Ministry of Food Processing Industries
Government of India

सत्यमेव जयते

NIFTEM
Knowledge. Innovation. Outreach

PACKAGING OF BREAD

AATMANIRBHAR BHARAT

PM Formalisation of Micro Food Processing Enterprises Scheme (PM FME Scheme)

PACKAGING

Shelf Life of Product:

- Bread has a short shelf life at room temperature, lasting just 3–7 days.
- Proper sealing and storage may help avoid mold and increase shelf life, as well as using the refrigerator or freezer when needed.
- If one finds mold, the whole loaf should be thrown away, as mold can create harmful mycotoxins.

- The quality of the product is also established with the type of process and technology further improves the quality of the product.

- The addition of anti-microbial packaging adds value to the product and thus the quality.

➢ Proper Storage

- When food products are not properly stored, they are spoiled by other food products that are bad for health.
- As germs begin to grow on it, food products stored for a long time get spoiled.
- Spoilage is a phase in which food goods deteriorate to the point that human food is not edible.
- "In most cases it has been seen that these Maida-based instant noodles take a toll on the digestive process.
- Its remnants may reach the appendix area of the body and trigger infection."

PACKAGING

➢ **The bad fats**

- Sadly, most processed foods, including saturated fatty acids or trans fats, are filled with not-so-good fats.
- The fats that are safe for you are both monounsaturated fatty acids and polyunsaturated fatty acids.
- Instant noodles have saturated fats that can increase the amount of cholesterol in the blood if eaten excessively.

- Food and water can be germ-infected. Germs are borne by bees.
- They pass these germs on to our food while they are sitting on our food.
- There are various causes, such as bacteria, mould, yeast, moisture, light, temperature, and chemical reaction, that are responsible for food spoilage.

PACKAGING

Bread Packaging:

- The packaging material- Both practical and marketing specifications.

- In order to ensure the consistency of the noodles shape and size during handling, transport, storage, and delivery.

- Packaging Specifications:
  - To protect the product from spillage and spoilage.
  - To provide protection against atmospheric factors such as light, heat, humidity, and oxygen.
  - The selected packaging materials should have high water vapour and oxygen barriers.

- The packaging material should have a high barrier property to prevent aroma/flavour losses and in gross of external odour.

- Therefore, the wrapping material should be resistant to grease and oil and be compliant with the commodity.

- The packaging content should, in addition to the above practical specifications, have good machinability, printability and be readily available and disposable.

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Characteristics of packaging material

The material selected must have the following characteristics:

- Must meet tamper-resistance requirements
- Must not reactive with the product
- They must protect the preparation from environmental conditions
- Must be non-toxic
- Must not impart odour/taste to the product
- Must be FDA approved.

TYPES OF PACKAGING

Fundament classification:

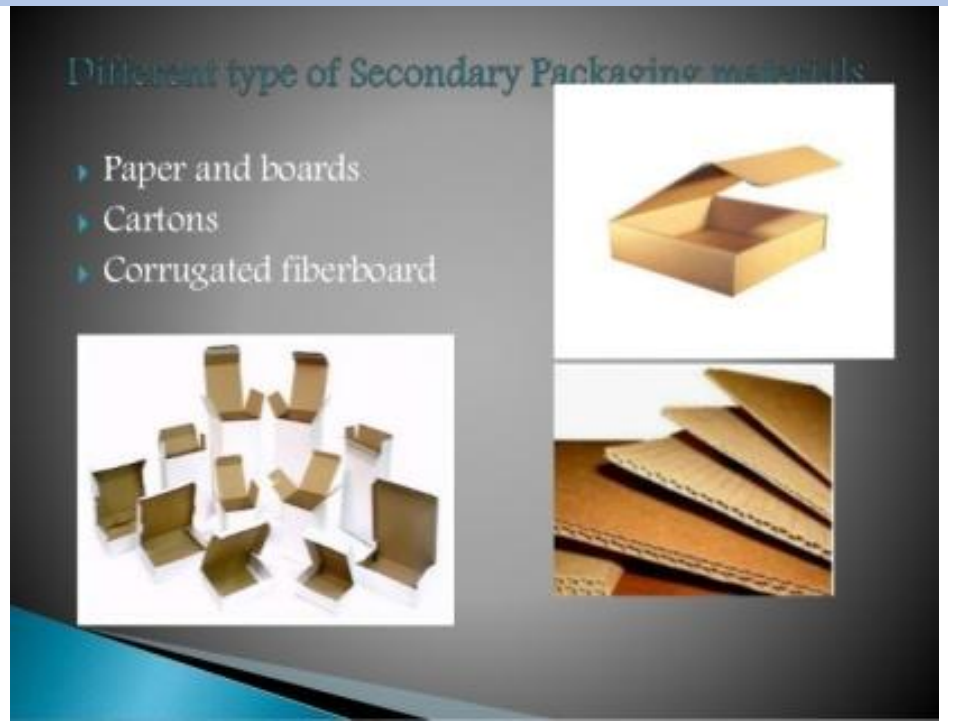
Packaging refers to the act of designing and producing the container or wrapper of a product. It is one of the most important parts of marketing.

- **Primary packaging:**

  Primary packaging is packaging which is in close association with the product itself and is often referred to as a consumer unit. The main purpose of the primary packaging is to contain, protect and/or conserve the final product, in particular against contamination.

- **Secondary Packaging:**

Secondary packaging is the outer packaging of the main packaging, which connects packages and further covers or marks the prescription component.



- **Tertiary Packaging:**

Tertiary packaging is used for the handling, transportation, and delivery of bulk products

TYPES OF PRIMARY PACKAGING

✓ Hanging Bags-

- Hanging bags in grocery stores and other shopping outlets are commonly used.
- They are a type of plastic bag that is also sealed with a back-middle seam on both ends as well.
- Hanging bags have a pre-cut hole that makes it easier for them to hang from hooks so that they can be seen in an attractive way.

✓ **Pillow bags –**

- A pillow bag is another typical type of package.
- The bags are named for their shape, which is like a cushion.
- They are found lying flat on grocery store shelves in the grocery store and were known to carry the items.

✓ Gusseted Poly Bags-

- Gusseted bags are often called flat-bottom bags because they feature a tucked in pleat that's been pressed flat.
- It allows the bag to expand for greater carrying capacity and to keep the shape of a box if necessary.
- These types of poly bags can be heat sealed, tied, stapled, or taped shut.
- They're the perfect poly bag for anyone looking to get more flour in a single bag.

✓ Flexible Pouches-

- Flexible pouches are a perfect way to carry most packaged items.
- They can be made with zipper-seal closures, which tend to keep the inside contents fresh for use.
- Flexible pouches offer amazing printing capabilities, many pouches stand up on their own, which helps you improve your shelf appearance.

✓ Paper Bags-

- "For crusty bread (used in soups and bruschetta), paper bag is used because the paper allows the air to flow, keeping the bread dry and crisp."

- It should be avoided to store the crusty bread in a plastic pouch because the moisture gets stuck and the crust becomes soft.

Essentials

- ✓ Shelf-life duration, i.e. the degree of protection required by the commodity against pick-up of moisture, preservation of aroma retention, decolouration, etc (in case taste maker is added)
- ✓ During packaging, transportation, and delivery, environmental conditions.
- ✓ Business type/sector
- ✓ Preferences for users
- ✓ Printability and appeal of aesthetics

The package types generally used as consumer packs are:

- ✓ Plastic cups of various sizes and shapes with labels and provided with metal or plastic caps.
- ✓ The plastic lids have added inbuilt features of tamper evidence, dispensing, grinding, etc.
- ✓ Printed tinplate container with/without dispensing systems.

- ✓ Printed tinplate container with/without dispensing systems.
- ✓ Plastic containers with plugs and caps with dispensing and tamper evidence features.
- ✓ Printed flexible pouches – pillow pouch, gusseted pouch, stand-up pouch.
- ✓ Lined cartons

MATERIAL OF PACKAGING

- The most common choice of packaging medium is plastic (generally flexible).
- It provides the required protection and preservation, grease resistance, physical strength, machinability, and printability.
- Polythene, polypropylene, laminated pouches, PVC wrapped trays and plastic jars were the various packaging materials used.
- In terms of preserving consistency during the storage era, the suitability and adoptability of these packaging materials have been examined.

Plastic-based packaging materials that can be used for noodles are listed below.

- **Polyethylene (PE)**

- It is considered to be the backbone of packaging films.
- Polyethylene with its low water vapor transmission is of definite interest.
- Polyethylene films are fairly free of plasticizers and other additives and are quite extensively used as a part of lamination.
- Its ability to heat seal increases its value.
- A copolymer of polyethylene and polyvinyl alcohol and EVOH has outstanding gas barrier properties especially when dry.

➢ Polypropylene-

- Polypropylene films have better clarity than polyethylene and enjoy superior machinability due to stiffness.
- Lack of good saleability has been a problem; however, PVDC and vinyl coating have been used to overcome this problem.
- Some varieties of PP have been specially developed for twist-wrap applications as they have the ability to lock in position after twisting.

➢ Polyesters (PET) and Polyamide (PA)

- Polyethylene terephthalate film has high tensile strength, gloss, and stiffness as well as puncture resistance.
- It has moderate WVTR but is a good barrier to volatiles and gases.
- To provide heat seal property, PET is normally laminated to other substrates.
- Nylons or polyamides are similar to PET but have high WVTR.

➢ Metallised Films

- When polymeric films are metalized there is an improvement in their barrier properties.
- Metallization is also used for decorative purposes and aesthetics.
- The films, which are used for metallization, are PVC, PET, PP, and polyamides.

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