

I.D. Images, LLC

Basic Labels and Tags 101

866.516.7300



What is a label?



A Pressure Sensitive (PS) label is made up of a face stock, (which can be paper or a synthetic material), adhesive and a liner. Lined labels make up the majority of PS labels currently used. There is a growing movement towards linerless labels in an effort to reduce materials in the waste stream.

What is a tag?



Tags are made of either paper or synthetic materials and come in a variety of thicknesses. They often have a hole, for a string, a chadless cut, or are put in a slot or pocket of a product. Most tags are Non-Adhesive but some applications may require tags with adhesive.

How are labels and tags made?

Steel dies are used to cut labels and tags to the desired size and shape in the majority of cases. The balance of labels are cut with lasers or other technologies to shape them.

Common print methods used

Most labels and tags are produced via the following printing processes

Flexographic — Offset — Digital

These printing technologies are used to make **static barcodes**, meaning the information never changes within the barcode.

Flexographic Printing

Flexographic Printing is often referred to as Flexo. It is a process that uses a raised flexible (photopolymer) plate which wraps around a cylinder to imprint the label material. A rotary die then cuts the label shape out of the material and the waste matrix (area between the printed labels) is stripped away.

Offset Printing

With offset printing the inked image is transferred (or "offset") from a plate to a rubber blanket, then to the printing surface.

Digital printing

Digital printing adds the image directly to the label substrate from a digital file. There are no printing plates involved in this process and each label/image can be different or static, depending on the information in the file.

Variable and NON Variable Labels

Variable Labels – Include information such as

- Lot numbers
- Date of manufacturing
- Origin of product

This information is used to track back through the supply chain and are often printed at the customers site.

Non Variable Labels - There is no information attached or hidden in them. The main purpose of many of these labels is to identify and brand the product and share content information.

What happens to a label or tag once it is shipped to the customer?

Laser, ink jet, and thermal printers may be used at customer sites to add variable information to the pre-printed labels and tags.

The label or tag is then applied to whatever item the customer has ordered them for, (car parts, shipping labels, cartons, rolls of steel, pharmaceuticals etc....)the list is never-ending.

Labels are used in almost every part of our daily life to convey product information.

Endless Variety of Applications

Some labels will be put on corrugated boxes and will never leave the warehouse.

Labels may go under the hood of a car and have to withstand high and low temperatures (Arizona vs. Alaska) and not come off. Images must withstand brake fluid, antifreeze, gasoline, but must also withstand contact with moving parts under the hood.

Labels are also be applied to pharmaceuticals. Lives may depend on the correctness and readability of the information, and the ability to adhere to the product.

What are the 2 types of Thermal Printing?

Direct thermal – heat and pressure applied to the label substrate from the print head activate the chemistry in the paper darkening the surface to show the copy or image.

Thermal transfer - a ribbon comes in contact with the print head to transfer the image using heat and pressure to the label substrate.

Thermal Transfer Ribbons

There are 3 basic types of TT ribbons.

Wax – Inexpensive and good for warehouse use. These labels are not as durable as the other 2 and generally run slower on press.

Wax resin – Is a harder ink and more resistant to abrasion. It runs faster than wax, but slower than resin. Wax resin ribbons cost more the wax, but less than resin.

Resin – Resin ribbons are used mostly on synthetic substrates. They are resistant to high temperatures, smearing, and chemicals and generally run faster than the other two. They are also priced higher.