



# Inkjet Explainer Series

## Understanding Priming and Coating for Inkjet

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[#inkjetexplainer](#)



#inkjetexplainer

## Get the most from your time with us!

- **SEND US YOUR QUESTIONS DURING THE WEBINAR**
- Question control is in the lower left corner
- We may answer during the presentation
- There is a Q&A at the end
- **Video and audio archive will be uploaded later today along with PDF of slides**



## **Our Explainers**

Elizabeth Gooding, Inkjet Insight  
Mary Schilling, Inkjet Insight

# MICHELMAN

## PROVEN TECHNOLOGY BACKED BY DEEP APPLICATION EXPERTISE IN INKJET PRINTING

Our powerful combination of formulation and technical expertise allows you to solve your customers' most demanding corrugated packaging, folding carton, flexible packaging, and commercial printing challenges while helping meet sustainability goals.

### Benefits

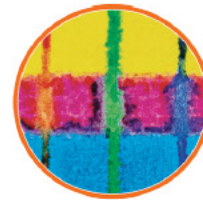
- Superior print quality and enhanced color gamut
- Designed with finishing in mind
- Less corrosion with minimal impact on equipment

### Water-based Solutions for Inkjet

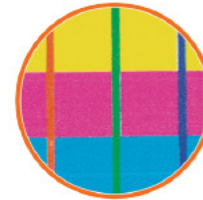
#### JetPrime®

High-performance primers that improve print quality and ink adhesion on both paper & film substrates

#### Unprimed



#### With JetPrime®



#### DigiGuard® IJ

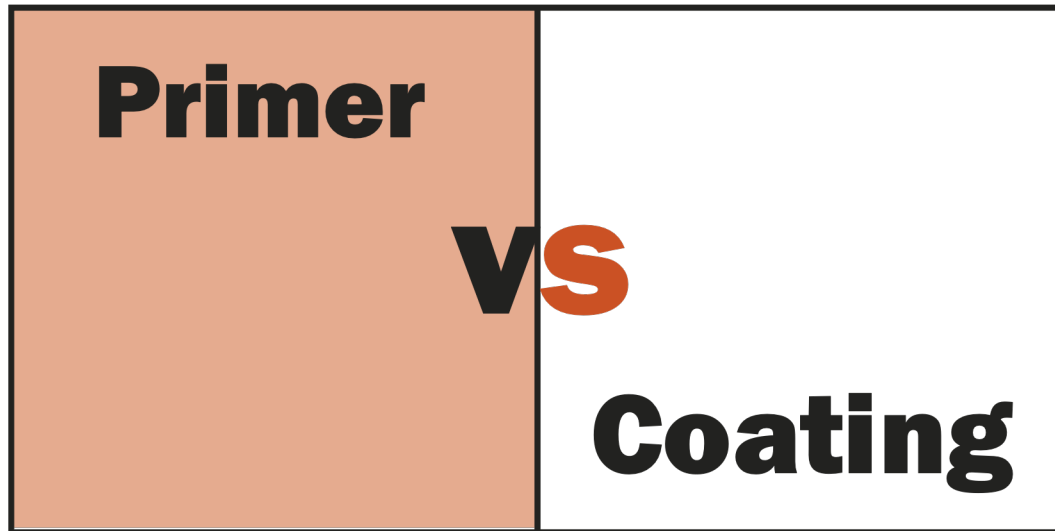
Fast-drying overprint coatings which provide a range of surface finishes

# Overview

1. Difference Between Priming and Coating
2. Importance of Substrate Integrity
3. Primer Applications
4. Drivers for Primers
5. Post Coating Applications
6. Drivers for Post Coatings
7. Specialization of Primers and Coatings
8. Advancing Inkjet Markets

# Difference Between Priming & Coating

Primers and coatings each play different roles in the digital production environment, but together they provide printed material print quality and enable greater customization.



- What are they used for - very high level
- Primers - compatibility
- Coating - difference between coatings pre-applied to paper (e.g) coated paper and post coatings applied after printing

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# How and When are Primers Applied

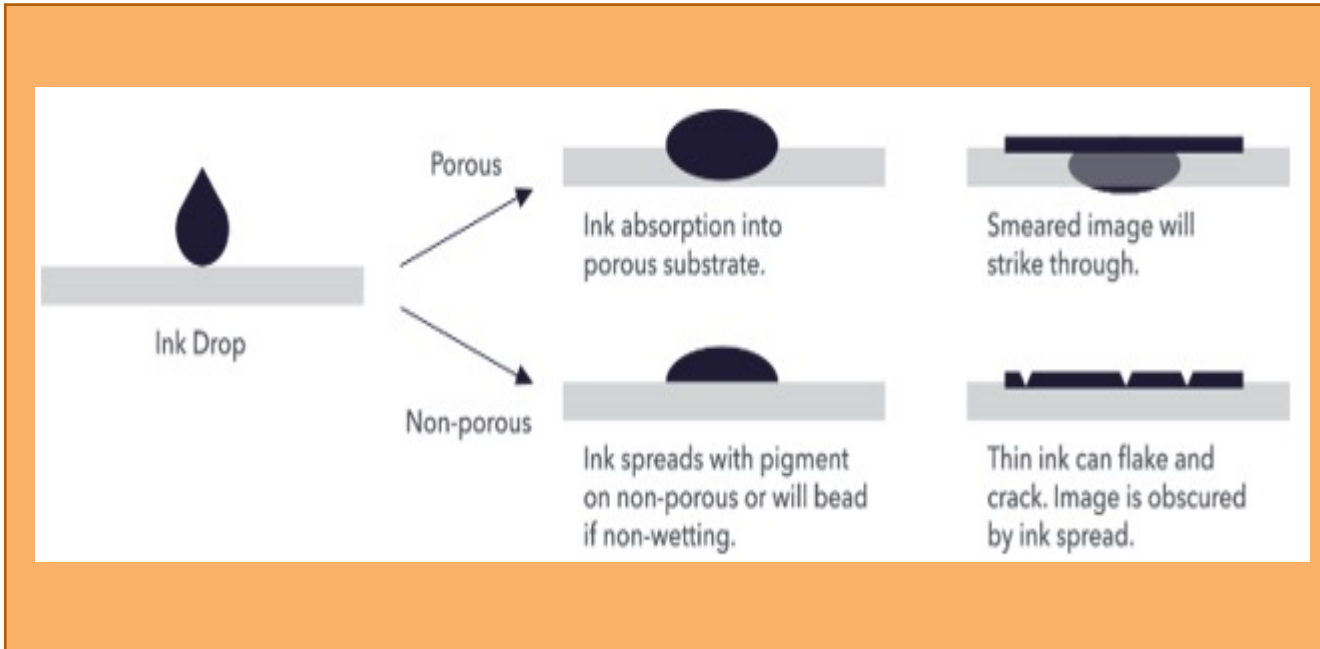


- As part of press:
  - Anilox application
  - Flood coating at press
  - Jetted on demand at press
- At the paper mill

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# Drivers for Primer



- Increased paper compatibility
- Paper shortages
- Improved print quality
- Ink savings
- Demands of different markets
- Push to move away from plastic packaging to fiber based/sustain

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# Primer Compatibility - Drying

Primer application is critical to compatibility with drying at production speeds.



Nir Drying Technology - Adphos

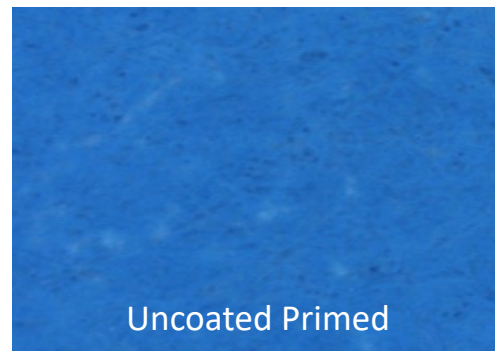
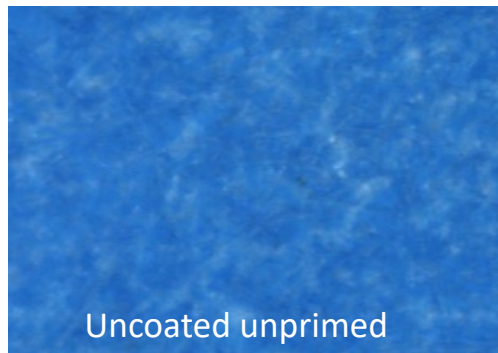
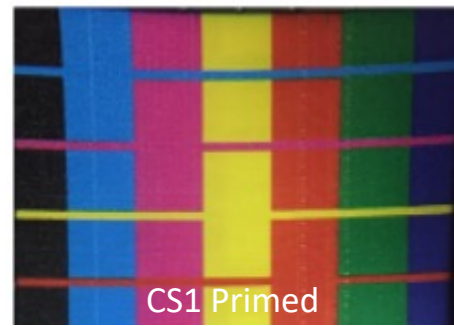
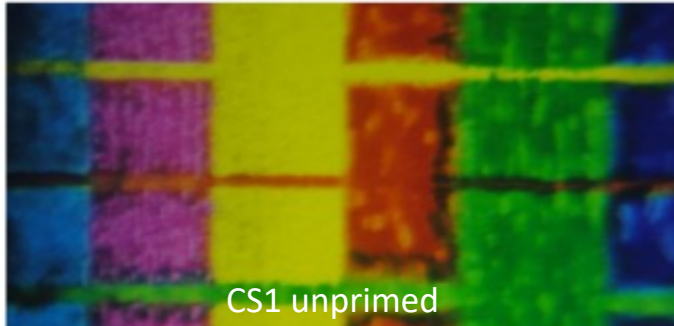
- Apply at high speeds
- Ink adhesion
- Ink picking
- Post coating picking
- Compatibility with OPV
- Finishing jams
- Impact of print quality

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# Primer Compatibility- Print Quality

Primers must perform with a level of performance to enhance the print quality of untreated and coated substrates printed with inkjet.

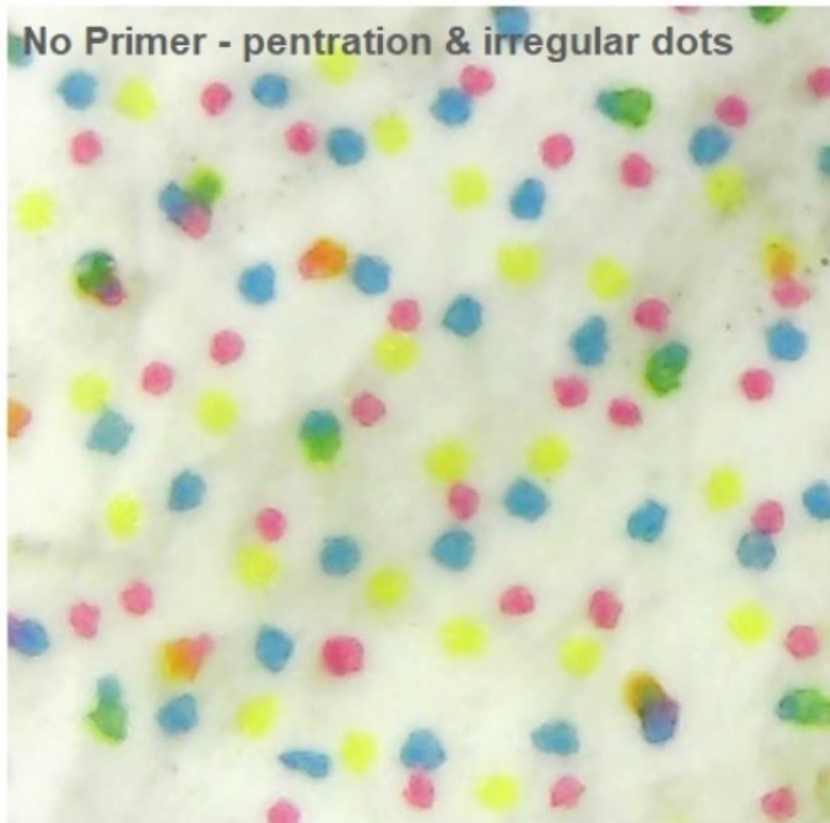


- Control ink wet-out
- Reduce inkjet vertical banding
- Reduce or eliminate bleed and coalescence
- Transparent to the substrate
- Increase color chroma
- Increase ink density
- Increase overall color gamut
- Increase small text detail
- Increase ink adhesion
- Simulate conventional quality

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# Primer Compatibility- Print Quality



- Controls dot circularity
- Improves small detail for bitmap images
- Increases small text legibility
- Creates edge clarity

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# Primer Compatibility - Chemistry

Proper primer or post coat chemistry is particularly important to machine corrosion



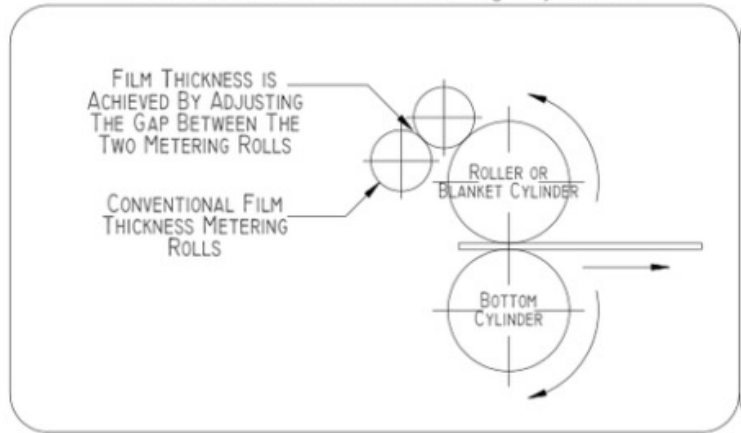
- Impacts equipment and materials constructed within the primer unit
- Plugging of anilox rolls
- Ruining doctor blades
- Coating banding
- Coating voids
- Application thickness

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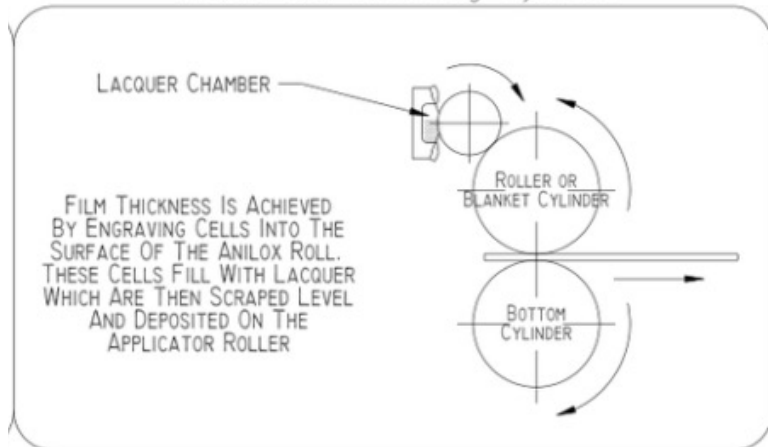
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# How and When are Post Coatings Applied

Conventional Film Metering Systems



Anilox Roll Metering System



Anilox International

- Inline/Offline with print process
- Film Metering
- Anilox
- Jetted
- Post coating types UV AQ

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# Drivers for Post Coatings



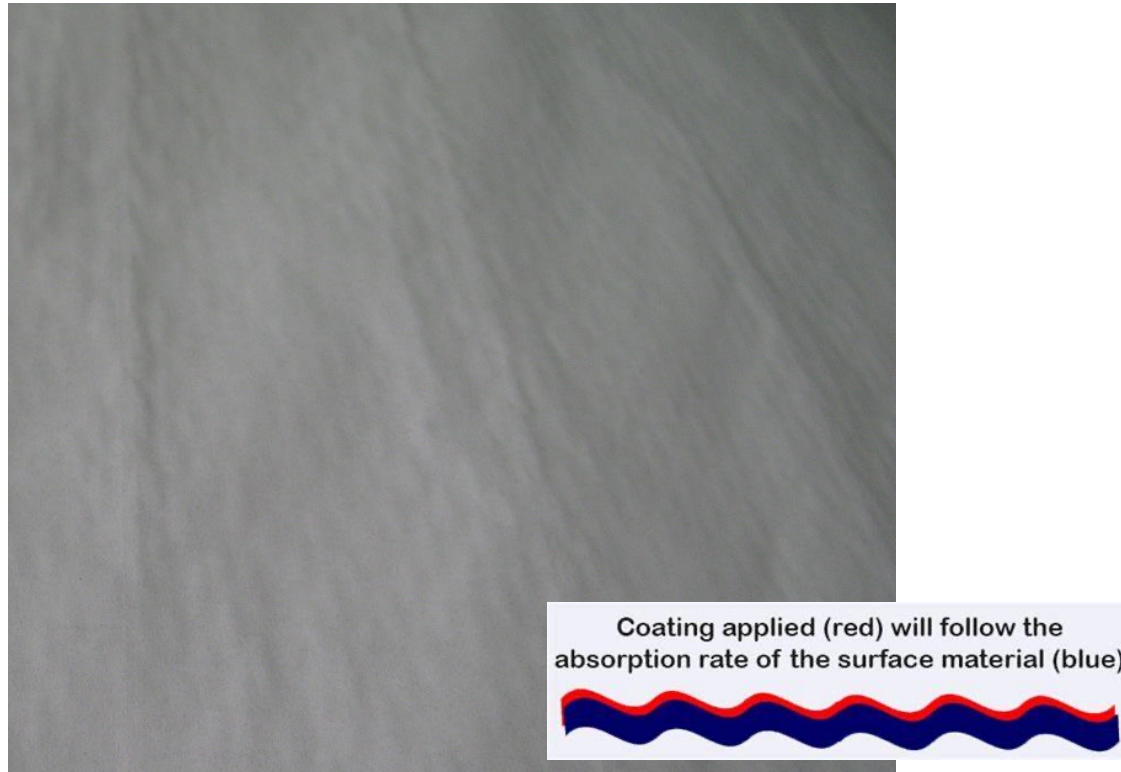
- Coating at mill - fewer papers being developed - volume goes to packaging
- Ink protection
- Esthetics
- AQ less expensive / more sustainable than UV
- Coating as embellishment and haptic interest driver

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# Importance of Substrate Integrity

Primer and coating formulation is first and foremost important for ink and substrate compatibility, as these first and last fluid to be applied to the substrate.



Uncoated paper cockle from primer saturation

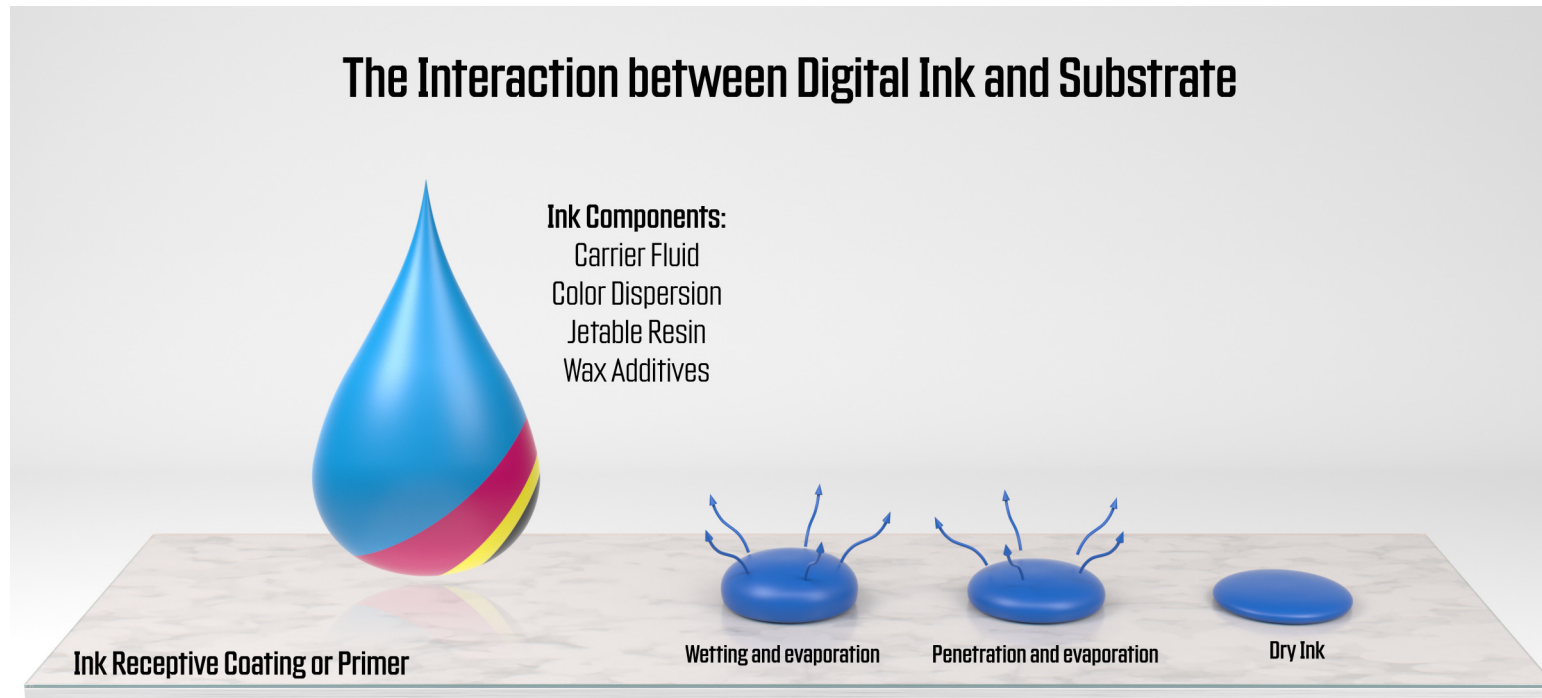
- Rate of porosity
- Compatible with substrate surface
- Impact white point of substrate
- Gloss differential
- Reduce gloss targets
- Slide angle
- Adds fiber stiffness
- Color stability over time

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# A Synergistic Approach to Inks & Coatings

As an expert in layer interaction between ink and substrate, Lubrizol innovates world-class ink and coating technologies that work together to deliver amazing results.





# Specialization of Primers and Coatings

OEMs must find the right combination of substrate, printhead, ink, and drying for each unique press. Each component decision impacts the other.



DS Smith Packaing-HPT1100

- Collaboration
  - OEMs/fluid developers
  - Substrate development/application suppliers
- Why are different chemistries required

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# Advancing Inkjet Markets



thecannatareport.com

- Increases substrate compatibility
- Instrumental for inkjet in packaging
- Moving inkjet into production textile printing
- Inline priming gives cost control and flexibility to print provider
- Provides ink savings

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**Performance  
Coatings**

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# Questions?

Inkjet Insight provides valuable tools and resources to help companies objectively **evaluate** the potential of inkjet for their business, **optimize** their operations and **grow** their businesses using production inkjet.

Our Message to Printers, OEMs and the Industry at Large

Evaluate. Optimize. Grow.

Repeat



Need something explained?  
Let us know.

**For more information please contact:**

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**Thank you for your time and attention.**

We look forward to the opportunity to help you reach new customers through valuable technical and educational content and to grow your business through market analysis and expert media qualification support.