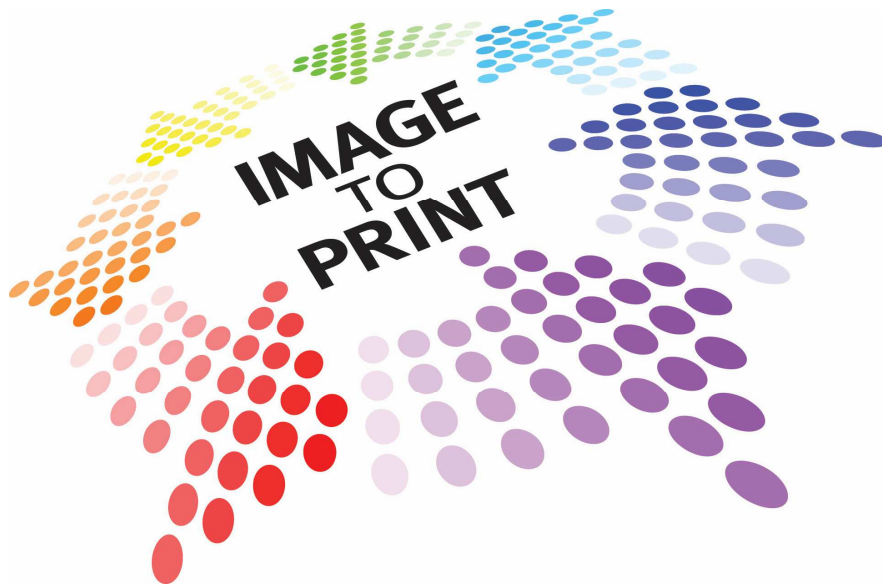


PRINTING TECHNOLOGY AND INNOVATION DAYS FOR FLEXIBLE PACKAGING

Image-to-Print | 19 April 2017

Ho Chi Minh City, Vietnam



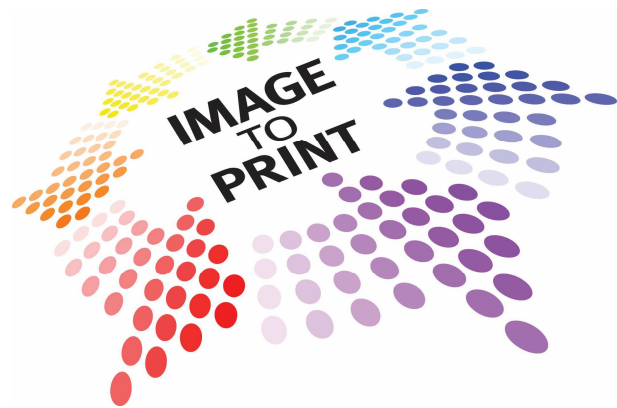
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Flexo Plate Making at its best

Rainer Geiger, Janoschka



Today's Agenda

1. Sites / Products / Markets
2. Market Requirements for Flexo Plates
3. The Photopolymer Printing Plate

Sites / Products / Markets



Janoschka Flexo Sites

5 Flexo production sites in 4 countries:

- Germany: Munich, Frankenberg
- Spain: Barcelona
- Portugal: Lisbon
- Argentina: Buenos Aires



Products

- Elastomer Sleeves
- Photopolymer Printing Plates



Markets

- Flexible Packaging
- Hygiene (diaper)
- Tobacco
- Dairy Cups (Cups, Lid Foil)
- Labels (Beverage)
- Bags
- Decorative (gift wraps, servicing, tissue, wallpaper)
- Writing pads

Market Requirements for Flexo Plates



Market Requirements for Flexo Plates



Market Requirements for Flexo Plates

During Plate Processing

- Easy and fast processing
- Small tolerances in raw plate thickness
- High resolution
- Short exposure times
- Wide exposure latitude (tolerance)
- Short washout times
- Short drying times
- Environmentally friendly disposal of residues
- Low tackiness of the plate
- Short finishing times
- Little swelling during washout

Market Requirements for Flexo Plates

During Printing Process

- Good ink transfer properties
- Optimum hardness and compressibility
- Resistance to swelling from aggressive solvent based and UV inks
- Abrasion resistance and long run life
- Good contrast for mounting
- Good storage properties
- Re-Usability
- Environmentally friendly disposal

The Photopolymer Printing Plate

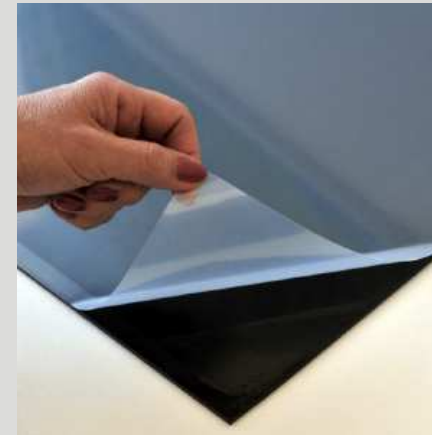
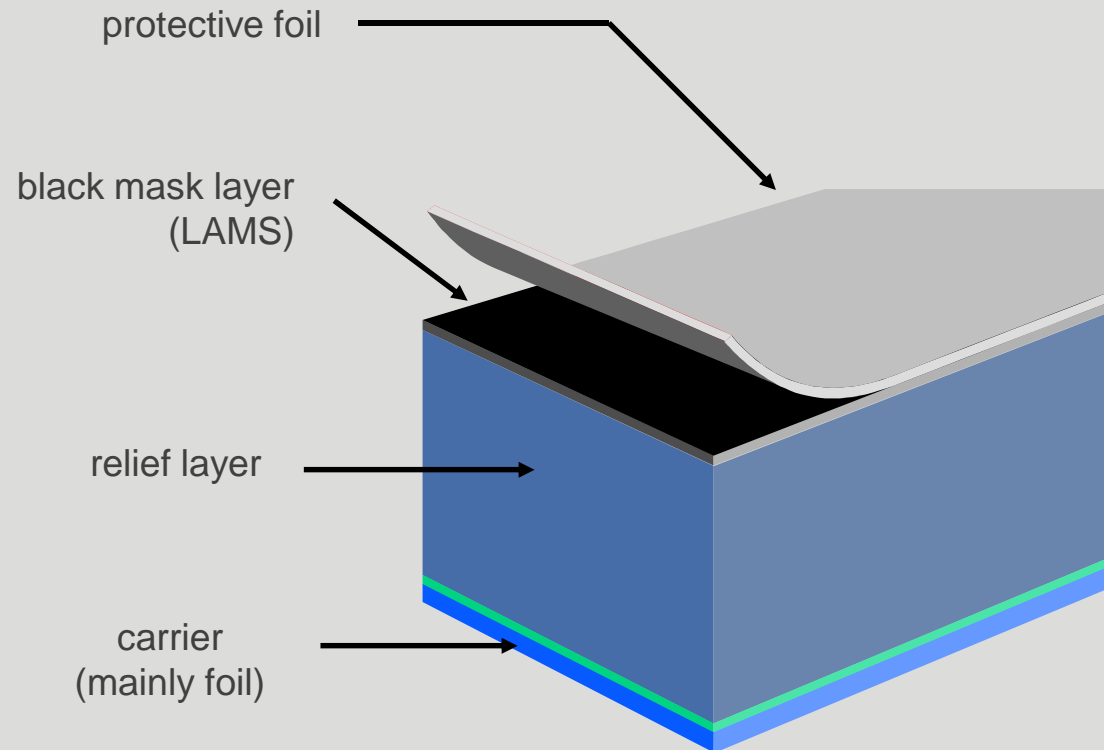
From raw plate to finished Flexo Plate



The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Digital Plate – Build-up



The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Digital Plate – System Advantages

Pre-Press

- Fully digital workflow – fast, cost effective
- Easy and repeatable plate making

Press Make-ready

- Quick register
- Good plate uniformity
- Easy to match digital proof

Print Quality

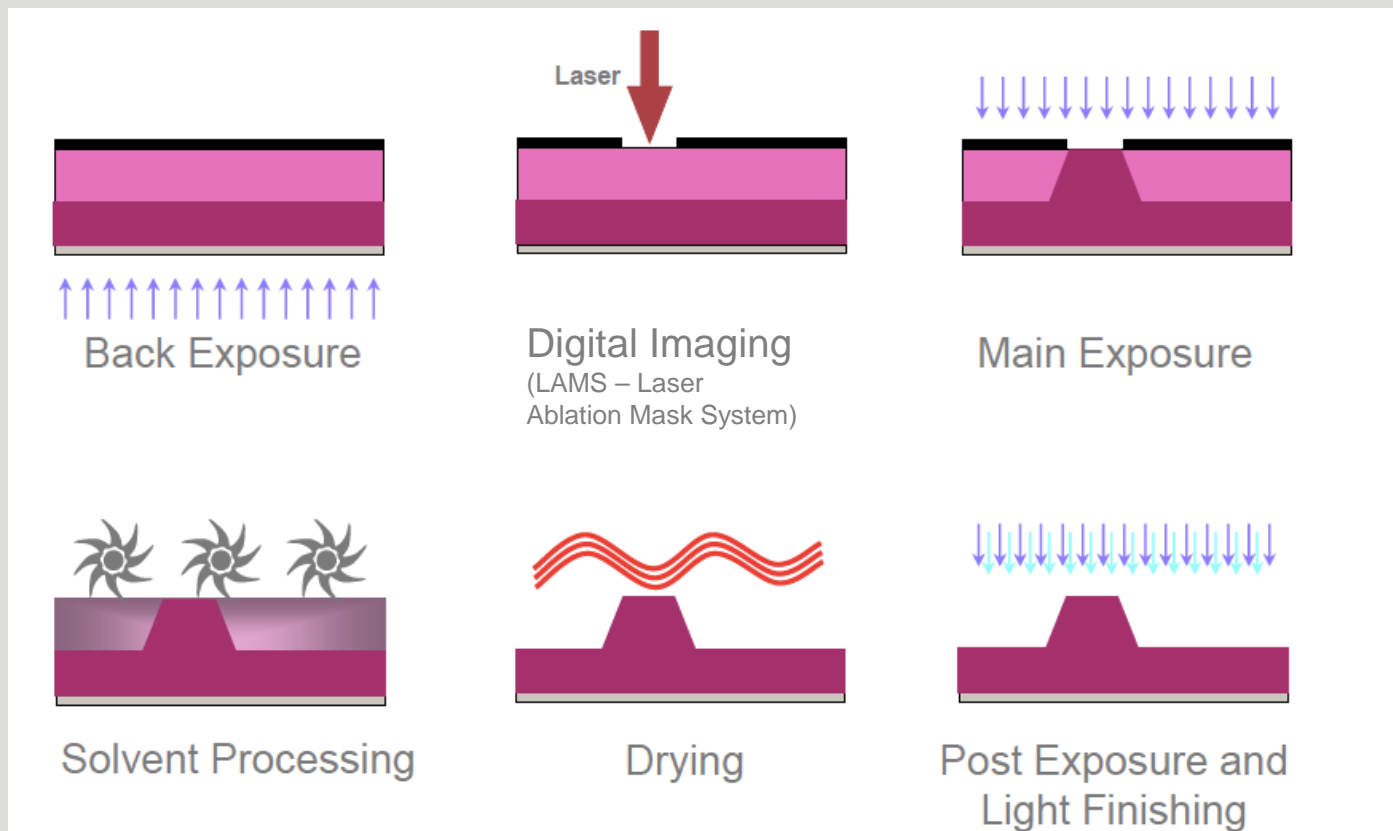
- Low dot gain, fine printed details
- Wide operation latitude
- Consistent roll to roll quality

Digital plate making is the most efficient way in modern flexography to produce highest quality flexo plates at low cost → standard in our industry!

The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Digital Plate - Platemaking



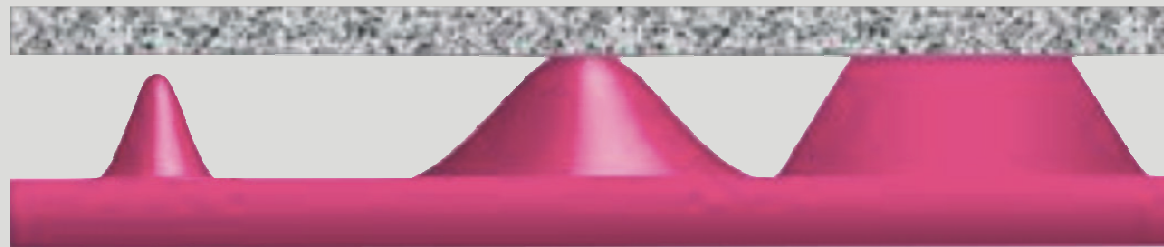
The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Round Top Dot / Flat Top Dot / Surface Screening

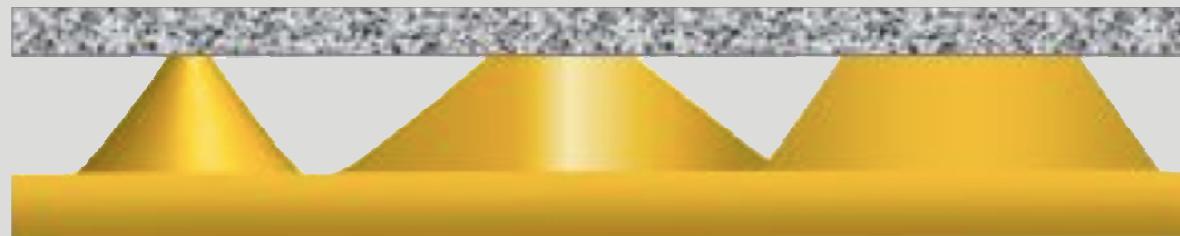
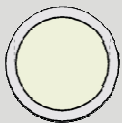
Round Top Dot

Smaller dot area



Flat Top Dot

Bigger dot area



The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Flat Top Dot / Surface Screening

Round Top Dot → traditionally imaged digital plates

Flat Top Dot → precisely 1:1 reproduced surfaces, which provide all benefits linked to this geometry:

Advantages Flat Top Dot:

- Improvement of ink transfer and laydown in solids, due to the possibility of surface screening (higher gamut)
- Image transfer 1:1 enables the reproduction of finest image details
- Less dot gain tolerances – “Flat Top Dots” are less impression sensitive on press – improvement of production safety

The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

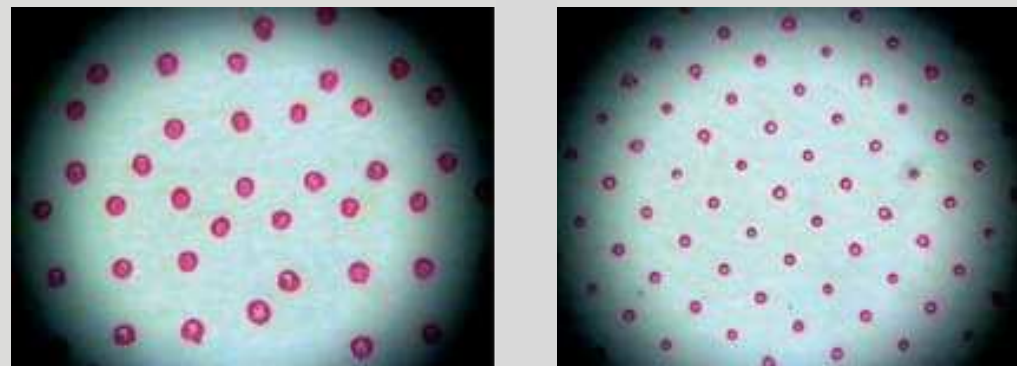
Flat Top Dot / Surface Screening

Round Top Dot → traditionally imaged digital plates

Flat Top Dot → precisely reproduced surfaces, which provide all benefits linked to this geometry:

Disdvantages Flat Top Dot:

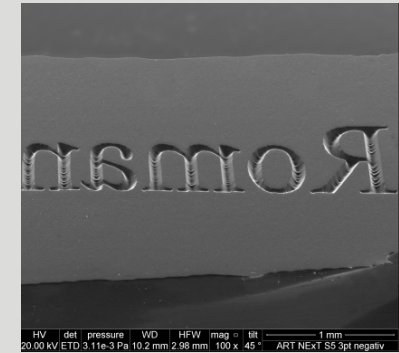
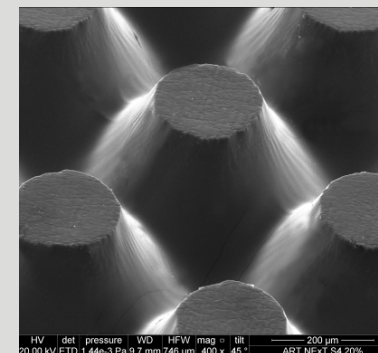
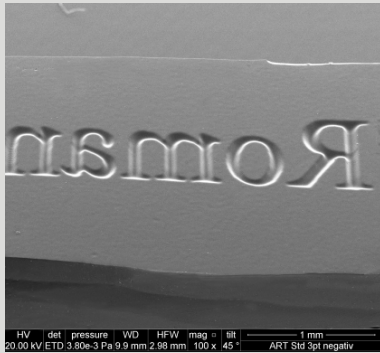
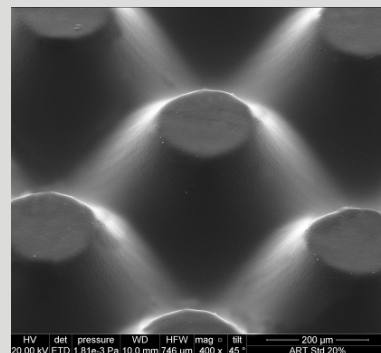
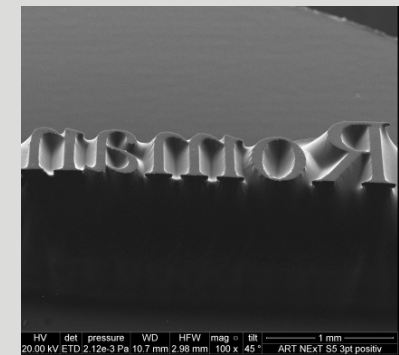
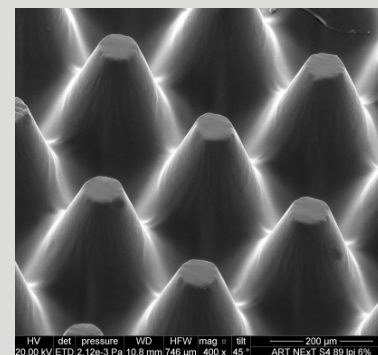
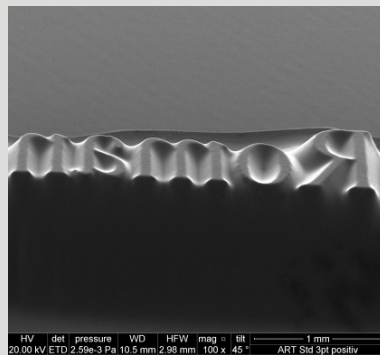
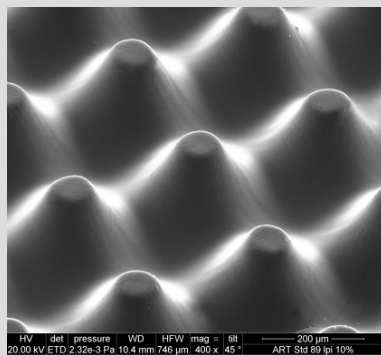
- Higher invest cost
- Loss of productivity (slower laser, add. manual processes)
- Higher Dot gain in highlights



The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Flat Top Dot → precise image reproduction



Standard Digital

Flat Top Dot

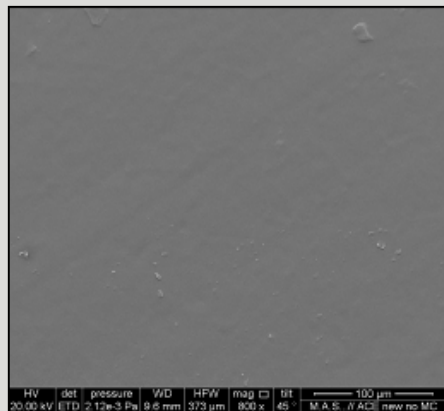
The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

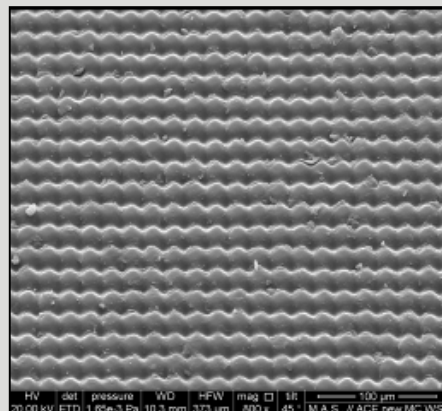
Surface Screening

Surface screening in comparison to oxygen free plate production improves the solid ink lay down due to the precise reproduction of high resolution surface screening.

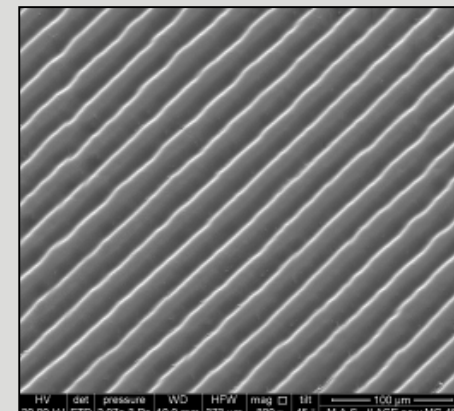
Configuration for solid screening is defined in the layout or RIP software and has to be evaluated for individual print setups.



Solid without screening



Sample Solid screening

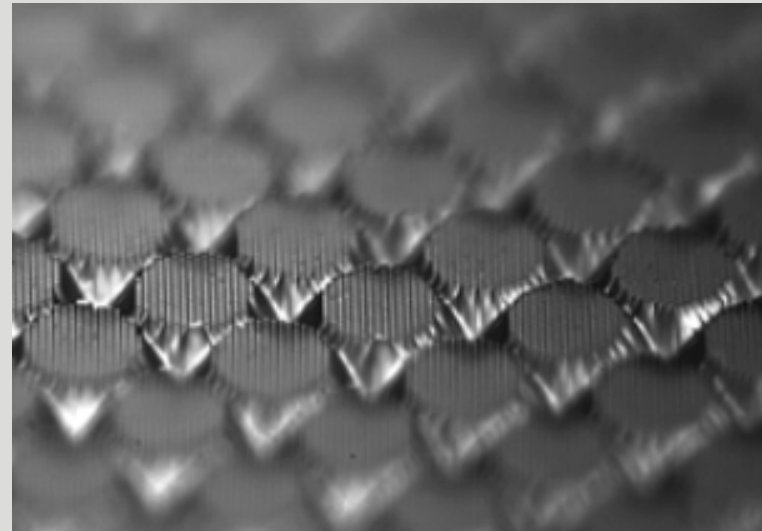
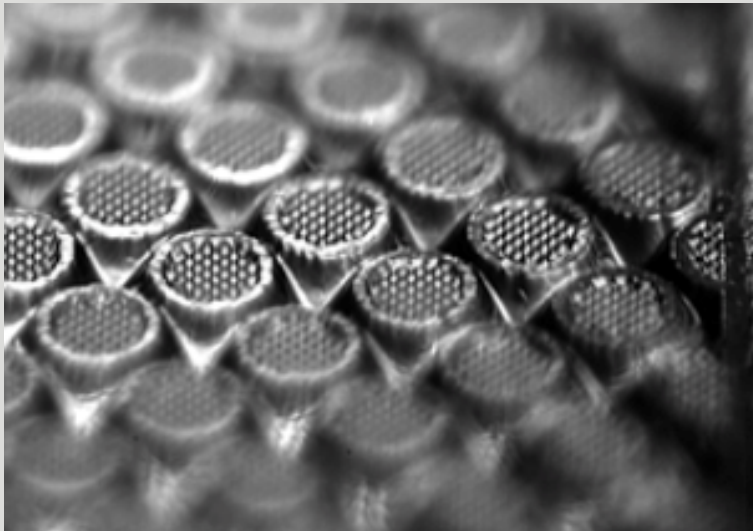


Sample Solid screening

The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Surface Screening

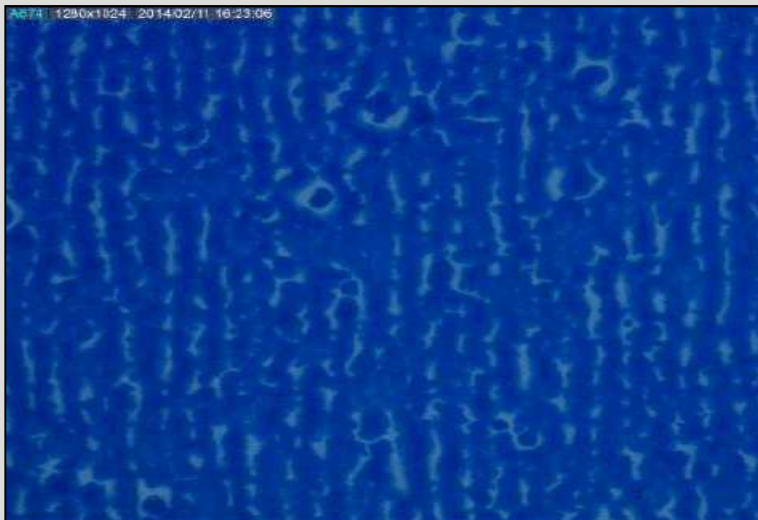


The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Surface Screening

Solids show improved ink lay down when printing with microcell screening



Solid without screening



Solid with screening

The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Surface Screening

Solids show improved ink lay down when printing with microcell screening

Solid without
screening



Solid with
screening

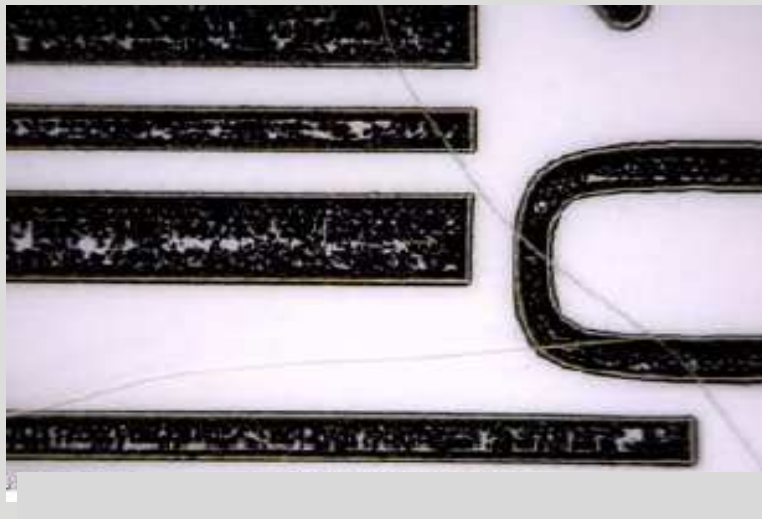


The Photopolymer Printing Plate

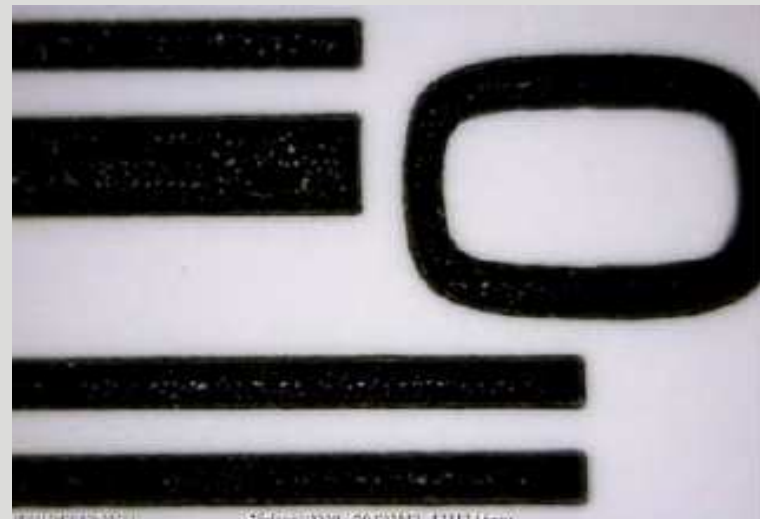
From raw plate to finished Flexo Plate

Surface Screening

Solids show improved ink lay down when printing with microcell screening



Solid without screening



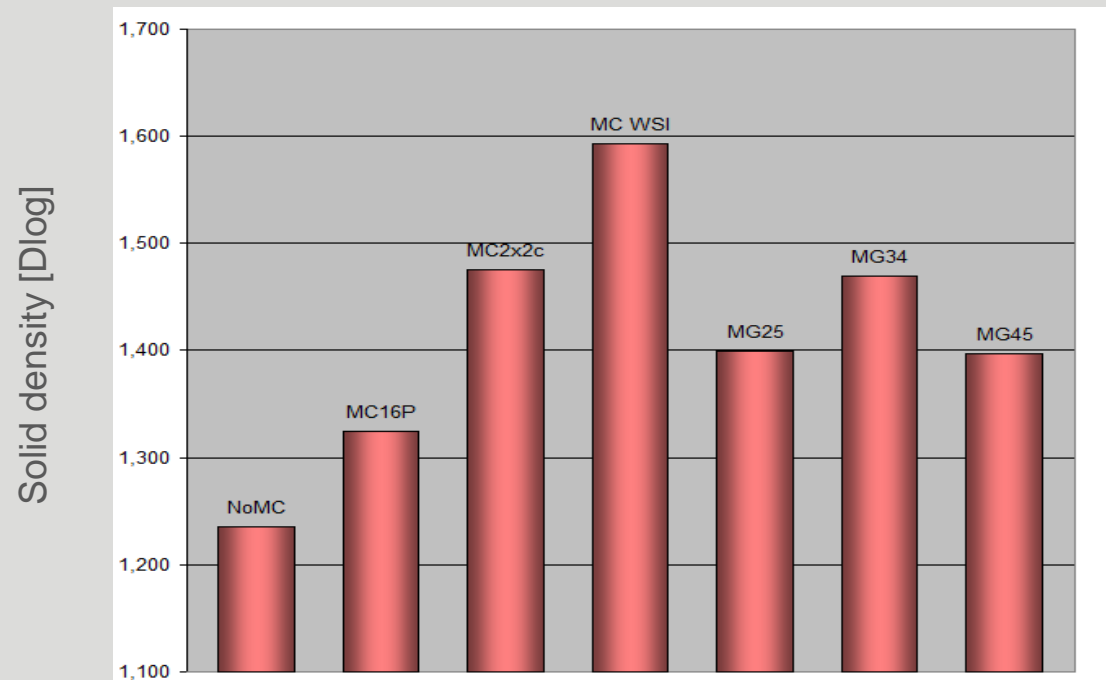
Solid screening MC WSI

The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Surface Screening

Standard density (w/o screening) compared to different microcell screenings

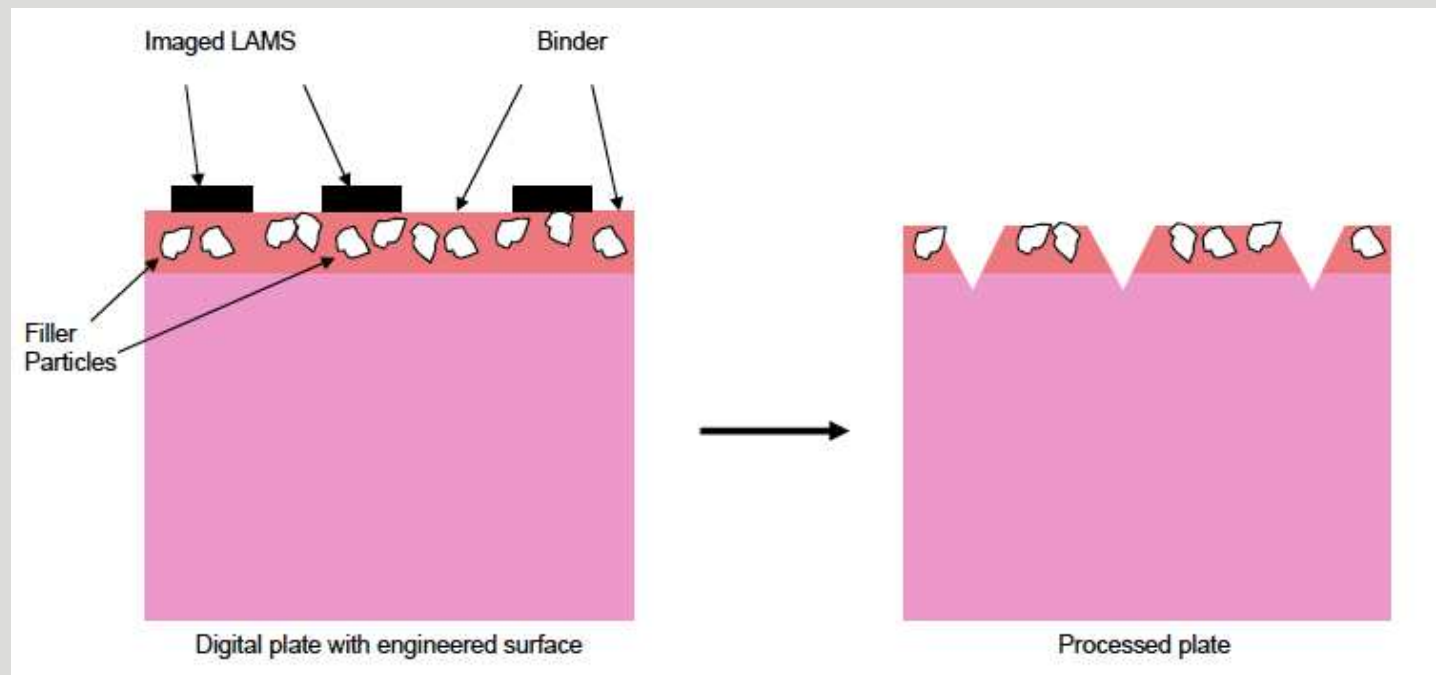


The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Latest plate technology...

... plates with engineered surface („embedded“ microcell structure / Flat Top Dot)



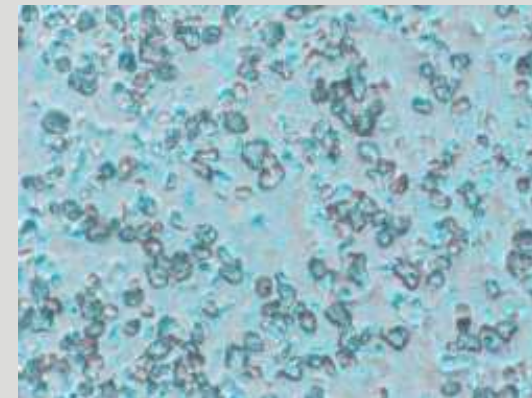
The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Latest plate technology...

Benefit plate processing

- Potential to reduce pre-press file processing times
- Simplified plate processing (productivity benefit)
- Opportunity to eliminate solid screening without losing printing quality



The Photopolymer Printing Plate

From raw plate to finished Flexo Plate

Latest plate technology...

Quality benefit print process

- Lower dot gain
- Optimized min. dot
- Excellent vignettes

Productivity benefit print process

- Higher press speed
- Longer plate life

Conclusion



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Thank you for your time



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