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T.A.O. NEWSLETTER

Quarterly Company Newsletter

T.A.O. BANGKOK CORPORATION LTD.

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Product & Solutions

Why Outside logo pad printing?

Pad printing for textiles is a simple and cost-efficient printing process. Pad printing provides lots of advantages, including work flow process reduction, huge savings in resources (no stencil, no release plastic film waste), flexibility, smoothness, and excellent wash resistance. That's why the textile and garment industries widely switched from traditional neck labels to pad-printed neck labels.

Due to the great benefits of this environmentally friendly and cost-effective printing process, "Outside Logo Pad Printing" is the new trend for the textile and garment industry. Compared with screen printing or heat transfer, outside logo pad printing can eliminate lots of complicated prepress work that occupies large workspaces.

Type of logo printing

Benefits of outside logo direct pad printing on fabric.

Washing resistance/ Flexible

Lean process

Environmentally friendly

Reducing cost

- Output: Soft touch and flexible.
- Process: Very easy processing.
- Lead-time: Short lead times.
- Environment: Highest consumer safety and more environmentally friendly.
- Durability: Resistant to washing, the ink is penetrating into fabric.

Credit photo: by BiZkettE1 - www.freepik.com, www.freepik.com , vectorpocket - www.freepik.com, asylab - www.freepik.com, jcomp - www.freepik.com, starline - www.freepik.com, Pixabay.com

Product & Solutions

Outside logo pad printing element.

Color

- Choose fabrics that are white or light-colored to make the color ink stand out.

Texture

- It should be a non-fuzzy fabric or too slippery. So that the ink can adhere well.
- The ventilation holes on the fabric should not be too large. so that the ink texture has good opacity.

Artwork selection

Artwork size

The size of the logo is not larger than 110x110 mm., suitable for Turbo-165 printers with ink cup ø165 mm.

Logo size up to 80x80 mm., suitable for Turbo-125HVA printers with ink cup ø125 mm.

Logo size up to 55x55 mm., suitable for Turbo-90 printers with ink cup ø90 mm.

Remark: If the logo has text, it should be at least 2 mm. in size and should not be too thin.

Equipment, Ink selection and Machine

Silicone pad selection

Shape: Slope of the silicone pad affects the ink transfer.

Hardness: Affects the ink transfer as well.

Size: Affects the coverage of artwork size, It should be 20% wider than the artwork.

Material: Silicone texture and flexibility affects ink pick up on silicone pad and transferring the ink on fabric.

Ink selection

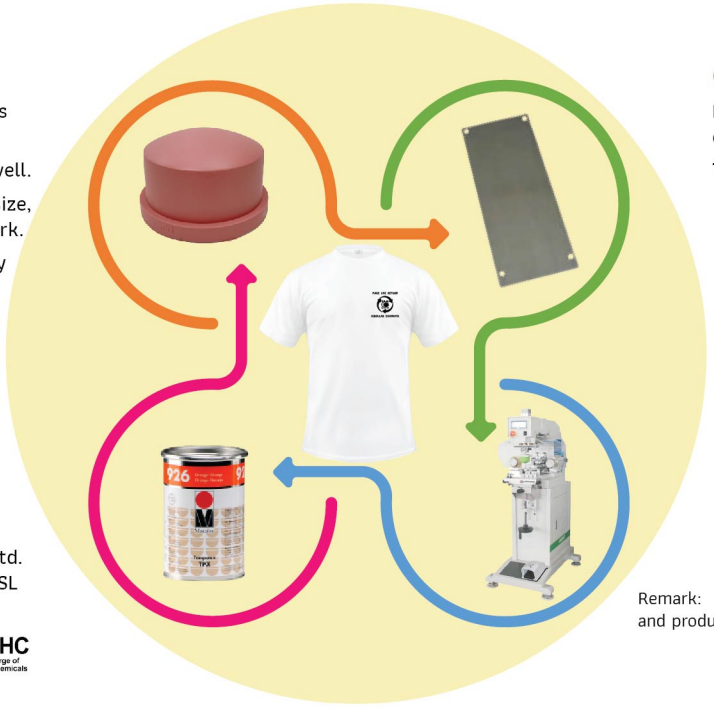
Property: High opaque, good adhesion, and flexible

Environmentally friendly: Low VOCs, Low PAH values, BPA free

Resistance: Washing and ironing.

Safety regulation: Eco passport, RSL std. for Nike, AO1 std. for Adidas, ZDHC MRSL

A-01



Cliché selection

Plate depth: The optimum depth is 30-40 µm. or 40-50 µm

Type & Thickness:

Laser cliché: thickness 0.5 mm. for logo with not wide image area

Steel cliché: thickness 10 mm. for logo that have a wide image area and a transverse pattern.

1 Color Pad Printing Machine

KENT TURBO-90

Features :

- Use sealed ink cup system
- Auto pad clean
- High speed & smooth corporation
- PLC control touch screen panel

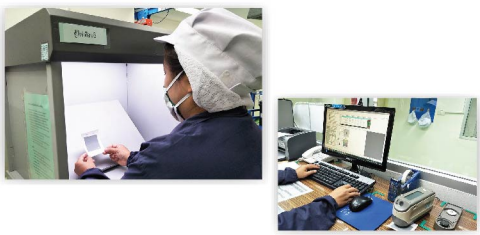
Remark: Printer requirements depend on image size, speed, and product design.

Service & Support

R&D Testing & Service

Color matching service

QC & Inspection service



Go Green

It's time for the CIRCULAR ECONOMY

Environmental Situation 2019-2022

Thailand's "Everyday Say No to Plastic Bags" campaign effective January 1st, 2020

* Department of Marine and Coastal Resources

COVID-19 is the name given by the World Health Organization (WHO) on February 11, 2020, for the disease caused by the novel coronavirus SARS-CoV2. It started in Wuhan, China in late 2019 and has since spread worldwide. COVID-19 is an acronym that stands for coronavirus disease of 2019.

* https://www.facebook.com/WHOThailand

How does COVID-19 increase 'plastic waste'?

In 2020, the amount of plastic waste increased by 15%.from an average of 5,500 tons/day to 6,300 tons/day

This does not include the waste generated by used masks. It is expected that there will be a rate of disposing of masks about 1.5-2 million pieces/day. [2]

Key factors from the COVID-19 situation have caused a leap in single-use plastic waste.

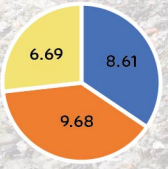
Food delivery application service.

Year 2020	66-68 million times an increase of 78-84% from the same period last year
Year 2021	not less than 120 million times increased as high as 18.4 - 24.4 percent compared to the previous year
Year 2022	estimated to be at 477 (base 100 at 2018), an increase of 2.9%.

Data from Kasikorn Research Center [1]

Solid waste in 2021 occurred at 24.98 million tons, a decrease of 1% from 2020.

Solid Waste Management Year 2021 (unit, million tons)



Decreased by 15 percent from 2020

Increase from 2020 by 3 percent

Increase from 2020 by 6 percent

can be brought back to use

properly dispose of

incorrect removal

Thailand's approach to regulating plastic consumption in 2022

Goal 1 Phase out and ban certain plastic products by replacing the following plastic products with environmentally-friendly alternatives by 2022:

- Lightweight plastic bags of less than 36 micron thickness.
- Styrofoam food containers* of less than 100 micron thickness.
- Single-use plastic cups of less than 100 micron thickness.
- Plastic straw.

Natural disasters continue to intensify.

Wildfires are caused by climate change, causing long-lasting, recurring, cyclical heating. (Gorny Ulus forest area in Siberian)

Massive floods have occurred around the world due to severe climate change. (huge flood in Belgium)

Ocean, Sea and Ice Crisis
The higher the surface temperature, the lower the ice mass. (Antarctic and Greenland)

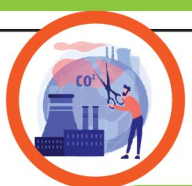
UN says drought is a risk The "next pandemic" if countries do not hurry to take measures to deal with water and land affects water supply and agriculture, transport, and energy production. (Parana River, which flows through Brazil, Paraguay and Argentina.)

* greennetworkthailand.com/climate-change

Goal 2 Establish Circular Economy by 2022 through recycling of at least half of the seven types of plastics as follows:

- Single-use plastic bags (HDPE/LLDPE/LDPE and PP)
- Single-layer film packaging (HDPE and LL/LDPE)
- All types of plastic bottles
- Bottle caps
- Single-use plastic cups
- Single-use food trays/containers
- Single-use spoons/forks/knives

* Ministry of Higher Education, Science, Research and Innovation



The 26th Climate Change Conference (COP 26 World Leaders Summit Opening Ceremony) iin Glasgow, Scotland
197 UN members reached an agreement to address climate change by reducing greenhouse gas emissions to net-zero by 2050 and trying to limit global average temperature increases to 1.5C through accelerating the phasing out of coal use, stopping deforestation, accelerating the transition to an environmentally friendly economy, and develop the carbon market mechanism.

* globalcompactth.com

Credit: [1] Kasikorn Research Center https://www.kasikornresearch.com/th/analysis/k-econ/business/Pages/z3128-Food-Delivery.aspx
[2] https://www.thaihealth.or.th/data/ecatalog/687/pdf/687.pdf
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Go Green

It's time for the CIRCULAR ECONOMY

Circular Economy, one of Thailand's development plans driven under the BCG model, new economic development model based on sustainable development (SDGs).

BCG stands for 'Bio-Circular-Green' Economy, or a combination of bio-economy development, circular economy, and green economy. (green) which, although not new, needs to be put into practice to prepare to adapt to global challenges such as climate change, energy, and food that are linked and impacted. affect each other and to make the economy more balanced and sustainable

The circular economy will focus on **'Waste management'** after consumption and 'Reducing the amount of waste to be less or equal to zero' **(Zero Waste)** to make the most of resource utilization and cost-effectiveness. since production Minimal waste design use of alternative materials as well as the reuse of materials (Reuse, Refurbish, Sharing) and recycle (Recycle, Upcycle).

Credit: SDG MOVE

Circular Economy Concept

- Recycle
- Upcycle
- Refurbish
- Remanufacture
- Reclamation
- Recovery
- Reuse
- Upgradable
- Recondition
- Repurpose
- Repair

https://www.egat.co.th

Examples Product of Recycling, Upcycling

PCR recycled plastic resin meet the circular economy

Post-consumer resin (PCR) is an environmentally friendly, generally refers to plastics such as PET, PP, and HDPE which are widely recycled and then reprocessed into a resin that is used to make new packaging. In simple terms, it is packaging that is being given a second life.

PCR presents one way that the circular economy model can be applied to businesses and also enhance the sustainability of the world.

With the circular economy principle, Make-Use-Return will change the process of production, consumption, and life to optimize resource utilization. Causing the least waste and increasing the efficiency of waste management to be brought back to circulating resources in the system with appropriate processes.

Currently, the use of PCR or Post-Consumer Recycled Resin is another trend that is gaining attention among plastic packaging users. Almost all major brand owners have issued policies and announced transformation goals. Increasingly, their packaging is made from PCR to meet the demands of consumers around the world who are more concerned with environmental issues and looking for more environmentally friendly products.

Credit: bangkokbanksme

Examples of symbols for various types of mandatory environmental measures

" Help reduce global warming by choosing products with these symbols to reduce greenhouse gas emissions and has less impact on the environment."

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