620	3210	557	
Blue Agama	1430	354	2440	2800	341	
Yellow Agama	3100	1064	4090	3210	1090	

Brightness of different LED lights with the same Agama Color



Application of Agama acrylic sheets

- * Applied to characters, advertisement symbols, display stands, signage, interior decoration and partition walls.
- * PVC plastic film: Agama acrylic sheet itself can be color changeable and with plastic film of outfitted characters, pictures or special design of high light resistance PVC film for variable color effects.
- * Thermal plasticity: like the ordinary acrylic sheets.
- * There're five colors available for users' selection and other colors can be developed per customers' requirements.

Specification and Available Colors

Product	Color	Color Code	Standard size	Thickness
Agama sheet with one side MATT surface	Black	D501	1270mm x 1880mm 1220mm x 2440mm 1295mm x 2540mm 2050mm x 3050mm	3.0mm 4.0mm 5.0mm
	Blue	B302		
	Green	G303		
	Red	R104		
	Yellow	Y205		

5 colors available



(other colors can be provided on request)

關於壓克力變色龍板

- * 一種可以變色的壓克力板，材料為 100% 之壓克力。此產品有傑出之耐候性及物理特質。
- * 會隨著白天黑夜而變色，單一招牌就可以達到雙重或多重的廣告效果。
- * 變色原理為含有特殊變色配方，表現出白天(關燈時)為原來的壓克力本色，晚上(開燈時)為燈管或 LED 燈光的顏色效果。[搭配 LED 使用效果更加]

變色龍板適用範圍及應用

- * 適用於凸型字、廣告及產品陳列架、標示牌、室內裝潢及隔間。
- * 適用於 PVC 希得貼膜：壓克力變色龍板具有變色功能，外貼字型、圖形或特殊造型的高遮光性 PVC 希得貼膜，可增加變化。
- * 應用熱塑成型：加工方式如一般的壓克力板，可熱塑成型或真空吸塑成型。

Examples 範例

Lights off
(day time)
白天(關燈時)



Lights on
(night time)
夜晚(開燈時)



More Examples at <http://chochen.acrylicap.com>