

## **The impact of Printing Processes on the environment**

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### **Lithograph offset printing**

Pre Press:

Metal plates or plastic plates, job specific

On Press:

Petroleum based ink or **Vegetable based ink (G)** react with water on the printing plate to create an image on a rubber blanket that offsets to paper.

Post Press:

Cleaning Solvents –**So Cal required low VOC emissions (G)**

Metal plates **recycled (G)**, plastic plates to landfill

Metal plate chemicals **neutralized for sewer (G)**; Plastic plate chemicals hauled away by **certified waste hauler (G)**.

### **Digital printing**

Pre Press:

Electronic based, **no consumables (G)**

On Press:

Toner fine powder electrically charged to drum then to paper, **no consumables (G)**

Post Press:

Toner cartridge and drums **recycled (G)**

### **Intaglio Printing (engraving)**

Pre Press:

Copper plates exposed by film and etched in acid

On Press:

**Water based ink (G)** applied directly onto paper

Post Press:

**Wash up with water (G)**

Copper engraving dies **recycled (G)**

Acid and film chemicals hauled away by **certified waste hauler (G)**.

### **Letterpress Printing**

Pre Press:

Magnesium and wood type-high cuts or steel backed polymer plate

On Press:

Petroleum based ink or **Vegetable based inks (G)** applied directly onto paper

Post Press:

Cleaning Solvents –**So Cal required low VOC emissions (G)**

Type-high cuts and polymer plates sent to landfill.

Acid for magnesium dies hauled away by **certified waste hauler (G)**.

### **Thermograph offset printing**

Pre Press:

Metal plates or plastic plates, job specific

On Press:

Petroleum based ink or **Vegetable based inks (G)** react with water on printing plate then a resin powder is heat-sealed to the ink.

Post Press:

Cleaning Solvents –**So Cal required low VOC emissions (G)**

Metal plates **recycled (G)**, plastic plates to landfill

Resin powder recycled and reused in production

### **Foil Stamping**

Pre Press:

Magnesium or copper dies etched in acid

On Press:

Metallic or pigment foil glued to sheet with heat and pressure

Post Press:

Mylar carrier goes to landfill,

Acid and dies **recycled (G)**

### **Embossing**

Pre Press:

Magnesium, Brass, or copper dies etched in acid or hand tooled.

On Press:

**Paper (G)** or resin make-ready to shape paper into image of die

Post Press:

Make-ready **recycled (G)**

Acid and dies **recycled (G)**

### **Die Cutting**

Pre Press:

Metal blades into type-high wood cut

On Press:

Cut paper away from sheet

Post Press:

Wood cut to landfill

Cut paper **recycled (G)**