



The best solutions for Digital printing Ink to the global network

VISCOSMO is born in 2006. It is a young and dynamic company flexible and reliable which by means of a dedicated technical team develops and produces new generation digital printing ink for textile and graphic application.

VISCOSMO leads the wide format printing industry with innovative water based solutions for digital printing including direct dye sublimation ink, pigment ink and reactive ink.

Our whole products solutions, tailored for high production printing, environments, exceed expectations with superior color gamut unsurpassed image quality, reduced downtime and trouble free printing.

With our extensive research and development capabilities and applications know-how, we are uniquely able to work in partnership with customers to-develop better products and systems.

Thank you

Our Business

VISCOSMO Co., provides high-quality raw materials of inkjet inks to makers of global ink markets. Additionally, we supply a limitless range of inkjet raw materials with special properties to meet the needs of custom inkjet printing applications.

VISCOSMO Co., supply various kinds of colorants for the following:

DIGITAL TEXTILE PRINTING INKS APPLICATION

- Cotton/ Silk / Polyester

SUBLIMATION INKJET PRINTING INKS APPLICATION

- Thermos Transfer
- Direct digital textile printing

DESKTOP INKJET PRINTING INKS APPLICATION

- Dye base (ACID/DIRECT/REACTIVE)
- Pigment base
- Photo & Fine arts

WIDE FORMAT INKJET PRINTING INKS APPLICATION

- Sign & Display Printing
- Water base (Dye/Pigment)
- Solvent base (Pigment)
- Oil base (Pigment)
- Outdoor sign graphic / indoor sign graphic

Textile Ink

1. Reactive ink for digital textile printing

This Reactive ink is for inkjet textile printing especially designed for high speed printing mode.

Also the inks are formulated with the same base colorants used in conventional textile printing and meet industry standard performance.

These inks can be applied on cellulosic and silk fabrics by piezo technology such as Mimaki TX2/TX3, Monaalisa, D-Gen Heracle , Qualijet HS digital textile printers

Colors :

Cyan , Magenta , Yellow , Black , Light Cyan, Light Magenta, Light Black, Orange, Green, Blue, Red

Fabric Compatibility:

Cotton, Viscose/Rayon, Silk, Linen

Application include:

home furnishings, apparel, trade show banners

2. Dye sublimation ink for DX4,5,7 head compatible

This dye sublimation ink is particularly suitable for ink-jet printing on wide format printers using piezo printing heads. They are provide superior productivity and quality for high speed commercial printers including Roland, Mimaki, Mutoh and Epson

VISCOSMO Co., supply 100% purified inks free of any hazard materials (RoHS certified)

Colors :

Cyan , Magenta , Yellow , Black , Light Cyan, Light Magenta, Light Black, Light Light Black

Product Description

Water based sublimation digital ink

Application

1. Direct or paper transfer print onto polyester fabric duly pretreated
2. Printing on every substrates (wood, ceramics, glass) overprinted with polyester-based or polyamid-based coatings

Main Features

1. Bright and intense colors allow obtaining a wide color gamut during the profiling phase
2. Optical ink fluidity and printability through new type of Epson piezo heads
3. Fast drying on substrates dedicated to transfer
4. Very good fastness properties
5. Very good release on paper and image definition after transfe

3. Direct pigment for textile ink (DTG printings)

DTG ink are specially developed for direct to garment or roll to roll digital printing on cotton or cotton rich blends for a wide variety of apparel and specialty application.

DTG ink is particularly suitable for ink-jet printing on wide format printers using piezo printing heads. They are provide superior productivity and quality for high speed commercial printers including Roland, Mimaki, Mutoh and Epson

Colors :

Cyan , Magenta , Yellow , Black , Light Cyan, Light Magenta, White

Product Description

Water based pigment digital ink

Application

1. Direct print onto pretreated or non-pretreated fabric (Textile or Garment)
2. Printing on every fabric (Nylon, Polyester , Silk , Cotton , Viscose/Rayon , Linen , Wool)

Main Features

1. Bright and intense colors allow obtaining a wide color gamut during the profiling phase
2. Optical ink fluidity and printability through new type of Epson piezo heads
3. Fast drying on substrates dedicated to transfer
4. Very good fastness properties

Colorant

Dye: soluble in water or solvent

Pigment: insoluble in water or solvent

- Dispersion : dispersing particles

Sublimation Dye : insoluble in water

Pigment inks

Pigment: insoluble in water or solvent

- Less transparent colors (cf. Dye)

- High light fastness

- Fine particles (mean size: 80 – 120 nm, max. < 500nm)

- De-ionized water (no conductivity)

Sublimation Inks

Sublimation Dye: insoluble in water

- Most transparent colors (cf. pig) after sublimation
- Transferable at high temp (160 ~ 210 oC)
- Fine particles (mean size : 80 ~120 nm, max. < 500nm)
- De-ionized water (no conductivity)

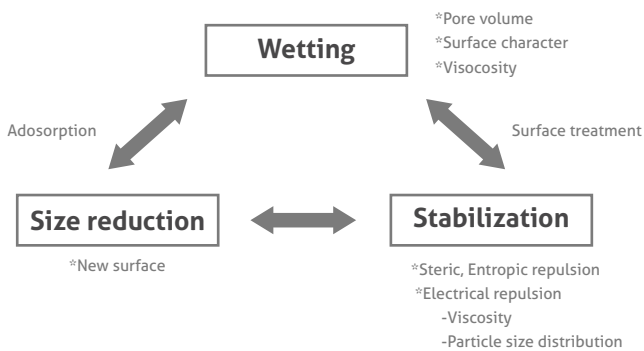
Dye/Pigment
(Sublimation) Inks
▶
Dye Yellow Ink(Left)
Pigment Yellow Ink(Right)



Dispersing for Colorants

Dispersion : large particles → (stabled) fine particles

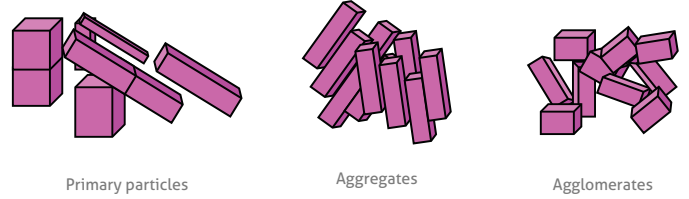
[Schematic Diagram of Dispersion Process]



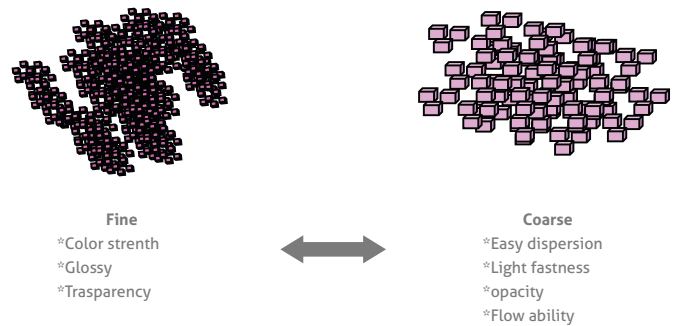
▲ Bead Mill

Dispersing for Colorants

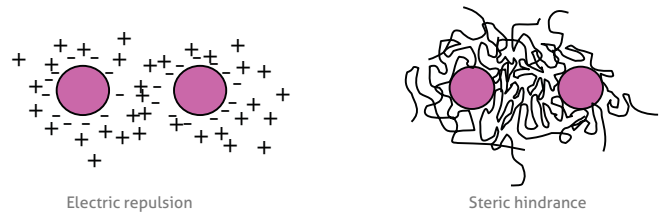
Type of Aggregation



Characteristics based on particle size



Schematic Diagram for stabilization of dispersion liquid



Electric effect: large in aqueous solutions
Steric hindrance: large in non-aqueous solutions

Formula for Dye Ink

- Colorant: pure material
- Surfactant(s): Surface Tension Control
- Moisturizer(s): Avoid nozzle drying
- Nozzle stabilizer
- Penetrating agent(s): Media/drying
- Biocide: Preventing decay

Formula for Pig (Sub) Ink

- Colorant: insoluble
- Dispersant: dispersing in bead/impact mill(s)
- Binder (Resin) : media/adhesiveness
- Surfactant(s): Surface Tension Control
- Moisturizer(s): Anti-nozzle drying
- Nozzle stabilizer
- Penetrating agent(s): Media/drying
- Biocide: Preventing decay



Filtering System

▶
No dust
2 stages

Dye :
0.2 micron (no particle)
Pigments/Sublimation Dye :
0.5 - 1.0 micron (fine particles)



Quality Analysis

▶
Composition Analysis: HPLC
Physical properties
Colorimetric data

Stability
a) Printing
b) heating/freezing

Ink Storage



Physical properties

Viscosity: for fluids flowing (water vs. honey)
Surface tension: water vs. oil/bubble (soap))



- * formation of drop
- * behavior in the print-head



Viscometer (static) Viscometer (dynamic) S/T (dynamic) S/T (static)

Physical properties

Conductivity: content of salts – precipitation on nozzle
pH value: corrosion of head (at low pH value)



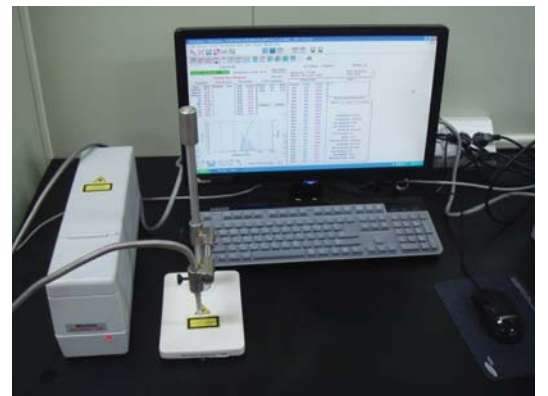
Conductivity meter

pH meter

Physical properties

Particle Size Control: 80 – 200 nm (mean), < 1,000 nm (max)

▶
Particle Size Analyzer
(laser light diffraction)



Color Concentration & Shade

Viscosity: for fluids flowing (water vs. honey)

Surface tension: water vs. oil/bubble (soap))



(a) UV-Visible spectrophotometer : in liquid



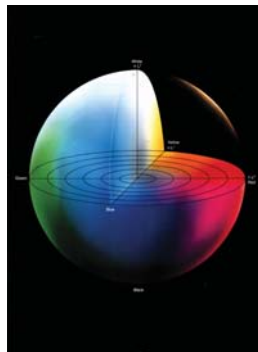
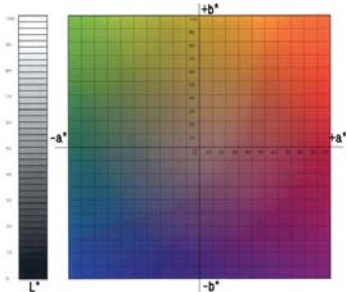
(b) Colorimeter : on printed media

CIE L*a*b System

L > 0: white, < 0: black

a* > 0: reddish, < 0: greenish

b* > 0: yellowish, < 0 bluish



Printing (wide format)



Printing

a) Compatibility with OEM inks (oddments in printer)

- Poor compatibility: may cause nozzle clogging

b) Printing stability: image printing/color density on substrates



- drop formation
- bleeding
- inter-color bleeding
- spraying
- bronze effect (pigments)
- slip from media (pigments)
- light fastness: under UV light (Xenon or Tungsten lamp)

Packing System

▶ Pack type (Semi-automatic)
under vacuum conditions
without air bubble/dust



▶ Bulk type (Automatic)

