

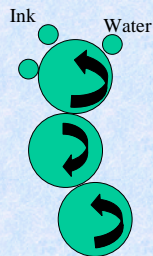
Plates and Press

Offset Lithography

- The principle
 - Ink and Water don't mix
- Image area
 - Oleophobic
- Non-image area
 - Hydrophilic

Offset Process

- Press operation
 - Plate cylinder
 - Counterclockwise
 - 1st contact
 - Dampening
 - 2nd contact
 - Ink forms



Lithographic Plates

- Conventional
 - Presensitized
- Direct-to-plate
- Waterless

Plate Grain

- Aluminum
 - More receptive to water than greasy inks
 - Flexible
 - Lightweight
- Surface texture - roughening so the plate will accept the photoemulsion
 - Mechanical
 - Chemical

Graining Plates

- Mechanical grain
 - Blasted - air pressure applied abrasive
 - Brushed - abrasive applied with a brush
- Chemical
 - Chemicals etch the plate
- Grainless plates
 - Paper and Plastic plates

Plates

- Coatings - light sensitive material that forms the image when exposed to light
- Diazo
 - Light exposure renders the image area inactive
 - Non-image areas remain active, removed during processing
- Photopolymer
 - Plastic coating
 - Long lasting
 - Light hardens the coating forming the image

Types of Plates

- Surface - coating is on the surface
 - Negative-working/acting
 - Positive-working/acting
 - Subtractive
- Direct-to-Plate
 - Imaged through the RIP
 - Off press/On Press

Conventional Platemaking

- Clean glass
- Complete drawdown
- Proper exposure, step 6
- Development - subtractive plates, removes unexposed coating
- Rinsing
- Gumming - prevents oxidation

Problems to Avoid

- Use minimum tape when stripping
 - Keep away from image areas
- Insure accurate flat layout
- Opaque completely
- Image areas open

Plate Problems

- Spread image - not enough drawdown time
- Scumming - ink adheres to non-image areas
 - Causes - excess ink, too little water, poorly processed plate
- Gum blinding - excess gum on the image area

Computer-to-Plate (CTP)

- Imagesetter for plates
- Types of plates
 - Silver based polyester
 - Photopolymer
 - Metal
 - Thermal sensitive

CTP Network

- Prepress
- Digital proofing system
- Platesetter

Waterless Plates

- Non-image - ink repellent silicone rubber
- Image - recessed, coated with ink-receptive polymer