

JAGGERY PACKAGING



AATMANIRBHAR BHARAT

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

INTRODUCTION

- Jaggery commonly known as Gur in India.
- Jaggery is the natural sweetener obtained on concentrating the sweet juices of sugarcane with or without prior purification of juice and without use of any chemical/ synthetic additives or preservatives, into a solid or semisolid state.
- jaggery is considered as a food material, as it contains a large quantity of minerals in addition to energy and is consumed directly as.
- There are mainly three forms of jaggery which are available in market which is solid jaggery, liquid jaggery and granular jaggery. In India, approximately 80 per cent of jaggery prepared is solid jaggery and remaining 20 per cent includes liquid and granular jaggery.

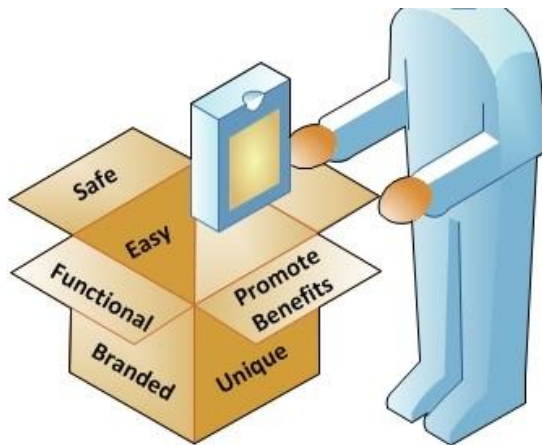


FUNCTIONS OF PACKAGING



- Ability to protect content from spoilage and Spillage
- Prevent insect infestation and insect damage
- Economical, easily available and easy disposal
- Confirm with food laws

FUNCTIONS OF PACKAGING



- Offer Protection against environmental conditions- moisture barrier
- Offer protection against microorganisms- oxygen barrier
- Strength properties to withstand mechanical hazard during transportation and storage
- Have a good printability

DETERIORATIVE FACTORS OF JAGGERY

Moisture Content

- Moisture absorption from humid atmospheres promotes inversion of reducing sugars which in turn leads to loss of structure, texture, and body hardness of jaggery and often to liquefaction.



DETERIORATIVE FACTORS OF JAGGERY

Microbial Contamination

- In high humidity condition moisture absorption occurs.
- Beyond a certain level of moisture content, microbial infection and biochemical degradation sets in.



BULK PACKAGING

- Women plastic bags which may be laminated or provided with a loose liner bag and multiwall paper sacks with a plastic liner bag.
- The plastic based alternate packaging materials are used to overcome the contamination problems associated with jute.
- Moreover, plastic bags/liners also help in retaining the quality of the jaggery packed inside for a longer time.



U-PANEL



4-PANEL



CIRCULAR
(TUBULAR)



BAFFLED



ADVANTAGES OF BULK PACKAGING

- Bags are flexible, collapsible and durable
- Can be used for packaging of, powder and any free-flowing material.
- Product wastage/spillage and tampering can be avoided.
- Since the handling is mechanized, less labour is required.
- Saving in time for loading and unloading.
- Bags are light in weight and, therefore, freight costs are reduced.
- Creates eco-friendly, pollution free working atmosphere.



INSTITUTIONAL PACKAGES

- Institutional packs of capacities ranging from 2kg to 10 kg are also used.
- Traditional materials used: tinsplate containers and jute bags.
- Currently used materials: Laminated flexible pouches and plastic woven sacks.
- BOPP multicolor Printed laminated PP Woven bags.



CONSUMER PACKAGES

- The options available to the traders/exporters in the selection of a consumer pack for domestic and export market are quite wide.
- The selection/choice of the packaging material/system depends upon a number of factors.
- Shelf-life period(the degree of protection required by the product against moisture pick-up, aroma retention and discolouration.
- Climatic conditions during storage, transportation and distribution.
- Type/sector of market.
- Consumer preferences.
- Printability and aesthetic appeal.



GLASS CONTAINERS

- Bottles/Jars are commonly used.
- The glass used for food packaging is soda-lime glass.
- Most bottles and jars are tailor-made specifically for one product or one manufacturer.
- Closures for glass containers are more standardized.
- Glass containers can be reused or recycled.
- Eliminates the risk of potentially harmful chemicals found in some plastics that can leach into food.



GLASS CLOSURE AND SEALING LUG JARS

Lug Jars

- Also known as Twist Off (T/O) caps, lug caps are compatible with containers whose threads are non-continuous.
- Lugs on the interior of a lug cap, correspond with the non-continuous threads and close by a partial rotation.



LUG Cap Sealer
(Mechanical)



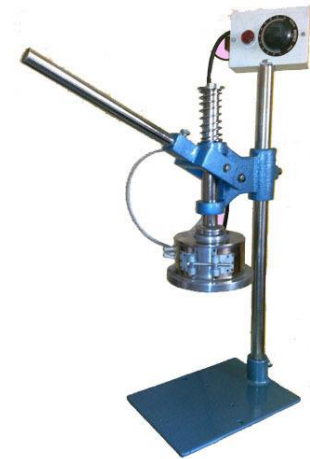
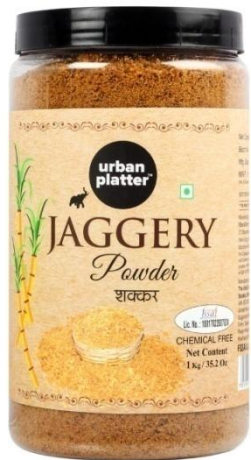
LUG Cap Sealer
(Pneumatic)



GLASS CLOSURE AND SEALING THREAD JARS

Continuous Tread

- Continuous thread caps can be metal or plastic and have various liner options.
- Categorized by threads which wrap continuously around a given finish, a few products that traditionally use continuous thread caps include peanut butter and m...



The printed flexible pouches are generally laminates of various compositions.

1. Polyester/metallised polyester/ LDPE
2. BOPP/LDPE
3. BOPP/metallised polyester/LDPE.
4. Polyester/AL foil?LDPE



FLEXIBLE PACKAGING

- Polyester and BOPP materials used for lamination is generally 10 or 12 μ thick.
- PVDC, EVOH and EVAL based material have high barrier properties.





TYPES OF POUCHES

- Centre seal formation
- Three sides seal formation
- Four sides seal formation



Centre seal formation



Three sides seal formation



Four sides seal formation

COMPOSITE CONTAINERS

- Composite containers are also used for packaging of Jaggery solid and powder.
- The containers are round and the body (side wall) is made of PE coated foil laminated spirally wound paper.
- The top and bottom ends of the container may be made from metal or plastic.
- The inner face is coated with plastic film or a combination of film and aluminum foil- This ensures optimum barrier properties against moisture and oxygen.



KRAFT PACKAGING

- Has good strength, printability and appearance.
- Other advantages are its low cost, wide availability and low weight.



- Currently very popular material in food packaging.
- Made by sulphate pulping process.
- Poly amide or polyamine resin is used to coat or laminate to improve barrier properties.

PET bottles

- Clear, Shiny and transparent.
- Unbreakable.
- Good barrier properties.
- 100 % recyclable.
- Low permeability of moisture and air.



OTHER PACKAGING MATERIAL

- Liner carton filling and packing machine also known as duplex box packing machine
- Provides good protection and barrier properties.



PACKAGING MACHINERY



Bag filling machine



Automatic FFS
machine



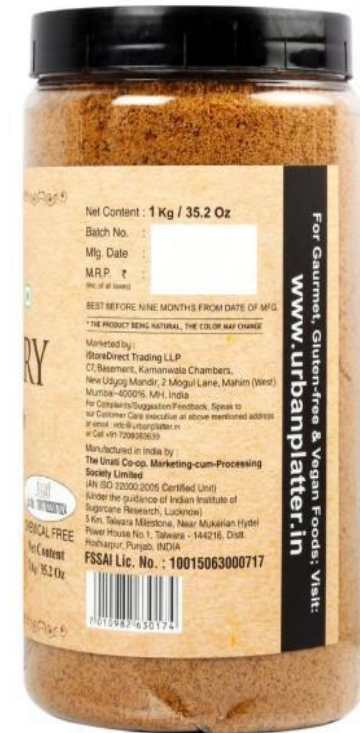
Automatic double head
power filling machine

FSSAI LABELLING REQUIREMENTS

- Name, trade name or description
- Name of ingredients used in the product in descending order of their composition by weight or volume
- Name and complete address of manufacturer/packer, importer, country of origin of the imported food (if the food article is manufactured outside India, but packed in India)
- Nutritional Information
- Information Relating to Food Additives, Colors and Flavors
- Instructions for Use

FSSAI LABELLING REQUIREMENTS

- Veg or Non-Veg Symbol
- Net weight, number or volume of contents
- Distinctive batch, lot or code number
- Month and year of manufacture and packaging
- Month and year by which the product is best con
- Maximum retail price



LABELLING OF JAGGERY POWDER



Vegetarian Sign

Information of the product

Ingredients

Name and complete address of the manufacturer

FSSAI License number

Customer care information

Net Weight

Best Before



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

For More details Contact:

National Institute of Food Technology and Entrepreneurship and Management
Ministry of Food Processing Industries
Plot No. 97, Sector-56, HSIIDC, Industrial Estate, Kundli, Sonapat, Haryana-131028

Website: <http://www.niftem.ac.in>

Email: pmfmecell@niftem.ac.in

Call: 0130-2281089



THANKYOU