

Target Keyword: Advantages of Flexographic Printing
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If your company does its fair share of printing, it's essential to understand the [technology and equipment behind flexography](#). In basic terms, this process of direct rotary printing involves a raised image impressed into a flexible relief surface that turns the picture out onto a variety of materials. The concept is similar to the early letterpress style devices, which essentially "stamped" images and typeface onto paper in the publication of newspapers and books.

The technology offers many benefits over other types of reproduction, and the [advantages of flexographic printing](#) can be more easily understood by reviewing the process. First, the plate must be created by one of three techniques involving molding, computer guided laser etching, or exposure of polymer to ultra-violet light. Next, the mounting process takes place, whereby plates are installed upon a cylinder which is then inserted into the press. Finally, the ink is applied to the plate via tiny cups which hold exact measurements of the liquid, which will ultimately be deposited upon the printing surface.

While this description of the technology and method of flexography is quite basic, it's still easy to see the advantages of flexographic printing. From the plate making to the mounting process to the transference of the image, flexography is as its name suggests: a versatile and adaptable means of handling large scale reproduction of images and text.

Flexographic printing offers a variety of ink types, many of which require little or no drying time.

When letterpress technology was popular, companies had limited options for ink and printable surfaces. For the most part, ink was water-based and required a certain amount of time to dry to avoid smudging. Commercial dryers were eventually developed to facilitate the process, but at an additional cost for equipment and maintenance.

Today's flexographic printing methods involve quick drying in a wide variety of ink types. Depending on the application and surface to be printed upon, you'll have the choice of five different kinds. Solvent based solutions are ideal for plastics, wallpaper and other commercial uses, while water based inks work well for more porous materials like cardboard and paper. To reduce or eliminate drying time, electron beam or ultra-violet curing inks are popular when printing onto plastic and cellophane. Chemical curing inks typically require a two step process, which makes them useful only for a limited number of applications.

Flexography enables printing on a wide variety of both porous and non-porous surfaces.

Companies are no longer limited to cardboard, paper and fabric when printing images, making this feature one of the top advantages of flexographic printing. Countless consumer and commercial goods involve this technology, from the printing of wallpaper to creating gift wrap to coloring floor tiles.

The easy plate making process enables you to print millions of images with one template.

Whether using plastic, or polymer, the plate created during the flexographic printing process is durable for a consistent image with every print. Every copy created is an exact replica of the previous one, and your first reproduction is the same as the last. You avoid the need to restructure the plate, thereby avoiding slight discrepancies that can cause image variance and irregularities.

Pre-established inking amounts throughout the printing process means there's no need for adjustments or re-calculations in the middle of a job.

Problems with ink distribution can completely destroy a printing run, costing thousands of dollars when you need to start the process again with new materials. Exacting ink control is one of the best advantages of flexographic printing, and it's typically handled by either a fountain roll system or doctor blade technology. The former involves pouring the designated ink onto cups or grooves on the plate, whereas the latter is more precise. A doctor blade system incorporates geometry and volume displacement to determine the amount of ink necessary to evenly cover the plate. Then, it essentially "squeegees" off any excess ink to ensure that the resulting print is clean and smudge-free.

Flexographic printing technology is capable of printing continuous patterns.

Reproducing images and text on corrugated cardboard, labels and other individual items isn't too difficult for most current technology. However, there is more of a challenge when you need to print a constant pattern throughout several dozen or even hundreds of feet. Examples include wallpaper, printed cellophane and gift wrapping, which require a seamless pattern in a continuous, unbroken design. The rotary operation and consistent ink control of flexographic printing enables you to print the same design over and over without interruptions in the pattern.

Flexography is ideal for solid color printing.

Due to its exacting ink control systems, one of the best advantages of flexographic printing is the ability to generate solid colors on both porous and non-porous substrates. In other printing processes, several layers of ink are required to attain the proper saturation and richness. Because the ink used in

flexographic printing is able to dry quickly or cure without the need for drying time, several layers can be applied within a short amount of time.

For food-related consumer products, flexographic printing offers the perfect balance of durability and safety.

Certain governmental regulations require that food packaging containers be printed with ink that will not wear off, flake, separate or otherwise degrade. Added to this challenge is the fact that most food packaging is comprised of plastic, cellophane or other non-porous materials to which traditional inks won't adhere. With flexography, printings are bonded to the surface without the threat of deterioration or safety risk to consumers.

When considering your printing options, it's best to make your decision by balancing cost effectiveness, quality and versatility with the application for its intended use. There are certain advantages of flexographic printing that make the process well suited for many consumer and commercial applications. Its capabilities surpass traditional methods that don't feature the same flexibility and technological advancement.

Target Keyword: Digital vs. Flexographic Labels
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You and your company have a number of options when it comes to label printing, and there are countless considerations that you'll need to weigh when choosing the ideal option for your business. Consideration of criteria such as print quality, cost effectiveness, and adaptability are just a few of the factors that you should evaluate. If you're looking to compare digital vs. flexographic labels, it's smart to look at both what the two technologies have in common and how they're different. You'll also want to know the advantages and disadvantages of each process, especially when looking at the applications you'll be using.

Understanding the Basics

Put simply, digital printing refers to the process whereby an image and/or text is transferred onto a variety of surfaces primarily via ink jet or laser printer technology. Pigment or toner is distributed over the material, which would typically include paper, canvas, some fabrics, glass, and some others. Lesser

used solutions involve digital laser exposure onto photographic paper to reproduce the intended image.

In contrast, flexographic printing utilizes flexible plates and rotary style equipment for mass production. The process begins by creating the printing plate using one of a variety of methods and assembling the apparatus that holds it, known as a plate cylinder. Then, the stock is fed into the rotary press, where ink is transferred from the ink tank to the ink roll to the plate. Once evenly distributed over the plate, the image and text is imprinted upon the surface of the stock.

Digital vs. Flexographic Labels: Cost

With these basic descriptions of the two different processes, you can probably see where certain advantages and drawbacks emerge for printing digital vs. flexographic labels. First, digital printing is lower upfront cost, essentially involving a computer and an ink jet or laser printer. Over time, however, the printing process can be expensive with supplies and maintenance. Digital printing is not suitable for large scale projects in excess of 50,000 reproductions.

In contrast, flexography is considerably more expensive to implement, due to the plate creation, equipment and assembly. There are many components to such a press, including the plates, cylinders, rollers and dryers. Purchasing all of the upfront technology can be more than the cost of the labels themselves. Still, once the initial investment is made, flexographic printing of labels or other media is significantly less if you're running more than 50,000.

Comparing Digital and Flexographic Turnaround Time

With digital printing of labels, you simply locate an image or text file on your computer and click on print. Of course, there's maintenance of the equipment, refilling ink or toner and other matters that might mean your print job takes a few minutes. Nevertheless, when printing a couple thousand labels or less, you're usually looking at minimal turnaround time with digital vs. flexographic labels.

On the other hand, flexography does require more time to complete a job. The process of creating the printing plate, filling the ink tank, and assembling the ink roll and plate cylinder result in higher turnaround time as set-up before beginning each job. However, it's important to consider the size of the job that you'll be running. The time investment when setting up a longer run is minimal when you compare it to the fact that you're creating multiples of thousands of labels. Imagine using your digital printer to run 50,000 labels and you'll see the advantage of flexographic over digital label printing.

Ink Usage for Digital vs. Flexographic Labels

If you've ever purchased toner for a laser or ink jet printer, you know that you're basically getting three colors. Whether they come in one cartridge or separately, these dyes are mixed during the process to provide the best match of the computer images you're reproducing. Of course, a typical printer would be printing onto paper, though specialized models are available that can handle fabric, glass, metal, tile and other materials. However, some of the ink color quality and hue can be affected with these substrates.

With flexographic printing, your ink options are more extensive and can be perfectly suited to your substrate. Whether you go with water-based, solvent, vegetable-based or some other formulation, your colors stay true and dry quickly. Some UV curable inks dry almost instantly and can be handled immediately. Plus, because the ink trays of a flexographic printer are easy to fill, the need for expensive toner cartridges is eliminated.

Substrates and Surfaces

Flexographic printing is hands-down the better alternative when it comes to various surfaces, since the technology has no trouble with reproducing labels on any porous or non-porous substrates. It can print on all types of fabrics, paper, photo paper, corrugated cardboard, metallics, cellophane and glass. In fact, flexography is even used on stretchable plastic and on the reverse side of non-porous film. You essentially have your choice of materials when printing labels and product packaging.

With a few exceptions, digital can simply not accommodate many substrates, as the ink being deposited will smear off of non-porous surfaces. In addition, due to its rotary action, flexography is also best suited for printing continuous patterns. Gift wrap, wallpaper and certain labels are examples where continuous printing action is necessary. Digital printing doesn't have the capabilities to print in one, long constant run.

After considering printing options with digital vs. flexographic labels, it's best to weigh all the pros and cons before making a decision to invest. If your business has extensive printing needs that number in the thousands or millions of units, flexography is the premium option. Your start-up costs may be significant, but turnaround time on large scale projects is minimal when compared to digital. You also have to consider the surfaces you intend to print upon, as flexographic printing essentially offers unlimited alternatives. Digital printing also has its advantages, but its drawbacks can be prohibitive.