

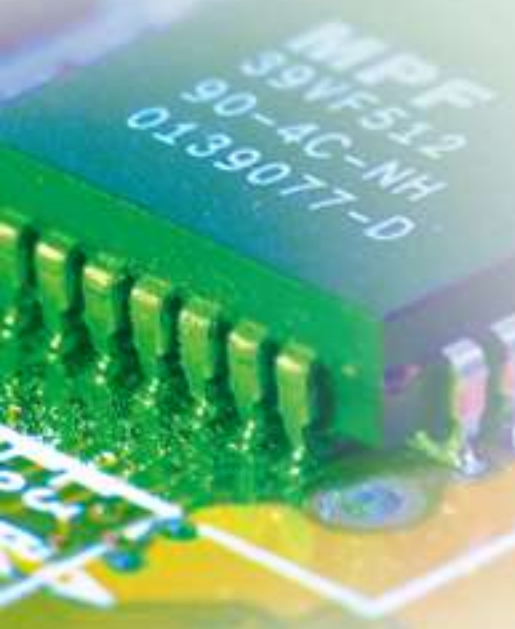
A Single Source for All Screen Printing Needs.



SKYHILL

表面處理機

SURFACE TREATMENT EQUIPMENT



14-121529-03
435303
00395 3223025

MT-PC

3D-電極表面處理機

3D-SURFACE TREATMENT EQUIPMENT

FEATURES AND CONSTRUCTION:

1. This surface treatment device is suited for PE, PP, POM, various plastics, metals and troublesome adhesive materials.
2. Suited for injection molding or extruding products. Can be installed on a production line or for individual parts treatment.
3. Easily matched to the production line speed, required treatment width, product material and configuration.
4. Simple and compact construction.
5. The unit employs low frequency, high voltage discharge principle for extremely fast surface treatment.
6. Choice of one to four discharge heads effective width 35 mm.
7. The surface treatment can greatly improve adhesion capability on plastic product surfaces, ensuring excellent laminating, printing, and painting effects.
8. Universal mounting brackets are optional.
9. A proximity sensor is available to cycle the discharge on and off when parts approach and leave the treatment station.



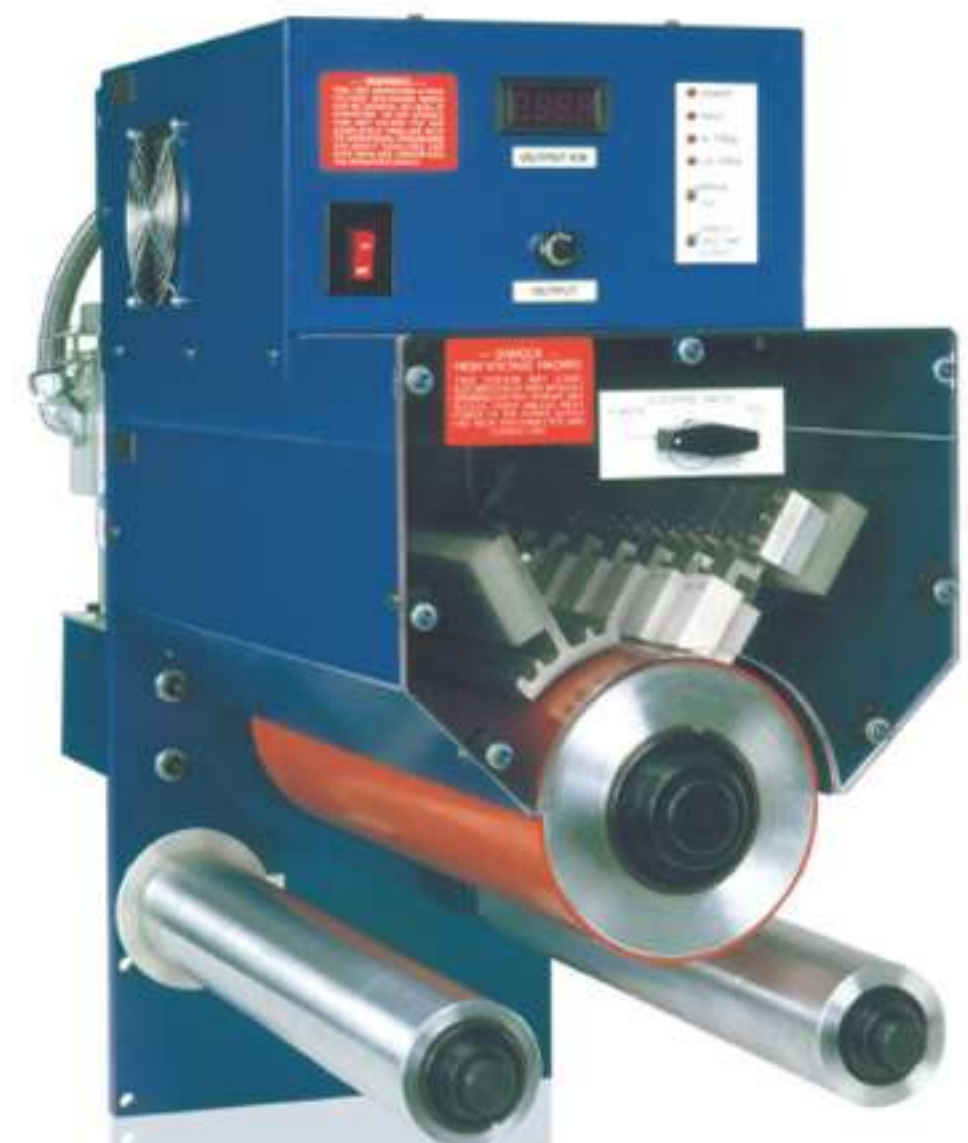
MT-PC1

特 色：

1. 本機適合PE, PP, POM 或各種塑膠、金屬等不易黏著之材質表面處理。
2. 適合射出及壓出製品之表面處理，可安裝在生產線上或單獨安裝處理。
3. 可配合生產線速度，所需處理寬度，產品材質及特性。
4. 本機結構簡單，節省安裝空間。
5. 本機採用低頻率，高電壓放電原理，表面處理速度快。
6. 有效寬度35 mm，可選擇1個至4個放電頭。
7. 塑膠表面處理後，可大幅改善表面之黏著力，提昇貼合，印刷及噴漆效果。
8. 萬向安裝架為選購配備。
9. 可加裝近接開關，當工件靠近或離開處理器時，可控制放電之開閉。

電極表面處理機

SURFACE TREATMENT EQUIPMENT



窄料系統

- 懸臂式設計，安裝容易
- 100%固態晶體元件，30 kHz電源
- 處理寬度1"~20"
- 電極適用導電及非導電材料
- 一次可做單面或雙面處理
- 可加裝電力密度控制器邏輯面板

Narrow Web System

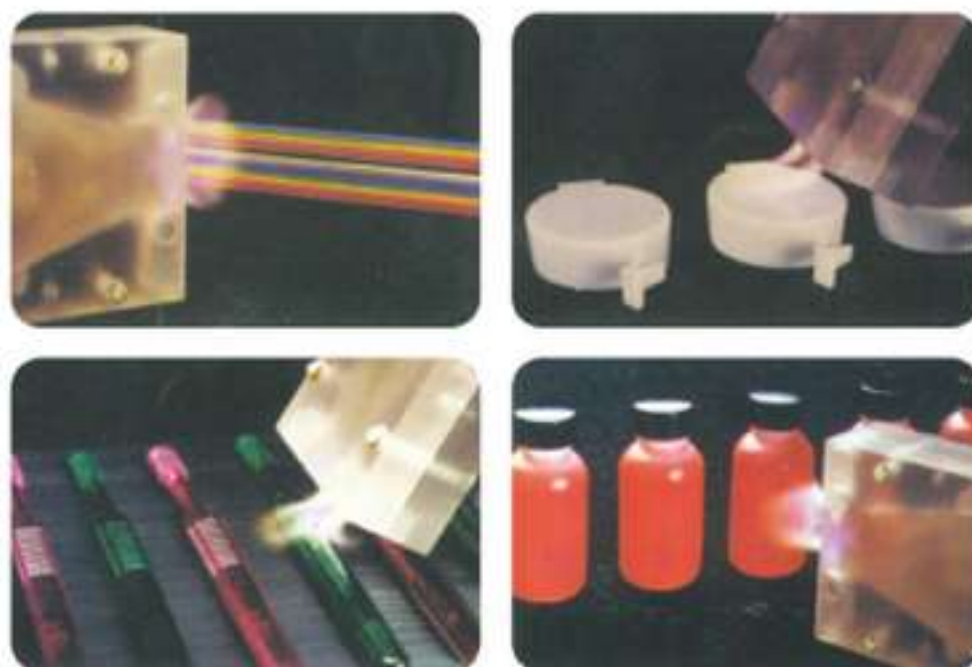
- Compact cantilever design for easy installation.
- 100% solid-state, 30 kHz power supply.
- Treatment widths of 1" to 20"
- Electrodes for both conductive and nonconductive materials.
- One- or two-side treatment in one pass.
- Power density control logic panels available on request.





MT-PC4

TREATING EXAMPLES 處理範例



No deformation after treatment
經處理後—不變形、不破壞表面光澤

Powerful Tool for Electronics, Printing,
Coating and Adhesion
電子產品、印刷、塗裝、黏著的利器



選購配備：萬向支架
Optional equipment:
Universal mounting bracket.

SPECIFICATIONS 規格表

MODEL	型 式	MT-PC1	MT-PC2	MT-PC3	MT-PC4
INPUT	輸入 V	110	110	110	110
	A	4	8	12	16
OUTPUT	輸出 kV	12	12	12	12
	mA	60	60	60	60
DIMENSIONS	尺寸 H	610 mm	610 mm	840 mm	104 mm
	W	780 mm	780 mm	780 mm	780 mm
	D	230 mm	230 mm	230 mm	230 mm
WEIGHT	重量	38 kg	59 kg	81 kg	104 kg

寬料系統

全新設計的寬料專用電極，可有效解決凹陷及熱膨脹的問題。由於電極與處理後材料氣壓間隙之變動，將導致材料寬度處理不均勻之毛病。

本公司採用之電極是由許多節段組成，具有較穩定的物理特性，並且在系統內移動更順暢。即使電極節段膨脹或收縮，也不會影響氣壓間隙，在整個系統的作業溫度範圍內，維持均勻的性能。每個電極節段採用特殊塗佈，可耐臭氧及高溫，因此電極節段不會發生相黏或腐蝕問題。

Wide Web System

The new wide-web electrode eliminates problems of sagging and thermal expansion that can change the air gap between the electrode and material being treated, resulting in inconsistent treatment across the width of the material.

Ming Tai's electrode is comprised of many segments that are physically stable and can move freely within the system. The segments expand and contract without changing the air gap, thereby remaining constant throughout the operating temperature range of the system. A special coating is applied to resist ozone and heat on each segment so that the segments will not stick together or corrode.



板料處理機

板料處理機在出貨前已將所有電器系統接妥，所以只需選擇適當的安裝場所，只需插入電源並接妥臭氧排氣接頭即可，就是這麼簡單！1kW以下之機種只需使用一般120V插座，不須特別電氣接線。Uni-Dyne板料處理機裝有入料台及出料台，在入料端附有可調式導板，以確保處理品質的一致性。

Sheet Treating

Sheet Treating systems are supplied with all the electrical connections pre-wired at the factory. Therefore, the installation requires only the selection of location, input power and ozone exhaust connections. Models rated at 1 kw or less can simply be plugged into a standard 120 volt outlet, which requires no further electric wiring. Uni-Dyne Sheet Treating systems are available with either fixed-speed or variable-speed drives. Also, the systems can be designed to treat materials up to 48 inches or more in width. Uni-Dyne Sheet Treating systems are supplied with an infeed and an outfeed table, and include an adjustable sheet guide on the infeed table to ensure consistent treatment results.



MT-PA, MT-PL, MT-PR

塑膠火焰表面處理機 PLASTIC-SURFACE FLAME TREATMENT MACHINE

APPLICATION:

Instantly heats PE and PP products to 1100°C with an air/gas combination to create an oxidized surface film in preparation for later printing. Ink adheres completely to the product, ensuring a clear, sharp, long-lasting printed surface.

FEATURES:

Treatment speed may be steplessly varied to suit virtually any product thickness; print size can be adjusted to prevent product deformation due to improper treatment.

用途:

PP,PE類塑膠成型品，利用空氣與瓦斯混合瞬間1100°C，經過表面火焰處理形成氧化皮膜後，再印刷油墨，能完全附著於被印物上，永保印刷物之清晰美觀。

特長:

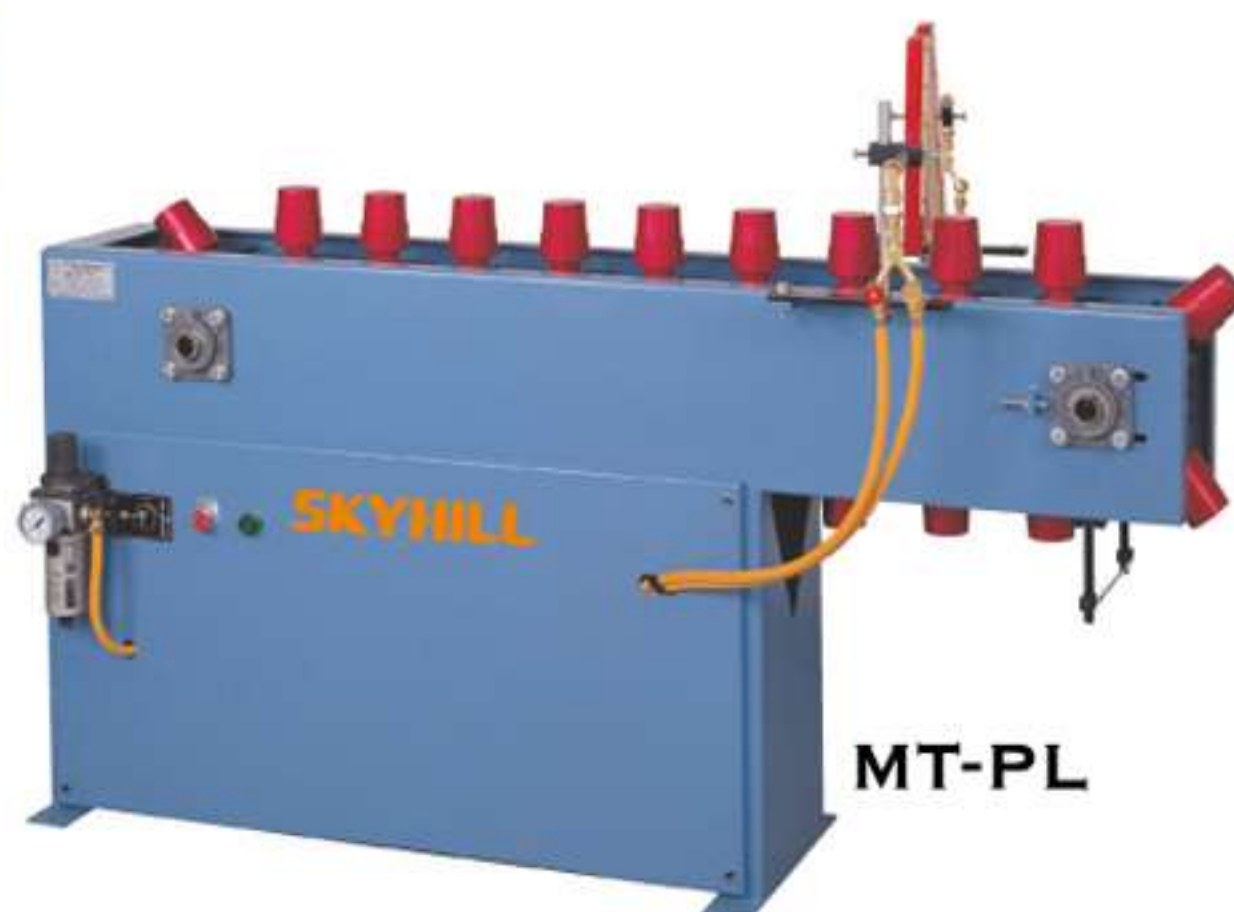
本機有無段變速裝置可任意調整處理速度，適合各種厚薄之成品，印刷物之大小可自由調整，不會因處理不當而變形。



MT-PR



MT-PA

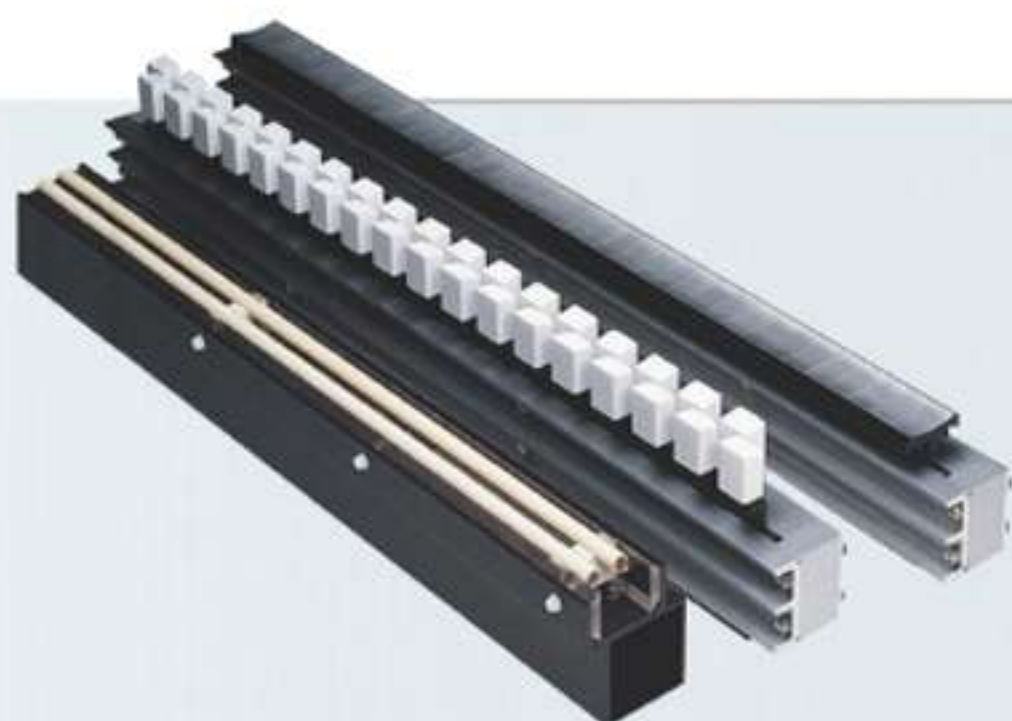


MT-PL

SPECIFICATIONS 規格表

MODEL	型 式	MT-PA	MT-PL	MT-PR
Treatment speed	處理速度	0-50 M/min	0-50 M/min	Approx. 600 PCS/HR
Efficient capacity	有效範圍	250 mm	250 mm	250 mm
Motor	使用馬力	1/4 HP	1/4 HP	1/10 HP
Power source	使用電力	110/220V 50/60HZ	110/220V 50/60HZ	110/220V 50/60HZ
Compressor	空壓馬力	2HP; 6 kg/cm ² (factory preset)	2HP; 6 kg/cm ² (factory preset)	2HP; 6 kg/cm ² (factory preset)
Nozzles	火焰噴頭	2 Included	2 Included	1 Included
Workpiece dies	模 具	-	22 not included	1 not included
Dimensions	機械尺寸	1830 (L) x 600 (W) x 1180 (H)mm	1580 (L) x 550 (W) x 1180 (H)mm	102 (L) x 75 (W) x 130 (H)cm
Weight	機器重量	250 kg	260 kg	70 kg

ACCESSORIES 配件



多功能電極設計

獨特電極設計，具有一般及寬度可調等特性，適合各種不同需求，可處理導電及非導電材料。

Versatile Electrode Designs

The first electrode employs a conventional bare-roll and adjustable width capability in the same unit!

Conventional, bare-roll or convertible, our custom designs corona treating systems to meet individual application needs. For both conductive and nonconductive materials.

TESTING METHOD FOR MATERIAL SURFACE TREATMENT

To test various metal surfaces, film and plastic surface tension and surface wettability, the easiest way is by using the dyne test agent. This testing method is not only simple and effective but also provides accurate testing. It allows an instant quality check for the printing machine operators and technicians in the printing factory. When applying the dyne test agent, it is suggested to select a 38 dyne as a starting agent, then a proper dyne test agent can be determined by gradually increasing or decreasing the dyne value. In conventional printing, the material surface tension should be 38 dynes, but for UV printing, the material surface tension should be 42 or 44 dynes. Therefore, we strongly recommend that 34, 36, 38, 40, 42, 44 and 46 dyne test agents are essential.

TESTING INSTRUCTIONS

Start test by using a 38 dyne agent. Make a drawing on the material surface to be painted and wait for 2 seconds. Then check the conditions below:

1. DOT SHAPED WATER DRIP:

It means the material is difficult to adhere when printing. It needs to be electrode treated before printing.

2. FLAT SHAPE:

In case this condition occurs, use a 40 dyne agent for testing. If water drip forms on the material surface, it means the surface tension is more than 40 dynes. Applying the same method for testing using 42 and 44 dyne agent for testing the material surface tension.

The material surface adhesion capability can be predicted by its surface tension, however the adhesion capability also may be affected by particle movement contained in the material, such as PVC or material containing anti-electrostatic agency and slip agent.

This effect is not caused by surface tension. Consult your material supplier for further details. In general, material surface tension affects its adhesion capabilities as shown below:

A 38, 42 dynes or pre-roughing treatment - good adhesion.

B 35, 37 dynes - dangerous adhesion.

C Under 35 dynes - bad adhesion.

1. 印刷素材表面處理試驗方法

如何去測定各種金屬表面、膠膜和塑膠的表面張力及表面溼潤性，可利用達因測試劑作簡易的測試。

達因測試劑的測試方法，除了簡易有效外，同時可精準的達到定量測試，該測試方法可提供印刷機操作人員及印刷廠作業員的品質即時評估。

達因測試劑的選擇：必須預選38達因，當作起始劑，再往上及往下修正，去選擇正確的達因測試劑。一般傳統印刷，其素材表面張力需在38達因，若行UV印刷，素材表面張力需達42或44達因，因此強烈建議34, 36, 38, 40, 42, 44, 46達因測試劑，自成一套基本筆。

2. 測試方法

以38達因測試劑先行測試，將38達因測試劑畫在印刷素材靜置2秒後：

1. 點狀水珠：

則代表印刷難以附著，必須將印刷素材作預先表面處理。

2. 平坦狀：

則選取40達因測試劑測試，若表面開始形成平坦狀，則代表該素材之表面張力為40達因以上，依照此方法循序操作42, 44達因，則可測知素材之表面張力。

素材表面接著力的預測，除了表面張力的測試外，亦有可能素材分子移行的影響，諸如PVC或內含靜電防止劑及滑劑等，此乃非表面張力的因素，須另外諮詢您的原料供應廠，一般而言，素材表面張力在：

A 38, 42 達因或預先霧面粗糙處理：極佳之接著

B 35, 37 達因：危險接著

C 35 達因以下：不可能接著



● 本數值隨時不段研究改進，僅供參考，若變更恕不另行通知。
● All specifications and designs are subject to change without prior notice.

SURFACE TREATMENT METHODS

A: ELECTRODE TREATMENT

B: FLAME TREATMENT

OPERATION PRINCIPLES INTRODUCTION

The plastic surface is basically a non-polarity and non-compatibility interface which features poor adhesion even on a solvent-based ink. Furthermore, the additive contained in the plastic may float onto its surface resulting in a bonding failure. In general, a plastic surface with treatment to 38 dynes will have proper adhesion capabilities however, the dust on the surface or additive floating may result in poor adhesion.

INSTRUCTIONS FOR ELECTRODE SURFACE TREATMENT

The electrode surface treatment is applied for improving adhesion capabilities on product surfaces providing excellent ink printing and coating effects. The surface adhesion capability is measured using the unit 'dyne'. For effective ink adhesion, coating or vanishing, the product surface adhesion capability should be 10 dynes higher than the ink, etc.

Normally the PE, PP and POM surfaces have 31 ~ 33 dynes under natural conditions, however, water-based ink has 36 dynes. Therefore, the ideal dynes on PE, PP and POM surfaces should be 46 (36 + 10 dynes). The difference between 31 and 46 dynes can be achieved through the CORONA electrode treatment. As everyone knows, water-based ink is more difficult to print on a plastic surface than solvent-based ink. The reason for such an effect is that the water-based ink has higher surface energy than that on the solvent-based ink. The surface energy on the solvent-based ink is about 28 dynes, on the UV ink is about 34 dynes and on the water-based ink is 36 dynes. This means when applying solvent-based ink to print plastic, it needs to treat the plastic surface to 38 dynes. When applying water-based ink to print plastic, the plastic surface should be treated to 46 dynes.

表面處理方式

A: 電極處理

B: 火焰處理

二. 原理簡介：

塑膠表面為非極性和不相容的界面，即使溶劑型油墨也難以密著，再說，塑料中的添加劑經常會浮出表面，而造成無法實際的鍵結。通常在進行表面處理後，若材質之表面達因在38達因，可密著，但是材質表面的污體或添加劑的浮出仍會造成密著不佳。

二. 電極表面處理的角色：

它是被用來改變印體表面的附著能量，以配合接受或符合印刷油墨的附著與塗佈。表面附著能量的度量單位為“達因”，為了有效附著油墨、塗佈或上光，被印體表面能量必須高過它們(油墨) 10個達因。

一般PE, PP, POM的表面自然狀況下有(31-33)個達因，但是水性油墨有36個達因，故理想的被印PE, PP, POM表面應該有46個達因(36個達因+10個達因)，中間的差距從36個達因到46達因就得依賴CORONA電極處理。一般人知道，水性油墨比溶劑型油墨更難印在塑膠上，原因是水性油墨比溶劑型油墨有更高的表面能量。溶劑型油墨的表面能量約有28個達因，UV油墨的表面能量約有32, 34個達因，水性油墨有36個達因。也就是說，用溶劑型油墨印刷塑膠，必須將塑膠表面處理到38個達因。用水性油墨印刷塑膠，必須將塑膠表面處理至46個達因。



明太網版印刷機械股份有限公司

MING TAI SCREEN PRINTING MACHINE CO., LTD.

台灣省台中縣潭子鄉中山路一段218號

NO. 218, SEC. 1, CHUNG SHAN RD.,

TAN TZU HSIANG, TAICHUNG HSIEN, TAIWAN.

TEL: +886-4-2532-7901 (REP) FAX: +886-4-2532-7916

sales@skyhill.com.tw

上海敏太印刷機械材料有限公司

上海市蓮花路1283號 郵編201102

電話：021-5480-6465 / 5480-6466

傳真：021-5480-6458

手機：1390-1937163

Email: screen@online.sh.cn