

# **Mastering Mounting: Handling Digitals**

**Chris A. Paschke, CPF GCF**

**WCAF Framing Expo 2026 Orlando**



Shown on metal, canvas, paper.



## Inkjet as Art

Originally used as prepress, Aqueous inkjet and dye sublimation fit into the fine art category. Shown on metal, canvas, paper.

# Inkjet as Textiles

Inkjet textile printing on assorted woven fabrics, often polyester, is everywhere:

- Hanging Signage
- Backlit Signage
- Draped on Buildings
- Double-Sided Flags
- Banners
- Tents and Awnings
- Home Soft Goods
- Home Furnishings
- Personalized Products
- Fabrics and Apparel





Dye Sublimation Inkjet on flexible fabric for home and wall décor.



Changes VII  
526DVG0449-MR

## Art as Wallpaper Solvent Inkjet

Shown on ceiling, risers and wall



## Art as Vehicle Wrap

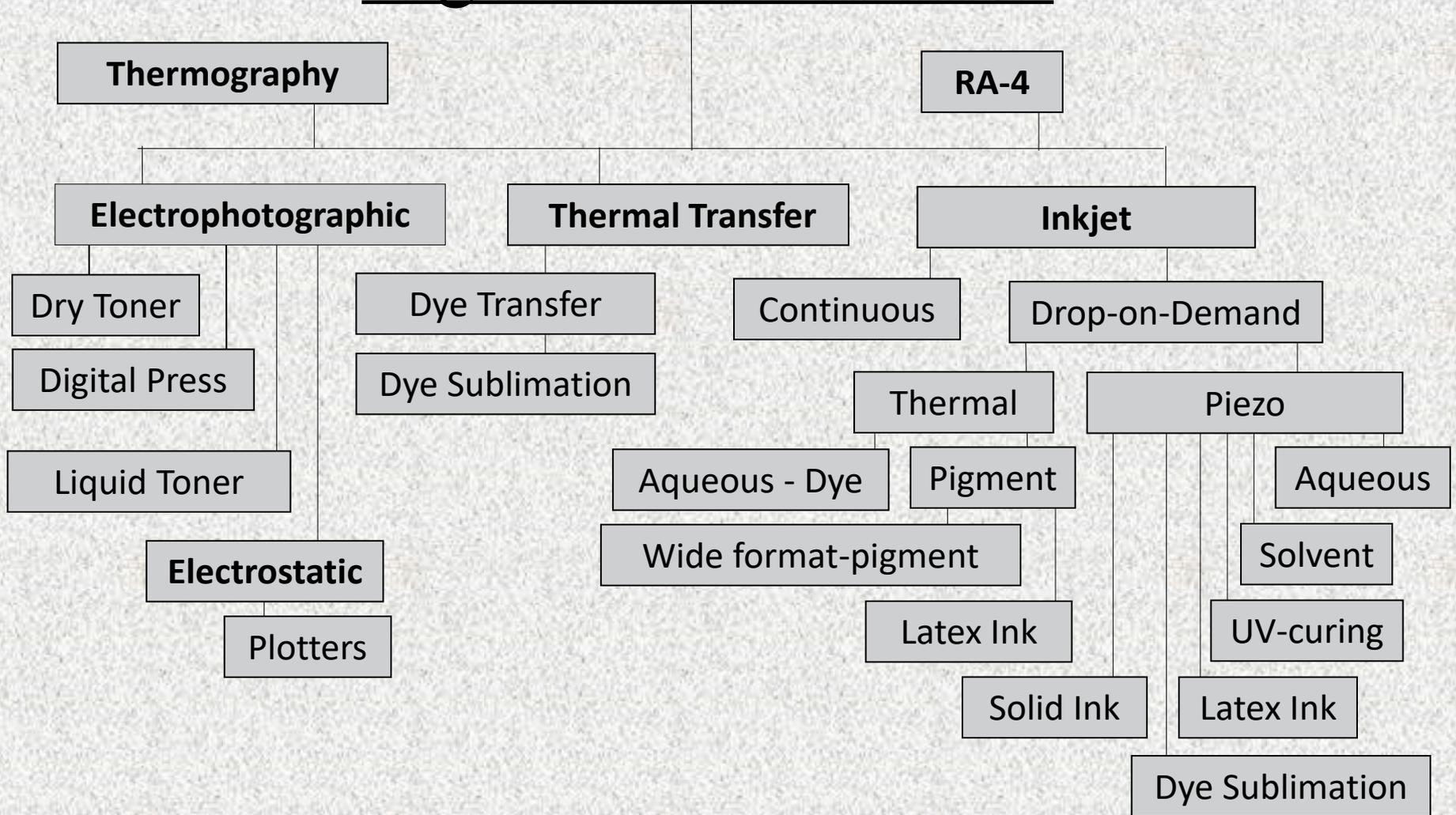
Solvent, UV Curing, or Latex Inkjet

Wrapped bus ad for Copenhagen Zoo



Mural installation 65'x49' digital graphic applied to wall using wheatpaste and coarse bristle brush on residential building in Berlin.

# Digital Umbrella 2025



# Thermography – Typographic Method

## **Direct Thermal**

Relies on heat to create the letters & images on paper.

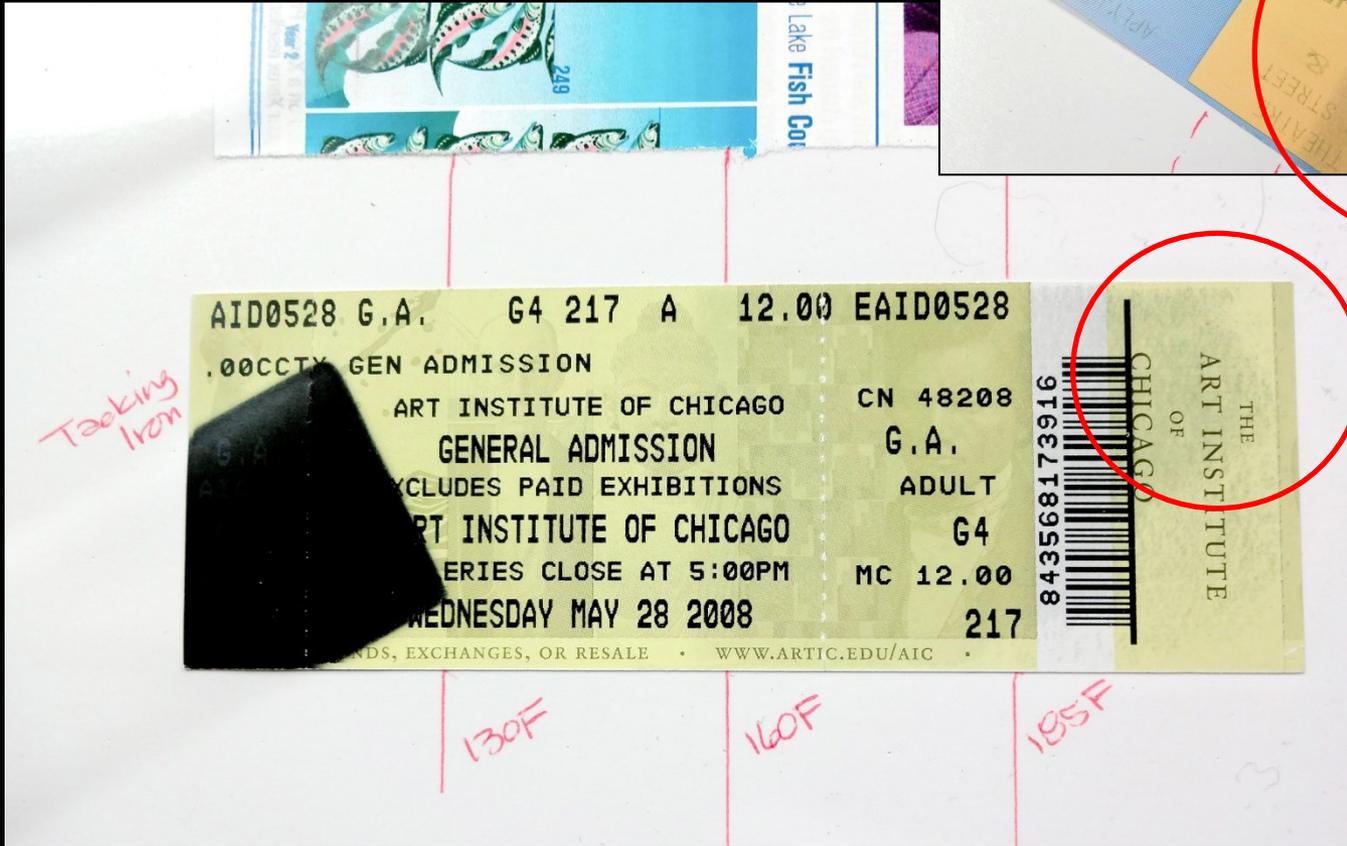
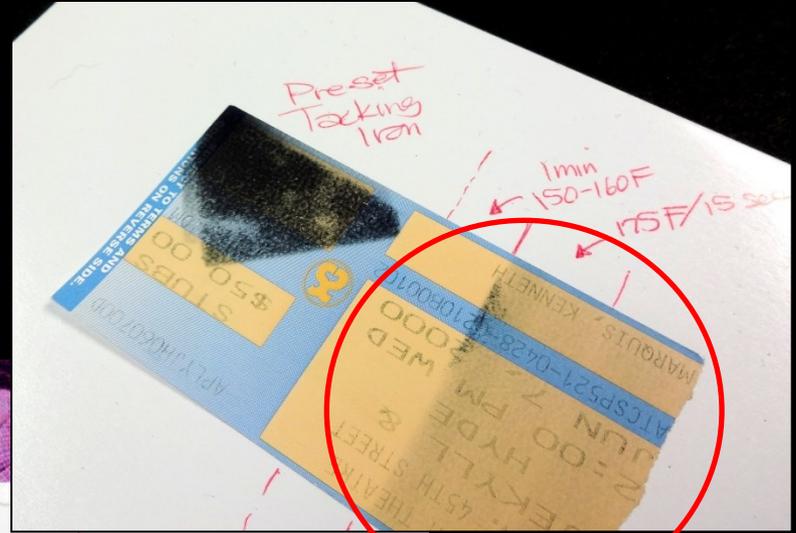
- Paper coated to change color
- No ribbon or ink transfer
- Original FAX machines and Sales Registers
- Still used for barcodes

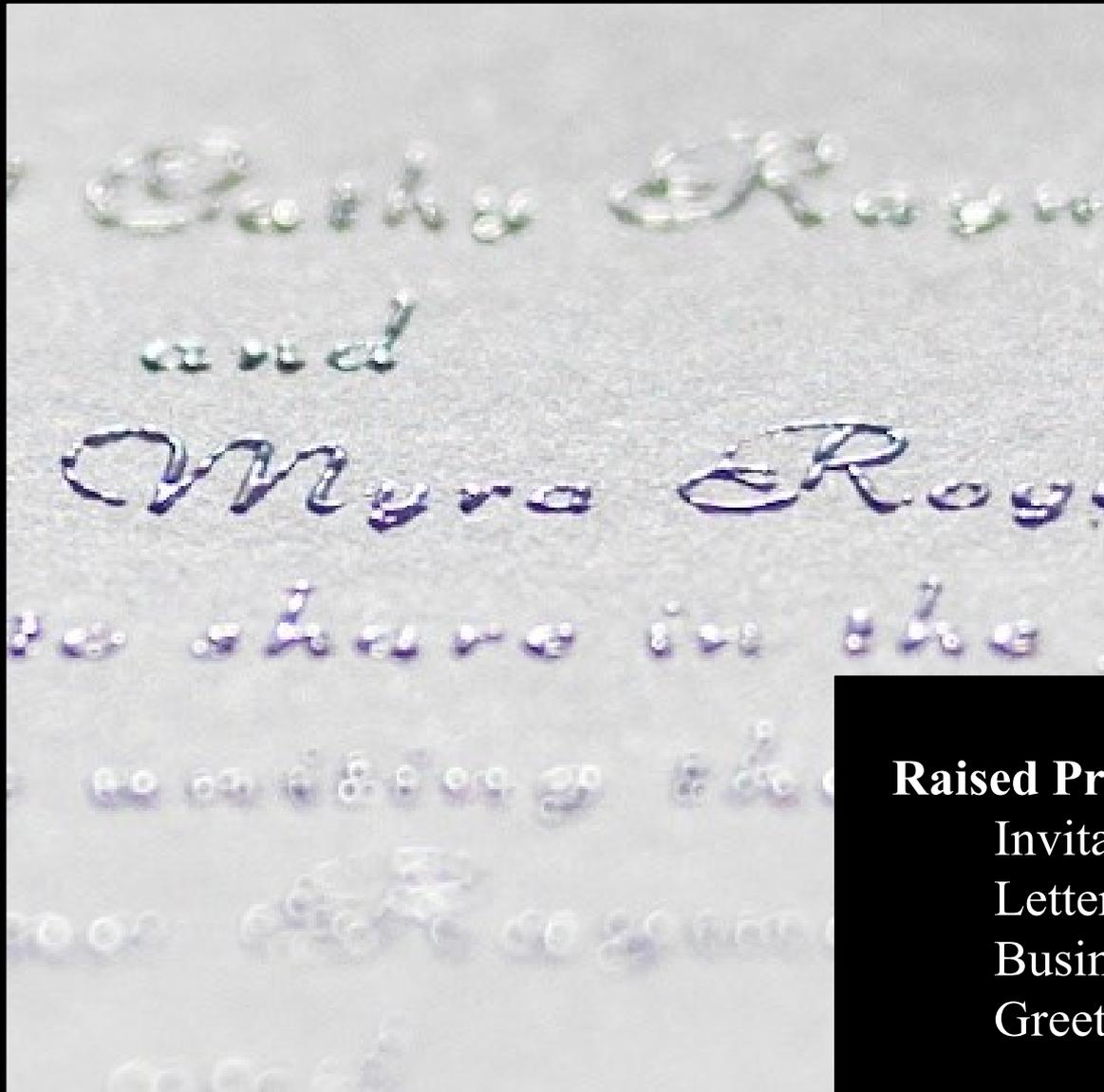
## **Raised Print Process**

Post print process achieved using traditional printing in a three-step process:

1. Applies plastic resin thermographic embossing powder to the substrate.
1. Vacuums extract powder from non-inked areas.
2. Heat-sets at 90°F to 130°F.

# Thermography





## **Raised Print Process**

Invitations

Letterhead

Business cards

Greetings cards

# Digital Umbrella

## Electrophotographic

### **Dry Toner**

Copiers - 8-1/2"x11" thin 20-22# plain paper

B&W Laser - Monochrome toner

Brother, Canon, HP, Lexmark, Xerox

Color Laser - Toner

Brother, Canon, HP, Lexmark, Xerox, Ricoh

Imaging technology that takes a digital file and using a photoreceptor, light source, electrostatic principles, and toner produces a print.

## I3A Launches Digital Photo Preservation Website at [www.savemymemories.org](http://www.savemymemories.org)

Las Vegas, NV.—The International Imaging Industry Association (I3A) launched its Consumer Photo Preservation (CPT) website at [www.savemymemories.org](http://www.savemymemories.org). The site was created to educate and motivate people to take steps to protect their digital photos and prevent the mystery of how to preserve digital images by outlining the needs, risks and proper methodology for storing, cataloging and preserving digital photos.

The new site showcases the results of I3A's recent Consumer Photo Preservation Initiative, in which industry leaders collaborated to investigate the issues and develop solutions for protecting against the accidental loss of consumer's digital photos. The site explains:

- How to create a backup solution for long term storage;
- Tips for organizing photo collections to make it easy to locate individual photos in the future;
- For those than 150 years, photography has shaped our lives—preserving precious memories of people, places and events. Digital technology has changed the way we capture and preserve memories, but the need to safeguard our visual heritage is as important as ever."

Using a "taskbook" approach, the site walks visitors through the steps of preparing and preserving digital photos, organized around sections titled Learn, Organize, and Recover. Additional information is also included or linked to the site will be updated, and I3A welcomes feedback from members and non-members alike. Companies participating in the initiative include Eastman Kodak, HP and

**I3A Initiative Process**

Today

- I3A serves seven active technical committees, which develop standards, test and certify products, services and systems, the need for, and importance of, standards in the industry association worldwide. I3A is the leader in development of standards for ISO standards on imaging.

As the pace of technological change continues to accelerate, and we become more dependent on digital imaging technologies, the need for, and importance of, standards in the industry association worldwide, I3A is the leader in development of standards for ISO standards on imaging.

I3A served for many years as the Administrative Secretariat for the American National Standards Institute (ANSI) Committees for the development of standards in the field of photography and to establish a standards developing organization.

I3A standards are approved using an ANSI-accredited I3A standards development process. The process includes a formal ISO process and a management board.

## Are your memories safe?

For more than 150 years, people have recognized the unique value of photography. Imagine how this groundbreaking invention has shaped our lives, giving way to preserving precious memories of the places and events in our world. And while digital technologies have changed the way we capture and store photos, the desire to safeguard our visual heritage today, and in the future, remains essentially the same. The companies that comprise the International Imaging Industry or I3A understand this all too well. That's why we created this site to help you understand the how to prepare and preserve your photographic memories for years to come.

### Quick start

#### 1. Protect your Pictures

If you have all of your digital photos stored on your computer but have yet to do anything else with them, take steps to protect them right away. Make prints, copy to CDs or DVDs, a second hard drive, or upload to an online service for storage.

#### 2. Organize

Whether you use a photo software program or create your own system based on folders and file names, your photos need to be organized in a way that lets you find them when you want them. Learn more about how to want to create a place or use a method that will help you to locate them easily and quickly. Don't want to lose them.

#### 3. Stay Informed

Watch the industry for technical developments, always use common sense when using new technologies.

By Elizabeth Cunningham

## New Ideas, Technologies, Printing & Finishing

Industry report

By Elizabeth Cunningham

## Black-and-White Lives: Inkjet and Photo Solutions

To find new niche markets, have you thought about inkjet printing? Did you know that you can change inkjet fiber-like media. There are huge collections of printed, and guess what, they are B&W. Canvas displays, greeting cards, calendars, even a few of the applications for monochrome inkjet to printer, or a minilab, or a digital on-demand B&W lab technicians are still using enlargers together? Because there's good money in the inkjet technologies, UK and Ilford The Cj Group, which for two years, came to PMA with strong inkjet label, but...

3100ps

designjet Z Photo Printer  
GP Photo Printer  
for consistent and  
of cost to end

IK company has  
ify this even fun-  
both liced com-  
pagnit.com  
whose manufac-  
use specialized  
of cost to end

with all the  
"Current  
30-inches w/  
to 20-inches  
look at inkjet  
based B&W p  
George has  
new B&W opti-  
and after weigh  
inkjet vs. photo  
I sure like 2.7

Electrophotographic Color Copies – dry toner



Electrophotographic four color toner copies and heat damage

# Digital Umbrella

## Electrophotographic (xerographic)

### Liquid Toner

Color Digital Presses – Photographs, Book Printing

- HP Indigo



HP 200K Digital Press



Electrophotographic liquid toner – HP Indigo



Digital press toner lifts ink from paper when laminate is lifted to realign



Heidelberg Digital Press – changed color under heat and laminate

# Digital Umbrella

## Electrostatic

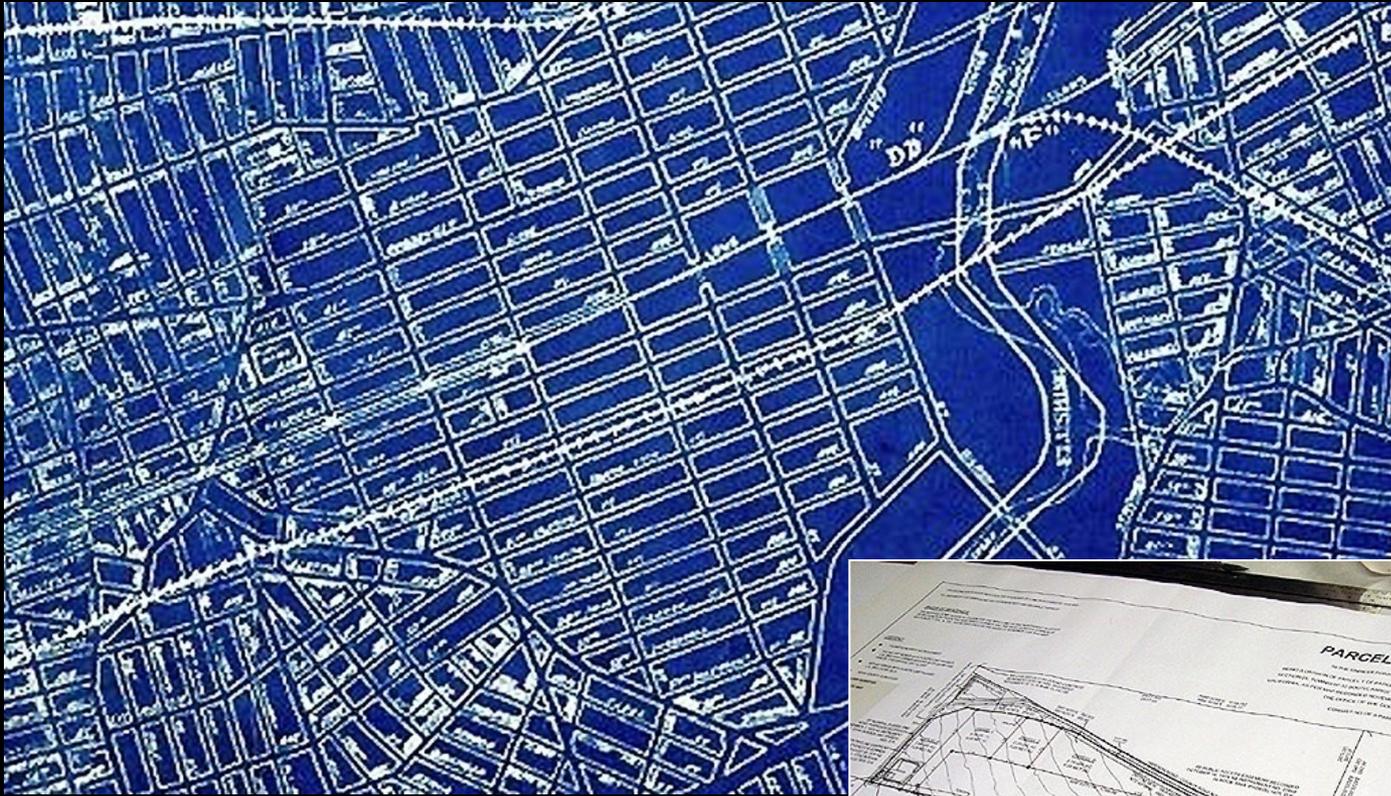
### Large-format Printers/Plotters

- Bluelines & Maps, Labels, Textiles
- Monoprints and Color Prints
- HP, Roland, Epson

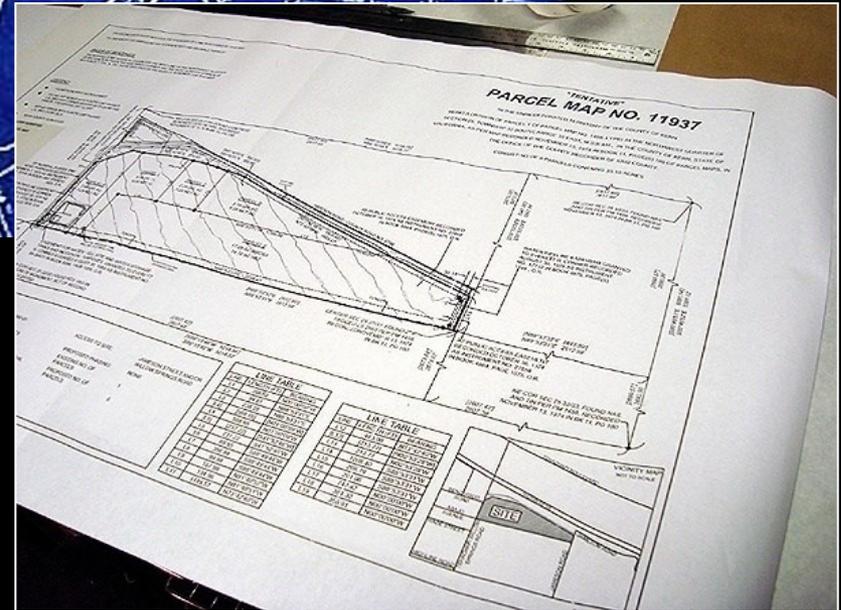
HP DesignJet T630



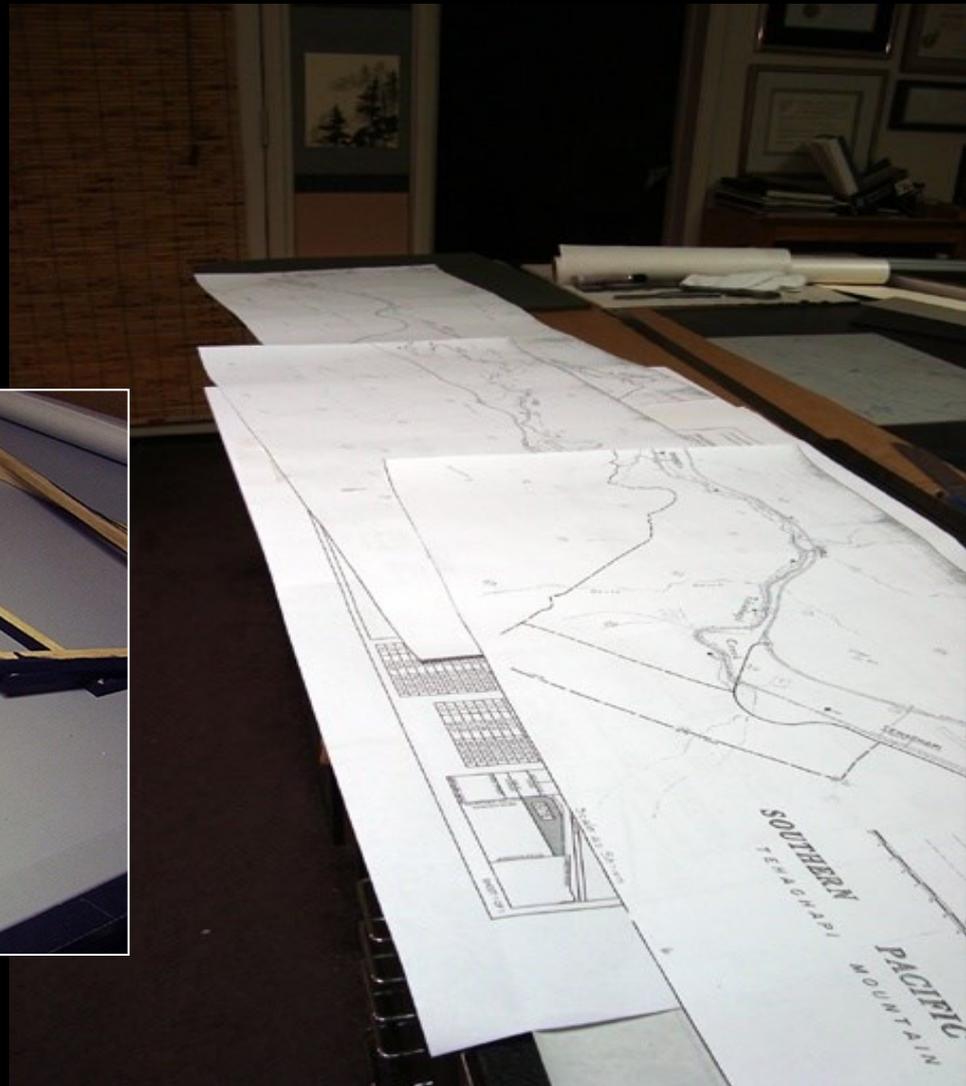
A static electricity charges the surface of a photosensitive drum. The image is projected onto the sensitized surface then dry toner powder is attracted to the image, resulting in a visible image onto paper. Since 1967.



Traditional Blueprint



Electrostatic  
Blueline



Electrostatic Dry Toner Plotter - Blueline



Blueline mounted and laminated with lifters

# Digital Umbrella

## Thermal Transfer

### Dye Transfer

#### Transfer Printers

- Photo Kiosks (discontinued)
- Brother, Epson, Zebra

A photo printing process  
1920s-1950s of CMY dye used  
to print Technicolor films  
and color prints.

### Dye Sublimation

#### Photo Printing

- Uses a ribbon of solid ink that sublimates to a gaseous state and embeds to paper.
- Epson SureColor, HP

#### Dye Sub Inkjet

- Liquid inkjet
- To textile, ceramic, aluminum...



Mitsubishi Electric dye sublimation kiosk prints

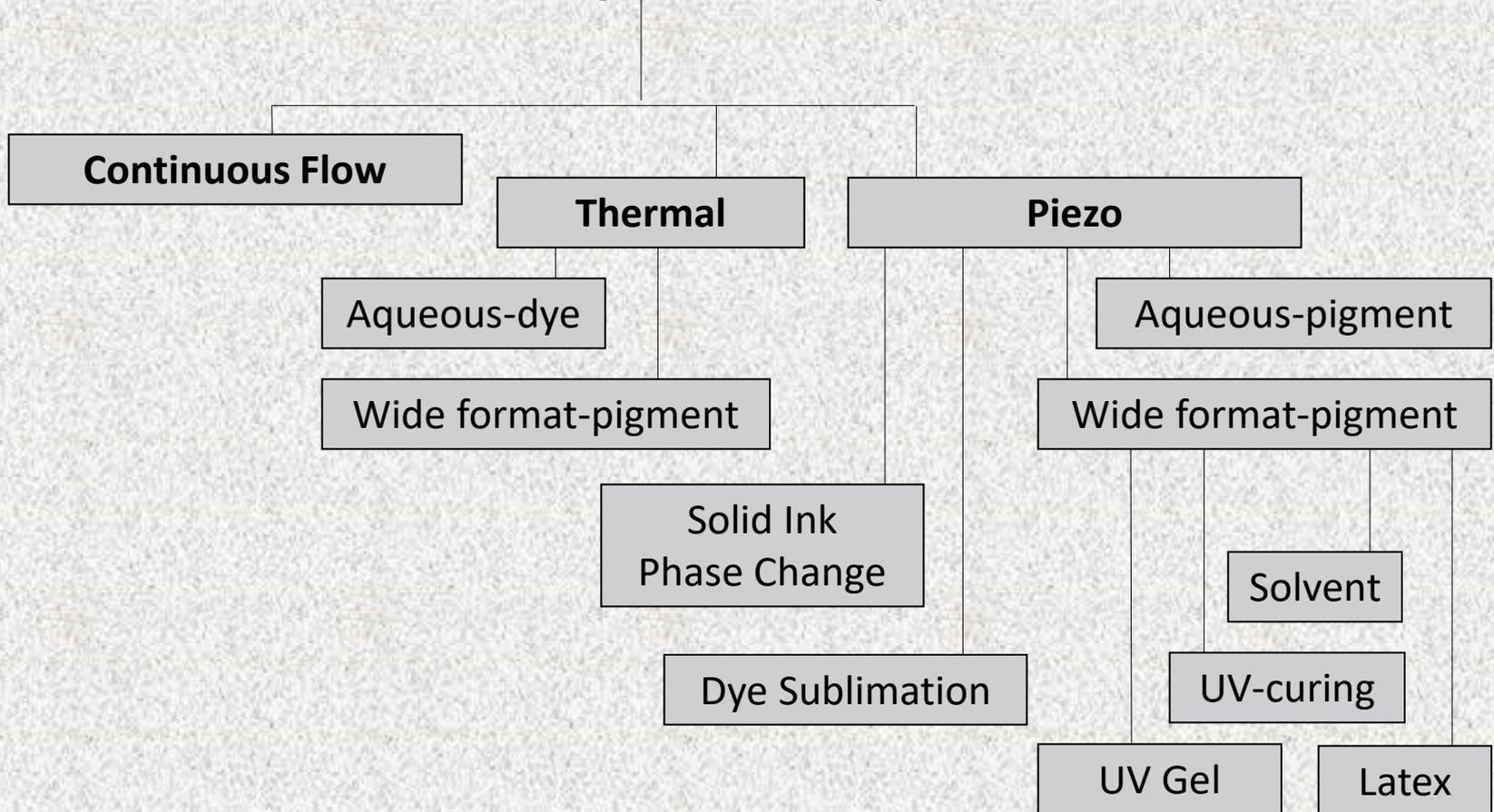


Cropped and bordered photos are an indicator of thermal transfer kiosks



Dye sublimation technology is common for photos at weddings, sports and special events

# Digital Inkjet



# What is Inkjet?

Inkjet printing is a type of computer printing that creates a digital image by propelling droplets of ink onto paper.

It used to be all about the process: Thermal vs. Piezo.

Current definitions are all about the equipment:

Format - Rollfed vs. Flatbed

Size - Desktop - A4 for home and office

Large-format - 18" to 36" wide

Wide-format - 36" to 10' wide

Grand format - over 10'

Ink - Aqueous, Solvent/Eco-Solvent, UV Curing,  
UV Gel, Latex, Resin-Latex, Solid, and  
Dye Sublimation,



Fuji Acuity Rollfed and Flatbed UV printers



## Printer Size

Desktop = up to 11x17"

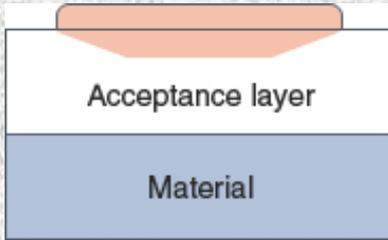
Large Format = 18" to 36"

Wide Format = 18" to 10'

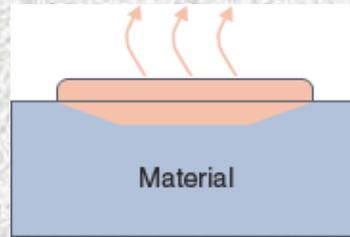
Grand Format = over 10' wide

Grand-Format building wrap  
in Philippines

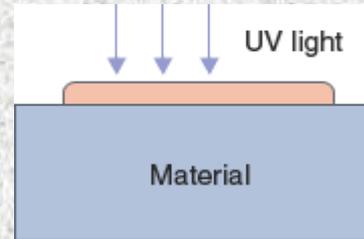
# Comparison of Four Basic Inkjet Printers



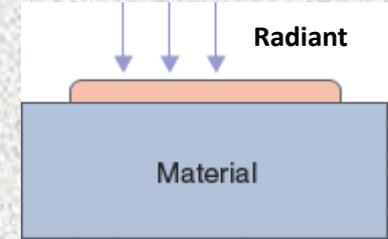
**Aqueous Ink**  
has less odor and rich color, for indoor use of poster and fine art. The ink penetrates the media during drying, making compatible substrates limited.



**Solvent Ink**  
dries quickly by heat and evaporation. Great for outdoor commercial use as they do not need special coatings, are waterproof, durable and resistant to UV light.



**UV Curable Ink**  
cures by UV light instantly onto the substrate without the ink seeping into the surface, so they may be used with materials without special preparation.



**Latex Ink**  
dries by internal radiant heaters with forced airflow to cure and produce dry prints inside the printer.



# Inkjet vs. Giclée

**Giclée are inkjet, but not all inkjet are giclée.**

**Inkjet** generically refers to small format desktop printing to plain paper from word processing.

**Giclée** is an individually produced, high-resolution, high-fidelity, high-tech reproduction (CMYK) done on special large format pigment ink printers using only high-gamut, moisture-resistant, extended-term inks.

Iris, Roland, Canon, HP, Epson

# Archival Inks

"Archival" is an archaic term used (too often) in marketing.  
Use "extended-term" or "long-term" instead, says ISO

## Dye-base Ink

- Excellent color gamut
- Molecularly soluble in its vehicle (water)

## Pigment Ink

- Excellent permanence
- Not molecularly soluble
- Embed into receiving layer making them water-resistant
- Less susceptible to destructive environmental elements

Many digital papers have coatings which enhance color gamut, while making them susceptible to scuffing and scratching, also diminishing the extended-term properties of the print.

# Standard vs. Giclée

## **Standard Digital Print**

- Regular CMYK printers
- Dye-based ink, More light-fugitive
- Regular Paper
- Lower resolution
- Less colors and less detail
- Prints fade quicker
- More affordable

## **Why Standard?**

- Posters, Cards, Flyers
- Disposable signage/banners
- General Marketing

## **Giclée Digital Print**

- High-end 12-color inkjet printers
- Pigment-based ink, more lightfast
- Neutral pH "long-term" substrate
- High resolution
- Greater color gamut
- Higher detail
- Lightfast 85+ years
- More expensive

## **Why Giclée?**

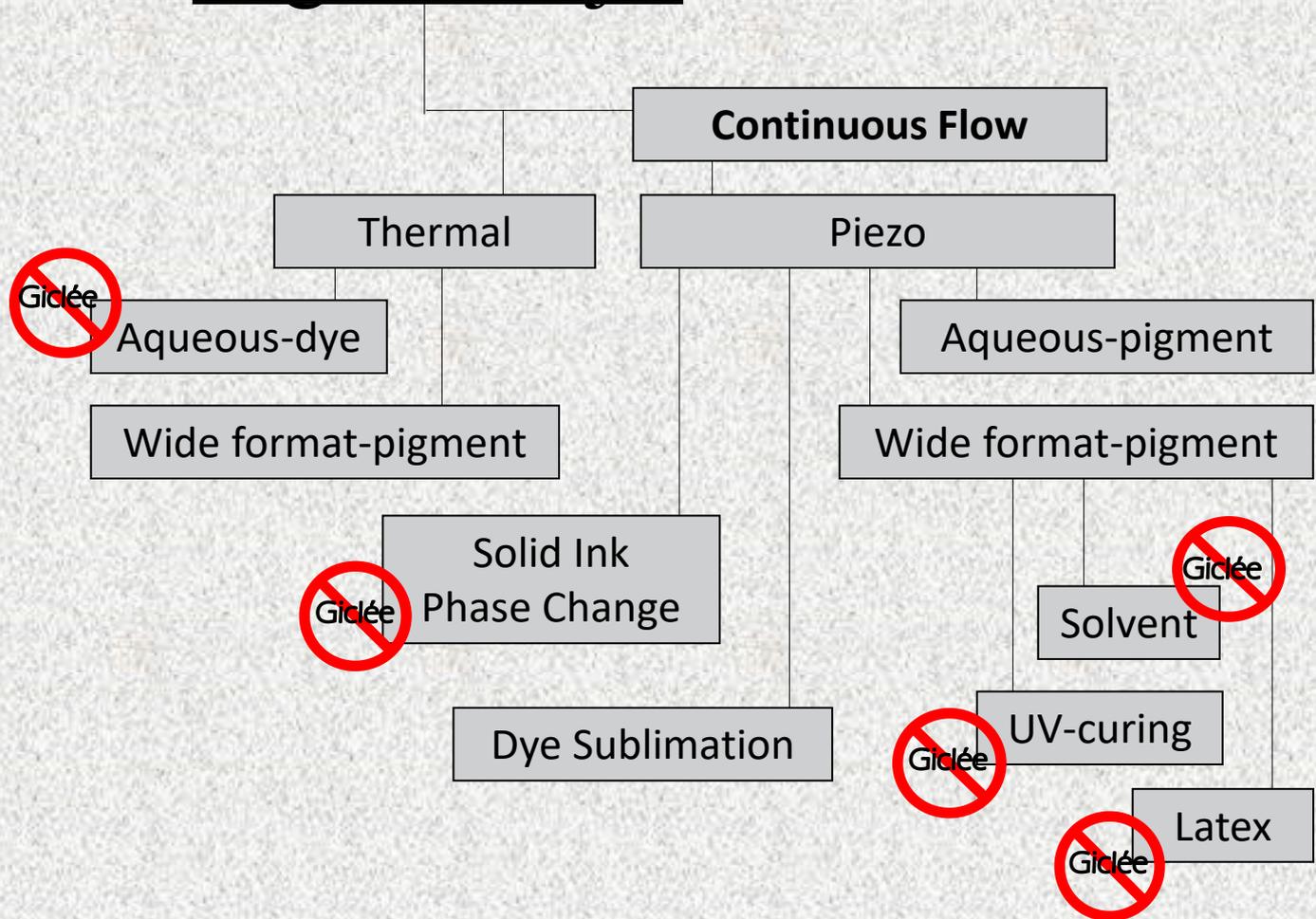
- Identical to a scanned original
- Colors are more vibrant
- Details are sharper
- Ink longevity

# Is Solvent Inkjet Giclée Quality?

Today many publishers use solvent, eco-solvent, UV, latex, and dye sublimation printers to produce high-end canvases, gallery wraps, and wall décor. The big question then is not giclée or not, but rather will solvent inkjet have long term stability and lightfastness.

It's not just the ink or printer, but the substrate. A fine art giclée print--paper, photo, canvas, metal, acrylic--may be treated like any digital print, as it is the print (the image) itself that makes it more valuable, not the way it is handled, mounted, and framed after the fact.

# Digital Inkjet



# Digital Inkjet

## Continuous Flow

### **Giclée Fine Art Images**

Digital, color calibrated, large-format

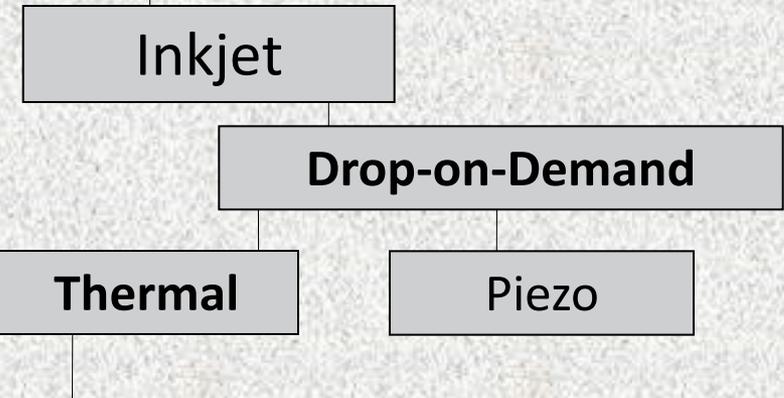
Print to Fine art paper, silk, canvas, bamboo, acrylic, aluminum

- IRIS (1984)
  - Designed as a digital prepress for proofing colors
  - Piezoelectric technology
- Epson large-format printers replaced IRIS by 2010



Continuous flow fine art inkjet

# Digital Umbrella



## Aqueous Dye Inkjet



**Desktop** -Plain paper, photo paper, light coated paper

- HP, Canon

**Large Format – Pigment Ink**

- Canvas, photo, film, Tyvek, textured & coated paper
- HP, Canon

**Wide Format – Pigment Ink**

- HP Z-series, Canon imagePROGRAF



Thermal Inkjet desktop prints



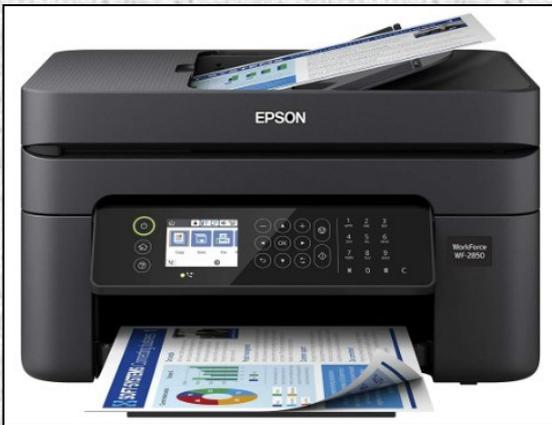
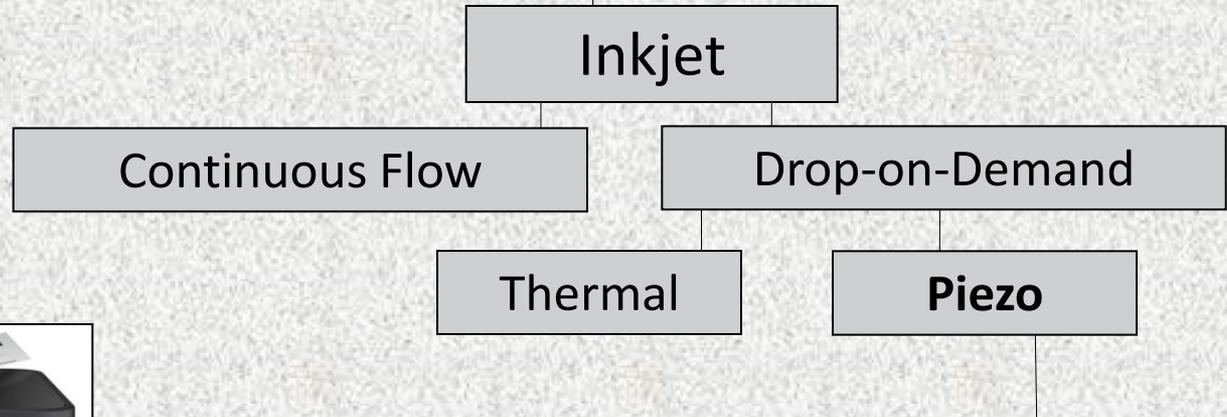
Thermal Wide-format Canon imagePROGRAF paper and canvas



## Thermal inkjet photo printer papers - clockwise

HP Matte Litho-realistic Paper (HP Z3100); HP Hahnemühle Smooth Fine Art Paper on Z2100; HP Professional Satin Photo Paper and HP Collector Satin Canvas on Z3100

# Digital Umbrella



## Aqueous Pigment Inkjet

### Desktop – Pigment Ink

- Also called Piezoelectric
- Epson, Brother



### Large Format – Giclée quality

- Epson, LexJet, Ricoh

### Wide Format - Commercial Use

- Epson, LexJet, Ricoh, Roland, Mimaki



Surface sensitivity of Epson desktop inkjet printer on porous paper



HP Z-series  
Heat tolerant

Epson Wide-format  
Heat tolerant

Heidelberg Press  
NOT heat tolerant

# Digital Umbrella



Epson SC-S60670 Eco-Solvent

**Inkjet**

**Drop-on-Demand**

**Thermal**

**Piezo**

**Solvent**



## Solvent Inkjet - Wide Format

Eco-solvent inks = waterproof, durable and resistant to UV

Digitally printing up to 10' wide

For commercial use and signage

Interior and exterior with no special coatings

- Epson, Roland, Mutoh



Roland VersaCAMM solvent inkjet 56" wide format

**Photo  
Surface Scuffing**

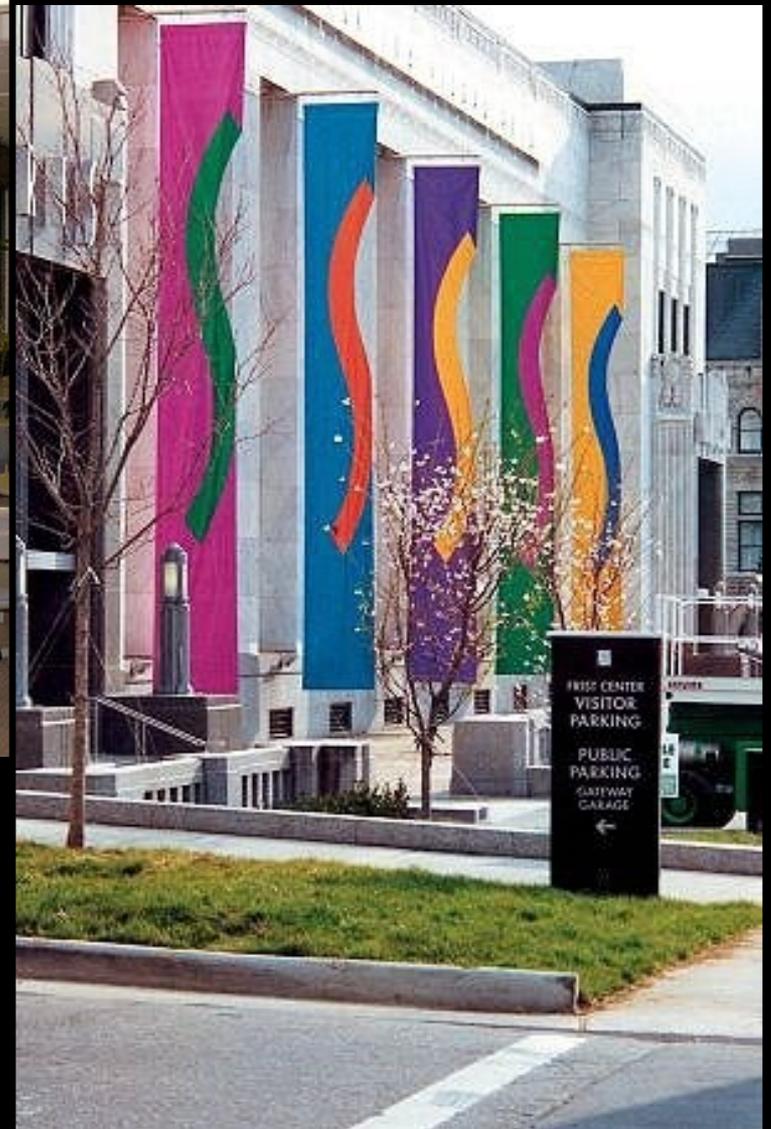




Mounted plaques on Railroad Museum Timeline



Café wall solvent on MDF



Banners

Océ Arizona solvent on mesh

# Digital Umbrella

**Inkjet**

**Drop-on-Demand**

**Thermal**

**Piezo**

**UV-Curing**

Mimaki UJV55-320 UV Curable Rollfed



## UV-Curing Inkjet

- UV light instantly cures ink, coating, adhesive
- Environmentally friendly
- For glass, acrylic, honeycomb, polycarbonate, ACM
- Canon, LexJet, HP, Ricoh



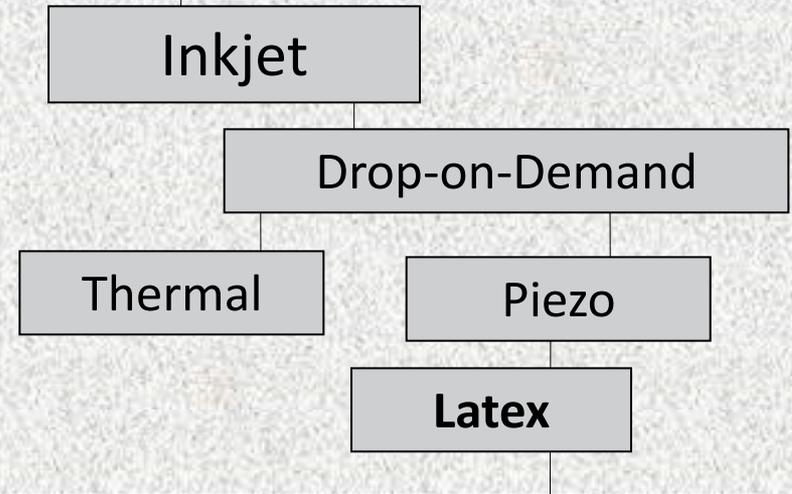
Printing to flexible media as  
Product labels, window  
décor, vehicle wraps...



# Digital Umbrella



HP-Latex 1500



## Latex Ink - Large Format

- Aqueous pigment ink, lightfast
- Scratch, smudge & water resistant, indoor/outdoor
- Forced airflow to cure under radiant heaters, ready-to-use
- HP, Ricoh



## Resin/Latex

- Designed for vinyl and flexible signage (Tyvek)
- Roland, Epson



Lightbox, wall décor...



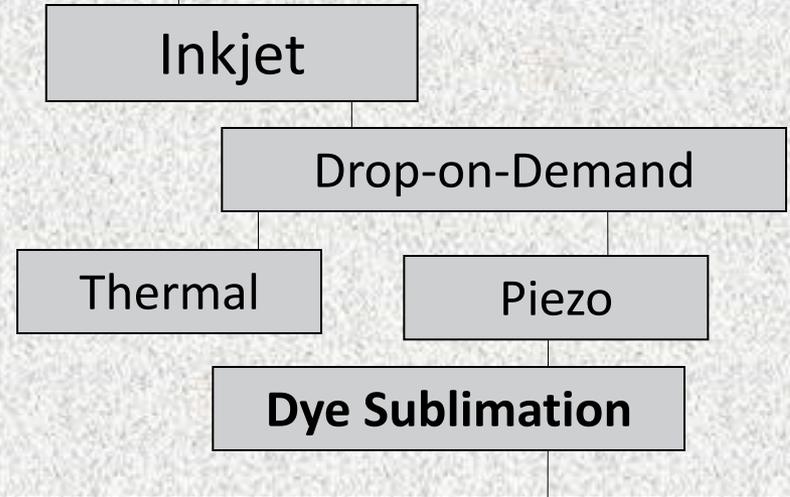
Osmond Sign – Latex Print



# Digital Umbrella



RolandTexartRT-640



## Dye Sublimation Inkjet

- Direct printing process (replaces screen printing)
- Requires heat setting
- Permanent and washable for polyester textiles
- Epson, Mimaki, Mutoh, Roland

## Direct Printing

- Uses dye inks for silk, cotton, wool
- Requires pre-treatment, washing & post-treatment

# Grand Format Dye Sublimation

Printing on cotton and polyester-based fabrics with Pigment-based dye sublimation and direct-disperse inks is growing in wall decor.



## Dye Sublimation on Metal Plate

*Sentry West, 24" x 48"*

Anita Jesse, artist



## Dye Sublimation on Canvas

*Solitude, 24" x 24"*

Anita Jesse, artist



# PPFA PRINT 2017-18

## *Sun Dappled II*

Created by Wild Apple Studio  
Published by Wild Apple Graphics

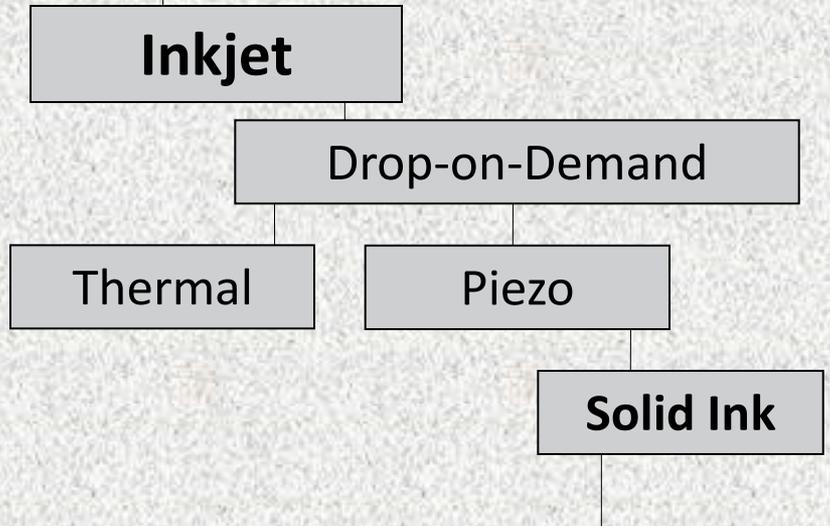
- Metal plate 6x6"
- High gloss finish on Chromalux
- Epson dye sublimation printer
- Dye inks transfer image to paper
- Applied to the Chromalux panel
- Treated to receive the dyes
- Put flat into a heat press @ 400°F
- 80 psi for 2 minutes
- Printed by Northwest Art + Frame



# Digital Umbrella



Xerox Versalink C620



## Solid Ink/Phase Change Inkjet (1962)

- Wax based ink sticks, 150°F+ melts ink
- Feel the edges of the ink, may soak through
- Commercial graphics, brochures
- Being phased out of use
- Xerox

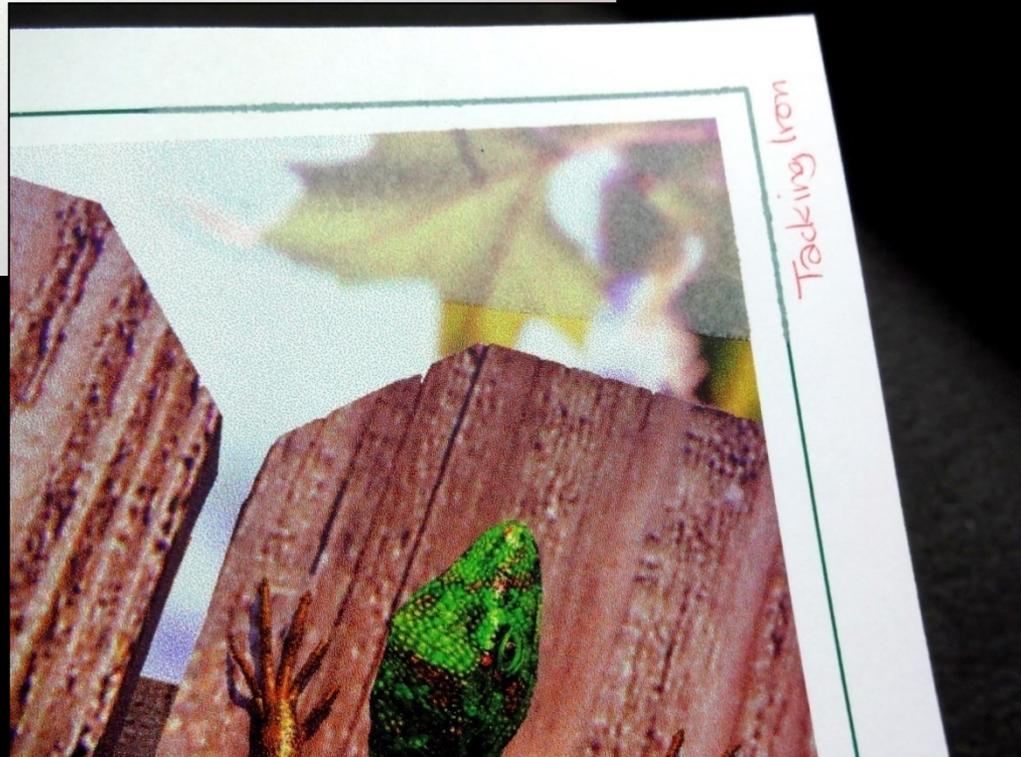


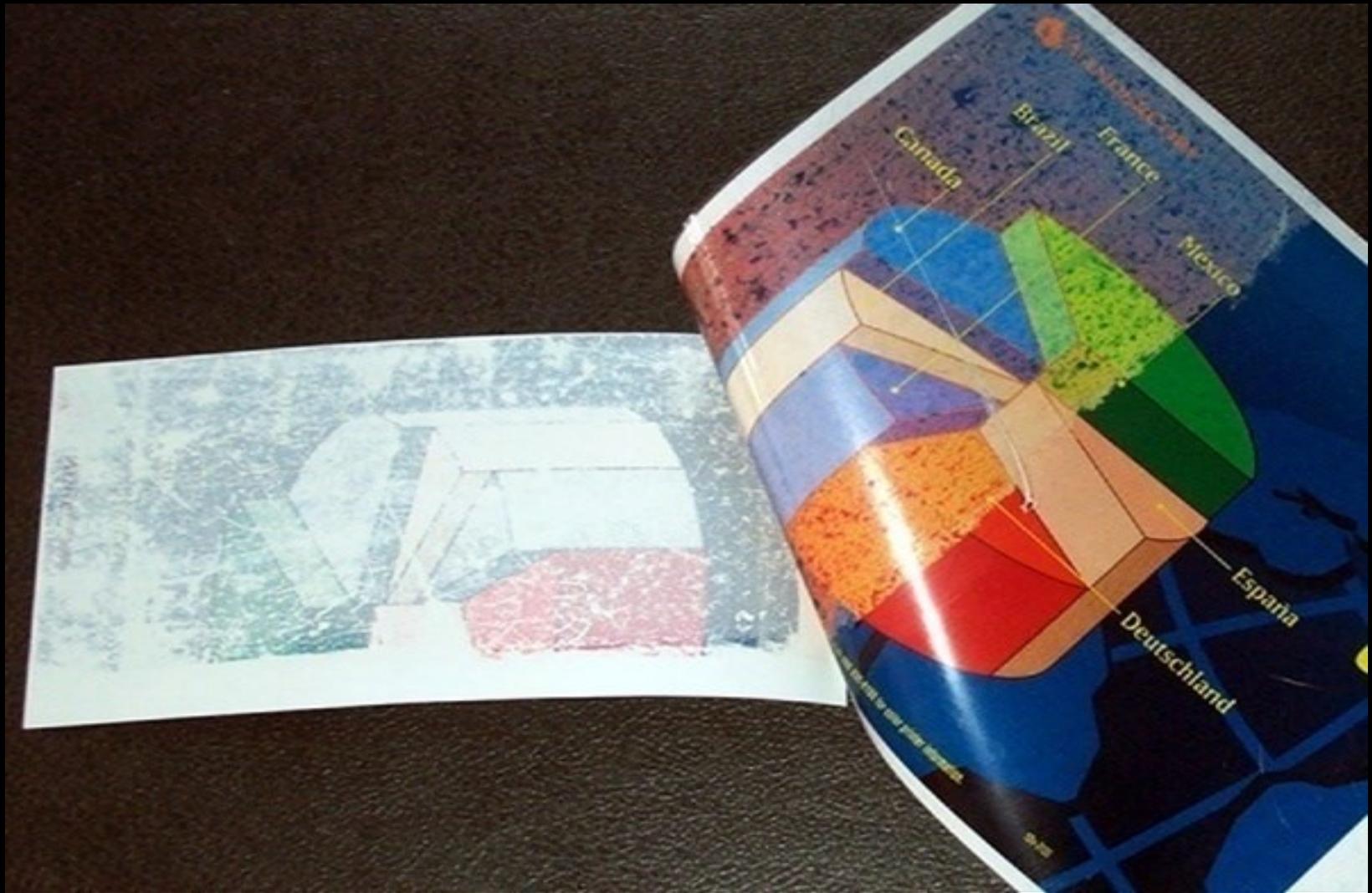


Solid Ink – Phase Change Inkjet  
Note faint image transfer on release paper

## Solid Ink

Even 150F temp, short duration HA board will melt inks and soak through.





Solid Ink – Phase Change Inkjet  
Major image melt and transfer from transparency to release paper

# Mounting Digitally Printed Items



Tear strength should be aggressive enough to rip the surface paper or mount when pulled

Better bond, but not aggressive enough for true tear strength.



# Mounting Digital Canvas and Photos

- 1) Avoid heat and pressure damage.
  - 2) 150°F is too hot for some digitals.
- 

## **Gilman MountCor/MountCor Canvas**

- 130°F lowest temperature available
- Safe for ALL digitals

## **High Tack P-S with Roller Laminator**

- Commercial PSA boards or In-house boards
- Drytac, D&K, Coda, Neschen Gudy...

# HA Board Comparisons

**High Temperature = 180°F**

Bainbridge HAF

**Medium Temperature = 150°F-160°F**

SpeedMount, KoolTack, Gilman InSite

**Low Temperature = 130°F**

Gilman MountCor

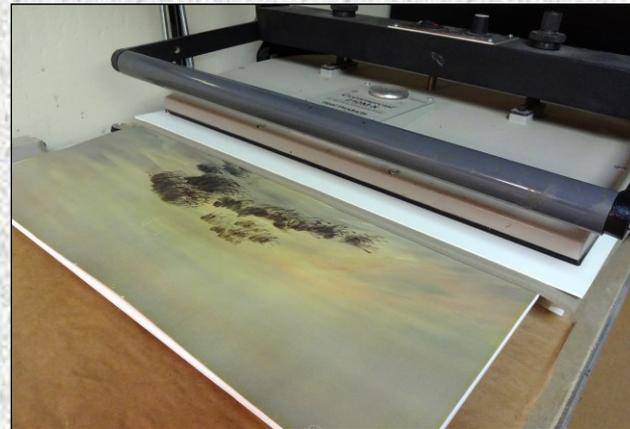
MountCor Canvas

**Reversible Board = 150°F-160°F**

KoolTack Preserve (100% Reversible Board)

# Lamination and Temperature

- Vinyl laminates are for mechanical and hot vacuum presses
- They bond at 185°F-215°F
- Digitals cannot handle high temperatures
- They prefer 130°F, so laminate first then mount
- Place in a laminate/release liner envelope at higher temp
- Trim then mount to lower



# When in doubt...Cold mount

## Cold Mount Materials

Manual PSAs

Low

Medium

High tack

Roller Laminators

High tack PSAs

Any substrate



Drytac JM26



Paschke Online  
Article Archive and Reference Library

<https://designsinkart.com/library.shtml>

Articles by Subject:

West Coast Art & Frame Expo

Frame Expo 2026 Orlando

**PowerPoint and Outline PDFs**



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