



TRENDVISION

Textile Inkjet Ink for Large Format Printers

**Textile
Inkjet Ink**



Pablo M. Lee (FLAAR Reports ink evaluation manager), Lim Kheng Tee (TRENDVISION President) and Dr. Nicholas Hellmuth (FLAAR Reports founder and President) at TRENDVISION factory and office.

TRENDVISION Textile Inkjet Ink

Textiles are one of the fastest growing sectors of digital printing. The applications are numerous, with the most common including apparel, home furnishings (curtains, bedspreads, upholstery, etc.) soft signage and flags.

In the past, the predominant technology was combined flat and rotary screen printing, which required three to four months and was harsh on the environment, due to water polluted with dye chemicals. Digital textile printing obviates screens and reduces production time to one to two weeks.

Two evaluators from FLAAR Reports had the opportunity to visit TRENDVISION headquarters in Zhuhai, China for a full day visit. During this visit we had free access to all the factory and to the demo rooms where we could observe the testing of textile ink on different substrates.

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Lim Kheng Tee (TRENDVISION President), Dr. Nicholas Hellmuth (FLAAR Reports) and Pablo M. Lee (FLAAR Reports) at TRENDVISION factory visit.



Dr. Nicholas Hellmuth, FLAAR Reports at TRENDVISION factory visit. 2016



Pablo M. Lee, FLAAR Reports inks specialist at TRENDVISION factory visit. 2016

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TRENDVISION Technology was established at Zhuhai, China in 2004 with the main mission of manufacturing inkjet ink, developing improved ink chemistries, acquiring high efficiency in manufacturing and rigorous managing processes with excellent services. This ink chemistry and production technology company in southern China offers a wide variety of ink products compatible with desktop inkjet printers, and wide format digital printers (Textile, solvent and UV-LED ink). For desktop inkjet printers this is one of the largest and most complete ink factories we have seen so far anywhere in the world. TRENDVISION makes inks for every brand and model of desktop printers (for home and for office) that we can imagine

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As you can notice here, we had full access to every part of the factory (which is of considerable size).

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During the visit to the factory we could observe that the ink manufacturing process is mostly automated, thus largely eliminating a lot of the possibility of failure due to human error.

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As you can see on this and following pages, the ink company granted us access to the entire factory.

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We have been to ink companies world head-quarters and factories in Germany, Switzerland, USA, Singapore, China, Taiwan, and Korea. So we have a bit of experience. What counts is not necessarily the size of the factory (we have visited small factories which focus on one or two kinds of inks that do an excellent job). Plus we have been to gigantic factories (in Germany we were in Building 60-something; in other words, 60+ buildings at this single location).



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The R&D department is conformed by a very capable team, who are constantly in in the search for the development of new products.

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The R&D department possesses a wide range of large format printers in which they test the different products under various conditions, to ensure that the ink meets the highest standards of the market.



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Prior to shipment, TRENDVISION's quality control team performs rigorous testing to ensure that the product meets the company's high standards.



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What is the difference between Dyes and Pigments?

The inks used for printing on textiles are divided into two types: dye or pigmented.

Dyes are soluble in water and used for colored clothes, basket reed and other porous materials. **Pigments** are generally found in powder, which is insoluble in water. For this insoluble nature, pigments are mixed with oil, water, etc. to make paint.

Acid dye is suited to natural fibers such as silk, and wool, as well as synthetics including nylon, elastane blends and modified acrylics. They are medium to low viscosity inks suited to piezo electric and thermal printheads.

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Lim Kheng Tee and Dr. Nicholas Hellmuth inspecting printed textile samples (with TRENDVISION textile inks) in the TRENDVISION world headquarters demo room.

Reactive dye can be used on fabrics such as, cotton, silk, wool, nylon and chemical fiber. They have a different chemical binding acid mechanism to colour the fibers. They are used with piezo printheads that are suited to medium viscosity inks.

Disperse Dye is able to generate shiny colors in polyester fibers. Post processing is required for these Disperse-inks to produce vibrant and color fast results.

Pigment ink was originally developed for direct-to-garment printing, especially t-shirts, but can also be used to print to rolls for later manufacturing.

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Benefits of digital inkjet textile printing

- Low set-up and running costs enable you to print economically at all run lengths, greatly reducing inventory requirements.
- Quick prototyping of fabric designs and related products.
- Fast introduction of new designs reduces time to market, keeping you ahead of the competition.
- The digital design can be controlled by the customers and they can even watch the digital printing process from remote positions.
- A detailed print with a wide range of vibrant colours increases product quality.
- Variable image printing and personalization opens up new product possibilities
- Materials can be deposited in precise quantities, greatly reducing ink, water and energy usage.
- Coatings and all materials can be applied more efficiently via inkjet workflow than with conventional methods.
- It becomes easier to store, transmit and print the computer files.

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Textile Printing Represents Fashion

Fabric printing is an important element of the growing fashion industry. Styles and fashion fads change so fast that it is easier to print short-runs with inkjet textile inks rather than decorate too much fabric with rotary screen printing or other old-fashioned printers.

Inkjet chemistry and printer technology helps designers create unique and versatile costumes for different distinctive characters, engendering unlimited possibilities for more profit when they switch to wide-format inkjet printers.



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Which ink for which fabric?

Ink Type	Acid Dye	Reactive Dye	Pigment	Disperse Dye	Dye Sublimation
Printing Method	Direct to pretreated fabric	Direct to pretreated fabric	Direct-to-fabric	Direct-to-fabric	On Transfer paper
Characteristic	Dye absorbed by the fabric	Dye absorbed by the fabric	Insoluble pigment adheres to the top of the fabric with a binder	Water insoluble	Oil-based, waterbased, solventbased
Fabric	Nylon, wool, silk (protein-based fibres)	Cotton and rayon materials (cellulose: plantbased fibres)	Primarily cotton or cotton mixed fabrics (non-fabric specific)	Polyester and synthetic fibres	Normally for transfer paper only
Post-Treatment	Dry, saturated steam and wash (from cold temperature to hot)	Dry, saturated steam and wash (from cold temperature to hot)	Dry heating (UV or hot air)	High energy calender (super heated steam) or press (dry heat)	Low energy calender or press (dry heat)
Pros	Bright colours, light fastness (better than reactive inks) and great wash fastness	Bright colours, light fastness and great wash fastness	In past years colour pop was weak	Less wastage than dye sublimation (economical and ecological)	(Most) Colours are bright

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Pablo M. Lee (FLAAR Reports ink evaluation manager), Dr. Nicholas Hellmuth (FLAAR Reports founder and President) and Lim Kheng Tee (TRENDVISION President) at TRENDVISION factory and office.

What counts, in addition to the ink chemistry, is the dedication and focus of the president, CEO, and managers to produce a good ink to help distributors, print shops, and OEM printer manufacturers to have a good product at a reasonable and viable cost.

We also take note of which companies avoid fostering misleading PR releases; PR claims by PR agencies are often the most revealing about problems and issues of an ink and the company. Greenwashing is one of the most obvious of misleading claims of an ink company (and decorating their booth with plastic flowers and floor covering of fake grass).

Visiting a factory is a good way for us at FLAAR Reports to better understand the capabilities, experience, and dedication of a company. We also learn a lot when we visit print shops that are using inkjet printer and toner printer products.

Contact information for TRENDVISION

If you are a textile printer manufacturer and seek reliable ink at a reasonable price...

If you are a major distributor and wish to have a good textile ink at a fair price (which you can reliable under your own brand name)...

If you are a substantial printing company for textiles and would like to switch to TRENDVISION textile inks...

Contact info is: **Lim Kheng Tee**
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