





# 南亞PVC硬質版 NAN YA RIGID PVC PLATE



#### 南亞塑膠工業股份有限公司 NAN YA PLASTICS CORPORATION

# 透明板 CLEAR & TINT TRANSPARENT PLATE

### ◆ 特性說明 / CHARACTERISTICS ILLUSTRATIONS

- (一)透明性佳,PVC樹脂本身具有良好之透明度,其製品可供使用於要求透明性之製品。
- (二)可依客戶需要,調配各種顏色,且不失其透明度。
- (三)便於壓紋,使產品用途更廣泛。
- (四)對油墨之親和性佳,為印刷之良好材料。
- (五)加工容易,PVC板加工方式與壓克力極相似,所有 壓克力之加工設備均可使用在PVC板加工上。
- Good transparency:PVC resin itself has good transparency. The PVC products can be applied to the goods which demand better transparency.
- (2) Various kinds of colors can be blended according to the client's demand without effecting transparency.
- (3) It is convenient for the embossing work so that products can be used in various applications.
- (4) It is compatible with the ink, which becomes the good material in the printing work.
- (5) The product is easily processed. The processing methods on the PVC plate is very similar to that of acrylic. All existing processing equipment for acrylics may be used on processing PVC plate.

### ◆ 用途參考 / APPLICATIONS

- (一)裝飾品用: 相框面板、飾品加工、透明盒、珠寶盒、陳列架··· 等等。
- (二)特殊用途: 網板印刷、板、彩繪、浮雕、室內隔板…等等。
- (三)真空成型: 配合需要可作真空成型加工。
- (四)機車擋風板用。

- For decoration purpose:
  Face plate for photograph frames, material for jewelry processing, transparent box, jewelry case, show rack. etc.
- (2) For special purpose: Screen printing, nameplate, color painting, relief sculpture, partition sheets for indoor use...etc.
- (3) Thermoforming:

Thermoforming in the processing work can be made to meet the demand.

(4) On motorcycles:

Can be used as windshield plate.



# ◆ 產品規格 / PRODUCTS SPECIFICATIONS

項目	訂製品規格	固定製品規格
Item	Ordered products	Regular Products Specifications
厚度(mm)	0.5, 0.8, 1.0, 1.2, 1.5, 1.8, 2.0, 3.0	0.8, 1.0, 1.2, 1.5, 1.8, 2.0, 2.5
Thickness	4.0, 5.0, 6.0, 8.0, 10.0,	3.0, 4.0, 5.0, 6.0, 8.0, 10.0
長×寬 length×width	3'×6', 1M×2M, 4'×8'	4'×8'
色水 color	001, 002, 004, 005, 02B, (左列為透明色) 1A2. 3A2. 3K3. 4A2. 5A2. 8A2. 9A0. 9A5	001, 002, 006

# ■ 色水 / COLOR

1A2	3A2	3K3	4A2	5A2	8A2	9A5



# 装飾用板 DECORATION PLATE

### ◆ 特性說明 / CHARACTERISTICS ILLUSTRATIONS

- (一)色水種類多,且均經嚴格選擇,甚為美觀。表面可 為素面,亦可壓花,深具裝飾效果。
- (二)具優良之耐衝擊,不會因輕微碰撞產生破裂。
- (三)易於加工,可利用瞬間PVC膠合劑接合,簡便快速。
- (四)表面亮麗,美觀大方。

- A great variety of beautiful colors available through strict selection. They can be used with plain surface or be embossed.
- (2) It has the excellent impact resistance. It will not break upon being hit or slightly collided.
- (3) It is easily processed, and can be bonded with the instantaneous PVC adhesive.
- (4) Lustrous surface and beautiful appearance.

### ◆ 產品規格 / PRODUCTS SPECIFICATIONS

項目 Item	訂製品規格 Ordered products	固定製品規格 Regular Products Specifications
厚度(mm) Thickness	1.0, 1.5, 2.0, 3.0, 4.0, 10.0	1.0, 1.5, 2.0, 3.0, 4.0, 10.0
長×寬 length×width	3'×6',1M×2M, 4'×8'	4' ×8'
色水 color	016, 018, 023, 089, 3C0, 4B0, 5B0, 1C0, 3D5, 3G0, 5C1, 855, 890, 0F0, 4F5	018, 089, 3C0, 4B0, 5B0

# ■ 色水 / COLOR





# 發泡板 FOAMED PLATE

#### ◆ 特性說明 / CHARACTERISTICS ILLUSTRATIONS

- (一)質輕、耐衝擊、亮麗、耐蝕、防水、耐化學品浸蝕 且可重覆使用。
- (二)不受濕度水氣影響、無蟲害、材質優越可保存長 久。
- (三)表面光滑、不褪色、易清洗、並具有耐寒、耐候、 絕緣性佳等優點。
- (四)比重輕、施工容易、省時、省力、隔音效果佳。

- (1) Light-weight, bright, abrasive-resistant, corrosion resistant, chemical-proofing and water-proofing, Reusable.
- (2) Moisture and vapor-resistant, anti-insects, superb in long time storage.
- (3) Smooth surface, non-decoloration, easy for washing, weather-proofing, good insulation.
- (4) Low specific gravity, easy for installation, saving in time and labor, excellent in acoustic effect.

### ◆ 用途參考 / APPLICATIONS

- (一)住宅、辦公室、公共場所等建築物牆面之隔間。
- (二)浴廁門板、建築內牆、高架地板、組合房屋。
- (三)房間門板、無塵室之設備、惟幕牆。
- (四)屏風隔間、高級桌面、防蝕工程。
- (五)板面平整可直接網版印刷或電腦割字作廣告標示、 建材標示、景觀標示等用途,此外亦可雕刻成型。
- (六)裝框裱褙底板、穀倉、實驗室保溫。
- (七)貨櫃用材、特殊保冷工程。造船廠、漁船、遊艇等 保溫保冷工程。
- (八)冷凍(藏)庫壁材、冷氣風管。
- (九)超市隔板、百貨公司各儲櫃裝飾用板陳列板、傢俱 組合吊櫃、矮櫃、高櫃用板。
- (十)其它用途:模板、排水渠、運動器材、養殖用材、 海濱各防潮設施、耐水用材、美工材料、各種輕便 隔板。

- Used as the wall finish of partition for residence, office and public utilities.
- (2) Used as door panel for bath room, inner wall of building, high-raised floor and pre-fabricated house.
- (3) Door panel of room, dust free room, and curtain wall.
- (4) Partition of front screen, high-grade table surface, and corrosion-proof engineering.
- (5) Flat board for screen printing, signboard for advertisement, signboard for building material and signboard for landscape.
- (6) Base board for picture frame, and insulation for barn and laboratory.
- (7) Cooling insulation material for container, freezer, vessel, fishing boat, and yacht.
- (8) Wall material for cooling storage and cooling conduct.
- (9) Partition board for supermarket, bracket of department store, various cabinet board of furniture.
- (10) Other usages: form panel, ditch panel, spots material, aquioltural material, wave-resistant on seashore, waterproofing material, artful board, and convenient partition board.

## ◆ 產品規格 / PRODUCTS SPECIFICATIONS

項目 Item	訂製品規格 Ordered products	固定製品規格 Regular Products Specifications		
厚度(mm) Thickness	1.0, 1.5, 2.0, 3.0, 4.0, 10.0	1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0		
長×寬 length×width	3'×6', 1M×2M, 4'×8'	3'×6', 4'×8'		
色水 color	017, 019, 0A7, 0A9, 4C0, 350 5C0, 1C5, 1G0, 1K0, 5C1, 8B1 089, 0B0, 0B6, 8B8, 4C2	089, 0A9, 4C0, 5C0, 0B0,1C5, 8B8		





# 壓紋板 EMBOSSED PLATE

# ◆ 特性說明 / CHARACTERISTICS ILLUSTRATIONS

- (一)凡是本公司生產之PVC板都可經由壓紋成型。
- (二) 板面經壓紋後,可產生各種不同之效果。
- (三)各種花紋均經嚴格選擇,美觀、實用、大方,可提 高PVC板之價值感。
- (1) All PVC plates made by our company can be embossed.
- (2) After the plate is embossed, differnet kinds of effects can be produced.
- (3) All embossing patterns are carefully selected. They are good looking, practical and elegant, adding value to PVC plates.

# ◆ 種類及用途 / CATEGORIES & APPLICATIONS

輪具編號 Embossing Roller No.	用途 Application
#738	日光燈板、裝飾板、隔間用板 Fluorescent lamp plat, ornamental plate, partition plate
#879	裝飾板丶鏡框用板 Ornamental plate, plate for mirror frame
#922	適合各類用途 For various uses

# ◆ 壓紋紋路 / EMBOSSMENT GROOVES





742







# 工業用板 INDUSTRIAL PLATE

### ▶ 特性說明 / CHARACTERISTICS ILLUSTRATIONS

(一) 耐蝕性強:

PVC硬質板耐藥品性特強,耐腐蝕性優異,最適用於 化學工業之防蝕性設備。

(二)加工容易:

切斷、焊接、彎曲均極簡易,無需特殊工具或技術, 就能隨意加工成型各種不同之用途。

#### (三) 強韌耐用:

不易碎裂、強韌又輕便,長年使用不易老化,為其他 塑膠材料所不及。

#### (四)價格低廉:

PVC硬質板為耐蝕性材料中最理想之工業材料, 價廉物美,加工費用更為低廉。

(1) Excellent corrosion resistability:

The rigid PVC plates features particulary strong chemical and corrosion resistability, which best suits corrosion resistance equipment in chemical industry.

(2) Easy processing:

The PVC plates are susceptible to cutting, welding and bending. It can be easily tormed to meet various applications without calling for special tools or technology.

(3) Strong durability:

Due to its toughness, lightness and resilience, its durability excels any other plastic materials.

(4) Reasonably pricing:

The rigid PVC plates are the most ideal corrosion resistence materials for industrial purposes. As they reasonally priced, and their processing cost is low.

### ◆ 用途參考 / APPLICATIONS

(一) 化學工業:

酸鹼製造塔、酸鹼洗滌塔、瓦斯吸收塔、海水濃縮 槽、藥液貯藏桶、槽,油槽、釀造用水貯存槽、酸鹼 合成塔、照片沖洗用具。

- (二)一般工業: 冷卻水塔、送風機罩、空氣洗淨器、水槽、混式除塵器、水泥槽內襯、機車擋風板。
- (三)電化、電氣工業: 電解槽、電池箱、電錶板、音響座上蓋、收音機底 (面)板、各種電氣絕緣用板。
- (四)導氣管工程: 高(低)速導器、中央系統導氣、輸(排)氣式導 氣、循環式導氣等各類導氣、排氣工程。
- (五)其他:

文具用、建材用、雜加工用。

(1) Chemical industry:

In alkali or acid production tower, alkali or acid washing tower, chemical liquid storing barrel, tank, Oil tank, storing tank for brewing water, acid-alkali synthetic tower and photograph developing in struments.

(2) General industry:

In cooling tower, air washer, cover for ventilator, water tank, combined dust remover, lining of cement tank and windshieldfor motorcycie.

(3) Electrification and Electrical industry:

In electorlytic tank, battery box, electrometer plate, upper cover of sound system set, under plate for radio set as well as various plates for electrical insulation.

(4) Air conducting pipe engineering:

In such air conducting or exhausting engineerings as high (low) speed air conducting, central system air conducting. Intake (Exhaust) air conducting, and cycling air conducting engineering operations.

(5) Others:

In stationery, materials, building and miscellaneous processings.

# ◆ 產品規格 / PRODUCTS SPECIFICATIONS

	訂製品規格 Ordered products	固定製品規格 Regular Products Specifications			
	(一般丶耐衝擊丶耐溫) (For Ordinary, For Impact Resis, Heat Resistance)	一般 For Ordinary	耐衝撃 For Impact Resistance		
厚度(mm) Thickness	1.0, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0, 12.0, 15.0, 20.0	1.0, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0, 12.0, 15.0, 20.0	1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0, 12.0		
長×寬 length×width	3'×6', 1M×2M, 4'×8'	4'×8'	4'×8''		
色水 color	023, 0B2, 430, 01F, 4F0, 4F3, 4BY, 455, 855, 7E0	023	455		

■ 色水 / COLOR







#### 工業用PVC板耐化學藥品性 / CHEMICAL-RESISTANT PROPERTIES

藥品名稱Name of chemical	溫度 (℃) Temperature			藥品名稱Name of chemical	溫度 (℃) Temperature		
	20	40	60		20	40	60
鹽酸 35% Hydrochloric acid	0		Х	氨水 Ammonia water	0		
硫酸 60% Sulfuric acid	0		Х	氯化鈉 Sodium chloride	0	0	0
硝酸 70% Nitric acid	0		Х	海水 Sea water	0	0	
蟻酸 100% Formic acid			Х	鉻酸 50% Chromic acid			Х
乳酸 Lactic acid	0			醋酸 30% Acetic acid	0		
苛性鈉 Caustic soda	0			酪酸 20% Batyric acid			Х
二氧化鈉 Sodium disulfide	0		Х	硫酸銅 Capper sulfate		0	0
丙酮 Acetone	Х	Х	Х	硫酸鋅 20% Zine sulfate		0	
乙醇 Ethyl alcoholj	0		Х	尿素 Urea	0	0	
丁醇 Butyl alcohol	0	0		碳酸 Carbonic acid	0	0	
苯 Benzene	Х	Х	Х	氫氧化鎂 Magnesinm hydroxide	0	0	0
福馬林 Formalin	0			汽油 Gasoline	0		Х
二硫化碳 Carbon disulfide	Х	Х	Х	甘油 Glycerin	0	0	0

註: <sup>◎</sup>表示安全適用(不會侵蝕) ▲表示使用時要注意

Remarks: <sup>(©)</sup> denotes safely applicable

▲ 表示使用時要注 X 表示不可使用 ▲ use be careful
 X denotes inapplicable

使用警語: PVC板雖然耐化學性佳,但是仍有部份酮類、脂類、苯類等之有機溶劑會引起外觀及物性變化, 此表僅能就實驗檢測目視說明結果,對於銲接加工板材荷重後,以及混合藥品後之耐化學性, 則會有很大的不同,請多加小心使用;本表僅做參考,不做為品質保證之用。



# ◆ 物理性質 / PHYSICAL PROPERTIES

	項目 Item	試驗方法 Testing method	單位 Unit	透明板 Transparent plate	裝飾板 Decoration plate	耐衝撃板 High-Impact plate	一般板 Ordinary plate	發泡板 Foamed plate
	比重 Specific gravity	ASTM D792		1.37	1.41	1.41	1.43	0.72
物 理 性	拉力強度 Tensile strength	ASTM D638	kg/cm <sup>2</sup>	500 ↑	500↑	400 ↑	500↑	100 ↑
劕 Physic	拉力彈 率 Tensile modulus of Elasticity	ASTM D638	X10 <sup>14</sup> kg/cm <sup>2</sup>	3.5↑	2.8↑	2.7 ↑	3.5↑	5.4↑
Physical Properties	落球試驗 Falling ball test (Below 2mm (t)↓)	CNS 3142		不破裂 Unbreakable	不破裂 Unbreakable	不破裂 Unbreakable	不破裂 Unbreakable	
erties	耐沖擊強度 (CHARPY) Impactstrength	ASTM D256	kg.cm/cm <sup>2</sup>	2.0↑	3↑	13 ↑	3.0↑	1.0↑
	軟化溫度 Softening temperature	CNS 3142	°C	50 ↑	60 ↑	55↑	60 ↑	50 ↑
熱性	熱變形溫度 (264PSI) Heating deflection temperature	ASTM D648	°C	52↑	62 ↑	57 ↑	62 ↑	52↑
質	加熱收縮率 Flexibility shrinkage after heating	JIS K6745	%	0.81m/m 以上製品	0.81m/m 以上製品	0.81m/m 以上製品	0.81m/m 以上製品	0.81m/m 以上製品
Heat properties	耐燃 Flammability resistance	ASTM D635		自熄 Seft extinguishable	自熄 Seft extinguishable	±5↓ 自熄 Seft extinguishable	±5↓ 自熄 Seft extinguishable	土10↓ 自熄 Seft extinguishable
ies		UL-94		VO	VO	VO	VO	VO
	體積固有抵抗 Dimension original volume resistance	ASTM D257	Ωcm	3~5×10 <sup>16</sup>	3~5×10 <sup>16</sup>	3~5×10 <sup>16</sup>	3~5×10 <sup>16</sup>	3~5×10 <sup>16</sup>
電気	絕緣破壞電壓 Insulation ruining withstand voltage	JIS K6911	KV/mm	50 ↑	50 ↑	50 <b>†</b>	50 <b>↑</b>	10 ↑
質	誘電率 1KHZ Conductivity 1MH7	JIS K6911		3.0~3.1	3.0~3.1	3.0~3.1	3.0~3.1	
φ	Conductivity 1MHZ			3.0~3.1	3.0~3.1	3.0~3.1	3.0~3.1	

註:上表為測試數值,僅供參考用 REMARKS: Testing value of the above list for reference only.

# ◆ 南亞發泡板耐風壓試驗 / WIND LOAD TESTS FOR FOAMED PLATES

檢驗項目 Items	3mm發泡板	3mm以上發泡板(6mm above)
耐風壓強度(kgF/m <sup>2</sup> ) Wind Load	353.0	477.0
風速(m²/sec) Wind Velocity	75.2	87.3
蒲福風級 Beafort Scale	17↑	17↑
△ P300之撓曲率 Flexural Ratio of △ P300	1/17	1/40

・試驗方法:依據CNS 11526(門窗抗風壓試驗法)試驗之。

Testing methods: Test is based on the standard of CNS 11526.

# 施工說明 INSTALLATION ILLUSTRATIONS

#### ▶ 熱成型加工 / HEAT-FORMING PROCESSING

#### 1. 局部彎曲加工

PVC板係熱可塑性塑膠,加熱時軟化,冷卻後又恢復 堅硬,故非常容易熱成型加工,如要將板彎曲,祇要 將彎曲部位局部加熱即可,加熱器為市面上一般加燃棒 (HEATER)即可使用,溫度約130℃左右,加熱棒以外側 方向作業(如圖一),首先將加熱過之PVC板折成180 度,再依需要形狀以木模型,將其冷卻、定型。

#### 1. Partly-bent Processing

PVC plate is thermoplastic which becomes soft when heated, and restores solidity when cooled. Therefore, it is very suitable for heat-forming processing. If you want to bend PVC plate, you just heat the part that requires bending. The very common heating device and heating rod at temperature around 130°C can fulfill the work. The heating rod turns to out flank while processing (Figure 1). First of all, bend the heated PVC plate to 180 degree; then shape it in wooden mold or others and let it cool off.



#### 2. 全面彎曲加工(圓筒加工)

將PVC板整片放入加燃爐中,將其全面平均加熱至130℃ 左右,然後將外圍包有捲曲用布之木筒將其捲曲,(如 圖二)。



#### 2. Round bent processing (Drum processing)

Put the PVC plate in heater furnace at about 130°C temperature, then roll it with the wooden drum wrapped in bent cloth (Figure 2)



〈圖二)(Figure 2)

#### 3. 熱成型加工及真空成型加工

PVC板可以很簡單地用雌、雄模成型,成型條件與壓克 力相類似,為求美觀或需要,可在模型上刻紋路,則壓 出之成品表面就會有美麗之花紋或字型,(如圖三)。

#### 3. Heat and vacuum forming processing.

PVC plate can be easily formed by means of male and female molds similar to that of acrylic forming. For better appearance, or requirements, stripes way be engraved on the mold, the pressed the finished product shall have beautiful designs and words on the surface after forming (Figure 3).



(圖三) (Figure 3)

#### ◆ 鑽孔加工及沖床加工 / HOLE DRILLING AND PUNCHING MACHINE PROCESSING

PVC板之鑽孔,可使用普通之木工機械加工,例如桌上型 鑽孔機,也可使用沖床沖孔,因PVC具耐衝擊 佳,故非常 適合沖床加工。

To drill hole in PVC plate, ordinary carpenter tools, such as table drilling machine and punching machine may be used because PVC has strong impact resistance.

#### ◆ 接合加工 / BONDING PROCESSING

PVC板相互接著時,使用南亞快乾膠合劑接著乾燥速 度快,接著後可隨即放手或將固定支撐物移走,約過3 分鐘後,即可得到很好的粘著力,接著方法可用注射筒 (針筒)加工,接著時應注意事項如下:

- (1).不可使用不合適之膠合劑接著,例如南亞PVC與PS快 乾膠合劑適合於PVC板與PS板及PVC板與PVC板之接 合。PVC+壓克力快乾膠合劑適合PVC板與壓克力板 之結合,各種快乾膠合劑應分別清楚,否則無法得到 良好之接著效果。
- (2).作業時應敏捷、快速,以防接著劑乾固而降低接著效果。
- (3).已經接著完成之成品,儘可能不要剝開再重接,除非 接著不當產生搖幌。

To bond PVC plates Nan Ya quick dry adhesive may be used as it can obtain very good adhesion in about 3 minutes. The method of adhesion may come from injector processing. During bonding, attention should be paid to the followsing:

- Use the proper adhesive agent. Nan Ya PVC+PS quick dry adhesive agent is only good for bonding PVC plate with PVC plate and PVC plate+PS plate; PVC+Acrylic quick dry agent for PVC plate with Acrylic plate. Apply the proper quick-dry adhesive; otherwise, the effect of good adhesive can never be obtained.
- 2. During bonding, swift action must be taken lest the glue or adhesive agent should get dried up, causing poor effect.
- Bonded products should not be separated for rebonding unless improperly bonded causing swinging or shaking.

#### ◆ 熔接加工 / WELDING PROCESSING

PVC板之熔接加工,可依工業用板之熔接加工法進行操 作,熔接方法係將PVC焊條(硬質)對準熔接之處,利 用熱風機焊接,或將焊條穿過熱風機之導管內直接熔接, (如圖四),此種方法比溶劑接著強度更佳,但是1.5mm以 下之PVC板熔接,以此法較為困難,請詳細參照工業用板 說明書。 The welding processing for PVC plate may be conducted according to the welding processing for the industrial-use plate. The method is to adjust PVC welding hot (hard quality) precisely to the place to be welded with hot air machine, or to let the welding rod pass through the guide pipe of hot air machine (Figure 4). This yields better effect than the solvant adhesion method. However, it is not all applicable to plate below 1.5mm thickness. Please refer to the book on industrial-use plates.



(圖四) (Figure 4)

#### ◆ 機械加工 / MACHINERY PROCESSING:



PVC硬質板可迅速且容易地由一般工具或木材與金屬加工之機械加工。

NAN YA PVC plate can be easily and rapidly reprocessed by ordinary tools or similar hardware for metal and wooden materials.

#### ◆ 印刷性 / PRINTING:



因其表面光滑平整,能容易地接受印刷,印刷前須擦拭乾淨 使其表面不含油脂。

Printing is easy on NAN YA PVC plate because the surface is smooth and abrasion-resistant. Before printing, just wipe the sheet clean and be sure there is no grease left on the sheet.

#### ■ 品質標準 / QUALITY STANDARD

本項產品製程經過經濟部標準檢驗局ISO-9002 / CNS-12682品保系統及ISO-14001 / CNS-14001 環境管 理系統認証通過。

本公司硬質板符合歐盟RoHS規範,不含鉛、汞、 鎘、六價鉻、多溴聯苯(PBDE)等6種有害物質,客戶可 以安心使用。 Certification of ISO-9002 / CNS-12682 and ISO-14001 / CNS-14001.

Nan Ya Rigid PVC Plate meet the requirements of the RoHS that is containing less than agreed levels of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.



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