

## **Flexible Laminated Plastic Packaging Material**

**Laminated bags, pouches & sachets** are used in a wide range of flexible packaging applications, such as food products, medical products, personal care products, cosmetics, etc. These are usually supplied in printed form and pre - made bags & pouches. However, the laminated flexible packaging material can be also printed and supplied in reels to converters who make the bags & pouches.

Product Range – Conventional 3-side sealed pouches, Gusset Pouches, Stand-up Pouches, Stand-up Pouches with Spout & Screw Cap, Zipper Pouches, Sachets, Vacuum Pouches, Retort Pouches (for high temperature), General Laminated Film etc.

Different substrates and laminating materials are used as per requirement and specification from customers. These include LLDPE, PET, BOPET, Metalized PET, BOPP, CPP, Metalized CPP, Nylon, Aluminium, Paper, EVOH etc. The packaging has outstanding advantages with regard to high levels of aroma preservation to protect foodstuff flavours, as well as excellent rigidity and transparency, and fine moisture resistance to ensure the high quality of the contained goods.

**Stand-up pouches, Gusset pouches and zipper pouches** have become the dominant packaging style in flexible packaging as they are more rigid than others. They are gaining popularity in India and are quickly becoming part of mainstream packaging. These pouches are becoming the primary packaging solution for the future as they have benefits such as easy carrying, material savings, the possibility of repeated use, preserving foods perfectly, and a large surface for printing (branding). Common applications include packaging of foodstuff, confectionary items, cookies, coffee, milk powder, snacks, etc.

## **Material Structures (examples)**

Normal clear packaging with common water vapor barrier and gas barrier

- PET film / PE film
- BOPP film / PE film
- BOPP film / CPP film,
- Nylon film / PE film

Common aluminum foils packaging with excellent water vapor barrier, gas barrier and light barrier

- PET film / Aluminium Foil / PE film
- PET film / metalized PET / CPP film
- PET film / Aluminium Foil / PE film
- PET film / Aluminium Foil / CPP film

Special aluminum foils packaging with excellent water vapor barrier, gas barrier and light barrier

- PET film / Nylon Film / Aluminium Foil / PE Film

Clear and high barrier packaging with excellent water vapor barrier and gas barrier

- KPET film / PE film
- KNY film / PE film
- KOPP film / PE film
- KPET film / CPP film
- KNY film / CPP film
- KOPP film / CPP film

Thickness: 70~180 Microns

## **Shape styles of Stand-up Pouches**

- Stand-up pouch
- Stand-up zipper Pouch
- Stand up zip lock see-through bag

Note: KPET is PVdC coated BOPET film e.g. Mylar ®, similarly KOPP is PVdC coated BOPP film and KNY is coated Nylon film.

**General Laminated Film** is made of multiple raw material layers with barrier properties that are chosen depending on the customer's needs. With its increased efficiency, general laminated film is widely used in high speed production for flexible packaging because of its advantages for quickly packaging as it increases efficiency. The fine printing capabilities make the final product appear much more attractive whereas the barrier properties extend shelf life. Laminated film is used in a wide range of flexible packaging applications such as food (snacks, sugar, seasoning, noodles, beverages, and biotic liquid packaging), pharmaceuticals, personal care products, cosmetics, and many more.

**Vacuum bags and pouches** are made of two or three layers of nylon and linear low density polyethylene (LLDPE). These materials offer strong sealing ability and transparent product protection. The bags and pouches provide excellent gas barrier while allowing moderate oxygen transpiration. With good puncture resistance, they also prevent water vapour permeation. They provide excellent protection to maintain and preserve the freshness of the article. By reducing moisture loss they extend the inner product's freshness. The external surface is printed with customer's logo and artwork, attracting more consumers and still maintaining other outstanding properties. They are used for the packaging of meat, sausage, seafood, cheese, frozen prepared food, vegetarian food, tea, and more.

**LDPE / LLDPE film** is coextruded with a core to form three layers. It has advantages of adding MVTR barrier properties, and specifically peelable sealants. Stiffer core materials and the ability to limit the use of costly sealant resins in one layer of the film are all LDPE film advantages. The top surface is also very good for printing, keeping the actual ink away from the product. LDPE films are generally used in rice packaging and other edible products. Another common use is the packaging of electronic components.

Many food products release air which can amount to pressure building up inside the bag. When sufficient pressure has been built up, the packaging might burst or be damaged. Adding a **one-way valve** inside the bag, gasses from inside the bag are released automatically and the bag is safe from bursting. Since the valve is one-way, air can be released from within, but exterior gasses cannot penetrate the packaging and corrupt the product. This way, the original flavour and moisture are preserved. The product is also less likely to be damaged during transport. Common applications include packaging of coffee beans, rice, powders of all sorts, pet food, and more.

**Retort pouches** can resist high temperatures during cooking and are less bulky than traditional cans and jars. The pouches are also form-stable, can be sterilized under high and low temperatures, require no refrigeration to maintain products safe in normal atmospheric temperatures, feature larger surface areas for promotion, are easier for customers to open, are microwaveable, and feature excellent sealing capabilities as well as excellent barrier properties with regard to light, gasses, and moisture. Retort pouches are suitable for packaging of ready to eat (heat & serve) food items, fish, soups, sauces, meat products, tea, fruits, vegetables, or seasonings.



The manufacture of flexible laminated plastic packaging products involves

- Procurement of substrate & lamination films / materials as per customer requirement (LLDPE / LDPE / PET film can be produced in-house)
- Lamination (can be solvent based as well as solvent less process)
- Slitting & Trimming
- Pack Design & Printing
- Converting to pouches / sachets etc.

We can provide Technology / Know-how and related technical services for the planning & implementation of the project. We can provide project consultancy services such as – Selection and Sourcing of Equipment, Utility & Support facility, Installation & Commissioning, Compounding & Processing, Quality Control & Testing and trial running of plant along with foreign equipment suppliers.

As a first step we can prepare a Techno - Economic Project Report for setting-up such a plant in India. This report will clarify all points associated with the project, help you to approach financial institutions for loan purpose, approach Govt. departments for statutory clearances etc.

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