

Our Philosophy is always
be Consistent,
Genuine and Innovative.



喜美包裝企業股份有限公司
ALL PACKING ENTERPRISES CO., LTD.

光華鋁箔有限公司
KUANG HWA ALUMINUM FOIL CO., LTD.

TEL | (886) 3-321-5688

FAX | (886) 3-321-1699 ; (886)3-321-5689

MAIL | allpack@ms61.hinet.net

ADD | 33855 桃園市蘆竹區南崁路二段200號

No. 200, Sec.2, Nankan Rd, Luzhu Dist, Taoyuan City 338 Taiwan(R.O.C)

33855 桃園市蘆竹區南崁路二段228巷16弄28號

No. 28, Aly 16, Ln 228, Sec.2, Nankan Rd, Luzhu Dist, Taoyuan City338,Taiwan(R.O.C)



Sedex

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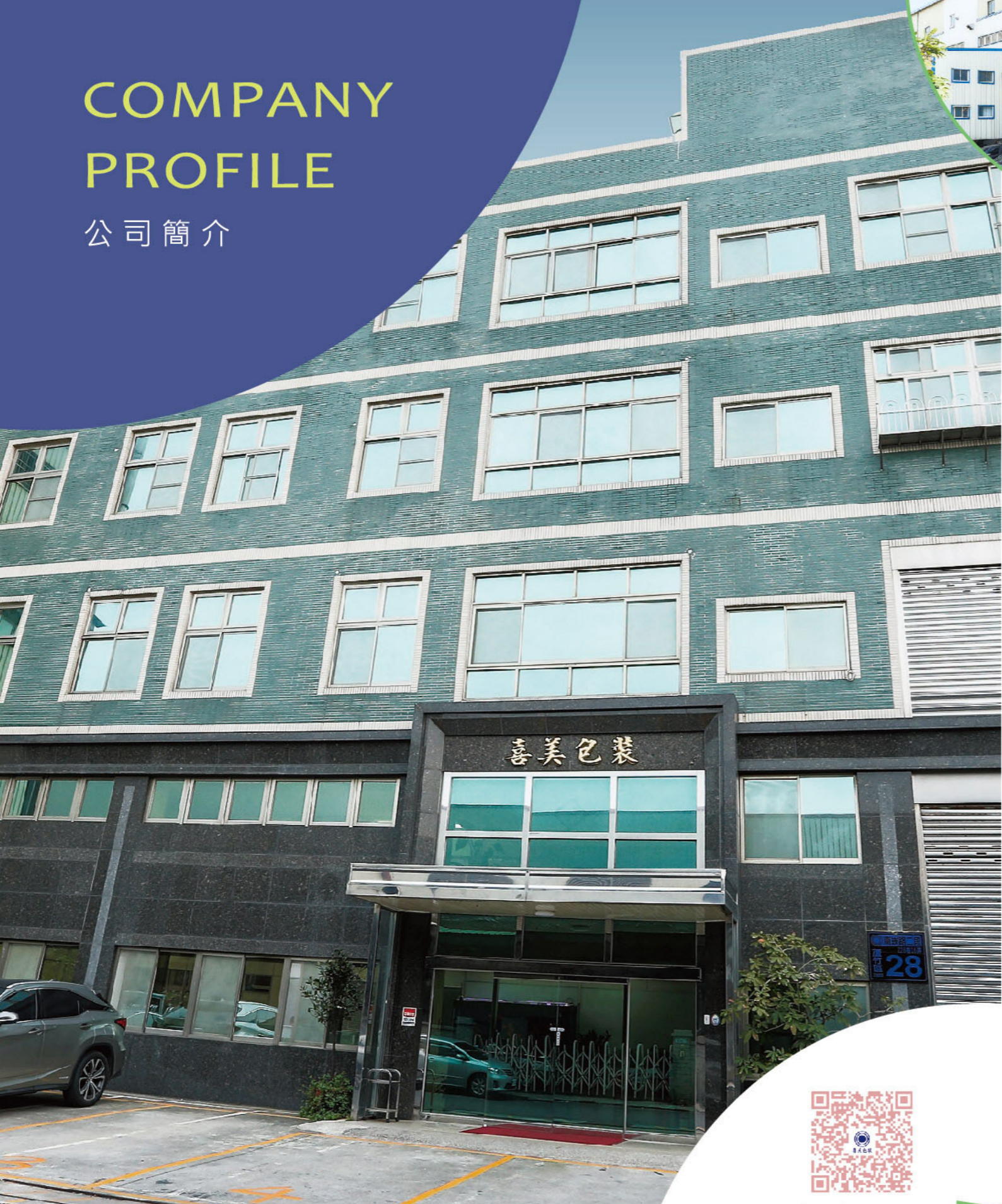
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COMPANY PROFILE

公司簡介



本公司創立於1990年，主要製造生產軟性積層包裝材料於國內、國外市場，著眼在設計、生產和製造並秉持著「延續」、「務實」、「創新」的管理哲學和精神。

我們所一致追求的產品及服務就是要達成品質第一和客戶滿意度最高的商品。而喜美所服務的客戶來自於食品、化學、醫療、電子及其它相關產業。

好的產品包裝不僅能幫助提昇產品的附加價值，也能吸引消費者的青睞並達到客戶滿意度，在製程效率、運送過程和保存，都能讓包裝內的产品降低損耗並保留完整的功能。

此外我們不斷的改善及創新，更能符合國際的環保趨勢，讓您在國際市場上更無往不利。

All Packing Enterprises Co., Ltd. was founded in 1990. We mainly produce flexible laminated packaging materials in domestic and foreign markets. Focusing on design, production and manufacturing; upholding our management philosophy and spirit of "consistent", "genuine" and "innovative".

We consistently pursue products and services that achieve the highest quality and highest customer satisfaction. All Packing's customers are from the food, chemical, medical, electronics and other related industries.

Good product packaging can not only enhance the added value of the product, but also attract consumers and gain customer satisfaction. Reduce wearout of the product inside the packaging, retain their full functions in terms of manufacturing process efficiency, shipping and storage.

In addition, we make continuous improvements and innovations to better meet the international environmental protection trends. Let you be successful in every endeavor in the international market.



● 管理部辦公室
management office



● 營業部辦公室
operation office



COMPANY HISTORY

歷史沿革

1990

- 桃園市蘆竹區六福路創立喜美包裝企業股份有限公司
- Established All Packing Enterprise Co., Ltd., Liufu Road, Luzhu District, Taoyuan City.

1999

- 公司遷至桃園市蘆竹區南山路三段自建廠房
- The company relocated to the third section of Nanshan Road, Luzhu District, Taoyuan City. A plant built by ourselves.

2005

- 公司遷至桃園市蘆竹區南崁路二段200號(一廠現址)自購廠房
- 引進多功能貼合機一台
- 引進無軸心六色印刷機
- 引進高速多功能分條機二台
- The company moved to self-purchased plant: No. 200, Section 2, Nanxun Road, Luzhu District, Taoyuan City (the current address of Plant 1)
- Introduced a multifunctional laminating machine
- Introduced non-axis 6-color printing press
- Introduced 2 high-speed multi-function slitting machines

2009

- 通過SGS ISO9001國際標準品質認證
- 通過SGS ISO14001國際標準環境認證
- 引進日本NIRECO缺點檢查機四台
- Passed SGS ISO 9001 international standard quality certification
- Passed SGS ISO 14001 international standard environmental certification
- Introduced 4 NIRECO defect inspection machines from Japan

2011

- 引進氣相層析儀(GC)及摩擦係數測試儀
- 引進SHIMPO 400mm小型拉力機一台
- Introduced gas chromatograph (GC) and friction coefficient tester
- Introduced a SHIMPO 400mm small tensile machine

2013

- 引進日本TOTANI 600型平底製袋機
- 引進上蠟機
- 設置空汙處理設備：洗滌塔
- Introduced Japanese TOTANI 600 flat-bottom bag making machine
- Introduced a waxing machine
- Installed air pollution treatment equipment: washing tower

2014

- 引進日本TOTANI 高速夾鏈製袋機
- 引進日本富士機械十色印刷機
- 引進日本NIRECO缺點檢查機二台
- Introduced Japan's TOTANI high-speed zipper bag making machine
- Introduced Fuji Machinery 10-Color Printing Machine from Japan
- Introduced 2 NIRECO defect inspection machines from Japan

2015

- 引進日本住友重機械淋膜機
- Introduced Japan Sumitomo Heavy Machinery Coating Machine

2021

- 引進日本TOTANI 600型平底製袋機二台
- 通過SGS ISO22000：2018&HACCP改版完成
- Introduced 2 Japanese TOTANI 600 flat-bottom bag making machines
- Passed SGS ISO 22000: 2018&HACCP revision

2020

- 參加第32屆台北國際包裝工業展覽會
- 通過歐洲生物性塑膠可堆肥標章認證
- 通過歐洲含生物基材料驗證標示認證
- 通過美國可堆肥標章認證
- Exhibit the 32 nd Taipei International Packaging Industry Show
- Passed Seedling Certification
- Passed DIN-Geprüft industrial compostable Certification
- Passed BPI – The Compostable Logo Certification

2019

- 通過 Sedex 供應商道德認證
- 通過SGS ISO50001：2018 能源管理系統認證
- 導入能源監控系統
- 引進多功能貼合機一台
- 建構B2B/B2C 電子商務系統，正式成立「Golden packaging」
- Passed Sedex supplier ethics certification
- Passed SGS ISO 50001: 2018 Energy Management System Certification
- Introduced energy monitoring system
- Introduced a multifunctional laminating machine
- Constructed B2B/B2C E-commerce System and founded "Golden packaging"

2018

- 通過SGS ISO22000&HACCP國際標準食品安全衛生認證
- 通過SGS ISO9001：2015改版完成
- 通過SGS ISO14001：2015改版完成
- 引進COMETECH 1200mm大型拉力機
- 引進真空包裝試驗機
- 引進日本多色輪轉燙金機
- 引進歐洲SEILASER雷射切割雕刻機
- 引進日本SHIMADZU氣相層析儀(GC)
- Passed SGS ISO 22000 & HACCP international standard food safety and health certification
- Passed SGS ISO 9001: 2015 revision
- Passed SGS ISO 14001: 2015 revision
- Introduced COMETECH 1200mm large tensile machine
- Introduced vacuum packaging testing machine
- Introduced Japanese multi-color hot stamping machine
- Introduced European SEILASER laser cutting engraving machine
- Introduced Japan's SHIMADZU gas chromatograph (GC)

2017

- 桃園市蘆竹區南崁路二段228巷16弄28號(二廠現址)自購廠房
- 設置空汙處理設備：沸石轉輪濃縮 + 蓄熱式焚化爐(RTO)及廢熱回收設備：吸收式冰機 + 高效率熱交換器
- 引進日本TOTANI 800型平底製袋機
- 引進日本TOTANI 高速特製加長型背封製袋機
- 引進日本SHIMPO 400mm小型拉力機二台
- 引進自動打氣閥機及自動貼鐵條機
- Self-purchased plant - No. 28, Alley 16, Lane 228, Section 2, Nankan Road, Luzhu District, Taoyuan City (the current address of Plant 2)
- Installed air pollution treatment equipment: zeolite runner concentration + regenerative incinerator (RTO) and waste heat recovery equipment: absorption ice machine + high-efficiency heat exchanger
- Introduced Japanese TOTANI 800 flat-bottom bag making machine
- Introduced Japan's TOTANI high-speed special lengthened back-seal bag-making machine
- Introduced 2 Japanese SHIMPO 400mm small tensile machines
- Introduced automatic air valve and automatic iron stick machine

ISO CERTIFICATE

ISO 證書



本公司按照標準化的要求進行管理，以完善的品質保證體系，控制管理生產過程，已持有ISO9001品質管理系統、ISO14001環境管理系統、ISO50001能源管理系統、ISO22000食品安全管理系統及HACCP、Sedex供應商道德認證，並且為了承諾客戶最佳品質與食品安全保障，本公司遵循「品質異常不流入、品質異常不產出、品質異常不流出」原則來把關每一個細節。

能做薄膜檢測、摩擦係數檢測、剝離強度檢測、夾鏈開口側強度檢測、真空包裝試驗等實驗項目。近年來食安事件層出不窮，本公司配有日本SHIMADZU氣相層析儀(GC)專門針對各項溶劑殘留做檢驗，保證符合法規之要求才行出貨，另外也配有微生物實驗室針對人員、環境及產品的微生物做最嚴格的把關，以確保將最優質產品交付客戶。

All Packaging manages our company according to the standard manual and controls the process under a complete quality guarantee system. We have gotten the certificate of ISO9001, ISO14001, ISO50001, ISO22000, HACCP and the ethics supplier of Sedex.

To promise our customers the best quality and food safety protection, our company follows the principle of "no low-quality inflow, no low-quality output, no low-quality outflow" to guard every step. We could perform diverse inspection items such as film inspection, friction coefficient inspection, peel strength inspection, zipper opening and closing side strength inspection, and vacuum packaging test. In recent years, there have been numerous food safety incidents. We are equipped with Japan's SHIMADZU gas chromatograph (GC) to inspect various solvent residues to ensure compliance with regulatory requirements before product shipment. Last but not least, to ensure handing the best products to our customers, we also equipped a microbiology laboratory which does the most rigorous verification of crews, environment, and products.

◎ 製程服務

PRODUCTION PROCESS SERVICE



Step.01
• 研發
R&D



Step.02
• 客戶接洽
Customer
Engagement



Step.03
• 設計
Design



Step.04
• 製版
Cylinder/Drums



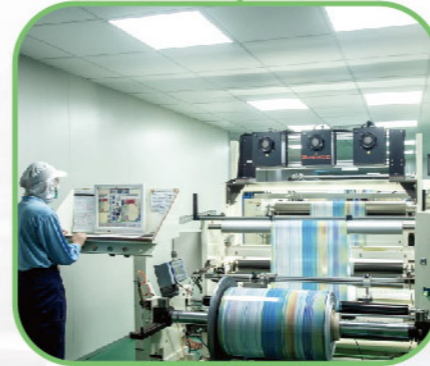
Step.07
• 雷射(激光)
Laser



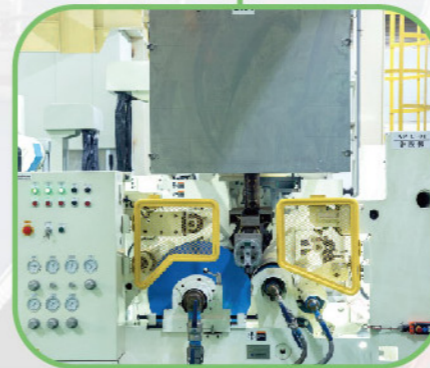
Step.06
• 燙金
Hot stamping



Step.05
• 凹版印刷
Gravure printing



Step.08
• 檢品
Product inspection



Step.09
• 塗膠/貼合
Gluing / Laminating



Step.10
• 裁切
Slicing



Step.14
• 成品出貨
Finished product
shipment



Step.13
• 成品檢驗
Finished product
inspection



Step.12
• 大袋
Heavy bag



Step.11
• 製袋
Bag making

EARTH ENVIRONMENTAL PROTECTION RESPONSIBILITY

地球環保責任

早在2013年開始喜美就已經意識到PM2.5對人體的危害是非常大的，已經承作防護設備「洗滌塔」，到2017年開始籌劃「沸石轉輪濃縮 + 蓄熱式焚化爐(RTO)來處理製程所產生出的污染源」專案計劃，並率業界之先驅，設置兩項廢熱回收設備：「使用韓國吸收式冰水主機進行廢熱製冷，提供給全廠各冰水主機，降低電力使用量」、「使用高效率熱交換器進行廢熱製熱，提供給製程烘箱使用，降低瓦斯使用量」。

2018年3月正式啟用，總碳氫化合物削減率97.7%、非甲烷總碳氫化合物削減率98.3%及熱回收率96.4%等各項數據成效顯著，9月份與經濟部能源局一起在喜美舉辦「廢熱回收技術示範應用專案觀摩會」，10月份更獲邀參加經濟部能源局所舉辦之「2019年度廢熱與廢冷回收技術示範應用專案補助說明會」台北場及台中場，擔任傑出廠商。

As early as 2013, All Packing has realized that PM2.5 is very harmful to the human body, and has undertaken to manufacture protective equipment "washing tower". By 2017, we have planned a project of "zeolite runner concentration + regenerative incinerator (RTO)" to handle pollution sources generated by the production process", and take the lead in the industry to set up 2 waste heat recovery equipment: "Using korean ice-water machine with absorption design for waste heat refrigeration, providing the whole plant with an ice water machine, reducing power consumption", "Using a high-efficiency heat exchanger for waste heat heating, providing it to the production process oven, reducing gas usage".

It was officially launched in March 2018. Various data have shown prominent effectiveness - the total hydrocarbon reduction rate was 97.7%, the non-methane total hydrocarbon reduction rate was 98.3%, and the heat recovery rate was 96.4%.

In September, All Packing together with the Energy Bureau of the Ministry of Economic Affairs, held an "Observation conference of Waste Heat/Cold Recovery Technology application" at All Packing.

In October, All Packing was invited to participate in the "2019 Annual Briefing Conference on Subsidy project of Waste Heat/Cold Recovery Technology application" organized by the Energy Bureau of the Ministry of Economic Affairs in Taipei and Taichung, as an outstanding manufacturer.





ENERGY MANAGEMENT AND MONITORING SYSTEM

能源管理監控系統

節能減碳已逐漸成為一種全球趨勢，為創造跨世代能源、環保與經濟三贏的願景，喜美包裝於2019年開始推動落實「有效用電、節約能源及愛惜有限資源」工作，並獲得由經濟部中小企業處頒發通過ISO50001能源管理系統國際驗證證書，同時導入能源管理監控系統，藉此提昇管理用電效率，降低單位用電成本，更能精確計算出製造成本。

近年國內工商業持續成長，台灣地區屬於亞熱帶高濕高溫環境，面臨國際燃料價格高漲，地球資源有限的情形下，電價上漲勢在必行，為降低生產與營運成本，喜美包裝投資費用建置能源管理監控系統，希望有效抑低分配及監控尖峰用電需量，避免無謂的浪費資源及管理各單位用電品質效率。

然而能源管理監控系統建置完成後，可以完整的記錄、分析、管理及運用，所有節能措施的投資效益將因資料的持續記錄可以數據化儲存、效益浮現，更能查詢能源使用現況並加以分析，發現問題及可根據數據找尋解決方案。

Reducing carbon footprints has gradually become a global trend. In order to achieve the vision of cross-generational energy, environmental protection, and economies, All Packing Enterprises began implementing "effective electricity use, energy conservation, and valuing our limited resources" in 2019. Our efforts were awarded by the Small and Medium Enterprise Administration's issuing of the ISO50001 certification in energy management systems. Our introduction of an energy management and monitoring system to manage and improve power efficiency and reduce the unit cost of electricity allowed us to calculate production costs more precisely.

As domestic industries continue to grow, international fuel prices increase, and Taiwan is a subtropical climate with high heat and humidity, and also the Earth has limited resources, the price of power is due to rise. In order to reduce production and operation costs, All Packing Enterprises has invested into the implementation of an energy management, monitoring system with hopes of effectively lowering the allocation, and monitoring of power during peak periods to prevent needless waste of resources, and also managing the quality and efficiency of electricity usage in all departments.

Completion of the energy management and monitoring system provides comprehensive records, analysis, management, and application. All energy conservation measures and returns on investment are presented and saved in data form. In addition, the system could access to current energy usage conditions, analyze the data and find data-based solutions when a problem is encountered.



藉由能源管理監控系統的建立，所能達到的三大目標：

Establishing the energy management and monitoring system can achieve 3 major goals:

I. 自動化：

1. 時序控制。
2. 最適時開關。
3. PID 控制。
4. 主機效率控制。
5. 燈光控制。
6. 電力需量控制。

I. Automation:

1. Time sequence control.
2. Optimal activation/deactivation.
3. PID control.
4. Mainframe efficiency control.
5. Lighting control
6. Power requirement control.

II. 制度化：

掌握全部耗能設備的「即時資訊」、「集中管理」及「異常掌握」。

II. Institutionalization:

Obtain "real-time data", "centralized management", and "problem identification" for all equipment that consumes power.

III. 資訊化：

針對耗能設備的大數據運轉歷史資料加以分析比較，使耗能設備系統是在最佳化最省能的狀態下運轉。

III. Digitization:

By comparing the historical big data of all equipment that consumes power and performing analysis comparisons, all equipment and facilities can operate at optimal energy efficiency.

喜美包裝未來會將ERP系統、能源管理監控系統、RTO蓄熱式焚化爐操作最佳化系統等系統做全部整合，邁向成為台灣彩藝界第一家工業4.0的優良公司。

In the future, All Packing Enterprises will integrate ERP systems, energy management and monitoring systems, and also optimization systems for regenerative thermal oxidizers (RTO) as we work towards being the first industry 4.0 packaging company in Taiwan.



COMPOSTABLE PLASTIC

可堆肥化塑膠

您知道塑膠製品對全球危機的警示嗎？雖然初表帶來文明方便，但也帶進對環境的危害，所以全球各國都在努力找方法，例如：

Did you know the warning that plastic products are causing a global crisis? While they were originally created for civilized convenience, plastic products are also harmful to the environment which is why nations around the world are striving to find solutions, such as:

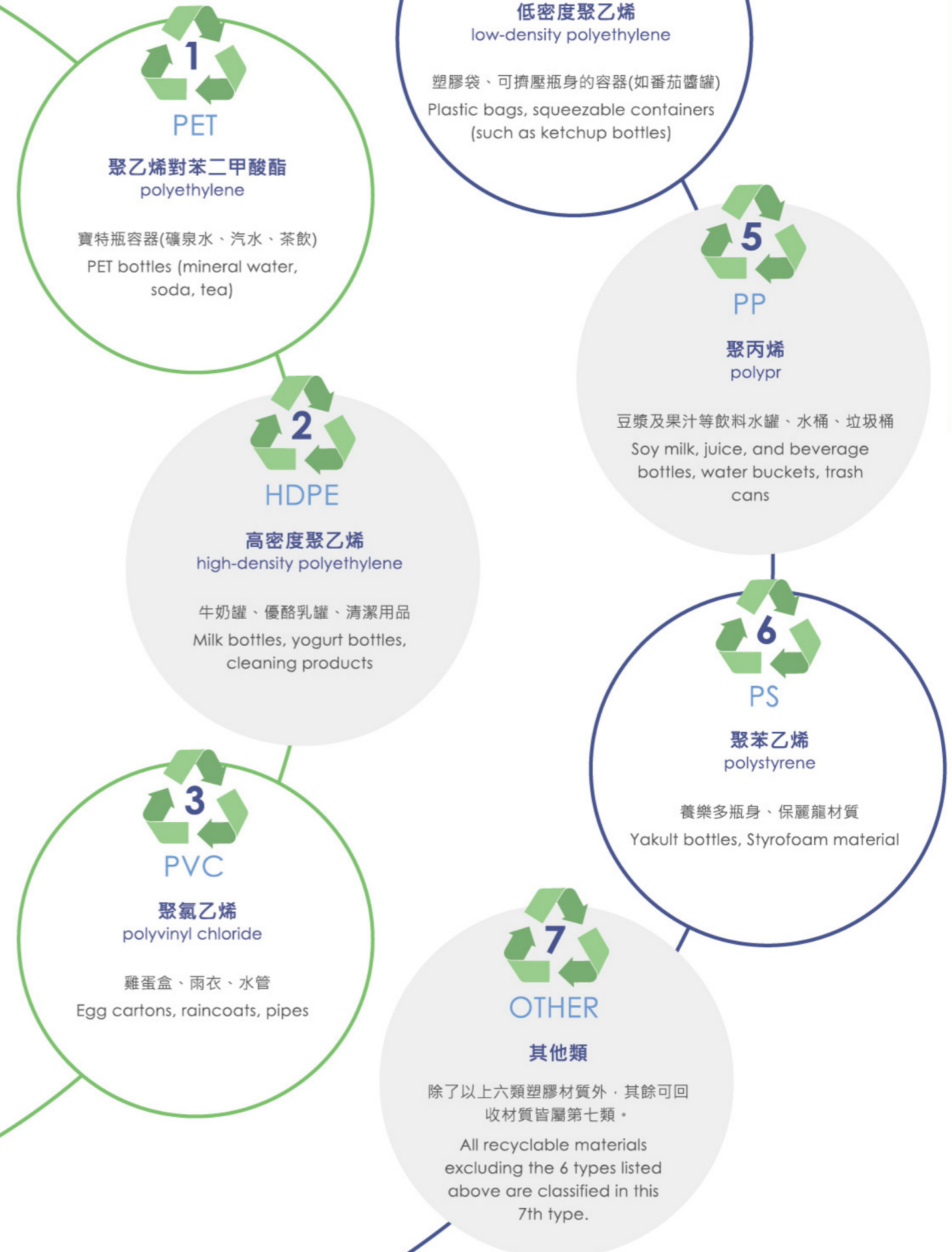
1. 能不用塑膠製品，盡可能不用。
Avoid plastic products whenever possible.
2. 回收再利用變成各式各樣再生塑膠製品，如衣服、垃圾桶及塑膠瓶器等。
Recycle plastics and create them into products which made with recycled plastics such as clothes, trash cans, plastic bottles, and more.
3. 明確訂定時間限塑，強制禁止部分一次性塑膠製品製造及使用，如塑膠袋、吸管及免洗餐具等。
Set a clear timeline to limit plastics and ban the manufacturing and the use of some single-use plastics such as plastic bags, straws, and disposable tableware.
4. 包裝材料單一與輕量化，但是一樣具有阻隔水氣及氧氣的功能性。
Create lightweight packaging produced with single materials that can also function to block moisture and oxygen.
5. 多層複合材料的創新研發，針對功能性特殊產品，以易分離回收為發展方向。
Develop innovative multi-layered composite materials that are easily separated and recycled that can function as special products.
6. 使用生物可分解塑膠材質及可堆肥化塑膠材質。
Utilize biodegradable or compostable plastic materials.

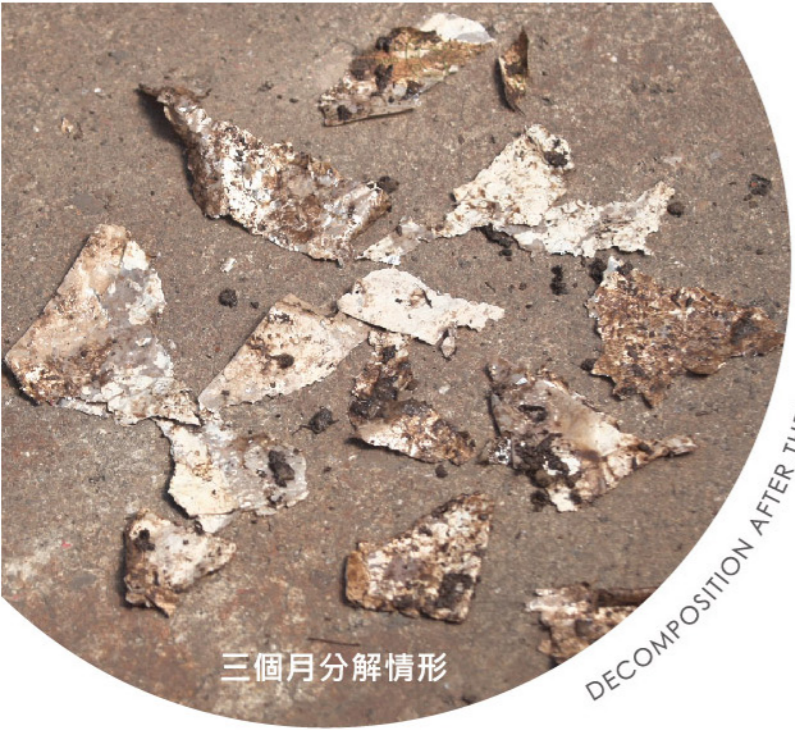
食品包材是一種多層複合材料組合而成，所以在環保回收上不容易回收再利用，除非它是單一材質組合，就可以在環保回收項目中被回收。

面對大量包材廢棄物，可分解塑膠材質就是當今的救星，其中近年來的熱門材質PLA，因訴求由植物萃取材料，可被自然分解，受到部分環保廠商的青睞而用做瓶身、器皿，如玉米生質塑膠。

Food packaging is usually formed by combining multi-layered composite materials, making them challenging to recycle and reuse. If they were produced using a single material, they could be added to recyclable materials.

Biodegradable plastics is the solution to massive amounts of packaging waste. One of the most popular materials in recent years is PLA. It has gained the attention of some eco-friendly companies as it meets the requirements of being a plant-based material that can be broken down naturally. The corn biomass plastic is used in products such as bottles and tableware.





三個月分解情形

DECOMPOSITION AFTER THREE MONTH



環境友善塑膠

Environmental friendly plastics

傳統塑膠：材料多依賴石油提煉而得，隨著石油能源日漸短缺，與塑膠廢料回收困難，目前已成為地球永續發展極需解決的重要議題。

為了減緩石油消耗與溫室效應的惡化，環境友善塑膠材料的研究因此儼然而生。

目前全球針對這類型塑膠，主要有以下三種分類：

Traditional plastics: These materials are mostly refined from petroleum. The gradual shortage of petroleum energy and the challenges of recycling plastic waste have become key issues of sustainable global development that require solutions.

Research into environmentally friendly plastics was born from the need to slow petroleum consumption and the worsening of the greenhouse effect.

The world currently has 3 primary classifications for these types of plastics:

1. 生分解塑膠：經微生物分解後可再度回歸自然者，又稱為生物可分解塑膠。

Biodegradable: These plastics are returned to nature after being broken down by microorganisms, they are also called biodegradable plastics.

2. 生質塑膠：以生物或天然資源作為塑膠的原料，此類替代性塑膠稱為生質塑膠。

Bio-based: Plastics made from bio or natural resources; this type of plastic substitute is called bio-based plastics.

3. 環保塑膠：回收比例(可再利用)、減少資源使用(可回收)。

Recycled: Recycling ratio (can be reused), reduced use of resources (recyclable).

何謂可堆肥化塑膠?

What are compostable plastics?

生物塑膠 Bioplastics

1. 石油基塑膠 petroleum-based plastics

2. 生質基塑膠 bio-based plastics



本公司積極研發、改善、創新、製造可堆肥化塑膠製品，已獲得國內外各食品廠商的青睞，成績斐然，也已取得德國/歐盟 (DIN CERTCO)、BPI美國生物可分解機構及美國堆肥協會認證可堆肥標章；生命循環中達成「取之於大自然，使用後再回歸於大自然」的原則，是喜美包裝多年研究可分解材質的一大事蹟。

All Packing is assertive in the research, improvement, innovation, and manufacturing of compostable plastic products. Our outstanding achievements have attracted both domestic and foreign food companies and we work closely with Germany/EU (DIN CERTCO), Biodegradable Products Institute (BPI), and the United States Composting Council (USCC) for compostable certifications; one of the greatest feats in All Packing Enterprise's research in biodegradable materials is achieving the principle of "taken from nature, returned to nature after use" within the product lifecycle.



PATENTED MULTI-COLOR HOT-STAMPING BAG

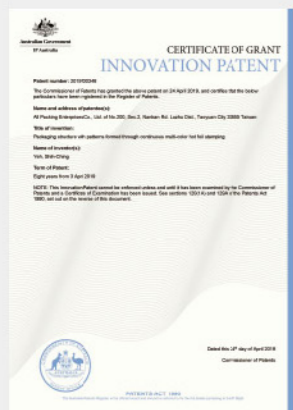
如何讓東西高貴華麗、有價值及有地位，最快速的方法就是包裝要精美，就是人家說的「鑲金」。一個不起眼塑膠袋，燙金就升值，只要沾到就會有質感，所以全世界幾乎都有它的蹤跡，目前禮品業用最多(紙箱、紙盒、紙板)，但軟性包材還是少見，最多看到做完袋子再去燙金，但燙金模子很利，很有可能把保護食物的那層高阻隔材料直接打穿，造成包材水氣氧氣阻隔完全破功，這也是為何軟性包材沒有應用的原因。

我司採用半成品加工作業，一次可以多個色套色對位，空前絕後，目前坊間只有一色手工燙，但也要承擔燙膜割破材料，而造成食物壞掉，新開發的機台歷經八年才成功，更為燙金史上寫下輝煌的一頁，也獲得多國專利許可證，保障智慧財產權。更大幅降低燙金的成本，也是愛護地球，完全無VOC產生的危害。



The quickest way to make things elegant, gorgeous, valuable, and as a status quote is to make the packaging exquisite. That is what people call "decorate with gold". An inconspicuous plastic bag, after hot stamping its value will rise. Touch to feel its texture. Therefore, this leaves a trace almost everywhere in the world. At present, the gift industry uses it most (carton, paper box, cardboard), but as soft packaging materials it is rarely used. More often we see after a bag is made, it undergoes hot-stamping. But the hot-stamping mold is very sharp, there is a risk that the layer of high barrier material that protects the food will become broken, causing the packaging material to completely lose water and oxygen resistance. This is why it is not used as soft packaging materials.

Our company adopts semi-finished product processing operations, which can register multiple colors at one time. It is unprecedented. At present, there is only one-color manual ironing in the market, but there is a risk that the hot film may break the materials and cause food to turn bad. The newly developed machine took eight years to finish. It has written a glorious page in the history of hot-stamping, and also obtained multinational patent licenses to protect its intellectual property rights. It significantly reduces the cost of hot stamping. It is earth-friendly and does not have the harmful effects of VOC.



◎ 專利多色燙金袋

製作燙金材料也是很高科技，目前台灣僅少數廠商能夠製作，基本上有些還是要從國外進口。

Making hot-stamping materials is an advanced technology. At present, only a few manufacturers in Taiwan can produce them, and some of them still have to be imported from abroad.

首先要先了解燙金材料的結構組成，說明如下：

一般燙金材料的結構組成：

- PET膜要先精密塗佈離型劑 (太少無法轉燙，太多後段無法加工)
- 塗佈抗刮耐磨塗層
- 印刷各式各樣顏色
- 真空電鍍
- 塗佈熱封型接著劑

雷射燙金材料的結構組成：

- PET膜要先精密塗佈離型劑 (太少無法轉燙，太多後段無法加工)
- 塗佈抗刮耐磨塗層
- 軟壓雷射圖樣
- 印刷各式各樣顏色
- 真空電鍍
- 塗佈熱封型接著劑

First of all, we must first understand the structure and composition of the hot-stamping material, as described below:

Structural composition of common hot-stamping materials:

- PET film should be coated with a release agent first. (Too little can not be transfer, too much can not be processed at a later stage)
- Coated with anti-scratch and wear-resistant coating
- Printing various colors
- Vacuum plating
- Coated with heat seal adhesive

Structural composition of laser hot-stamping material:

- PET film should be coated with a release agent first. (Too little can not be transfer, too much can not be processed at a later stage)
- Coated with anti-scratch and wear-resistant coating
- Soft pressure laser pattern
- Printing various colors
- Vacuum plating
- Coated with heat seal adhesive



因為製作雷射燙金材料的工序繁瑣，所以成本也是一般燙金材料的二倍到三倍。再加上選擇燙金材料也要考量到很多因素，例如：熱封型接著劑的種類、需燙金的材質種類及機器加工的方式(各有不同的速度，快慢也會有所影響)等等，總結燙金技巧很重要，不得不察明各種因素，才能把產品做好。

Because the process of making a laser hot stamping material is cumbersome, the cost is also 2-3 times that of a general hot stamping material. In addition, there are many factors to consider when choosing a hot-stamping material, such as: the type of heat-sealing adhesive, the type of material to be hot-stamped, and the method of machining (each having a different speed, influencing the outcome), etc.. To sum up, hot stamping technique is very important, various factors have to be identified to produce a good product.

PATENTED LASER WINDOW BAG

專利雷射開窗袋

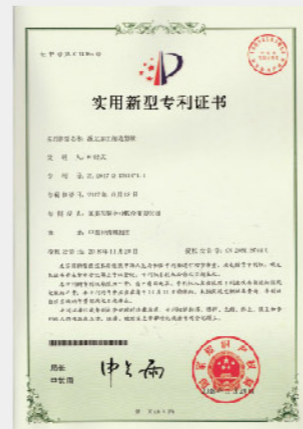
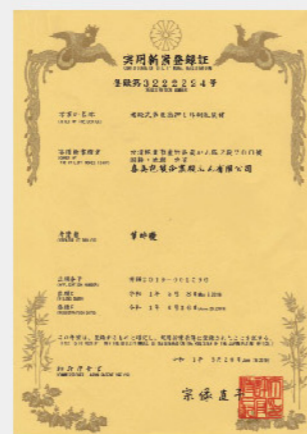
喜美包裝多年前跟雷射廠商洽談時，談到雷射的應用在測距離、割金屬、醫療及指定位置才有功率輸出焦耳等等，對此就很好奇可否應用在軟性包材上嗎？

就在一問一答之間得到知識，我司願意花幾百萬購置機器來實作，有了這個可貴的經驗，越想突破瓶頸，國內廠商已無法滿足我的理想，轉向國際搜尋，發現歐洲有專做雷射的頂尖廠商，經接觸商談後，真是如虎添翼，正是我想要的，也因為如此前幾年已經申請了台灣、中國大陸、日本及澳洲的專利權，目前美國及歐洲的專利權也在申請中。

When All Packing talked with laser manufacturers many years ago, they talked about the application of lasers in distance measurement, metal cutting, medical treatment and designated locations to have power output, etc. We were curious about whether these can be applied to flexible packaging materials?

We gained knowledge during our questions and answers. Our company is willing to spend millions to purchase a machine to practice. With this invaluable experience, we wish to break-through the bottleneck. Domestic manufacturers are no longer able to meet our ideals. We switched to searching internationally and found top manufacturers specializing in lasers in Europe.

After contacts and discussions, we got what we want. Because of this, we have applied for patent rights in Taiwan, mainland China, Japan, and Australia in recent years. Furthermore, patent right applications in other countries are in process now, such as the US and Europe.



Laser can do the followings:

Engraving:
Flexible packaging materials can present a variety of styles and characteristics. Maintenance is its biggest need, but not its biggest satisfaction. Printing carrier bags with brand names are the biggest advertisements, but they often require platemaking or inkjet to spray directly without making plates, but these are all expensive and damage the environment and cannot be considered as green packaging materials. Now with a light source with energy, it is easy to engrave texts and patterns, without the harm caused by VOC.

Half cutting:
The laser light source can accurately cut to the designated position, and it will not damage other composite materials. In other words, it will not damage the material that protects the food. Therefore, the food can always be kept fresh. Large-area sweeping graphics are even more fancy, rustic and cute.

Cut off:
Laser cutting is widely used in the open windows of paper. Paper has always been an important element of human life, bringing us simplicity and stability. Of course, packaging materials cannot be without it. Fancy ideas are used to attract consumer's attention. Paper opens a window with vague beauty. Those who are curious will look at what is inside. In the past, everyone used knife molds to make it. Now it is different, and you can use lasers to overcome the limitation of changing the knife mold. Thus, lasers allow many patterns, which is really amazing technology.

Cutting:
The art of "paper-cutting" in ancient civilizations takes years to learn. No good products can be produced unless you spend years of time. Nowadays, laser application is really fast and convenient. You can directly cut the desired cardboard, text and graphics with a light beam, and then stick it on the packaging material bag, to form a 3D pattern bag with unique floating characters. This can be a very nice pattern.

雷射(激光)能做到以下項目：

雕刻：
軟性包材能夠呈現多樣風格、素養、保存是它的最大需求，但不是最大滿足點，印刷圖騰烙名商標是最大廣告，但往往要製版或噴墨機不製版直接噴，但都是昂貴的負擔及環境的破壞，不算是綠色包材。現在用一支發光帶能量光源，輕而易舉刻出文字花樣來，完全無VOC產生的危害。

半切割：
雷射光源可以精準切到指定位置，而且不會傷到其他複合層材料，也就是說不會傷到保護食物的那層材料，因此食物能夠永保新鮮，所以大面積的掃切圖形就更花俏、質樸及可愛。

切斷：
雷射切斷廣泛應用在紙類的開視窗，紙類一直是人類生活重要元素，帶給我們樸實穩重，當然在包材上不能沒有它。花巧構思就是要吸引消費者青睞，紙類開個視窗，有著隱約的美，好奇心會多看一眼裏面是裝什麼，以前大家都用刀模來做，現在不同了，用雷射就能克服刀模變化的受限，雷射花樣就多，真是神奇的科技。

修剪：
古代文明的藝術「剪紙」沒學得幾年，可能枉然，沒有好產品。現在雷射的應用，真是探囊取物，快速又便捷，可以把想要的紙板、文字圖形，利用光束直接割取，然後稍黏在包材袋上，形成獨一無二浮字浮圖的立體圖案袋子，也是很好的花樣。



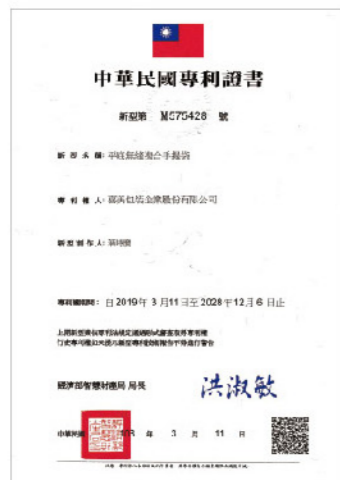
PATENTED CARRIER BAG

專利手提袋



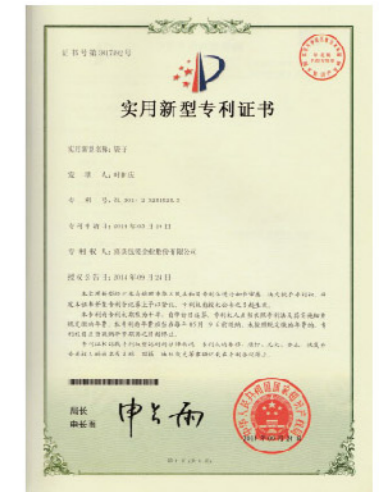
平底(口袋式夾鏈)袋是近五年來最盛行的袋型，但是製程很繁瑣，加上機台長度可達36M長，又要很精準製作出袋子，是一件非常艱難的事情，但是喜美包裝能將各種材質完美製作出來，更將此袋型創新成平底無縫複合手提袋(接近於市面上的手提袋)，不但解決了手提袋常碰到的缺點(容易因水破袋、無法承受較大重量的物品及手提把容易破裂等等)，如果再加上口袋式夾鏈，連食品類都能裝入，客戶直接能將食物提回家，無須提供額外的手提袋，一方面節省成本，另一方面也對地球環境盡一份心力。但是此袋型在製作上又碰到些許問題，例如：上沿要如何加厚手提把？等等，也是費盡心思克服了，喜美包裝希望能夠呈現不一樣的感覺給予客戶。

Flat-bottomed (pocket zipper) bags are the most popular bags in the past 5 years. Yet, the manufacturing process is very cumbersome. In addition, the length of the machine can reach 36M and the bags should be made accurately. This is a very difficult task. However, All Packing can perfectly make a variety of materials, and innovate this bag type into a flat-bottom seamless composite carrier bag (close to the carrier bag on the market). This not only removes the disadvantages often encountered in carrier bags (easy to break due to water, cannot carry heavy items, and handles are easy to break, etc.). If a pocket zipper is added, the packaging can even carry food, customers can bring food directly home, without the need to provide additional carrier bags. This saves costs as well as contributes to the global environment. However, there are some problems in the production of this bag type, such as: how to thicken the handles on the top edge? We have tried our best to overcome it. All Packing hopes to present to customers a different feeling.



PATENTED BUSINESS CARD BAG

專利名片袋



目前在行銷產品上，大家都是把產品跟名片分別給予客戶，那為何不結合在一起呢？可以免除直接遞上名片的窘境。如何在軟性包材上開一個口袋出來？當初在構思時，食物的保存性是最優先考慮的問題，所以在結構上要多加一層薄膜來克服此問題；再加上如何限制口袋的寬度尺寸呢？在製袋時可用模具加熱框出客戶所要的口袋。

At present, when marketing products, everyone hands over products and business cards to customers separately, so why not combine them? This can eliminate the difficulty in handing over business cards. How to open a pocket on flexible packaging materials? During conception, food preservation was the highest priority, so an extra layer of film should be added to the structure to overcome this problem; Moreover, how to limit the width of the pocket? When making bags, mold heating can be used to frame the customer's desired pockets.

FLAT-BOTTOM BAG/ BLOCK BOTTOM BAG/ BOX BOTTOM BAG WITH POCKET ZIPPER

平底(口袋式夾鏈)袋

平底口袋式夾鏈袋即是平底袋加上類似衣服有口袋的特殊夾鏈，使用者可輕易撕開並重複使用密封。站立時四平八穩、美觀，袋底部四方無縫平整的形狀更有利於商品展示及上架陳列，且在正、背面及側面皆可以做更豐富的圖稿設計及材質變化，讓商品立體效果多元呈現設計美感，更具有賣相吸引力。相較於傳統的站立袋，同材積平底袋的內容量可以增加35%，大幅減少材料的成本。更是提供最大開口方便裝填食物，也提供不怕粉末顆粒汙染夾鏈開合造成夾鏈失效。近五年來歐美先進國家已經普遍大量使用，而台灣偶爾才會看到高檔產品在使用，用上它價值就不一樣，是一個很好的選項。

The flat-bottom pocket zipper bag is a flat-bottom bag with a special zipper similar to clothes with pockets. Users can easily tear-open and reuse the seal. When standing, it is flat and stable with a nice appearance. The 4-side seamless and flat shape bottom of the bag is better for product display and shelf display. Moreover, richer artwork design and texture changes can be made on the front, back and sides, so that the 3D effect of the product can present the beauty of the design in multiple ways, making the product more attractive. Compared with traditional stand-up bags, a flat-bottom bag using the same amount of material can hold 35% more of content, which greatly reduces the cost of materials. It also provides the largest opening to ease the filling of food, and its zipper opening will not be contaminated by powders and become defected. In the recent 5 years, advanced countries in Europe and the United States have widely used it, and it is occasionally used for high-end products in Taiwan. Using it makes the product more valuable. It is a very good option.



HEAVY PACKAGING BAG 重包裝袋

能夠承受較大耐衝擊性的袋子稱作重包裝袋，此袋型更能加上物理性(防止水氣、氧氣穿透及耐摔性更佳等等)及化學性(耐酸鹼、耐化合物等等)特殊要求。本公司擁有業界最寬1300mm全製程生產線，更有全台灣唯一一台日本TOTANI-800型平底製袋機，能夠上下對位，做出最大的平底袋。

A bag that can withstand greater impact is called a heavy packaging bag. This bag type can be added with physical (prevents moisture, oxygen from penetrating, and better fall-proof, etc.) and chemical (acid and alkali resistance, durable compound, etc.) special properties. Our company has the industry's widest 1300mm full-process production line, and Taiwan's only Japan imported TOTANI 800 flat-bottom bag making machine, which can be aligned at both the top and bottom side, to make the largest flat-bottom bag.

FLAT-BOTTOM BAG WITH STANDARD ZIPPER/ TERMINATED GUSSET BAG

平底角折(夾鏈)袋



背封袋、五封袋等袋型封口處都是四層，封口有點張口不整齊，此袋型就是克服此現象，可再封口下方3cm~5cm把四層縮成兩層做個完美收編，形成非常漂亮的站立袋型，比一般站立(夾鏈)袋更加優美。

For bag types like back-seal bags and quad seal bags, the bag seal has 4 layers and its opening is uneven. This bag type is to overcome this issue. 3cm~5cm below the opening that can be re-sealed is shrank from 4 into 2 layers as a perfect closing, to form a beautiful standing-bag shape, which is more good-looking than ordinary standing (zipper) bags.

包材小知識：一般夾鏈 v.s 口袋式夾鏈的差別

PACKAGING INFORMATION: DIFFERENCES BETWEEN STANDARD ZIP BAGS V.S POCKET ZIP BAGS

目前國內市面上所販賣的軟性包裝袋使用一般夾鏈佔多數，但是國外市面上所販賣軟性包裝袋已普遍使用口袋式夾鏈。The current domestic market is primarily dominated by soft packaging with standard zip bags; however, soft packaging products in foreign markets commonly use pocket zip bags.

填充時的差異 DIFFERENCES WHEN FILLING

【口袋式夾鏈 Pocket zip bags】



打開夾鍊後，沒有卡粉末
No stuck powder when opening the bag



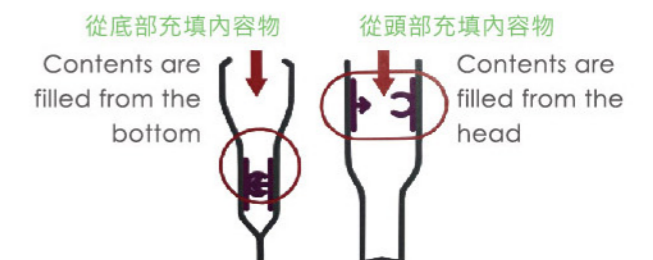
- 重量比較重的產品，粉末類產品都沒問題。
- 不會在拉鏈上產生壓力。

- No problem with the heavier products such as powder.
- No pressure is generated on the zip.

【一般夾鏈 Standard zip bags】



打開夾鍊後，有卡粉末
Powder is stuck when opening the bag



- 從頭部充填時，需打開開閉條。
- 從底部充填時，不能承受壓力。

- When filling from the head, zip must be opened.
- No pressure can be withstood when willing from bottom.

ANGLE PLOWED BAG WITH ZIPPER

一體成型(夾鏈)袋

由一張完整的軟性包材經由機器折疊熱封成袋型，最大優點是比站立(夾鏈)袋更不會破袋，而且底部可以印刷各式各樣的圖案。

A complete sheet of flexible packaging material is folded and heat-sealed into a bag by machine. The biggest advantage is that it is less easily broken than a stand-up (pocket zipper) pouch, and various patterns can be printed on the bottom.



STAND-UP (POCKET ZIPPER) POUCH

站立(口袋式夾鏈)袋



站立(夾鏈)袋就是三封袋加個底料，製成立袋加上夾鏈的設計，包裝造型簡約，撐開底部可直立擺放、呈現美觀，目前常應用於零售食品包裝。各式物品包裝搭配夾鏈式設計，可以重複捏合保存，因此具有基本防潮功能。袋身上方可打各式吊孔方便掛於貨架上，節省擺放空間。

The stand-up (pocket zipper) pouch is a 3-side sealed bag with a base material, to make it into a stand-up pouch with zipper design. The packaging is simple in shape. Its bottom can be expanded to stand-up, presenting nicely. Currently, it is used in retail food packaging. All kinds of articles are packaged with zipper design, which can be repeatedly zipped-up and stored, so it has a basic moisture-proof function. Various hanging holes can be punched on the top of the bag body to facilitate hanging on the shelf, saving storage space.

THREE SEAL (ZIPPER) BAG

三封(夾鏈)袋

顧名思義袋型封三邊的袋子適合應用於各式食品、茶包、化學品、真空系列等產品，目前也常見於面膜隨身包包裝。常搭配各式吊孔及撕口方便消費者收納陳列使用。

As the name suggests, a bag that is 3 sides sealed is suitable for different foods, tea bags, chemicals, vacuum series and other products. It is also commonly used in facial masks hand-carried kit packaging. Often used with different forms of hanging holes and tear notches to facilitate consumer storage and product display.



STYLISH BAG

造型袋



袋子不是只有方形或長方形，也可以製作成各式各樣的圖形，例如：卡通圖形或瓶罐圖形等等，創造視覺的藝術，更加值產品的賣相。相對成本變高，因為要製作熱封燙刀及刀模，而且都是一次性的使用及其他客戶無法與您共用。本公司擁有2種模切機，其中1種是獨家開發的輪轉模切機，特色是開口性比一般模切機更優。

Bags are not only a square or rectangular shape, but can also be made into various shapes, such as cartoon shape or bottle/jar shape, to create visual arts and a more valuable out-look. The cost of production becomes relatively higher, because of the need to make a hot-seal hot knife and die. These can only be used once, and cannot be shared with other customers. Our company has 2 types of die-cutting machines, one of which is an exclusive rotary die-cutting machine, which is characterized by better opening performance than ordinary die-cutting machines.

COMBO BAG

陰陽袋



一邊透明另一邊不透明的組合袋子稱作陰陽袋，市面上常見的結構為電鍍鋁箔與透明膜搭配或紙類與透明膜搭配，而且被侷限於只能在站立(口袋式夾鏈)袋上呈現。本公司研發出真鋁箔與透明膜搭配或紙類與透明膜搭配，而且能在平底(口袋式夾鏈)袋上呈現，全台灣唯一推出更有特色的陰陽袋在喜美包裝。

A combination bag that is transparent on one side and opaque on the other is called a yin-yang bag. In the market, the common structure is the combination of electroplated aluminum foil with transparent film or paper with transparent film. This is limited to being used in stand-up (pocket zipper) pouch. Our company developed a combination of real aluminum foil with transparent film or paper with transparent film, which can be used in flat bottom (pocket zipper) bags. All Packing is the only company in Taiwan to make special Yin-Yang bags.

SIDE GUSSETED BAG

側背封袋

背封(夾邊)袋是最常見的普通袋型，美觀較差；側背封袋把熱封處移到側邊，美觀較優。市面上食品袋、咖啡袋、茶葉袋及化學品袋等等升級版袋型，該袋型其正背面與側邊皆可設計圖文，並且可搭配透氣閥、鐵條、脫氧劑、抽真空及充氮增加袋體功能。

Back seal (gusseted) bags are the most common type of ordinary bags, with bad aesthetics; Side gusseted bags move the heat seal to the side for better aesthetics. For upgraded bag types on the market like food bags, coffee bags, tea bags, chemical bags, etc., the front and back sides of those bag types can be designed with graphics and texts, and can be equipped with a vent valve, iron wire, deoxidizer, vacuum and nitrogen to enhance bag function.



QUAD SEAL (POCKET ZIPPER) BAG

五封(口袋式夾鏈)袋

有腰身美背的一種袋型，與背封袋、側背封袋的差別是少了背後或側邊的那條熱封線，此袋型直接熱封五邊，更極為美觀的袋型，也能加上口袋式夾鏈，讓產品更多元化的使用。

A bag type with a 'waist' and 'beautiful back'. Its difference from back seal (gusseted) bags and side gusseted bags is that there is no heat sealing line on the back or side. This bag type directly heat seals the 5 sides, which is a more aesthetic bag type. A pocket zipper can also be added to make the product more versatile.



BACK SEAL (GUSSETED) BAG

背封(夾邊)袋

一捲膜繞成圓柱後，在背後及上下皆熱封起來的袋型。如果有向內折進去兩處，可以變成四方體的袋型稱為背封夾邊袋，能夠裝入更多物品，此為最普遍流行的袋型。

A roll of film is rolled into a cylindrical shape, which is heat-sealed on the back, top and bottom. If you fold in 2 spots inward, the bag type that can be turned into a rectangular box, called a back seal (gusseted) bag, which can hold more items. This is the most popular bag type.



FOOD WRAPPING ALUMINUM FOIL

食品用包裝鋁箔

主要用途：巧克力包裝、糖果、糕餅、藥品等...

The main purpose : chocolate, candy, pastry, medicine, etc.



ALUMINUM FOIL ON THE COVER OF BOTTLE AND BOX

熱封瓶蓋、盒蓋鋁箔

主要用途：食品、藥品、工業用品、化妝品等...

The main purpose : food, medicine, industrial, cosmetic, etc.

適用材質：PS、PP、PE、NL、ABS、PET、PVC、玻璃等各種瓶子或盒子之封口鋁箔

Suitable material : various sealing aluminum for bottle, box, such as PS, PP, PE, NL, ABS, PET, PVC, glass, etc.

SEE-THROUGH WASH BAGS

透空水洗包裝袋

主要用途：酒品、糖果、餅乾、禮品等...

The main purpose : wine, candy, pastry, gift, etc.



ALUMINUM FOIL FOR BAKING AND ROASTING

燒烤專用鋁箔

主要用途：鐵板燒、便當盒、土窯雞、鴨、鵝、奶油螃蟹、羊肉爐、海鮮等...

The main purpose : teppanyaki, lunch box, earth oven chicken, duck, goose, cream crab, mutton hot pot, seafood, etc.



HOW TO CREATE YOUR OWN PACKAGING

如何製作屬於自己的袋子呢？

第一步探討製作包裝的目的是什麼？以下以食品包裝來舉例。

FIRST, IDENTIFY THE PURPOSE OF CREATING PACKAGING. BELOW IS AN EXAMPLE OF USING FOOD PACKAGING.

1. 食品的防腐和品質保持：食品在貯存、流通及銷售過程中可能會因為「生物」、「化學」、「物理」環境因素導致腐壞變質。
Protecting against corrosion and maintaining quality of foods: During the processes of storage, transportation, and sale, food may spoil and change in quality due to "biological", "chemical", or "physical" environmental factors.

2. 防止微生物和雜質附著：包裝乾淨衛生的食品，可以給予消費者安心感。
Prevent the attachment of microorganisms and impurities: Cleanly packaged and sanitary food products give consumers a sense of security.

3. 流通、運輸的合理化和計畫化：生鮮食品易腐敗，導致流通、運輸須花費大量的時間和金錢，而且無法長途運輸，但是經過包裝使操作變得輕鬆與貯存技術相結合，達到合理化和計畫化。
Rational and planned transport: Fresh foods can easily spoil and cannot be transported long distances but require massive investments of time and resources in logistics and transportation. However, this can be solved with packaging and storage technologies which make it much easier to rationalize and plan operations.

4. 食品生產的合理化和省力化。
Rationalize and reduce effort in food production.

5. 提高商品價值：透過使用透明包裝、印刷成品性優良的材料趨勢。
Enhance product value: Utilize material trends such as transparent packaging and superior print quality.

第二步探討包裝所需要的機能是什麼？

SECOND, DETERMINE THE PACKAGING'S REQUIRED FUNCTIONALITY.

1. 保護性(Protection)：

A. 材料物性：耐針孔性、耐衝擊性、耐落下破袋性、拉伸強度等。
Material properties: pinhole resistance, impact resistance, resistance against breaks from drops, tensile strength, etc.

B. 阻隔性：氣體阻隔性、遮光性、防濕性、紫外線吸收性、保香性等。
Shielding: Shielding against gases, light, humidity, UV ray absorption, fragrance retention, etc.

C. 安定性：耐油性、耐寒性、耐藥品性、耐溶劑性、耐蒸煮性等。
Stability: Resistance against oil, low temperatures, chemicals, solvents, and cooking heat.

2. 作業性(Operation)：

A. 熱封性：高速熱封性、熱封層間剝離強度、熱收縮性、熱封外觀等。
Heat sealing properties: Rapid heat sealing, peel strength of heat seal layer, heat shrinkage, appearance after heat sealing, etc.

B. 表面狀態：靜電性、沾黏性、滑性等。
Surface condition: Electrostatic properties, stickiness, slipperiness, etc.

C. 尺寸穩定性。
Stability of dimensions.

3. 商品性：透明性、印刷效果、吸睛度、形狀、外觀光澤等。
Product: Transparency, print effects, attractiveness, shape, external gloss, etc.

4. 經濟性：儲存運輸費用、價格等。
Economics: Price and payment for storage and transport, etc.

5. 便利性：開封性、廢棄物處理、標示等。
Convenience: Opening and sealing, waste processing, labeling, etc.

6. 安全衛生性：食品相關規範、FDA、異味、添加劑等。
Safety and sanitation: Food related guidelines, FDA, odors, additives, etc.

第三步介紹常見的薄膜材料優缺點：

THIRD, UNDERSTAND THE ADVANTAGES/WEAKNESSES OF COMMON FILM MATERIALS:

1. 基材薄膜(Film substrate)：

薄膜名稱 Film	透氧率 Oxygen permeability	透濕度 Moisture permeability	優點 Advantages	缺點 Weaknesses
PET	1200	46	耐熱性、挺性、尺寸穩定性及保香性均優異 Stable heat resistance, rigidity, dimensions, and exceptional fragrance retention	耐衝擊性差、耐針孔性差、不耐強鹼 Poor against impact, pinholes, and not resistant against strong alkalis
OPP	20000	7	價錢便宜、挺性好、防濕性優異、透明性佳 Low price, good rigidity, exceptional protection against moisture, good transparency	氣體阻隔性低、不耐熱、不耐油 Poor resistance against gases, no heat or oil resistance
ONY	600	180	耐針孔性優異、耐衝擊性優異、防油性佳 Exceptional resistance against pinholes and impact, good oil resistance	防濕性弱、不耐強酸 Poor against moisture, not resistant against strong alkalis

2. 阻隔薄膜(Shielding film) :

種類 Types	透明阻隔材料 Transparent shielding material			不透明阻隔材料 Opaque shielding material	
	EVOH PVA	PVDC K塗佈品 PVDC coating	透明蒸鍍 氧化硅、氧化鋁 Vacuum evaporated silicon oxide, alumina	鋁箔(AL) Aluminum foil (AL)	電鍍鋁箔(VM) Electroplated aluminum foil (VM)
氧氣阻隔性 Oxygen shielding	◎	○	◎	◎	◎
防濕性 Moisture shielding	×	○	◎	◎	◎
耐藥品性 Chemical resistance	○	○	◎ (氧化鋁 alumina △)	×	×
蒸煮適性 Cooking adaptability	EVOH ○ PVA ×	△	○	◎	×
微波爐適性 Microwave adaptability	◎	◎	◎	×	×
作業性 Operation	◎	◎	△	○	△
溶劑吸附性 Solvent adsorption	○	△	◎	◎	◎

業界常在基材薄膜表面塗佈聚偏二氯乙烯(PVDC)樹脂，通稱K-塗佈薄膜，使其發揮阻隔性作用，如以下基材薄膜的變化。
The field commonly coats the surface of film substrates with polyvinylidene chloride (PVDC) resin, often referred to as K-coating film, which enables shielding properties such as the changes in the substrate films below.

薄膜名稱 Film	透氧率 Oxygen permeability	透濕度 Moisture permeability	但是缺點為耐針孔性及耐衝擊性會變弱，進到焚化爐燃燒時，容易產生戴奧辛，所以世界先進國家已陸續淘汰，改用三氧化鋁(3APET)，更能阻隔氧氣及水氣穿透。
KPET	10	4.4	The disadvantages are the weak puncture resistance and impact resistance and also the presence of dioxins when incinerated. Thus, advanced nations have gradually eliminated this coating and changed to aluminum oxide (3APET) as it can better shield against oxygen and moisture.
KOP	13	4.4	
KNY	8	10	

3. 熱封薄膜(Heat sealing film) :

A. 未延伸聚丙烯薄膜(CPP) :

Unstretched cast-polypropylene (CPP):

- 優點：透明性好、耐熱性優良、防濕性優異、耐化學性優異、挺性好等。
- Advantages: Good transparency, exceptional heat resistance, exceptional moisture resistance, exceptional chemical resistance, good rigidity, etc.
- 缺點：耐油性低、耐寒性差、耐衝擊性弱、低溫熱封差、熱封強度弱等。
- Weaknesses: Poor oil resistance, poor cold resistance, poor impact resistance, poor sealing at low temperatures, weak heat sealing, etc.

B. 線性低密度聚乙烯薄膜(LLDPE) :

Linear low-density polyethylene (LLDPE):

- 優點：低溫熱封性優異、熱封強度強、耐衝擊性好、耐針孔性好、耐寒性優異、熱黏性優異、防濕性優異、耐化學性優異等。
- Advantages: Exceptional sealing at low temperatures, strong heat sealing, good impact resistance, good pinhole resistance, exceptional cold resistance, exceptional heat stickiness, exceptional moisture resistance, exceptional chemical resistance, etc.
- 缺點：氣體阻隔性低、耐油性差等。
- Weaknesses: Poor shielding against gases, poor oil resistance, etc.

第四步介紹市面上常見的包裝袋結構：

THE FOURTH STEP IS AN INTRODUCTION TO COMMON PACKAGING STRUCTURES IN THE MARKET

PET + LLDPE : 鞋帶、黏土、BB彈、冷凍食品、糖果袋... PET+LLDPE: Shoelaces, clay, BB pellets, frozen foods, candy bags...
PET + CPP : 牛軋糖、粒包糖果、牙線棒外包裝袋... PET+CPP: Nougat, individually packaged candies, external packaging of toothpick floss...
PET + VM CPP : 餅乾、糖果... PET+VM CPP: Cookies, candy...
PET + VMPET + LLDPE : 蘑菇醬、咖啡豆... PET+VMPET+LLDPE: Mushroom sauce, coffee beans...
PET + VMPET + CPP : 米果、茶包、花生糖... PET+VMPET+CPP: Rice crackers, tea bags, peanut candy...
PET + AL + LLDPE : 咖啡豆、果乾、濾掛咖啡袋... PET+AL+LLDPE: Coffee beans, dried fruits, drip coffee bags...
PET + AL + CPP : 面膜、海苔脆片、潤喉糖、金皮油、奶茶粉... PET+AL+CPP: Moisturizing face masks, seaweed crisps, lozenges, kumquat oil, powdered milk/teas...
3APET + CPP : 喜餅、鳳梨酥、腰果酥、南瓜酥... 3APET+CPP: Wedding cookies, pineapple cakes, cashew crisps, pumpkin crisps
OPP + CPP : 糖果外包裝袋、包子饅頭... OPP+CPP: External packaging of candy, meat buns and mantou...
MOP(霧面OPP) + VM CPP : 蛋捲、牛舌餅... MOP (matte OPP) + VM CPP: Eggrolls, ox tongue biscuits...
MOP(霧面OPP) + VMPET + CPP : 牛舌餅、茶包... MOP (matte OPP) + VMPET + CPP: Ox tongue biscuits, tea bags...
MKOP(霧面KOP) + CPP : 貢糖、鳳梨酥... MKOP (matte KOP) + CPP: Gong candy, pineapple cakes...
ONY + LLDPE : 蛋糕、冷凍調理食品、沙拉、年糕... ONY+LLDPE: Cakes, frozen foods, salad, rice cakes...
ONY + CPP : 酒精袋... ONY+CPP: Alcohol bags...
KNY + LLDPE : 月餅、蛋糕、銅鑼燒... KNY+LLDPE: Mooncakes, cakes, dorayaki...
KNY + CPP : 月餅、蛋糕、銅鑼燒... KNY+CPP: Mooncakes, cakes, dorayaki...
牛皮紙 + PET + CPP : 果乾、堅果... Kraft paper + PET + CPP: Dried fruits, nuts...
牛皮紙 + AL或VMPET + LLDPE : 茶葉、咖啡豆、寵物飼料... Kraft paper + AL or VMPET + LLDPE: Tea leaves, coffee beans, pet food...
雲龍紙或化纖紙 + KPET(霧面PET) + CPP : 鳳梨酥、花蓮薯... Cloud-dragon paper or artificial fiber paper + KPET (matte PET) + CPP: Pineapple cakes, Hualien sweet potato snacks

通過複合各種性質的薄膜，運用各自的特性，互相彌補缺點，使包裝整體具備所需要的機能與特性。

By combining films of various properties and mutually supplementing their weaknesses, it is possible to create packaging with the required mechanical functionality and properties.



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PACKAGING

綠色軟性包材之先驅

Innovative Sustainable Packaging