

## **LINE SCREEN:**

### ***Lots and Lots of Dots***

**Definition of Line Screen:** *How many lines of dots appear per linear inch on a printed piece or negative. This is also called "lines per inch" or "lpi." Common presses range from 80 lpi to 200 lpi. Higher line screens allow more detail in photos and graphics, but is often more expensive.*

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The line screen that a job prints at is often a subject that gets little, if any, attention from graphic designers. This is unfortunate, because it is a crucial element in determining the finished quality of a piece, especially when there are photos involved.

The line screen of a press or negatives produced on an imagesetter determines the resolution, or amount of detail that will appear on the printed piece, much like the resolution of your computer monitor determines how much detail can be represented on your screen.

If your printed piece has only solid colors and line art - no screens or photos - then line screen is not an issue at all; any line screen will produce the same results as any other. If there are photos or screens present, then line screen becomes a very important issue.

Different types of presses are capable of printing at different line screens. For example, Copriso's web presses print well at 133 to 150 line screen, while our sheet fed presses have an optimum range of 150 to 200 line screen. Any press can produce a lower line screen well, but a press cannot go above its optimum line screen without a loss of quality. The image will tend to get muddy because there is more detail than the press is designed to handle.

Another factor that affects line screen is the paper that a job will be printed on. Printing at 200 lines per inch on very soft, porous paper will produce a disaster. Even at 150 lpi, the quality may suffer, whereas at 133 lpi, the image may appear crisper, even if it technically has less detail. For example, let's look at newsprint, which is one of the softest, most porous papers there is. Its optimum line screen is 80 to 100 lpi. If we tried to print a 150 lpi image on newsprint, it would look muddy and blurry because of the excessive dot gain. But the same image screened to 85 lpi would appear crisp and in focus.

On denser, glossy paper, higher line screens can be used to achieve extremely detailed images. This is because the ink is less likely to spread out as it absorbs into the paper.

It's important to talk to your printer about line screen before going to film, if you have any doubts at all. This is important because the line screen resolution will determine the resolution of your scanned photos and graphics.

## **Examples of typical products and their line screens:**

**Comic Books: 70 - 85 lpi**

**Newspapers: 80 - 100 lpi**

**Color Flyers, Coupons: 133 - 150 lpi**

**Color Magazines: 150 - 175 lpi**

**Fine Art Books & Magazines: 175 - 250 lpi**