# Pigment vs. Dye

Pigment inks are made up of tiny, encapsulated particles that sit on top of the substrate. Dye inks are made up of even smaller particles that are absorbed into a custom surface coat on the substrate. This guide is meant to show the difference between dye and pigment ink when used with the Primera LX900, LX2000 and Primera label stock.

| Feature | Dye(LX900) | Pigment(LX2000) |
|---|---|---|
| **UV Protection – Can be exposed to direct sunlight with minimal fading over months or years** | No | Yes |
| **Quick Drying – Ready to touch immediately after printing** | Yes | No |
| **Absorbs into the label stock and is encapsulated in a protective layer** | Yes | No |
| **Appears Glossy on gloss label stock** | Yes | No |
| **Best for use on short life span labels such as food products** | Yes | No |
| **Color Stability. Colors don't change over time** | No | Yes |
| **Bright Saturated Image. Best looking image right after printed.** | Yes | No |
| **GHS certified when used on approved materials** | No | Yes |
| **Water Resistant** | Yes* | Yes* |

*Both Dye and Pigment are resistant to water to a certain degree on any "Extreme" substrate. Pigment is naturally resistant to water. Our dye inks are resistant only because the label stock was specifically developed to encapsulate the LX900 dye ink in a water resistant layer. That being said, there are certain exceptions to specific environments. For evaluation, all ink/label combinations should be tested in their actual use environments.

**Notes:**

- LX2000 Pigment Black is not as water resistant as the color. For best water resistance use only the color cartridges. This corresponds to the white poly, clear poly and matte BOPP media settings.
- The LX2000 print quality is not necessarily better than the LX900. Instead the LX2000 is more durable. Nothing beats the quality of the LX900.
- When compared to the LX900, LX2000 prints can seem dull or flat when printed on glossy substrates.
- LX2000 prints BEST on TuffCoat Extreme Matte BOPP and White/Clear Polyester. Additional pigment specialized stocks are in development now.