

T.A.O. NEWSLETTER

Quarterly Company Newsletter



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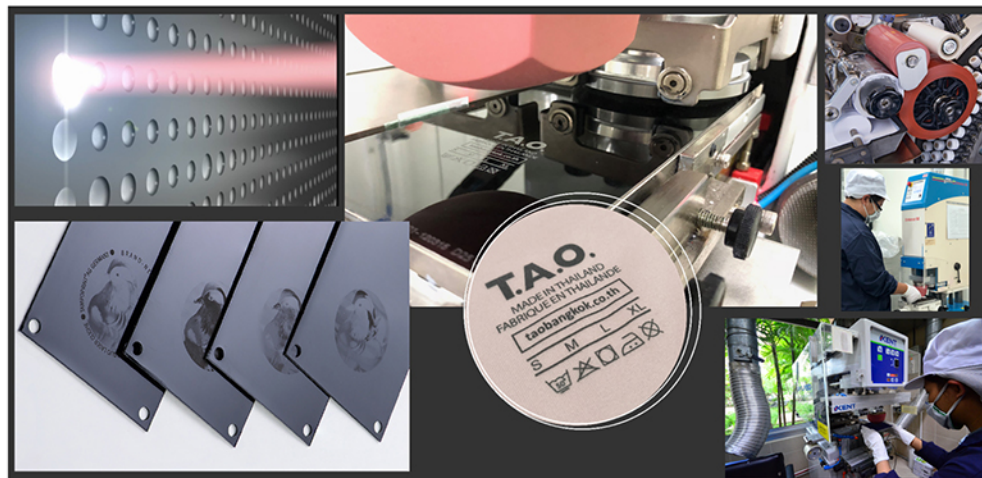
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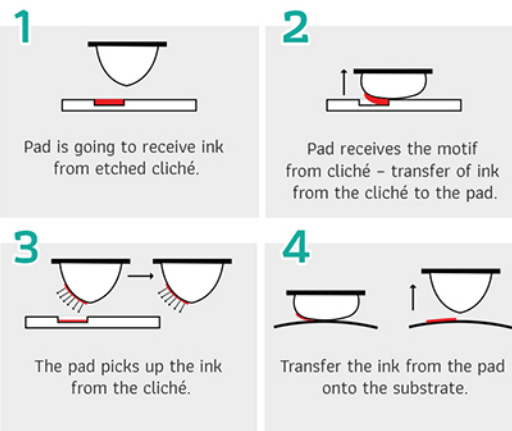
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Highlight

How to get a high quality of pad printing



Pad printing process



Credit photo : TAMPOPRINT

Pad printing is the process that the pad receives ink with the motif from the cliché. Then, the motif is transferred from the pad onto the substrates, such as clothes, shoes, stationery, toys, housewares, automotive parts, electronic parts, medical devices, gifts, and etc. In addition, this printing system is now used to print RFID and small circuit boards.

Pad printing not only print images or small text clearly and precisely, the production process is also very simple and easy to do. Only a few things are required for pad printing, namely inks, cliché, silicone pads, machines, and substrates. It is capable to printing on a variety of surfaces including uneven or rough surfaces. The key benefits are its cost efficiency and minimum waste, when compared with other printing processes. This makes pad printing an environmentally friendly printing process. However, in order to acquire good quality, durable and beautiful prints, there are important factors to consider, such as the readiness of printing machine, equipment, inks, pre-printing process and the printing processes itself, as well as the conditions of the printing room.

Important factors that affect Pad Printing

Proper ink series and auxiliaries and storage

- Use the suitable ink for the substrates
- Store ink at room temperature at 25°C and relative humidity no more than 70%
- Close the ink can tightly to prevent ink evaporation.

Readiness of the machine

- Check machine settings, electrical cables and air duct connectors, including the cleanliness of the machine and equipment.
- Check the air pressure - it should be 5-6 bar per machine

Printing equipment preparation and storage

- Prepare the ink and equipment before start printing.
- Silicone pads should be stored face up and not overlapping.
- After using the cliché/plate, it should be cleaned and oiled to prevent rust. Store it in a zip lock bag and do not stack.

Readiness of Printing room

- Printing room temperature should be approximately 25°C and relative humidity should not be more than 70%.

Substrates

- Pad printing enables printing on various types of surface including uneven surface.
- Certain types of surface need to undergo the pretreatment process before printing.



Recommendation:
The temperature-controlled printing room would affect the consistent quality of prints.

Another crucial factor is Management of the printing room factors, where cleanliness and safety should be controlled. Regular inspections should be undertaken, including good air circulation in the room, and the operators must wear correct Protective Equipment (PPE) during the operation.

To summarize, to get good quality pad printing prints, there are important factors and elements, as mentioned above. Nevertheless, there are still other elements, such as technical and printing skills. Furthermore, choosing the right and suitable products for the printing job for each industry is considered as another important factors in order to get a high quality of pad printing.

Key elements of Pad Printing

The elements and factors that affect the quality of pad printing have been mentioned in the first article. As for the products and solutions, we are pleased to propose the key elements of pad printing process including types and details of Plate/Cliché, Silicone pads and Cleaning agents. Our company provides services and manufactures the products according to the customer's requirements. Here are the details:

1. Plate/Cliché

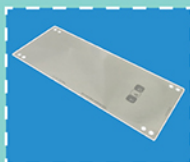


Plate/Cliché plays an important role in pad printing. It holds the image, text, or motif that will be transferred to the substrate through the silicone pad. A good quality plate or cliché creates sharp and beautiful images. Choosing the suitable cliché for the printing job is crucial. There are many types of cliché, such as Photopolymer (Plastic) cliché, Metal sheet cliché, Steel cliché, Ceramic cliché, and Laser cliché, which have different qualities. Our company provides high quality Steel clichés and Laser clichés from Switzerland, Germany, and China. Apart from that, we also provide etching services for steel cliché and laser cliché. The customers can specify the size and the distance of hold drilling on the cliché as needed.

Characteristics of each type of cliché are as follows:

• **Steel cliché:** Available in flat and cylindrical and can be made by etching or laser engraving. Steel cliché are being used for large print runs and high quality standards.

• **Laser cliché:** An aluminum plate etched by laser engraving. The depth of the image can be controlled consistently. It is suitable when there is high frequency of image changeover with medium print runs.



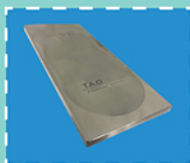
Thin Steel cliché

- Hardened carbon steel cliché, polished surface, thickness from 0.2 to 0.5 mm.
- Coated with light sensitive emulsion on both sides
- Impression: 200,000 prints [depending on the usage and maintenance]



Laser cliché

- A magnetic aluminum cliché with a special coating.
- This cliché can be also used in the crosswise doctoring operation.
- The line motif is created by laser abrasion with extremely accurate engraving depth and contour sharpness.
- Impression: 30,000 prints [depending on the usage and maintenance]



Thick Steel cliché

- Made of 10mm oil-tamper or chromium steel. These hardened steel plates are processed in house and have a very long working life.
- Impression: 800,000 prints [depending on the usage and maintenance]



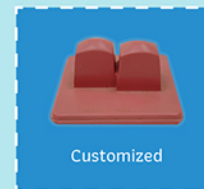
2. Silicone pad



Silicone pad is another important element for pad printing which transfers the image from the plate/cliché to the substrates. Choosing the suitable pad is therefore significant. In addition to considering the type of silicone used to produce the pads, choosing the proper shape and hardness that is suitable for each job is also an important part in creating the efficient print jobs.

There are 3 types of pads for industrial use, namely Standard pads, Antistatic pads, and Rotary pads. Our company provides Standard Pads, which are suitable for long print runs with a small change between printing. This type of pad is most commonly used and are available in a variety of shapes and hardness.

We produce the Standard Pads according to the customer's specifications, e.g. size, hardness, shapes in order to suit each print job.



3. Cleaning Agent



is an important part of the printing process as it is used to wash the Screen and Pad Printing equipment before and after use. The price levels of cleaning agents for industrial use vary, due to its quality and safety levels for the users. Most of the cleaners with low prices contain harmful chemical or volatile organic compounds such as Xylene, Acetone, Toluene, which are toxic to human health and having long-term impacts to the environment. Our company is aware of the importance of safety for users and the environment. Therefore, we select raw materials used in the production that can clean the equipment efficiently while at the same time is not harmful to users and is environmentally friendly.



Environmentally friendly



No toxicity for aquatic



"Solvent Naphtha" Free



Not harmful the kidneys



Not damage the nervous



Non-hazardous to the respiratory system

UR4 Cleaner is free from "Solvent Naphtha", which can affect the users when breathed in and passing through the skin. Long term exposure can cause drying and cracking of the skin and repeated exposure may damage the nervous system and may affect the kidneys.

T.A.O. Bangkok Corporation produces the cleaners in Thailand and distribute under the license of Marabu, the leading screen, pad, and digital printing inks manufacturer from Germany. The cleaners are certified by RoHS Directive 2011/65/EU [Annex II].



New Normal

WHO provided advice on the **use of masks when leaving home.**

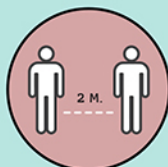
Wearing a mask is **“an effective method”** to reduce the risk of infection and prevent transmission of Coronavirus disease 2019 [COVID-19].

Proper **hand hygiene and maintaining physical distance from other persons** are the other effective methods. ⁽¹⁾

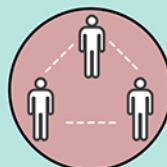
New Normal...wear a mask, wash your hands.



Wear a mask



Physical distance



Avoid crowded spaces



Perform hand hygiene



Frequent Cleaning

T.A.O. Bangkok Corporation Limited is aware and takes the safety and health of our employees during the pandemic of Coronavirus [COVID-19] which is occurring around the world seriously. The company cooperates and strictly complies with government recommendations, such as social distancing, allowing employees to work from home to reduce congestion in the workplace, using technology to help in communication, video conferencing. There is a screening point for measuring body temperature for staff and visitors before entering the company. Moreover, there're bottles of alcohol gel for hand hygiene at the entrance as well as all departments in the company.



- Screening point for measuring body temperature for staff and visitors before entering the company



- Physical distance around 1.5 – 2 meters and encourage all employees to wear a mask.



- Place bottles of alcohol gel for hand hygiene at the entrance as well as all departments in the company.
- Put the instruction sign to urge the staff to frequently perform hand hygiene in accordance with the recommendations of the World Health Organization [WHO].
- Increased frequency of cleaning in all areas of the company with disinfectants

- Working alternately in the office and at home to reduce congestions in the workplace, using technology to help in communication, video conferencing
- Add the area for lunch and create partitions to prevent the droplets.

- Employees record travel notes for inspection reference to prevent the infection in the particular location.
- Employees returning from abroad or risk areas must perform self-quarantine for 14 days.

During the outbreak of the COVID-19, with the support of Plastic films from the Management, employees worked together to create face shields and delivered to hospitals and various government departments in neighboring areas and upcountry to encourage and support the work of doctors. Although the number of infected people has reduced and the government has loosened lockdown for many activities, preventive measures should continue until a vaccine is successfully produced, so that everyone can carry out activities in daily life and working together safely.



Data source: [1] WHO Credit photo: Designed by Freepik, Designed by Freepik, Designed by macrovector / Freepik



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