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INTRODUCTION TO

# BAR CODE LABELS



**Abhimanyu Singh Rathore**  
**DIRECTOR**

# **BRIEF INTRODUCTION TO BAR CODE LABELS AND PRODUCT LABELS**

You received a parcel at the doorstep after days of waiting.

You decided to order pizza for takeaway after work because you don't have time to cook a meal yourself.

You purchase paracetamol from a nearby pharmacy when you are unwell.

You go shopping and the items on display tend to catch your attention.

As random & unrelated as these examples may seem, they share one thing in common. All of the products mentioned have labels on them. We see them so frequently that they have become a part of our daily lives. Why is that so? In today's article, we will talk about the label's importance and how crucial it is for parties involved in the product chain. Next, we will also touch on the label's layers and further branch them out to their types respectively.

Their functionality, traits & features, advantages & shortcomings, and their suitability in certain applications will be discussed as well.

Without further ado, let's get right into it!



## IMPORTANCE

### 1. INFORMATION

Labels aren't just plain stickers. They provide important details of the products. Be it prices, ingredients, calories amount, expiry date, delivery address, and etc, users rely on them to make better decisions - to compare prices, for health measures, to innovate & develop, and many more.

### 2. BRANDING

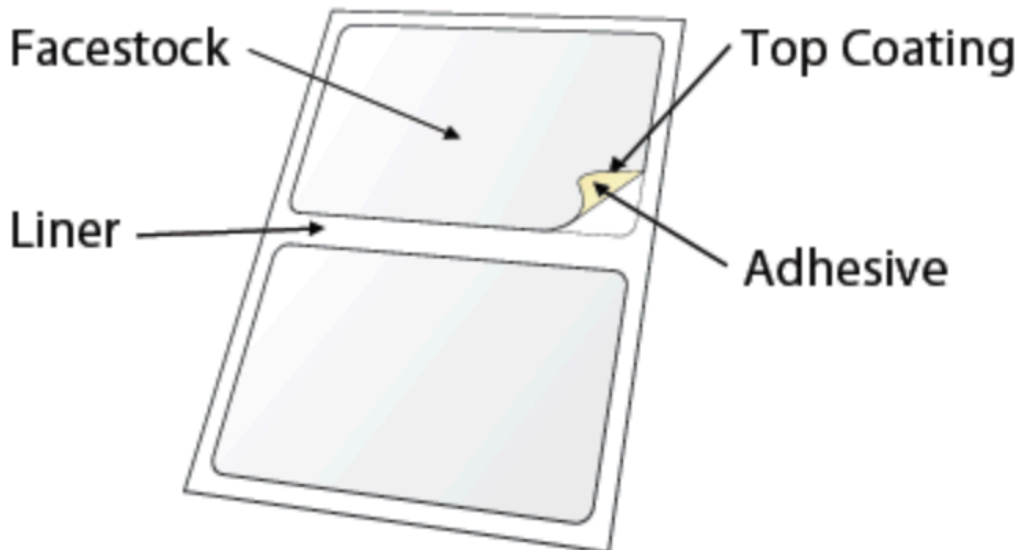
Aside from information, labels are the most versatile media that businesses utilise for branding. With their signature logos or trademarks printed on the products, their brands can be reached out to more audiences while keeping them easily recognised. This steadily generates familiarity to which leads to sales revenue.

### 3. STAND OUT

Labels are also great tools to kickstart new businesses. If your new product's packaging is dull, people tend to overlook it. Even if you promote it, it can be a huge struggle, especially to prospects who have been purchasing certain brands from the get-go. Chances are, they probably wouldn't even consider buying your product after you have done pitching. However, with attractive logos, they will definitely catch prospects' attention, trigger their curiosity towards your product and are more likely to give it a try.

## LAYERS

Simplicity is not necessarily derived from simple steps. A label fits exactly that because manufacturing it involves meticulous processes. It is made up of three different layers such as face stock, adhesive, & release coating. These different layers are applied to each other to produce the finished product as shown in the diagram below.



Construction of a Label

### 1. FACE STOCK (MATERIAL)

Face stock is the top layer in which information or logo is printed onto. It represents the label's material that can either be paper or film type.

#### (a) PAPER

The main component for a paper face stock is wood fiber. As wood is an inexpensive material, it makes paper the most affordable choice. However, paper is easily damaged by moisture, heat, chemicals and can be torn. Despite its shortcomings, paper has continued to be the most commonly used face stock due to its unique aesthetic qualities. It has a wide range of selections in terms of color, weight, and thickness.

Type	Characteristics
Printing Paper	<ul style="list-style-type: none"> <li>• Known as wood-free or simile paper.</li> <li>• Great wax or wax-resin receptibility ;producing excellent print quality.</li> <li>• Suitable for applications such as supermarkets, catch-weigh &amp; food packaging, industrial &amp; logistics, promotional labelling, etc.</li> </ul>
Art Paper	<ul style="list-style-type: none"> <li>• Has a semi-gloss and smooth surface.</li> <li>• Great wax or wax-resin ink receptibility ;producing excellent print quality.</li> <li>• Commonly used in cosmetic, pharmaceutical &amp; medical, manufacturing &amp; electrical industries, etc.</li> </ul>
Mirrorkote Paper	<ul style="list-style-type: none"> <li>• Known as a cast coated paper with a mirror-like gloss on the surface.</li> <li>• Great wax-resin or resin ink receptibility ;producing an eye-catching effect of high gloss on printing.</li> <li>• Areas of use include consumer goods, retail, food &amp; beverages, medical, etc.</li> </ul>
Thermal Paper	<ul style="list-style-type: none"> <li>• Uses heat directly from the printer to form its content instead of using a ribbon.</li> <li>• Highly used on fast-moving goods in applications such as logistics, catch-weigh &amp; food packaging, etc.</li> </ul>

## (b) **FILM**

Film-based face stocks are made up of plastic polymers. Labels with such face stocks allow them to match and fit products' unusual shapes. They are also known for having great durability. Aside from their wear & tear resistance, filmic labels are able to withstand adverse environmental conditions such as moisture, heat, chemicals, oil and even alcohol. However, these face stocks are very costly. The four types of film-based face stocks include polyester (PE), polypropylene (PP), polyimide (PI) and polyvinyl chloride/vinyl (PVC).

Type	Polyester (PE)	Polypropylene (PP)	Polyimide (PI)	Polyvinyl Chloride / Vinyl (PVC)
Characteristics	<ul style="list-style-type: none"> <li>• Has 3 subtypes (Matte, gloss, silver).</li> <li>• Incredibly long-lasting with a lifespan of up to 10 years.</li> <li>• Ideal for product ID, machinery, outdoor and applications.</li> </ul>	<ul style="list-style-type: none"> <li>• An affordable alternative to polyester but is less durable and has a shorter lifespan.</li> <li>• Mainly used for cold-temperature applications.</li> </ul>	<ul style="list-style-type: none"> <li>• Remains white and legible as it is specialized for long-term, high-temperature conditions.</li> <li>• Ideal for electronics and circuit board labeling.</li> </ul>	<ul style="list-style-type: none"> <li>• Has unparalleled outdoor durability and conforms to rough &amp; irregular surfaces easily.</li> <li>• Perfect for warehouse &amp; inventory labeling.</li> </ul>
Printing Technologies	TT, LS, FX, IJ	TT, LS, FX, IJ	TT, FX, IJ	TT, LS, FX, IJ
Chemical, Temperature & UV Resistance	Medium to high	Low to medium	High	High
Conformability	Medium	Low to medium	Low to medium	High
Cost	Medium	Medium	High	Medium to high

(\*TT - Thermal Transfer , DT - Direct Thermal , LS - Laser , FX - Flexographic , IJ - Inkjet )

## 2. ADHESIVE (GLUE)

Adhesive is the middle layer that sticks your label to your product. The four types of adhesives are permanent, removable, hot-melt and all-temp.

(a) **Permanent** adhesive is the most cost-effective, common, and suitable for general purposes where a long-term application is needed. Exactly as the name says, it is made to be non-removable. Removing the label not only damage itself, but also damages the products' surfaces and leave glue residues too. Fortunately, there are some methods to

(b) **Removable** adhesive holds fast and does not come off easily. Labels with such adhesive can be removed and reapplied to another surface without losing its stickiness.

These labels are normally used on books and glass where glue residue is not tolerable after the label is removed. The effectiveness of removable adhesives depends on the temperature and the surface the label is applied to. Hence, it is best for users to test these removable adhesives out first for suitability.

**(c) Hot-melt** adhesive is a rubber based adhesive that has a high initial tack. When a hot-melt label is in contact with a surface and pressure is applied, the adhesive will grip the surface it is applied to. The adhesive is comparably softer that allows it to bleed into rough surfaces such as recycled & corrugated cardboards.

**(d) All-temp** adhesive is ideal for environments with extreme temperatures. Chiller and freezer label adhesives fall into this category. Although it provides tack too at room temperature, this adhesive is commonly used for food application in cold storages. A chiller adhesive works if applied between room temperature to 0°C. A freezer adhesive is recommended for below 0°C.

### 3. RELEASE COATING

Release coating, also known as liner, backing or carrier, is the bottom layer of the label. It serves two important roles. Release coating protects the adhesive and is thrown away when you are ready to stick the label on a product. It also enables the label to have a smooth feed through the printer. Without a quality line, your printing may face jamming or curling. The three types of release coating are glassine, kraft & filmic.

Type	Traits
Glassine Backing	<ul style="list-style-type: none"> <li>•An uncoated transparent backing paper..</li> <li>•Has a range of colour &amp; weight variations. Mostly in white.</li> <li>•Its transparency is also the gaps between labels to be detected by sensors during printing.</li> </ul>
Kraft Backing	<ul style="list-style-type: none"> <li>•Only one side is coated.</li> <li>•Used when extra stiffness is needed.</li> <li>•Maintains good rigidity and is printed with black marks to be detected by sensors during printing.</li> </ul>
Filmic Backing	<ul style="list-style-type: none"> <li>•Is either made of clear polyester (PE) or polypropylene (PP).</li> <li>•Has a clear &amp; strong feature, making it suitable for high speed applicators.</li> </ul>

## DIFFERENT TYPES OF LABELS AND STICKERS

### 1. Preprinted Labels:

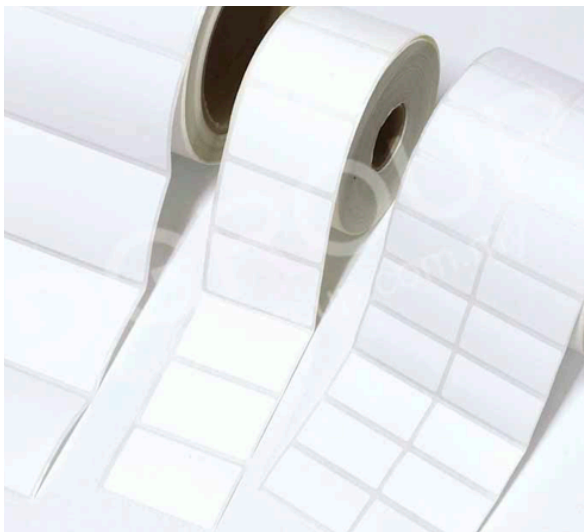
Preprinted Label are adhesive label printed with logo or company information which will be later applied into barcode printer. These labels can be customised for use in logistic, retails, supermarket, office documentation, laboratory, pharmaceutical and many other fields.



Logo and Matter Printed Labels

### 2. Plain barcode Labels

Plain Barcode Labels are roll form stickers designed to be used with barcode printers. The sizes and shape are customised to fit into your application. There are wide varieties of sticker material to choose from which includes wood-free paper, plastic PE, clear or waterproof material. These materials are made to bind ribbon ink strongly to the sticker surface, where scanners can pick up the barcode easily.



Plain Labels in Roll Form



### 3. Barcode Sticker

Barcode Sticker are adhesive label printed with barcode. These sticker have high contrast to enable high scanability with barcode scanners. There are many types of barcode including EAN8, EAN13, UPC-A, UPC-E, Code128, Interleaved 2 of 5, QR code, Micro QR code and various 2D barcodes. The barcode stickers are also customisable to include running numbers, database, and hyperlinks. They are used as asset stickers, data tracking, price marking and inventory organising.



1D and 2D Sticker

### 4. Color Label Rolls

Colour Label Roll are adhesive label printed with base colour which will be later applied into barcode printer.



Base Color Label

### 5. Pharmaceuticals Labels

Pharmaceutical labelling is of utmost important where the label function in identifying what the product is and does. Consumer trust their medicines are labelled accurately with correct and clear information in dosing instruction, ingredients, storage information, warnings and expiry dates. A slip-up in text or smudge print will amount to dire consequences.



Medicine or Test tube labels

### 6. Freezer or Cold room Labels

Freezer labels are designed to withstand harsh conditions in freezing temperatures for a considerable long time. Many may not consider the importance of freezer labels until the owner discovers their ice cream label comes off easily, sticker torn after thawing, and frozen products misplaced due to missing labels. These labels are also used in the healthcare, pharmaceutical, laboratory, and manufacturing fields. Freezer stickers are used to indicate best before date, identify frozen food packaging, clarify product details and package shipment information. The freezer and coldroom label sizes can be customised to fit into your application.



Labels for Below 0 Degree Temperatures

## 7. Product Labels

Product labels differ in terms of design, colour, size and shape giving a unique outlook to a product. With many other competitive brands on the shelf, the capability of a product to grab customer's attention spells the success or failure of a brand. Our company will help you to design and tailor the label accordingly to your requirement and the application of your products.



Product Labels in Roll Form

## 8. Weighing scale Labels

Weighing scale labels are thermal labels specifically produced for weighing scale printing. These labels are durable and waterproofed hence suitable for use in supermarkets, fruit shops, and wet markets alike. The size and colour of the label can be modified based on your preference.



Die Cut or Continuous labels

## 9. Tyre Labels

Tyre Labels are commonly used to label tyre grading information on newly manufactured tyres. Due to its strong adhesive properties, these labels are also used to adhere on rough surfaces such as gunny sack, carpets, fabric material, wooden pallet, concrete and much more. These are suitable for recycle industry, manufacturing, and automotive fields.



Caption

## 10. Security Label

With our customisable Security labels, you are able to protect your products from manipulation and tampering. Commonly found on electronic gadgets, mobile phones and small machinery, these void sticker or tampered evidence sticker are used for clear indication if there has been unauthorised alteration on the goods.



Void labels

**For More Information please connect  
with us at [info@asruniversalltd.com](mailto:info@asruniversalltd.com)**