

## Tech Tip 115

---

### Manufacture of Impression Control Gauges for Thick Plates

Impression control gauges are used as a tool to monitor plate impression during printing. The gauge will allow a press operator to see how much impression is occurring, anilox to plate. The operator can then see how much impression there is between plate and substrate to the extent the gauge is being inked by the anilox. Impression can be adjusted accordingly. The manufacture of an impression control gauge is simple with MacDermid liquid photopolymer technology. The impression control gauge is created by placing varying thicknesses of shim material (clear-base polyester film) on the back (non-emulsion) side of the negative. The shim increases the thickness of the negative, thereby creating a corresponding decrease in plate caliper in this area. This decrease in plate caliper can be used to see how much impression is being applied to the printing plate.

#### MATERIALS NEEDED

- Five-mil (0.005") thick clear-base polyester film in sheet or roll
- Transparent tape or litho tape
- Razor knife/scissors
- Four-mil (0.004") negative with six separate image areas, at least one inch apart. The ideal negative is one in which the images are numbered in increments of 0.005" ranging from 0 to 0.025". See Figure 1.
- A Sans Serif typeface such as Helvetica Bold is the best choice.

#### FILM PREPARATION

- Cut the polyester film into 15 uniform inch-wide strips.
- Place the negative, described above, emulsion-side down on a light table.
- Position the shim material on the negative one strip at a time so that it covers the image area indicated in the table below. See Figure 2.

Shim Thickness, mils	Image Area to be Covered
5 (1 strip)	0.005"
10 (2 strips)	0.010"
15 (3 strips)	0.015"
20 (4 strips)	0.020"
25 (5 strips)	0.025"

Tape into position with transparent or litho tape, using the minimum amount possible to hold the shim material in place. Be sure to allow at least 1/4 inch between shims. See Figure 3.

### **MANUFACTURE OF GAUGES**

Place the impression control guide negative in the exposure frame and manufacture along with the plate being made. It should be noted that if a 7-mil negative is being used for the plate, a 3-mil piece of shim material should be placed under the impression control negative to ensure correct gauge height. After processing, the impression control gauge can be mounted in a non-image area of the box and used to measure impression during the press run.

**Figure 1: Ideal Negative**



Figure 2  
Impression Control Guide - Sideview

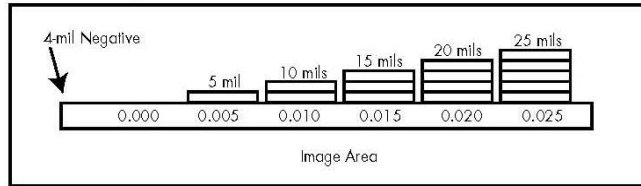


Figure 3  
Impression Control Guide - Top view

