



Save Time and Money by Producing Your Own Full-Colour Product Labels

Introduction

Manufacturers of almost any type of product often find themselves in need of short-run, full-colour customized product labels. The reasons are many: for use on prototype products, promotional campaigns, and perhaps most often, because the manufacturer has many different products that are all produced in smaller quantities.

In all of these cases, the printed quality and appearance of these labels are extremely important. Providing a professional appearance on packages can easily make the difference between a product selling well or simply sitting on the retail shelf.

But finding a cost-effective and convenient way to produce high-quality, full-colour labels has not been easy. Until now, your choices have been limited to:

Flexographic ("flexo") printing. This is the most common method of printing "primary" product labels – those that go onto the product itself. However, flexo technology is generally affordable only in larger production runs – usually 10,000 or more identical labels at a time.

Creativity can be compromised on flexo since you are generally limited to several hundred PMS (Pantone Matching System) spot colours. If photos are required on labels, a visible dot pattern becomes apparent and is generally equivalent to only about 200 to 300 dpi.

Set-up costs for flexographic film, plates and "make-ready" (aligning four separate printing plates, mixing ink, etc.) are substantial, adding significantly to the cost when printing short-run jobs. Delivery usually takes about 3-4 weeks. Often, labels will need to be discarded when product information changes and the job needs to be reprinted.

Traditional offset printing. Like flexo printing, full-colour offset printing is generally appropriate only for longer runs. Offset printing is also limited to sheet-fed presses. Most end-users prefer rolls of labels because they can be used with automated applicators and are more compact to store on a warehouse shelf.

Digital offset printing. Offers many of the advantages of variable information and shorter runs. Presses are very expensive. Unless you can justify such a large equipment investment, these types of labels are usually sourced from an outside supplier. Delivery times are usually several days to a week. Print quality is better than flexo, but many digital offset presses require expensive lamination films to protect the inks from abrasion and handling. This is especially true of digital presses that use so-called liquid toner.

Colour thermal transfer printing. Offers the advantages of printing variable information and short runs. The major disadvantage is that print resolution is very low – only 203 to 400 dpi. Machinery is also expensive. Does not produce a professional, offset-quality result, so thermal transfer is used mostly for industrial shipping and box labels.

Full-Colour, Photo-Quality Inkjet and Laser Label Printing

Recently, two new short- to medium-run label printing technologies have become available: colour inkjet and colour laser label printing. Both provide high-resolution, durable labels that are ideal for primary label applications.

Inkjet technology has been in widespread use for many years in home, office and even professional photo and poster-printing applications. But because it had not been used extensively in the label industry, many people thought that it was not robust or waterproof enough to produce primary product labels. With today's state-of-the-art inkjet technology, just the opposite is actually true.

Colour laser technology is often used in desktop applications on cut sheets of paper. Although well-suited for office use, it has generally not been a good choice for labels. There are a number of challenges: (1) general-purpose laser printers are not continuous-feed and can't handle rolls of paper, (2) substrates are quite limited – mostly just plain paper, and (3) lasers tend to require more maintenance when feeding materials with pressure-sensitive adhesives.

Primera, a leading manufacturer of specialty colour printers widely known for its CD/DVD and Blu-ray Disc Publishers and printers, has successfully developed short to medium-run solutions using both colour inkjet and colour laser technologies. Which one you choose depends upon your specific label production requirements.

Colour Inkjet: Short-Run Label Printing

Primera's LX-Series Colour Label Printers utilize the latest in thermal inkjet technology to produce full-colour product labels at up to 4800 dpi – about 240 times higher resolution than flexo – in up to 16.7 million colours.

Colour inkjet is typically better suited to short runs versus medium runs since ink capacities are lower and speeds are slower. However, print quality is not at all sacrificed. In fact, colour inkjet printing is among the best available of any competing technology.

Three colour inkjet label printers are available from Primera:

| | LX500e(c) | LX910e | LX2000e |
|----------------|--------------|----------------|--------------|
| Width | 102 mm (4") | 213 mm (8.25") | 203 mm (8") |
| # of ink carts | 1 (CMY) | 1 (CMY) | 4 (CMYK) |
| Speed | Up to 2"/sec | Up to 4.5"/sec | Up to 6"/sec |
| Type of Ink | Dye/Pigment | Dye/Pigment | Pigment |

Inkjet label printing has many advantages over other short-run label production solutions for three main reasons:

- 1. Lower Cost per Label = Higher Profits.** Printing only the number of labels you need is always a better choice and will cost less. Why order thousands or even tens of thousands of labels from an outside vendor when you only need 500? You'll also save money by eliminating obsolete label inventory. For quantities of just a few to hundreds of labels at a time, Primera's LX500e is an excellent choice. LX500e is affordable enough for virtually any business and prints labels up to 101.6 mm (4") wide.
- 2. Lower Cost of Equipment.**
- 3. Time Savings.** Since you print the labels when and where you need them, and only in the quantities you need, you'll save time and be able to get your product to market faster.
- 4. Extra Profits.** Since labels can now be personalized, it is even feasible to charge more for your products. This is especially true when products such as wine, water bottles or corporate gifts are personalized.



LX2000e Color Label Printer

Primera's Fastest Desktop Label Printer

Primera's LX2000e, has extremely fast print speeds – up to 25 percent faster than Primera's best-selling LX900e. LX2000e also has separate ink cartridges for each colour; saving money on every label you print but especially if you print more of one colour than another. With separate ink cartridges, you replace only the cyan, magenta, yellow or black ink that needs replenishing.

LX2000e is the best choice for printing from just a few to many thousands of labels at a time. It has the lowest cost per label of any of Primera's inkjet-based label printers.



Separate ink tanks on LX2000e Color Label Printer

Durable Output

LX-Series printers can print on a variety of glossy or matte materials, and are highly professional looking. They're also scratch and smudge-resistant. The pigment inks combined with certain substrates make labels virtually waterproof. Because the label material allows inks to sublimate and become sealed below the actual print surface, your printed photos, graphics, text and bar-codes are protected against a wide range of environmental factors.

For applications requiring longer-term exposure to water, chemicals and other elements, specialized materials such as polypropylenes and polyesters are also available. Just a few of these applications could include patient wristbands, water bottles, garden centers, signage, ID cards and more.

Colour Laser: for Short-to Medium-Length Runs

Sheet-fed colour laser printers are usually not the best choice for printing quantities of self-adhesive labels due to a limited number of substrates and maintenance issues due to adhesive bleeding, paper jams, thickness limitations and more.

However, a new breed of colour laser label printers has recently emerged: those with straight paper paths. A straight paper path eliminates virtually all of the issues previously associated with the technology for printing onto self-adhesive label materials. Thicker and stiffer substrates such as polyesters can be fed without incident along with the usual plain papers in matte, semi-gloss and gloss varieties. Sophisticated roll-feeding controls can be added, allowing in-feed roll diameters of up to 305mm (12") versus 127mm (5") and 152mm (6") roll diameters on LX-Series printers.

Primera's CX1200e Digital Color Label Press is the leading product in this category. It allows companies to produce labels that rival the cost and quality of virtually any other process regardless of equipment cost.



CX1200e Digital Color Label Press

Colour laser printing has two other big advantages for short- to medium-sized runs:

1. Fast print speeds
2. Lower cost of consumables

CX1200e prints at speeds of up to 487.68cm per minute – the fastest in its class. This allows much higher volumes of labels to be printed in a very short time period.

Cost per print on CX1200e is also advantageous at about half that of inkjet-based label printers. This extends the crossover point at which it is not only more convenient but also less expensive to print with a colour laser-based system versus traditional analog processes.

The ABC's of Label Finishing

Labels printed on CX1200e and other similar digital presses must be "finished" afterwards by a secondary process. The finishing steps include die-cutting, optional laminating, slitting and rewinding to finished rolls. A variety of finishing options are available, most requiring the use of flexible or hard-tooled rotary or semi-rotary dies. However, dies are expensive and take time to get delivered. A different type of finishing system utilizing digital die-cutting may be a better choice for companies who need maximum flexibility, low running costs and faster time-to-market. These systems use knife blades which pivot to produce labels cut into virtually any size and any shape. No dies are required.

Until now, the main disadvantage of digital die cutting systems has been their slow production speeds. Primera has changed that with its new FX1200e Digital Label Finishing System. FX1200e has a patent-pending multiple knife blade system that can quadruple finishing speeds.



*FX1200e Digital Label Finishing System
(Shown with optional lined lamination mandrel)*

Together, CX1200e and FX1200e gives any company the ability to produce their own high-quality, low-cost labels at speeds that satisfy almost any short-to-medium label run requirements.

Who Needs Short- to Medium-Run Colour Labels and Why?

Short-run colour labels are needed in many applications across a broad range of industries. Here are just a few:

- Specialty and gourmet foods and beverages
- Wineries, vineyards, specialty wine and spirits retailers
- Coffee roasting and specialty teas
- Cosmetics and personal care products
- Nutraceuticals and vitamins
- Organic and natural foods
- Plants and nursery products
- Water bottles
- Contract manufacturing and private labeling
- Print shops
- Medical supplies
- Automotive cleaning products
- Industrial and home cleaning products
- Pet foods
- Dairy products
- Candles, scents and gifts
- Corporate gifts
- and much more!



Some of the products that can benefit from digital label production

Putting the most professional colour labels possible on your products will set them apart from others. This is especially important for smaller manufacturers who can actually increase their sales by making their products stand out through innovative packaging and labeling. It also allows manufacturers of all sizes to offer private label goods in smaller quantities.

Variable Data and More

Another significant advantage of digital printing, whether using inkjet or laser, is variable data. Primera's label printers and presses provide you with the ability to print serial numbers, incrementing bar codes and other variable data fields.

Even more common is the need to print, in a single run, x number of one label followed by x number of another label for x number of different formats. While virtually impossible to accomplish on traditional analog equipment, this capability is fast and easy on Primera's digital label production equipment.

Other Uses for Short- to Medium-Run Digital Labels

Even though many users of LX and CX-Series printers are small to medium-sized companies, larger brand-name manufacturers also have the need to produce short runs of labels. They use them for market research, pilot runs, prototypes, private label goods and focus groups.

Marketing, advertising and promotional companies can produce labels for their collateral materials that indicate special offers, holiday greetings and other sales-driven and/or personalized messages.

Summary

The need for short- to medium-run, full-colour label printing is abundant in organizations of all types and sizes. While there are several available options on the market today, many are too expensive or are designed for far higher production than is needed in many cases. Further, the print quality of even high-volume, full-colour labels on flexo or digital offset can be limited, thereby limiting the sales potential of the labeled products.

Two digital technologies stand out and are clearly superior for producing the highest-quality, lowest cost output in short- to medium-sized runs: inkjet and laser-based colour label printing. Primera has both technologies available now with its LX-Series Colour Label Printers and CX1200e Digital Label Press with FX1200e Digital Label Finishing System.



Produce up to 305 mm (12") diameter rolls of digital labels on CX1200e

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