



NAN YA RELEASE FILM

Electronic, Optical Products

南亞離型膜

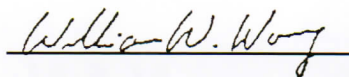
電子級·光學級

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

CONTENTS

- 02 產品概述
A sketch of NAN YA PET Release Film
- 04 南亞觸控面板及光學膜材料
NAN YA Optical Materials for LCD & Touch Panel
- 06 產品整合與優勢
Integration of Supply Chain in Formosa Plastic Group
- 07 光學透明膠用離型膜
Release Film for UV OCA.OCA.OPSA.TOA
- 08 保護膜用離型膜
Release Film for Protective Process
- 09 偏光板用離型膜
Release Film for Polarizer
- 10 被動元件用離型膜
Release Film for Passive Component
- 11 抗靜電離型膜
Anti-static Release Film
- 12 霧面離型膜
Matte Release Film
- 13 白色離型膜
White Release Film
- 14 雙面離型膜
Double Sides Release Film
- 15 非矽離型膜
Non-Silicone Release Film
- 16 膜切用離型膜
Die cutting Release Film
- 17 PCB用傳送膜
PCB Carrier Film
- 18 耐熱離型膜
Heat-Resistance Release Film
- 19 熱可塑性聚氨酯離型膜
Thermoplastic Polyurethanes Release Film
- 20 常用規格產品總覽
Product Map

FORMOSA PLASTICS GROUP



台塑企業總裁 王文淵先生
Chairman of the Formosa Plastic Group



台塑 關係企業是一個以塑膠工業為主體，在纖維、紡織、染整、海運、教育及醫療等事業上也都佔有相當份量的企業。並將經營觸角伸展至電子、光學材料及輕油裂解等工業。

自1954年創立台灣塑膠公司以來，經六十年不斷的努力經營，目前共擁有台塑、南亞、台化、台塑石化等百餘家關係企業，分別在台灣、美國、中國、越南、菲律賓及印尼都設有工廠。

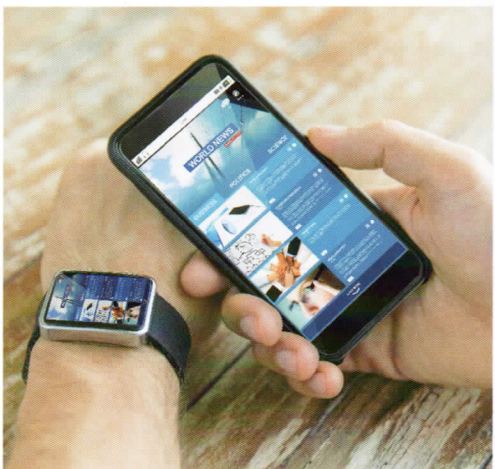
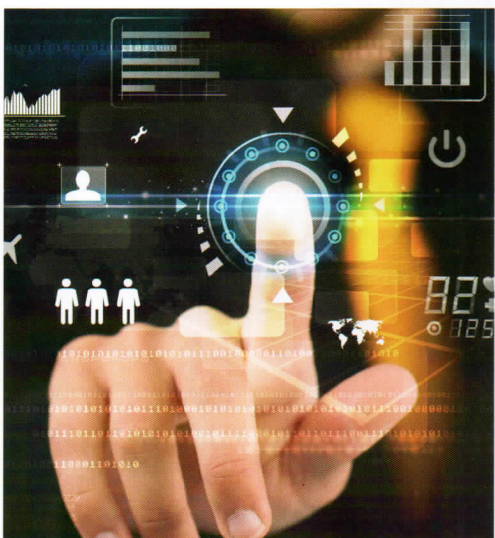
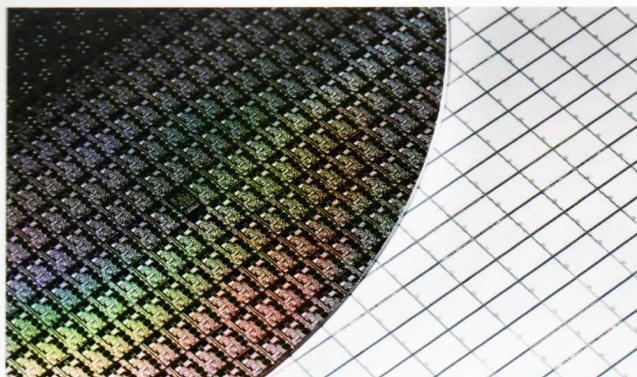
本企業對經營管理合理化的追求，一向不遺餘力，本著「勤勞樸實」的經營理念，並以追根究底的精神，針對管理上的缺失，作深入的探討，以發掘問題，謀求改善。並藉執行、檢核、改善等的不斷循環作業，使管理制度更臻健全，也使人、事、物的管理與配置達到最合理的境界。

The Formosa Plastics Group is a private enterprise which is mainly engaged in the plastics industry, and this enterprise is also engaged in fibre, textiles, dyeing, shipping, educational and medical areas. We extend our enterprise to the electronic, optical parts and naphtha cracking industries, too.

Since the Formosa Plastics Corporation was established in 1954, the Formosa Plastics Group's continuous efforts have developed it into a group consisting of more than 100 conglomerates.

Management is the most important aspect of modern business operations. We realize that only sound management can enable a company to continue to grow in spite of external changes. It has always been our Group's top priority to pursue management. With regard to the defects and flaws in our operation, it has been our spirits to make a thorough investigation and dig out the root causes of the problems for improvement.

Through the continuous good circle of "DO", "CHECK", and "IMPROVE", we have enabled the management of the people, the work, and the materials to reach the most rational state.



NAN YA RELEASE FILM

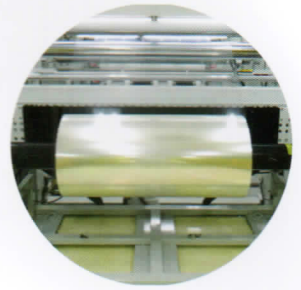
南亞離型膜 係本公司運用 PET薄膜製造經驗，結合精密塗佈技術，自行研發之品牌，包含透明、霧面、白色、雙面等機能性光電級產品。

秉持本企業一貫「追根究底、止於至善」之精神，南亞離型膜全程在自動控制下生產，確保穩定的品質，力求產品精進，面對市場挑戰不斷強化競爭力，以共創客我互信與雙贏。

Meeting Challenges, Winning Trust

NAN YA Release Film is a trading mark registered by Nan Ya Plastics Corporation. By means of our own manufacturing experience on PET film as well as the advanced coating technology, we have developed the high transparency, matte, colored, and anti-static film etc. All our products have been kept on researching to fulfill our customers satisfaction and the requirement of future electro-optical industries.

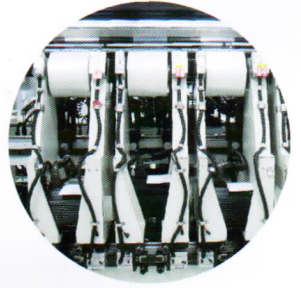
To assure the high quality performance, all Nan Ya Release Film are made by fully automatic process under the integral QC inspection management system. We commit to keep innovating the advanced products and providing the on-line technical service to meet the oncoming global network challenge.



slitted roll



XRF analyzer



slitting process



optical microscope

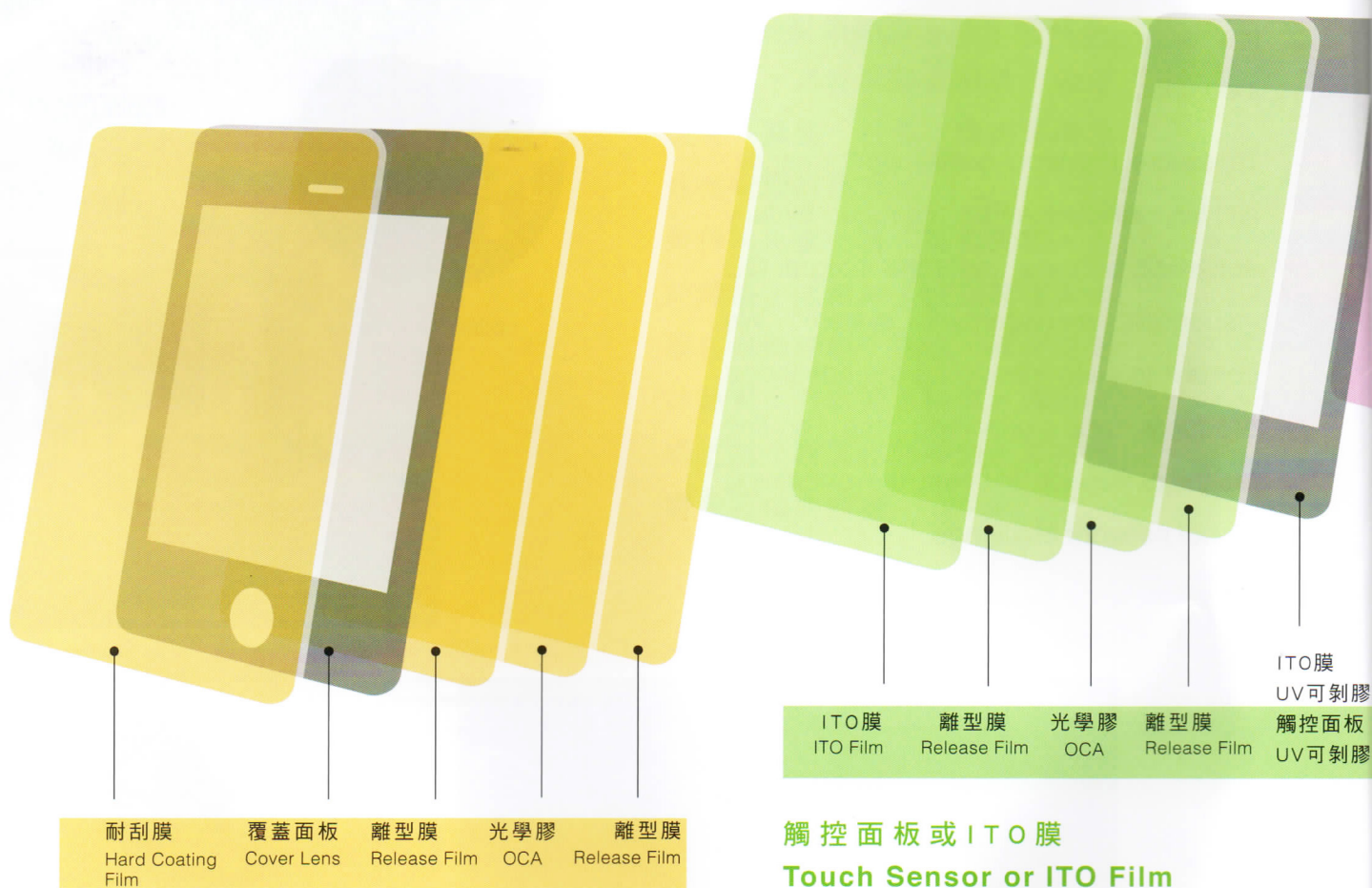


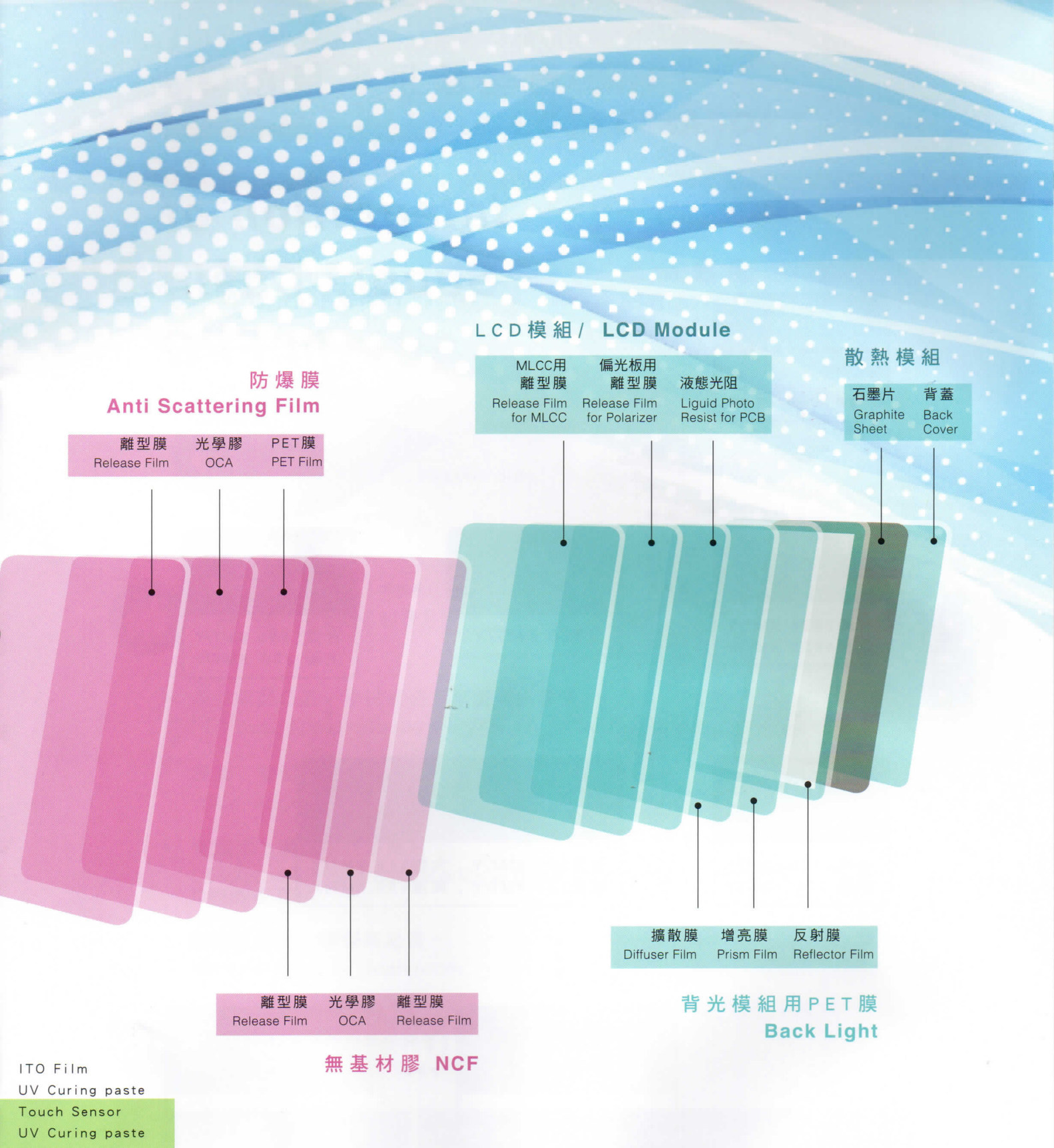
surface texture analyzer



NAN YA Optical Materials for LCD & Touch Panel

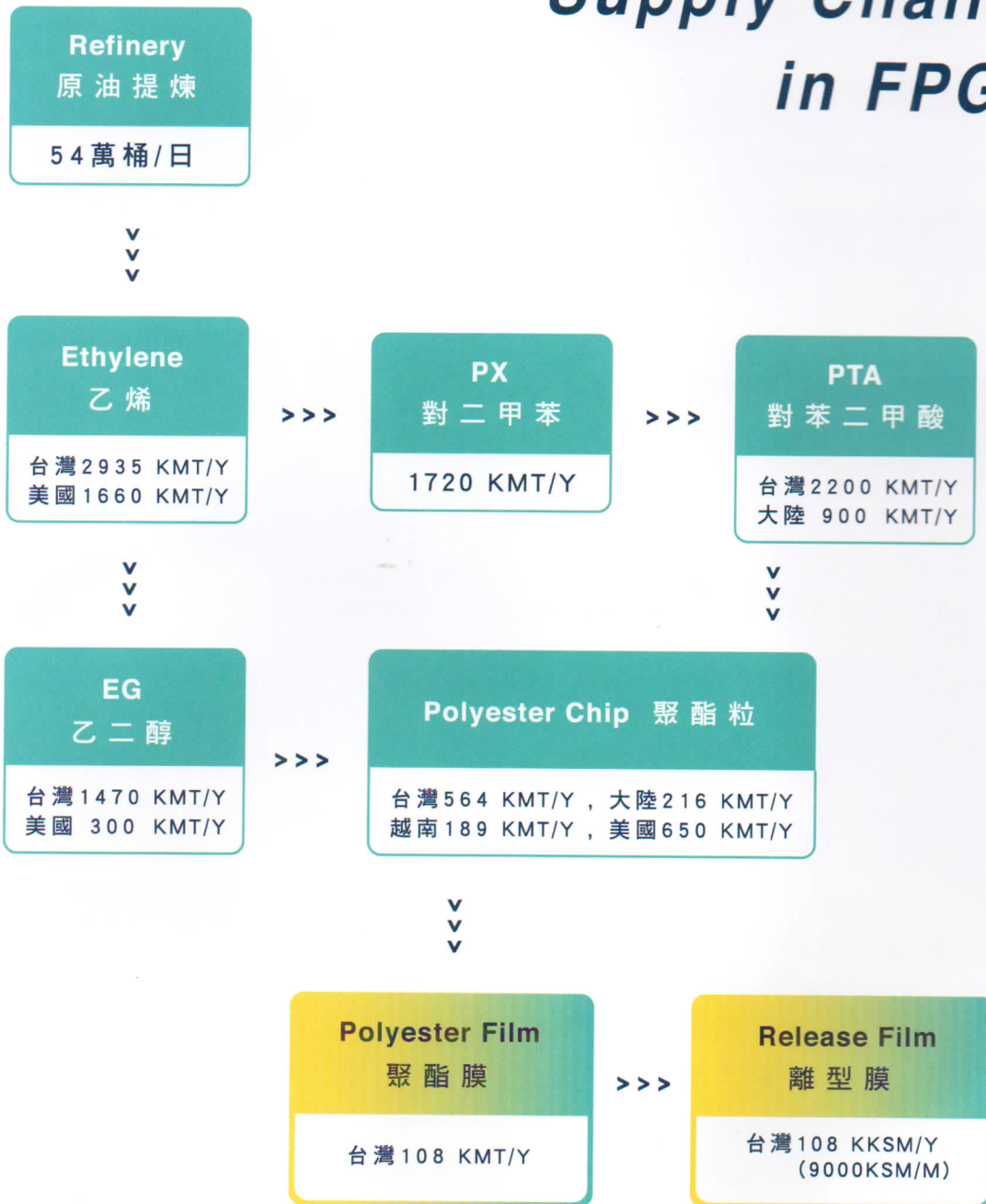
南亞觸控面板
&
光學膜材料





- ◆ 南亞提供觸控全製程材料。
NAN YA offer Total Solution for your Touch Panel.
- ◆ 組裝時，離型膜已撕除。
Release Film has been peeled during assembly process.

Integration of Supply Chain in FPG



NAN YA PET Release Film

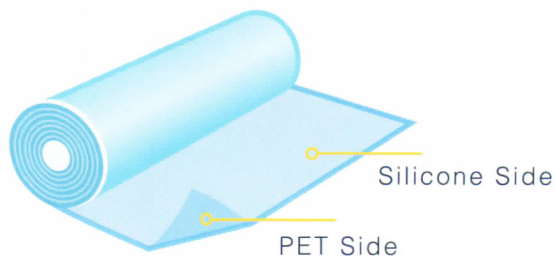
*is produced from our raw materials,
and maximize values share
with our customers.*

光學透明膠用離型膜

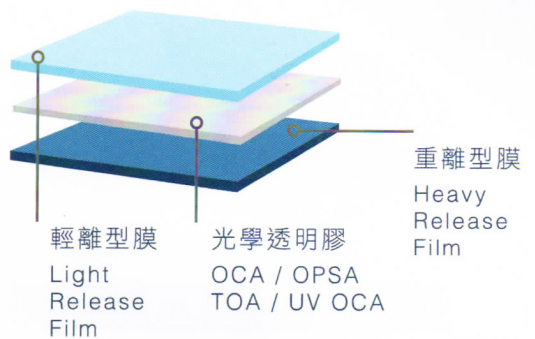
Release Film for UV OCA.OCA.OPSA.TOA



產品構成 PRODUCT STRUCTURE



產品應用 STRUCTURE OF OCA



特性 FEATURES

- ◆ 基材南亞自產：提供最穩定品質與供應量。
PET base film produced by NAN YA , offer stable supply & high quality.
- ◆ 厚度、離型力可多樣選擇與搭配。
Wide range of thickness & release strength for choice.
- ◆ 低霧度、高透明且易檢查。
Low haze & high transparency & good for inspection of UV OCA, OCA, OPSA & TOA.
- ◆ 無塵室生產：確保高品質。
Manufactured in clean room.



物性 PROPERTIES

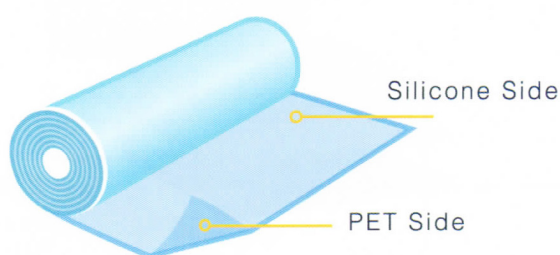
項目 Item	實測值 Measured Values
離型膜厚度 Thickness (μm)	38 / 50 / 75 / 100 / 125
離型力 Release Strength	極輕 Very Light / 輕 Light / 中 Medium / 重 Heavy
低霧度 Low Haze Type (%)	< 2
一般霧度 General Haze Type (%)	2 ~ 10

保護膜用離型膜

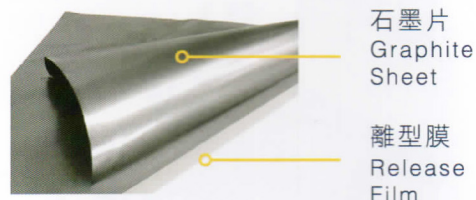
Release Film for Protective Process



產品構成 PRODUCT STRUCTURE



產品應用 GRAPHITE SHEET



特性 FEATURES

- ◆ 無塵室生產潔淨度佳。
Made in clean room.
- ◆ 多元且穩定的離型效果。
Various release strength.
- ◆ 霧度低且熱收縮性穩定。
Low haze & good thermo-stability.



應用 APPLICATION

- ◆ 平面顯示器用(塑膠片材或玻璃板)。
For flat panel display use.
- ◆ 精密電子業用(晶圓研磨製程)。
On IC wafer grinding process.
- ◆ 一般觸控面板，LED板製程保護膜用。
General protective purpose during Touch-panel, ITO, LED, FCCL manufacturing process.
- ◆ 石墨片成型用載膜。
As a carrier film for graphite sheet.
- ◆ 隔熱膜保護用。
On solar film manufacturing process.



物性 PROPERTIES

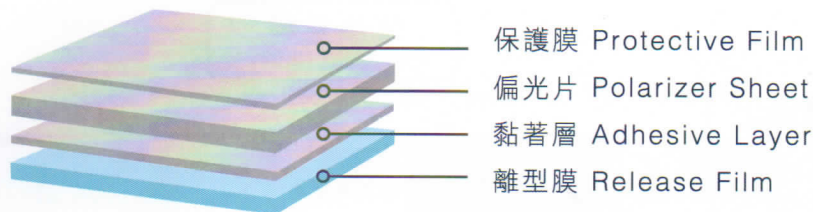
類別 Series	厚度 Thickness (μm)	離型力 Release Strength	殘存接著率 Residual Adhesive	熱收縮性 Heat Shrinkage 150°C*30min	
				MD	TD
L1 / LA / LS	25 / 38 / 50 / 75 / 100	Very Light	◎	○	◎
H3	25 / 38 / 50 / 75 / 125	Light	◎	○	◎
H6 / H8	38 / 50 / 75 / 100 / 125	Medium	◎	○	◎
H9	38 / 50 / 75 / 100	Heavy	◎	○	◎
S7	50	for graphite only	◎	○	◎
S8	25 / 38 / 50	Very Heavy	◎	○	◎

偏光板用離型膜

Release Film for Polarizer

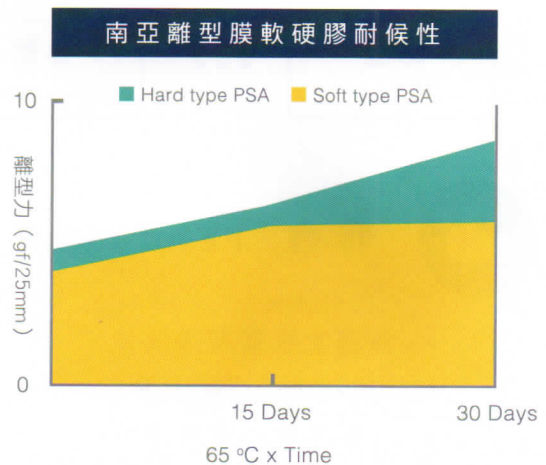


產品應用 STRUCTURE OF POLARIZER



特性 FEATURES

- ◆ 無塵室生產潔淨度佳。
Made in clean room.
- ◆ 霧度低且熱收縮性穩定。
Low haze & thermo - shrinkage.
- ◆ 具良好殘存接著率。
Good residual adhesive.



應用 APPLICATION

- ◆ 3D鏡片、筆電、液晶面板等偏光製程使用。
For 3D Lens, STN-LCD, TFT-LCD, NB, Touch Panel manufacturing process.



物性 PROPERTIES

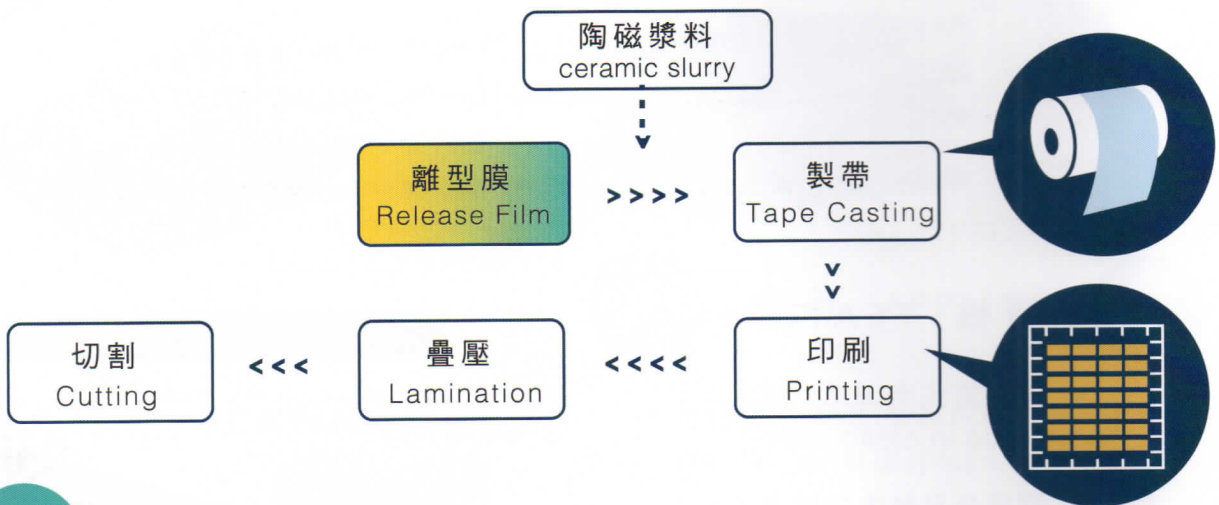
類別 Series	厚度 Thickness (μm)	抗眩性 Anti-Glare	離型力 Release Strength
L1	38	○	Very Light
SB / S1	38	◎	Light
LB / LC	38	◎	Light
H3	38	○	Medium
HB	38	◎	Medium

被動元件用離型膜

Release Film for Passive Component



應用流程 APPLICATION ON MLCC PROCESS



特性 FEATURES

- ◆ 無塵室生產潔淨度佳。
Made in clean room .
- ◆ 具備優良的膜厚平坦性。
Good surface uniformity.
- ◆ 穩定的離型力，以提供陶瓷薄帶極佳之承載及離型效果。
Stable release strength to give easy processability.



物性 PROPERTIES

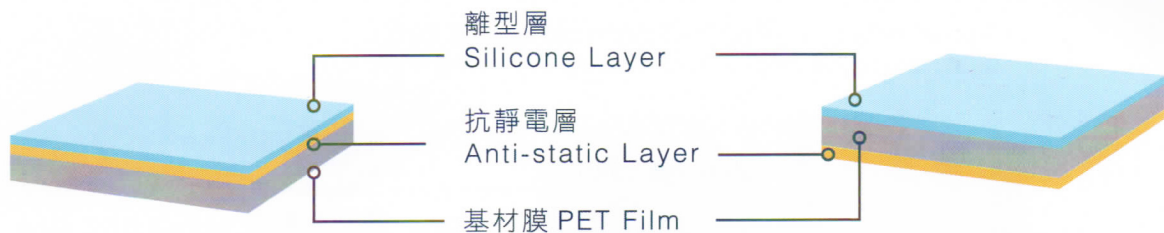
厚度 Thickness (μm)	離型力 Release Strength	平坦性 Uniformity	表面粗度 Roughness
25μm	Very Light ~ Light	◎	◎
30μm	Very Light ~ Light	◎	◎
38μm	Light ~ Medium	◎	◎
50μm	Medium ~ Heavy	◎	○

抗靜電離型膜

Anti-static Release Film

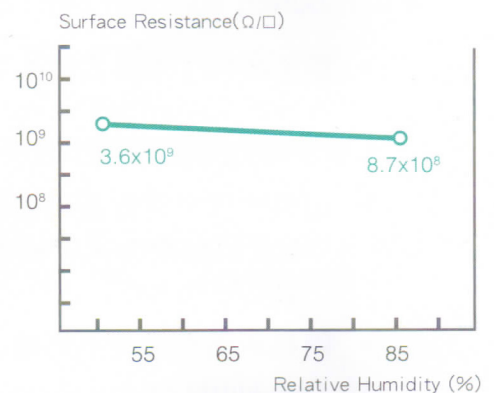


產品構成 PRODUCT STRUCTURE



特性 FEATURES

- ◆ 持久且穩定的抗靜電性。
Permanent and steady anti-static feature
- ◆ 抗靜電性不受環境濕度之影響。
Not influenced by environmental humidity.
- ◆ 抗靜電性可依客戶之需求塗在離型面或在非離型面。
Anti-static feature can be on Release side or on Non-Release side .
- ◆ 膜厚度與離型力完整搭配、選擇多樣化。
Variable thickness & release strength for choice.



物性 PROPERTIES

項目 Item	實測值 Measured Values
離型膜厚度 Thickness (μm)	25 / 38 / 50 / 75 / 100 / 125
離型力 Release Strength	極輕 Very Light / 輕 Light / 中 Medium / 重 Heavy
表面抗阻 (Ω/□) Surface Resistance	$10^9 \sim 10^{11}$

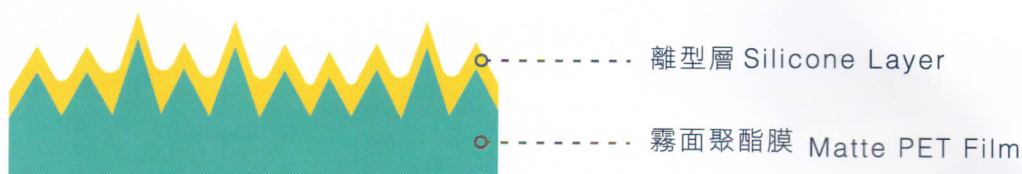
霧面離型膜

Matte Release Film



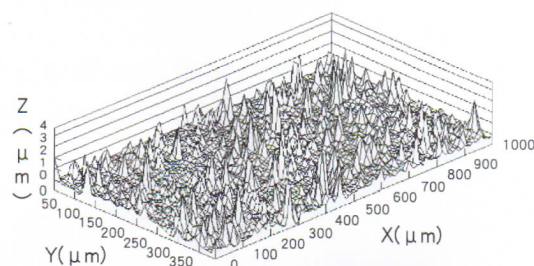
產品構成 PRODUCT STRUCTURE

- ◆ 以霧面聚酯為基材之Silicone 離型膜
Silicone release effect on polyster matte film.



特性 FEATURES

- ◆ 表面粗度大，熱壓加工時排氣效果佳。
High roughness makes air release easily during laminate and hot press.
- ◆ 離型轉寫之表面具消光柔和效果。
A dull, lusterless vision effect can be shown on transfered surface.
- ◆ 耐熱性佳，可耐長時間之高溫、高壓加工。
Good possesses thermal durability for hot press.
- ◆ 兩種表面粗度及不同離型力供選擇。
Two kinds of rough values and variable release strengths for choice.



物性 PROPERTIES

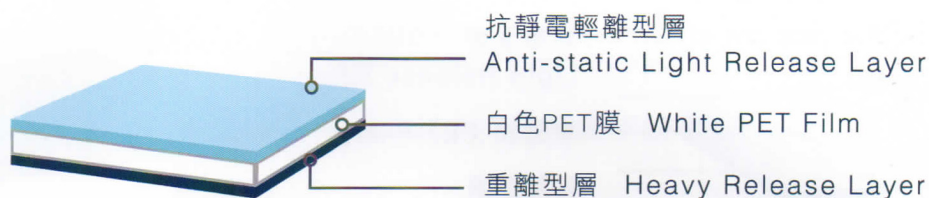
項目 Item	實測值 Measured Values
離型膜厚度 Thickness (μm)	38 / 50
離型力 Release Strength	輕 Light / 中 Medium / 重 Heavy
表面粗度 (μm) Surface Roughness	高粗度 High Roughness : SRz = 6.7 μ, SRa = 0.56 μ 中粗度 Medium Roughness : SRz = 3.2 μ, SRa = 0.30 μ

白色離型膜

White Release Film



產品構成 PRODUCT STRUCTURE



特性 FEATURES

- ◆ 以白色之聚酯膜加工處理，顏色不脫落、不轉移，具有明確之識別與反射效果。

The color is implanted at PET base film manufacturing stage to give good durability for identification use .

- ◆ 白色離型膜可為双面離型，也可單面離型，並可依客戶之需求付與良好之抗靜電性。

The white release film can be coated on one side or both sides. And if necessary, it may possess outstanding anti-static ability on customer's request .



物性 PROPERTIES

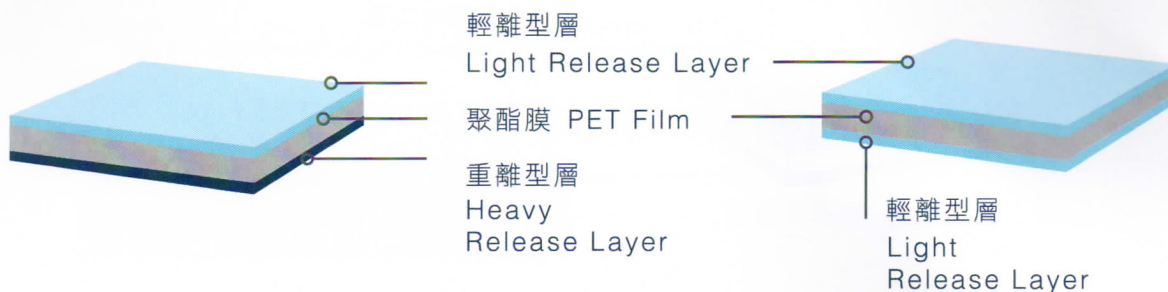
項目 Item	實測值 Measured Values
顏色 Color	白色 White
離型膜厚度 Thickness (μm)	38 / 50
離型力 Release Strength	輕 Light / 中 Medium / 重 Heavy
表面抗阻 (Ω/□) Surface Resistance	10 ⁹ (Optional)

雙面離型膜

Double Sides Release Film



產品構成 PRODUCT STRUCTURE



特性 FEATURES

- ◆ 雙面離型膜可為兩面相同離型力，也可一面輕、一面重，同時可依客戶之需求付予良好之抗靜電性。

The double sides release film can be same release strength on both sides, it may also be different release strengths on each side. And if necessary, it may possess outstanding anti-static ability.

- ◆ 離型力穩定且多樣化，不同離型力雙面可互相搭配。
Stable with variable range release strengths are designable on customer's request .



物性 PROPERTIES

項目 Item	實測值 Measured Values					
類別 Series	R1	R2	R3	R5	R7	R9
離型膜厚度 Thickness (μm)	50 / 75	50 / 75	50 / 75	50 / 75	50	38
內面離型力 (gf/25mm) Inside Release Strength	35	35	8	15	15	35
外面離型力 (gf/25mm) Outside Release Strength	8	3	15	8	3	35

非矽離型膜

Non-Silicone PET Release Film

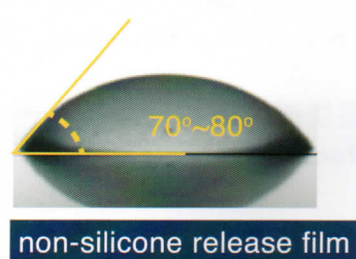


產品構成 PRODUCT STRUCTURE



特性 FEATURES

- ◆ 能夠與壓克力系、環氧樹脂等不同種類貼合膠，保持適度及穩定的剝離力。
Stable peeling force with PSA, such as acrylic or epoxy polymer.
- ◆ 水接觸角低，適合塗佈各種溶液，包括溶劑或水性型樹脂。
Water contact angle is lower enough and suitable for coating with solvent base or water soluble resin.
- ◆ 針對甲乙酮、甲苯、乙酸乙酯等具良好耐溶劑性。
Stably resist to solvents such as MEK, toluene, ethyl acetate.



應用 APPLICATION

- ◆ 離型力與膜厚選擇多樣化，可應用於貼合、塗佈載膜，包括電子、半導體封裝、晶圓、醫藥、膠黏製品、模切沖型加工等領域。

Variable release strengths and thickness for choice, used in laminating or coating process, including electronic, semiconductor bonding, wafer, medicine, adhesive products.

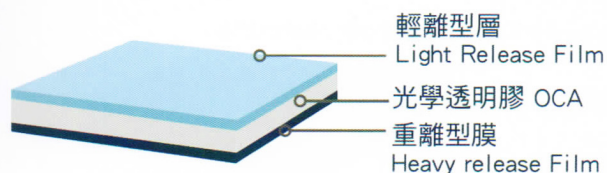
模切用離型膜

Die cutting Release Film



產品構成

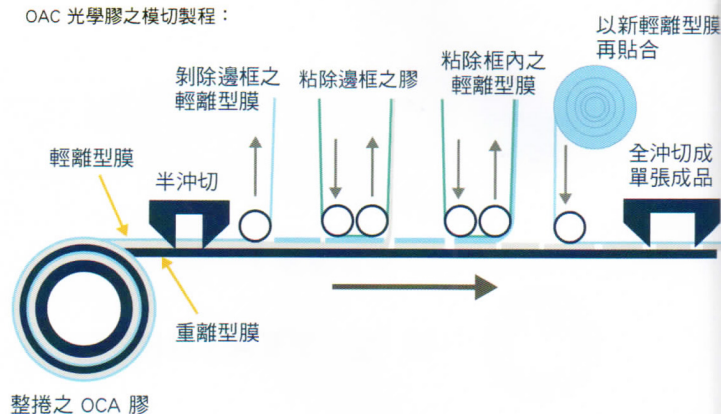
PRODUCT STRUCTURE



應用流程

APPLICATION ON TPU PROCESS

OAC 光學膠之模切製程：



特性 FEATURES

- ◆ 輕/重離型膜均可搭配抗靜電性。
Optional Antistatic Treatment.
- ◆ 厚度與離型力完整搭配-選擇多樣。
Various Thickness & Release Strength for Choice.
- ◆ 可依產品需求調整熱收縮性。
Customized Heat Shrinkage.
- ◆ 無塵室生產，確認好品質。
Manufactured in clean room.



物性 PROPERTIES

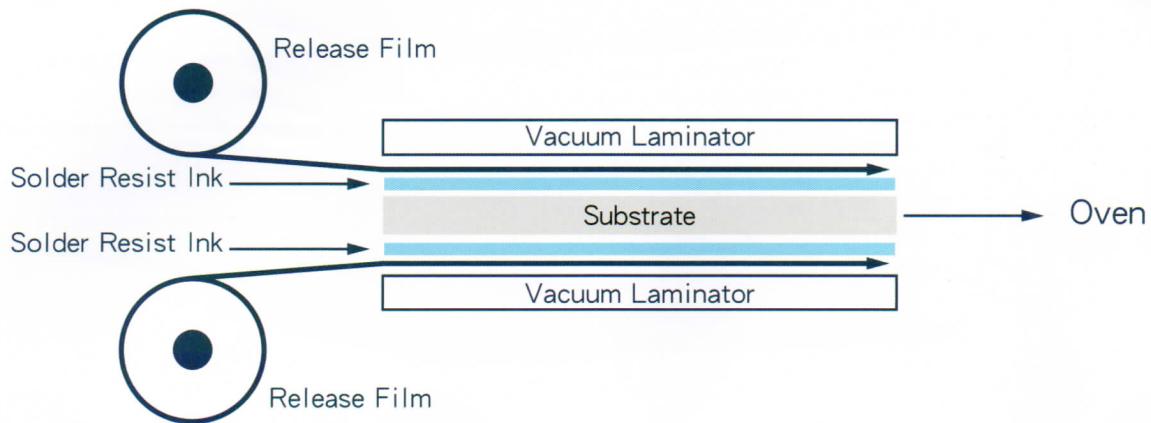
項目 Item	實測值 Measured Values					
離型膜厚度 Thickness(μm)	25	38	50	75	100	125
離型力 Release Strength	極輕 Very Light / 輕 Light / 中 Medium / 重 High					
抗靜電性 / 熱收縮率 Inside Release Strength	可搭配選用 Customized					
低霧度 Low Haze	< 2					

PCB 用 傳送 膜

PCB Carrier Film



應用 流程 APPLICATION ON PCB PROCESS



特性 FEATURES

- ◆ 無塵室生產潔淨度佳。
Made in clean room.
- ◆ 具備優良膜厚的平坦性。
Easy to Flatten.
- ◆ 具備優良膜厚的粗糙度。
Excellent Surface Smoothness.
- ◆ 抗拉力、摩擦係數佳。
Good Performance of Tensile Strength and Coefficient of Friction.



應用 APPLICATION

- ◆ SR-PET膜(綠漆後使用)。
SR-PET Film.
- ◆ ABF膜(基板增層電鍍用)。
ABF Film.
- ◆ 高階乾膜(增加密著性)。
High-end Dry Film.



物 性 PROPERTIES

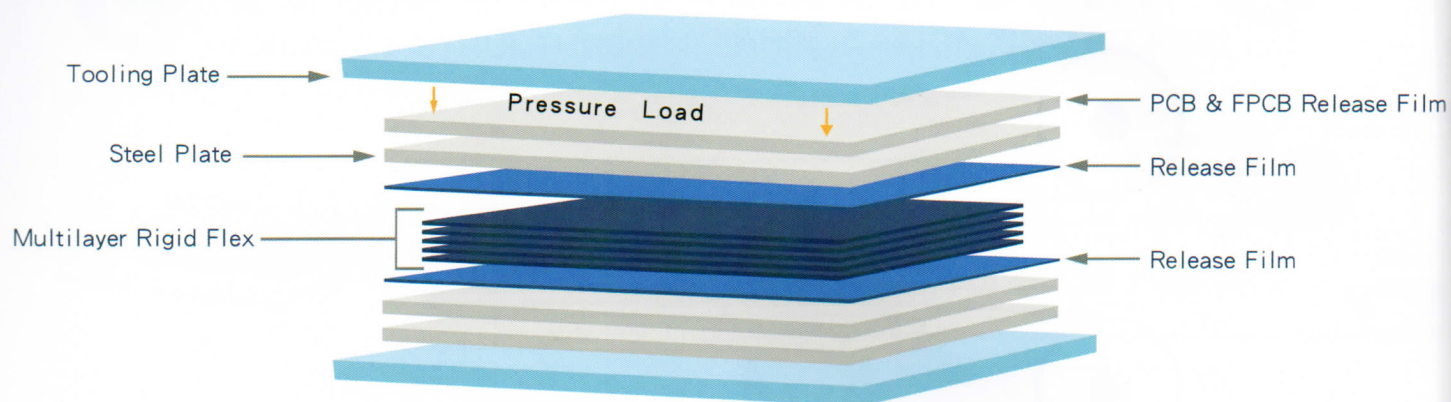
項目 Item	實測值 Measured Values
離型膜厚度 Thickness(μm)	25
離型力 Release Strength	雙面離型 / 重 Double Sides Release Film / Heavy
表面粗糙度 Surface Roughness(μm)	Ra = 0.3 μm Rz = 5.63 μm

耐熱離型膜

Heat-Resistance Release Film



應用流程 APPLICATION ON PCB PROCESS



特性 FEATURES

- ◆ 無塵室生產潔淨度佳。
Made in clean room.
- ◆ 良好的隔熱型及剝離效果。
Excellent Barrier and Peeling Function.
- ◆ 極佳的熱縮性 210°C*100分*370psi。
Excellent Low Heat Shrinkage.
- ◆ 規格：霧面/亮面 離型膜。
Different Appearance between Two Side, Matt and Gloss.
- ◆ 厚度：25~125um。



應用 APPLICATION

- ◆ PCB 硬板(傳統壓合機)。
PCB.
- ◆ FPCB 軟板(快壓機)。
FPCB.
- ◆ 電池隔離膜/ITO用耐熱膜。
Battery Separator Film/ITO Thermal Film.



物性 PROPERTIES

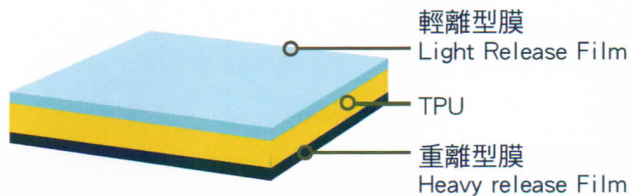
項目 Item	類別 Series			
	Silicone	Non-Silicone	Silicone	Non-Silicone
離型膜厚度 Thickness(μm)	25		50	
單面離型	●	●	●	●
雙面離型			●	
Thermal Heat Shrinkage MD%	0.74		0.59	
150°C × 30min TD%	0.03		-0.03	

熱可塑性聚氨酯離型膜

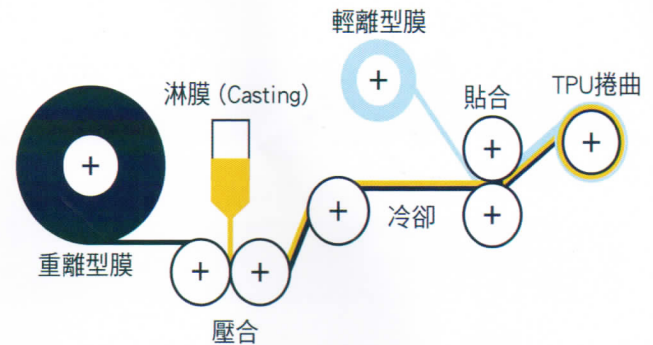
Thermoplastic Polyurethanes Release Film



產品構成 PRODUCT STRUCTURE



應用流程 APPLICATION ON TPU PROCESS



特性 FEATURES

- ◆ 平整度佳、耐溫、硬挺、殘存接著力良好。
Excellent Heat-resistance and Handling properties also Well Flatness and Residual Adhesive.
- ◆ 單雙/雙面、矽型/非矽型離型層可選擇搭配
Variable Thickness & Release Strength for Choice.
- ◆ 可依產品需求調整熱收縮性。
Heat Shrinkage can be adjust.
- ◆ 無塵室生產，確認高品質。
Manufactured in clean room.



物性 PROPERTIES

項目 Item	實測值 Measured Values				
離型膜厚度 Thickness(μm)	38	50	75	100	125
離型劑種類 / 熱收縮率 Release	可搭配選用 Customized				
霧度 Haze	可搭配選用 Customized				

NAN YA Release Film Product Map

Release Strength Application	Very Low	Low	Medium	Medium-Heavy
AB Glue		L138A		
ACF/HT185°C		R250W / L125A	H325A	
ACF/LT140°C				
ASF		L125A / L175A	H325A	
Car window			H325H	
Dicing tape	LS25A	L125A / H338A		
Filter		LL38H		
Graphite sheet				
Lambda sensor			H318A	
Matte film			N350R	
Medical Tape		L138A / L150A / L1A0A		
MLCC	L730F LJ31F	L130C / S130F L138A / L150A	H330C / H338A / H350L	H838A
MLCI		L150L	H350A	H838A
Membrane Keyboard		R750W		R750W
Metal tape	LA75A			H850A
OCA	LT50V / LQ50V / LA75A / E338A	L138A / L150A / L175A / LH50A	H350A / H375A	H675A/ H875A /S3A H850A/ U175A
Protective Film		L125A / L138A / L150A / E150A	H338A / H350A / HC50A	
Support sheet	LDC5L			
TFT LCD		L138B		
TN/STN LCD		S138A / L138A	SB38A / H338A	
Thermal Conductive Adhesive for LED		LT75A		H850A
TPU		SU50A	NV50V	N650A/NV50A

Heavy	Very Heavy
-------	------------

R250W	
	T850A
H950A / R938A	
	S750A
H950L / H950M	S850T
H950A	
H938A / H950A / H950L	
H950A / H950L	S838A
H950A	S838A





南亞離型膜



IOS App



Android App



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

聚酯膜事業部 · Polyester Film Division

台北市敦化北路201號 · 201, Tung Hwa N. Rd., Taipei