

LETTER PRESS (Relief Printing)

Cross section of plate
Copper Zinc
Thickness 1/16 inch
8 x 10
20 x 24

PRINTING BY PRESSURE

ART COPY

OIL PAINTING
WATER COLOR DRAWINGS
PASTEL DRAWINGS
KODACHROME
EKTACHROME
CARBRO COLOR PRINTS
BLACK & WHITE WASH DRAWINGS
BLACK & WHITE PHOTOGRAPHS
BLACK & WHITE LINE DRAWINGS

USES

WALL PAPER
NEWSPAPERS
BOOKS
MAGAZINES
CATALOGS
LABELS
GENERAL COMMERCIAL

2 HALFTONE CUT-OUT NEGATIVES

Arc Lamp
CAMERA
Lens
Color Filter
Original Art Copy
Copy Holder

NOTE . . .
SCREEN IS USED AT THIS OPERATION

3 HALFTONE CUT-OUT NEGATIVES

YELLOW RED BLUE BLACK

Brown Print for Type Paste-Up
Customer's Paste-Up of Type

4 METAL PRINTING OPERATION

Vacuum Printing Frame

(A) Exposing Printing Plate
Arc Lamp
Half-tone Negative
Sensitive Metal Plate

(B) Principle
Light Source
Transparent
Opaque
Half-tone Negative
Metal Plate
Sensitive Coating

5 HALFTONE ORIGINAL PLATES

YELLOW RED BLUE BLACK
90° screen angle 75° screen angle 105° screen angle 45° screen angle

Line Plate of Type
Blue Print

6 COLOR ETCHING

GLUE ENAMEL
ETCHED PLATE
INK PLATE

7 PROOFING OPERATION

Principle of the Proofing Press

Ink
Original Plate
Image
Printed Proof

8 PROGRESSIVE COLOR PROOFING

YELLOW RED YELLOW RED
BLUE YELLOW BLUE
BLACK YELLOW RED BLUE BLACK

9 ELECTROTYPING

COPPER ORIGINAL

MOULD — LEAD OR WAX
MOULD
PATTERN PLATE — NICKEL TYPE

10 LOCK-UP FORM

11 PRINCIPLE OF RELIEF PRINTING PRESS

PAPER
Ink
Form Rollers
Impression Cylinder
Type Form
Intermediate Cylinder
Ink
Printed Sheets

2 COLOR FLAT BED PRESS
PERFECT 2 COLORS 1 SIDE

OFFSET LITHOGRAPHY (Plano Printing)

Grained Metal Plate

ZINC ALUMINUM STEEL
Size 15 1/2 x 12 1/2
Thickness .008
24 x 30
48 x 74

OIL WATER

ART COPY

OIL PAINTING
WATER COLOR DRAWINGS
PASTEL DRAWINGS
KODACHROME
EKTACHROME
CARBRO COLOR PRINTS
BLACK & WHITE WASH DRAWINGS
BLACK & WHITE PHOTOGRAPHS
BLACK & WHITE LINE DRAWINGS

USES

MAPS POSTERS
DISPLAYS BLOW UPS
METAL DECORATING BOOKS
MAGAZINES CATALOGS
LABELS
GENERAL COMMERCIAL

2 CONTINUOUS-TONE CUT-OUT NEGATIVES

Arc Lamp
CAMERA
Lens
Color Filter
Original Art Copy
Copy Holder

NOTE . . .
SCREEN IS NOT USED AT THIS OPERATION

3 CONTINUOUS-TONE CUT-OUT NEGATIVES

YELLOW RED BLUE BLACK

Brown Print for Type Paste-Up
Customer's Paste-Up of Type

4 HALFTONE POSITIVE OPERATION

Arc Lamp
CAMERA
Lens
Continuous Tone Negative
Copy Holder

Screen
Screen Distance
Sensitive Material

Actual Screen
Dot formation after exposure

5 HALFTONE SCREENED POSITIVES for DEEP ETCH PROCESS

YELLOW RED BLUE BLACK
90° Screen Angle 75° Screen Angle 105° Screen Angle 45° Screen Angle

Line Negative from Type Paste-Up
Contact Positive from Type Line Negative

6 COLOR CORRECTION

Half-tone Etching

BEFORE ETCHING
AFTER ETCHING

7 PROOFING OPERATION

Vacuum Printing Frame

(A) Exposing printing plate
Arc Lamp
Half-tone Positive
Metal Printing Plate
Sensitive Material

(B) Principle of proofing press
Rubber Blanket
Offset Cylinder
Metal Plate
Paper
Image

8 PROGRESSIVE COLOR PROOFING

YELLOW RED YELLOW RED
BLUE YELLOW BLUE
BLACK YELLOW RED BLUE BLACK

9 PRESS PLATE MAKING

DEEP ETCH

(A) Principle
Light Source
Transparent
Opaque
Half-tone Positive
Grained Metal Plate
Sensitive Coating

(B) Imposition of image on press plate
STEP AND REPEAT MACHINE
Sensitized Press Plate
Timing Device
Micrometer
Dials
Half-tone Positive
Arc Lamp

10 DEVELOPING OF IMAGE ON PRESS PLATE

(1) Exposed Image (deep etch)
Grained Metal Plate — Exposed Area — Unexposed Area

(2) Etching the Image Area
Etched Area

(3) Unexposed Coating Removed and Ink Applied to Image
Ink Receptive Area

Grained Metal Plate

11 PRINCIPLE OF THE OFFSET PRESS

Ink
Dampening Rollers
Water
Plate Cylinder
Offset Cylinder
Rubber Blanket
Impression Cylinder
Paper
Printed Sheets

2 COLOR OFFSET PRESS
PERFECT 2 COLORS 1 SIDE

GRAVURE (Intaglio printing)

ART COPY

OIL PAINTING
WATER COLOR DRAWINGS
PASTEL DRAWINGS
KODACHROME
EKTACHROME
CARBRO COLOR PRINTS
BLACK & WHITE WASH DRAWINGS
BLACK & WHITE PHOTOGRAPHS
BLACK & WHITE LINE DRAWINGS

USES

PICTORIAL SUPPLEMENTS
BOOKS
MAGAZINES
CATALOG SECTIONS
COTTON & SILK GOODS
METAL FOIL
CELLOPHANE

2 CONTINUOUS-TONE CUT-OUT NEGATIVES

Arc Lamp
CAMERA
Lens
Color Filter
Original Art Copy
Copy Holder

NOTE . . .
SCREEN IS NOT USED AT THIS OPERATION

3 CONTINUOUS-TONE CUT-OUT NEGATIVES

YELLOW RED BLUE BLACK

Brown Print for Type Paste-Up
Customer's Paste-Up of Type

4 CONTINUOUS-TONE POSITIVE OPERATION

Arc Lamp
CAMERA
Lens
Continuous Tone Negative
Copy Board

Sensitive Material

NOTE . . .
SCREEN IS NOT USED AT THIS OPERATION

5 CONTINUOUS TONE POSITIVES for GRAVURE

YELLOW RED BLUE BLACK

Negative of Type
Mounted Positive with Type

6 COLOR CORRECTION

CONTINUOUS TONE

BEFORE TONE CORRECTION
SAME POSITIVE AFTER TONE CORRECTION

NO PROOFING OPERATION

Proofs are submitted from press cylinders before running edition

Progressive Proofs Not Furnished

9 CARBON TISSUE PRINTING

Vacuum Printing Frame

Arc Lamp
CAMERA
Lens
Positive
Screen
Carbon Tissue

CARBON TISSUE

SCREEN

10 CARBON PRINTS ON CYLINDER

(A) Carbon Tissue

(B) Etched Cylinder

(C) Cross Section of Etching

11 PRINCIPLE OF THE GRAVURE PRESS

Impression Cylinder
Doctor Blade
Etched Cylinder
Ink
Paper
Printed Signatures