



Barcodes & Variable Data

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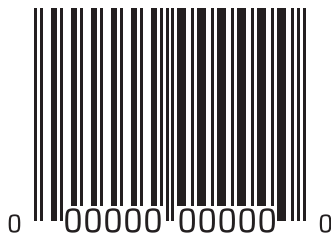
Barcodes and variable data serve as essential tools in labeling and can be useful in any market.

Barcodes are used for product identification, tracking and customer engagement. Barcodes are either static, staying consistent across labels, or variable, changing from label to label. Variable data printing, or VDP, is a digital printing technique that enables the customization of individual labels within a print run. Variable data printing allows each printed piece to be unique, encompassing not only barcodes but also numbers, text, and images.



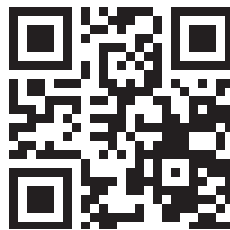
Popular Barcode Types

There are many different types of barcodes, each with their own specifications such as minimum size requirements and data capacity. Here are some common types.



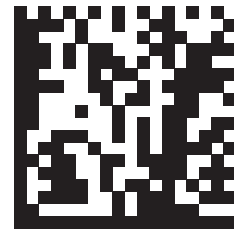
UPC Codes

UPC codes are a product identifier and help track inventory. Most people are familiar with scanning them at the grocery store as they are on virtually all consumer goods products.



QR Codes

QR codes link directly to web-based information, such as a website or document. They can be scanned by most smart phones and are often used in the consumer goods and automotive industry.



Data Matrix Codes

Data Matrix codes can encode large amounts of text or numeric information in a small space. They are often used for tracking and traceability in manufacturing and healthcare.

Variable Data Printing

While some barcodes will remain static on labels, variable data printing is perfect for when you need a unique barcode for each label. Variable data printing is a form of on-demand digital printing which allows elements such as barcodes, graphics, or text to be printed with information from a file or database without stopping or slowing down the printing process. A template file and a data file are used to generate all of the copies needed, rather than creating them one by one.

The Advantages of Variable Data Labels



Compliance: Using variable data labels to provide details about products and shipments helps businesses comply with regulatory requirements. This is especially helpful in the automotive, industrial, cannabis, and healthcare industries.



Personalization: Variable data labels let you easily personalize labels by changing out information such as names and regional information. These are often used in the health and beauty and consumer goods industries.



Efficiency: Variable data labels make it so you don't have to stop your printing run just to change a small component of the label. The process is automated, reducing the need for manual data entry, which saves time and money.



Accuracy: Rather than each label being made individually, variable data labels are linked to an underlying data file which creates each label copy. This reduces human error and improves the integrity of data.

Different Types of Variable Data Printing

Variable Barcodes

Barcodes are one of the most common elements that are used in variable data printing. They can contain information such as consecutive numbers, order and production details, serial numbers, expiration dates, lot numbers, and batch numbers.

Examples

Industrial & Automotive

Variable barcodes are often used in manufacturing to provide information about specific parts, their uses, and their location. Warehouses use them to stay organized. Automotive parts require clear identification, so they are often labeled with unique codes that streamline inventory management and ensure traceability throughout the supply chain.



Cannabis

Cannabis products are subject to strict regulatory requirements. Variable barcodes are used to generate unique identifiers for each product batch, ensuring compliance with regulations. These barcodes contain essential information such as batch numbers, production dates, and potency levels, allowing regulators to trace products easily.



Government

Government agencies often issue recreation permits for cars, boats, and off-road vehicles. Each permit is assigned a unique barcode that contains information like permit number, issuance date, and expiration date. Variable barcodes enable agencies to track permits, monitor compliance, and ensure timely renewals.



Variable Text

Variable text is a simple but useful form of variable data printing, including letters, numbers, or alphanumeric codes. They can often be seen with variable barcodes.

Examples

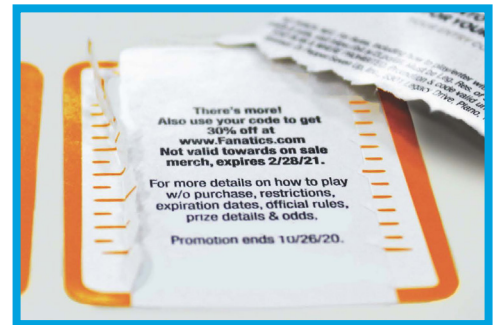
Consumer Goods

In consumer goods, variable text adds a personal touch. Think of health and beauty products personalized with customer names, or the Share a Coke campaign. Variable text also allows labels to be tailored to different regions, connecting with consumers through relevant messaging.



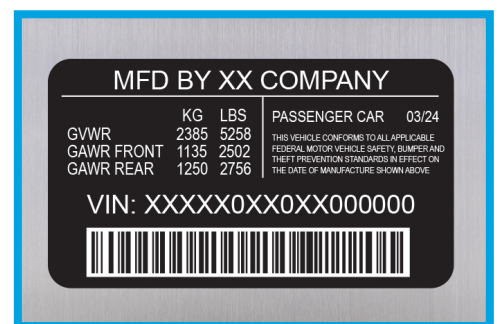
Promotional

Variable text is frequently used in coupon distribution. Each coupon may feature unique text, such as sweepstakes numbers or prize information. Coupons may include a code for consumers to enter on a website to reveal their winnings that can be generated using variable data.



Automotive

The automotive industry uses variable text to print unique serial numbers for automotive parts. They also use it for VIN numbers, alphanumeric codes that serve as the vehicle's fingerprint, facilitating tracking, recalls, and maintenance records throughout its lifespan.



Cannabis

The cannabis industry can utilize variable data to swap out different information on their label such as strains, potencies, or flavors. Variable data text enables companies to customize labels for each product variation without having to make separate labels for each one.



Variable Graphics

Variable graphics are a creative way to use variable data printing. You can change out different graphics and images on your labels for practical or creative uses.

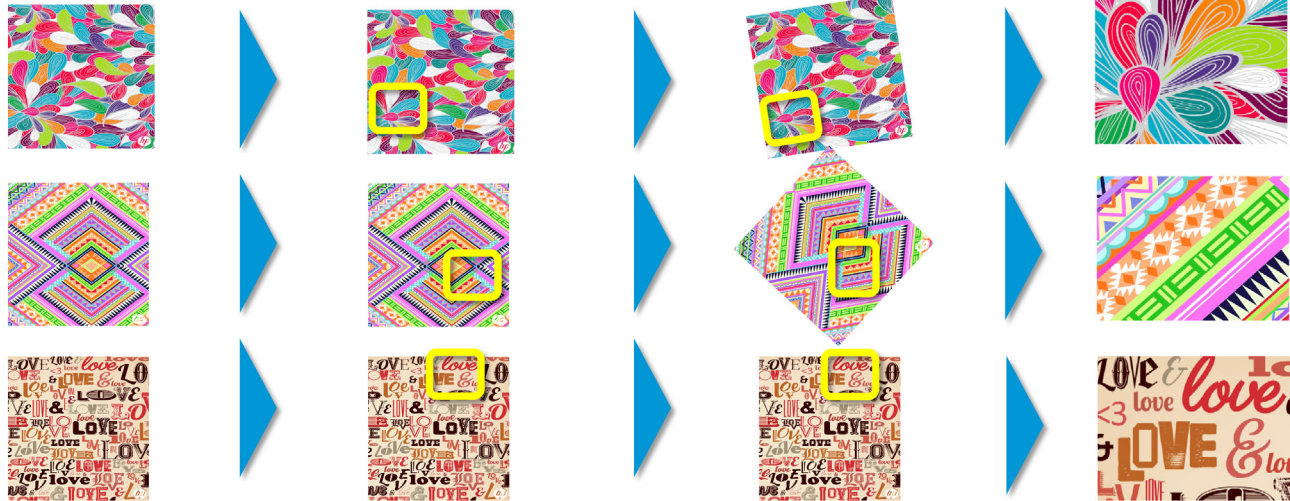
One way to create unique designs easily is through HP Mosaic. Using a seed pattern and user parameters, the program crops, rotates, and scales the seed file in different ways so that each label has a different portion of the seed file showing.

Original seed pattern

Cropping area

Rotation

Scaling



Examples

Consumer Goods

The HP Mosaic technique is often utilized in consumer goods like beer, wine and spirits labels. With this method, a portion of the label features a variable image, making each product label distinctive but still cohesive. In the photo to the right, both the colorful shapes and background color are variable.



Industrial

Variable graphics can be used in safety signage and hazard labels to convey critical information to employees and workers. They may include different symbols, such as arrows or warning symbols, that vary from label to label. This can be helpful if your labels have a large variety of symbols.



Learn More

The ability of barcodes and variable data to personalize, streamline, and ensure accuracy make them indispensable tools for labeling. Whitlam Group specializes in printing all types of barcodes and variable data tailored to your needs. Reach out to us today to begin your project!



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About Whitlam Group

Whitlam Group is a leader of engineered label solutions and functional parts, solving complex label challenges for the world's largest corporations. Serving the automotive, industrial and consumer goods market for over sixty years, as a strategic partner. We understand the needs and processes of our customers and we proactively help them to achieve their objectives.

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