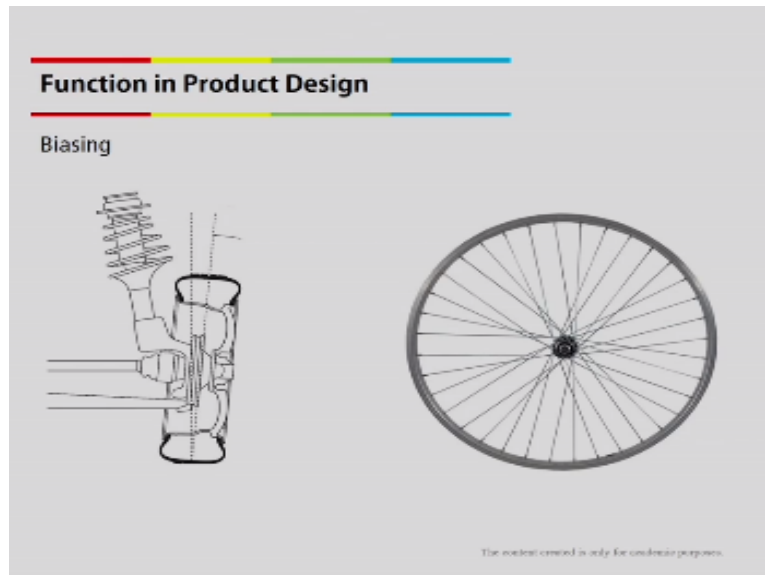


**Product Design and Innovation**  
**Mr. Supradip Das**  
**Department of Design**  
**Indian Institute of Technology - Guwahati**

**Lecture – 05**  
**Product Design – Part III**

**(Refer Slide Time: 00:35)**



So, now we will discuss about functional strategies in product design, first strategy is biasing. Biasing comprises any kind of prearrangement in the machine parts at no load condition, so that when actual external loads are imposed during working, the resultant load or stress in the members become 0. For example, camber angle in car wheels are given to make the wheel in neutral position at load condition.

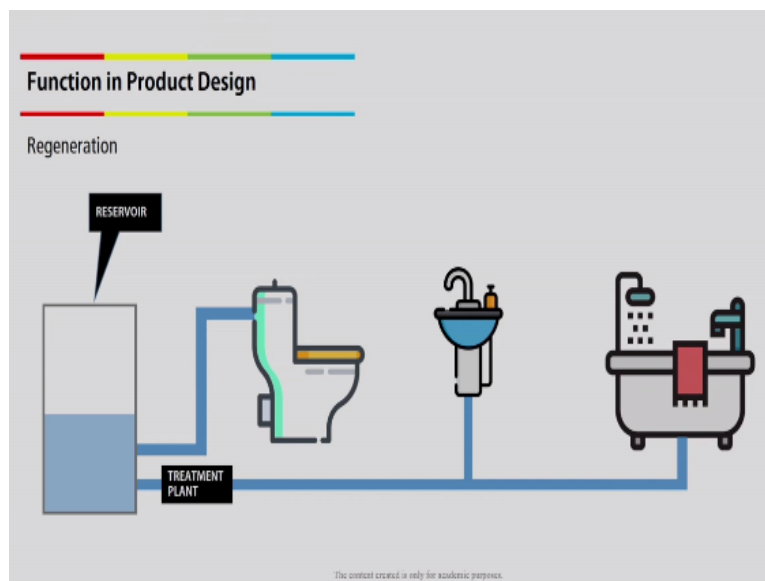
In bicycle wheel, spokes are put in tension and under load condition which are compressive in nature, the resultant forces become tends to 0.

**(Refer Slide Time: 01:28)**



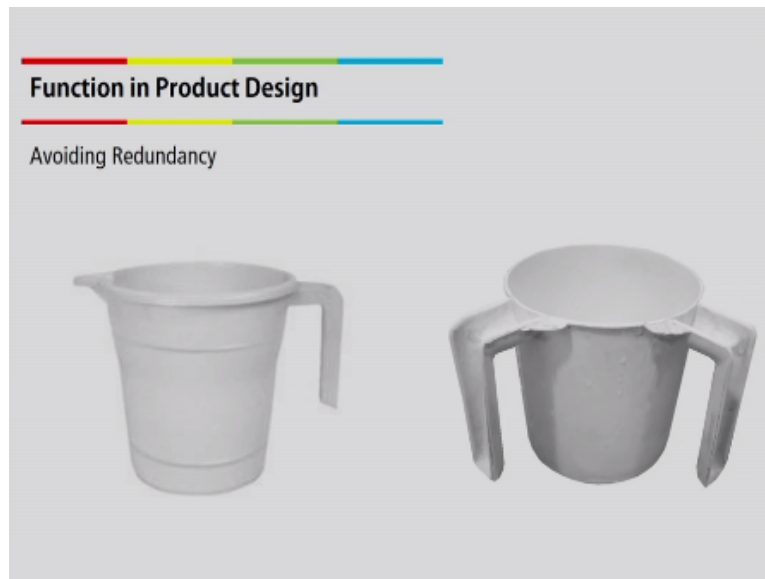
Next strategy is cascading; cascading comprises of use of multiple elements like multiple blades, fans, multiple stages which results in greater output from the machine for example, in dyson vacuum cleaner, dual cyclone step by step process is used to collect micro level dust with higher efficiency, then single cyclone vacuum cleaner.

**(Refer Slide Time: 02:02)**



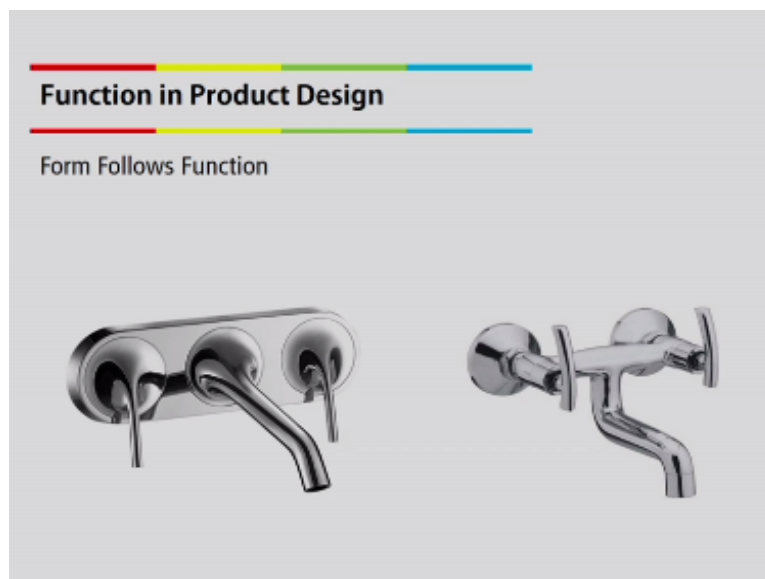
Next functional strategy is regeneration; regeneration, is based on the principle of using output of something has input for something else by doing this, waste is approximately 0. For example, wastewater from shower and wash hand basin is collected and treated; the recycled grey water is then used to flush toilets, so this kind of arrangement reduces wastage of water.

**(Refer Slide Time: 02:40)**



Next is avoiding redundancy, so designer should use exact number of element required in a design, essential for fulfilling the functional requirement.

**(Refer Slide Time: 02:53)**



Next is form follows function, to achieve functional design form of the product should not be compromised, good designer always achieve highest level of output with the help of sophisticated form which gives better experience.

**(Refer Slide Time: 03:17)**



Next is feedback, even product should give feedback, feedback does not only give indication of the task completion or task continuation but it is part of the product semantics and product experience. Artificial sound in high tech products affects the emotional state of the consumer. For example, in this particular case of kettle well, steam is produced it creates a particular sound something like this.

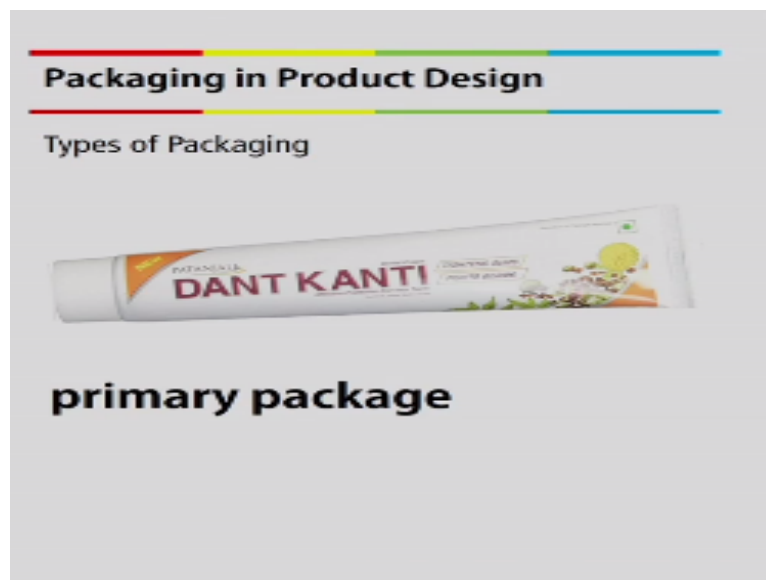
**(Refer Slide Time: 04:15)**



So, it is an indication of task completion as well as it is increasing the product experience, so now we will be discussing about the product packaging. When we are going to buy any product in point of purchase, we first communicate with the product package, so hence product package is very important to discuss. The packaging design adds value to a product which has major influence on customers purchasing decision process especially, at the point of purchase.

So, Heckert and Liddell demonstrated with their experiments that attractive product packaging would increase essential positive response to a product but most of the product designers lacks know how knowledge and skill of packaging design. The encounter problem of selecting appropriate design which matches with their product as well as packaging design system, this problem caused time lost and increment in cost of production.

**(Refer Slide Time: 05:30)**



Hence packaging design is very important in product design, now we will discuss types of packaging, so there are 3 types. One is primary packaging, secondary packaging and tertiary packaging, so primary packaging is the material that first hand velox though product and holds it, this usually is the smallest unit of distribution or use and is the package which is in direct contact with the content.

**(Refer Slide Time: 05:58)**



Secondary packaging is outside the primary packaging perhaps used to group primary packages together or display other information.

**(Refer Slide Time: 06:12)**



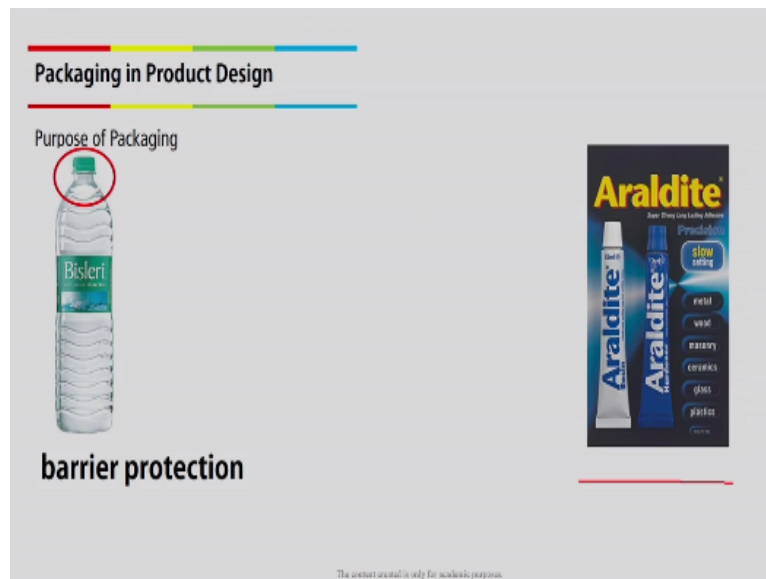
Tertiary packaging is used for bulk handling, warehouse storage and transport shipping, the most common form of; common form is a pelletized unit load that packs tightly in containers.

**(Refer Slide Time: 06:31)**



Now, we will discuss purpose of packaging, first purpose is physical protection, the objects enclosed in the package may require protection from among other things, mechanical shock, vibration, electrostatic discharge, compression, temperature etc. So it gives physical protection to the product.

**(Refer Slide Time: 07:01)**



Second is barrier protection, a barrier from oxygen, water vapour, dust, etc. is often required, it also controls adulteration, some packages contain desiccants or oxygen absorbers to help extended shelf life, modified atmospheres or controlled atmospheres are also maintained in some food packages, keeping the contents clean, fresh, sterile and safe for the duration of the intended shelf life is a primary function.

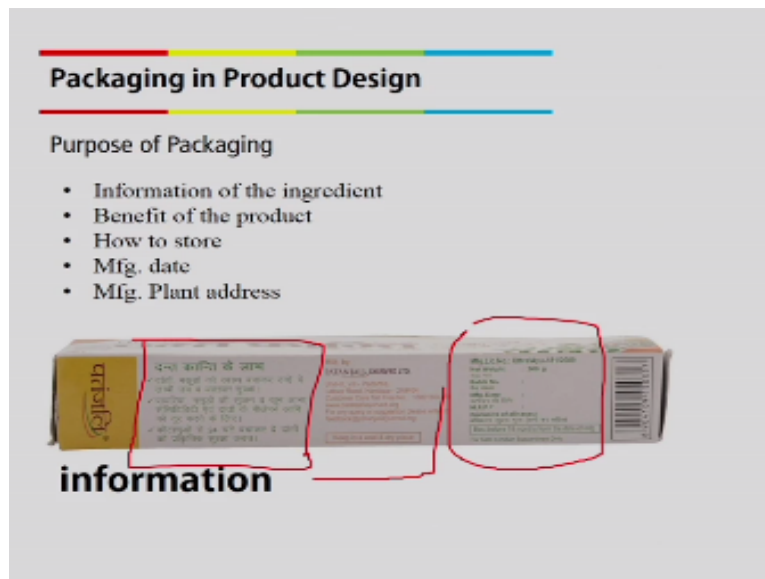
A barrier is also implemented in case of where segregation of two materials prior to end use is required as in the case of special paints, glues, medical fluids, etc. so here in this particular case, in this product Araldite, resin and hardener are kept separate.

**(Refer Slide Time: 08:15)**



Next purpose is containment or agglomeration; small objects are typically grouped together in one package for reasons of efficiency.

(Refer Slide Time: 08:29)



Packages and levels communicate how to use transport, recycle or dispose of the package or product with pharmaceuticals, food, medical and chemical products some type of information are required by governments, some packages and levels also are used for track and trace purposes. In this particular case, the benefits of the product, the manufacturing information where it is produced, how to store all those information's are given.

(Refer Slide Time: 09:13)



Next purpose is marketing; the packaging and levels can be used by marketers to encourage potential buyers to purchase the product, package graphic design, physical design have been important and constantly evolving phenomena for several decades. Marketing communications and graphic design are applied to the safes; to the surface of the package and the point of sale display.

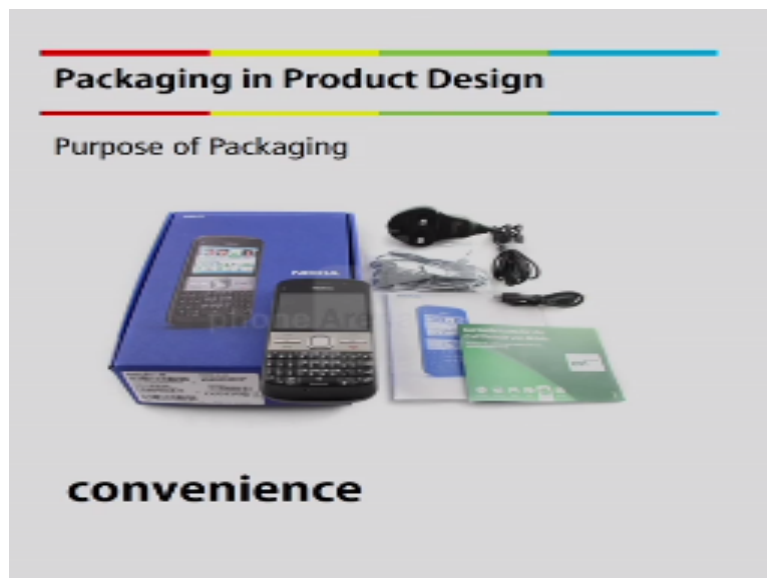


**(Refer Slide Time: 09:46)**



Packaging can play an important role in reducing the security risk of shipment; packages can be made with improved tamper, resistance to determine tampering and also can have tamper evident features to help indicate tampering. Packages also can include anti-theft device such as dye packs, RFID tags or electronic articles, surveillance tag that can be activated or deactivated at exist point and require specialized tools to deactivate.

**(Refer Slide Time: 10:35)**



Using packaging in this way is a means of loss prevention; packages can have features that add convenience in distribution, handling, stacking, display, sale, opening, reclosing, use, dispensing, reuse, recycling and ease of disposal. In this particular case, there are many items so with the help of segmentation in a box, all the parts can be kept and it gives convenience to the user.

**(Refer Slide Time: 11:06)**



Single serving or single doses packaging has a precise amount of contents to control users, bulk commodities can be divided in 2 packages that are a more suitable size for individual households.

**(Refer Slide Time: 11:30)**

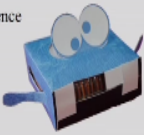




Now, we will discuss design consideration in packaging, while designing a package these are the things should be considered; form and function, stackability, display, finishes, load, material, environmental issues and convenience.

**(Refer Slide Time: 11:50)**

## Packaging Design Consideration

Design considerations	Ask Questions
<ul style="list-style-type: none"> <li>• <b>Form and function</b></li> <li>• Stack ability</li> <li>• Display</li> <li>• Finishes</li> <li>• Load</li> <li>• Material</li> <li>• Environmental issues</li> <li>• Convenience</li> </ul>	<p>What is the physical state of the product? Powder / Granular / Solid / Viscous / Oily or greasy / Liquid / Gaseous</p> <p>What protection will go in the package? What quantity has to be packaged?</p> <p>Is re-closure needed to protect the unused portion?</p> <p>Will the package prevent the Loss of - - Aroma, flavor or volatile components? - Colour? - Physical shape (breakage of tablets, etc.)</p> <p>Will the package prevent the ingress of - - Foreign odors? - Oxidation or other chemical reaction?</p>

The content created is only for academic purposes. 99



Now, we will discuss form and function; any kind of form can ensure functions of a package but innovative form attracts customers, so designer has to ask this kind of questions like what is the physical state of the product, is it powder, granular, solid, viscous, oily or greasy, liquid or gaseous, based on the state they have to decide the material for the package. What protection will go in the package, what quantity has to be packaged?

Is re-closure needed to protect the unused portion, will the package prevent the loss of aroma, flavour or volatile components, colour, physical shape etc. Will the package prevent the ingress of foreign odours, oxidation or other chemical reactions? In case of re-closure, some sort of zip pouch or other techniques can be used.





**(Refer Slide Time: 13:06)**

## Packaging Design Consideration

Design considerations	Ask Questions
<ul style="list-style-type: none"> <li>• <b>Form and function</b></li> <li>• Stack ability</li> <li>• Display</li> <li>• Finishes</li> <li>• Load</li> <li>• Material</li> <li>• Environmental issues</li> <li>• Convenience</li> </ul>	<p>Who is it for? Kids/ Men/ Women</p> <p>What is the after use? Reuse/ other use</p> <p>How will it be manufactured?</p> <p>What is the unit cost?</p> <p>How will customer carry it?</p>

People perceive more elongated packages to be larger.

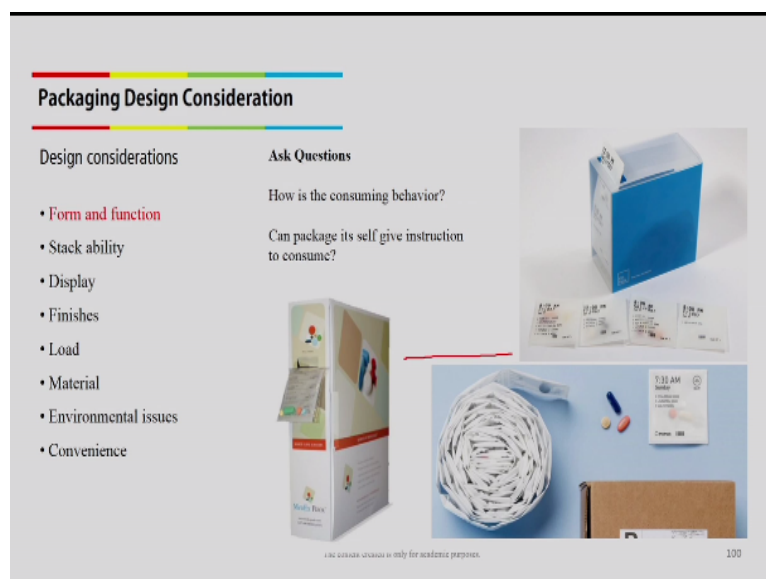

or




The content created is only for academic purposes. 99

Designer also should ask who is it for, is it for kids, men or women, what is the after use; reuse or other use, so how will it be manufactured, what is the unit cost, how will customer carry it? So, here let us see one small case study, we have milk pouches already in the market but most of the time how customers carry it, we should see. Most of the time they carry a bag, if they do not have, the shopkeeper gives a bag or they have to carry by some means of fingers, some arrangement of the fingers but this is not a convenient option.

If we design in such a way that there is the option to carry multiple bags, then it is very convenient, so designer also should see just by increasing small unit price how they can give better experience and convenience to the customer. Designer also should remember that people perceive more elongated packages to be larger. In this particular case of this product, Suthol, this particular bottle seems have more liquid than this.

**(Refer Slide Time: 15:05)**




But the actual case is both the container has 100 ml of liquid, designer also should ask how is the consuming behaviour, can package itself give instruction to consume or not? So, in this particular case, in this particular design, the medicine box itself giving the instruction to consume the timing, to consume another information.

**(Refer Slide Time: 15:30)**

## Packaging Design Consideration

<p>Design considerations</p> <ul style="list-style-type: none"> <li>• Form and function</li> <li>• Stack ability</li> <li>• Display</li> <li>• Finishes</li> <li>• Load</li> <li>• Material</li> <li>• Environmental issues</li> <li>• Convenience</li> </ul>	<p>Ask Questions</p> <p>How is the buying behavior?</p> <p>Can package its self give liberty to seller in bulk and also in units?</p>
---	---




The content created is only for academic purposes.


101

Designer also should ask how is the buying behaviour of the customer, can package itself give liberty to seller in bulk and also in units, you can see some of the package in the market has option to sell in bulk and as well as it has an option to sell in units. In this particular design also, there are mark where you can tear off and you can sell units as well and in bulks as well.

**(Refer Slide Time: 16:19)**

## Packaging Design Consideration

<p>Design considerations</p> <ul style="list-style-type: none"> <li>• Form and function</li> <li>• Stack ability</li> <li>• Display</li> <li>• Finishes</li> <li>• Load</li> <li>• Material</li> <li>• Environmental issues</li> <li>• Convenience</li> </ul>	<p>Ask Questions</p> <p>How will it stacked? During production/ transportation/ use</p>
---	---



The **denotative effect** reinforces the overall message.

The content created is only for academic purposes.


Next design consideration is stack ability; stack ability depends on the form of the packaging, innovative form can convey the same information and also can give better stack ability. Stack ability helps the seller to utilize the space and at the same time better stack ability helps in transportation. Stack ability create repetition and the denotative effect reinforces the overall message.

You might have seen in roads, companies are using holdings posters continuously, so it is for the same reason, the denotative effect reinforces the overall message.

**(Refer Slide Time: 17:20)**

### Packaging Design Consideration

Design considerations	Ask Questions
<ul style="list-style-type: none"> <li>• Form and function</li> <li>• Stack ability</li> <li>• <b>Display</b></li> <li>• Finishes</li> <li>• Load</li> <li>• Material</li> <li>• Environmental issues</li> <li>• Convenience</li> </ul>	<p>How will it look? Individually and in group</p> <p>What are the information to be communicated? Brand name/ logo/ content/ usefulness etc.</p> <p>Does the product has violators?</p> <p>Common violators for food product claims:</p> <ul style="list-style-type: none"> <li>• <u>Fat free/ wheat free/ dairy free/ sodium free</u></li> <li>• <u>Cholesterol free / reduced fat/ low calorie</u></li> <li>• <u>Light/ fresh/ unsweetened/ unsalted</u></li> <li>• <u>Low fat/ extra lean</u></li> <li>• <u>Good source of (dietary fibre, vitamins)</u></li> <li>• <u>100% organic</u></li> <li>• <u>No added preservative</u></li> </ul>



The content created is only for academic purposes.

Now, we will discuss display, designer should ask how will it look individually and in group, what are the information to be communicated, the brand name, logo, content, usefulness, etc. does the product has violators or not like I mean violator is the term used for the visual device that is generally positioned on top of the packaging graphics and is used for the purpose of calling attention to or announcing a special feature of the product or package.

Common violators for food product claims like fat free, wheat free, dairy free, sodium free, cholesterol free, unsweetened, unsalted, light, fresh, low fat, extra lean, good source of dietary, fibre, vitamins, 100 % organic, no added preservatives etc., etc. so here in this particular case, it is also; this package also has this kind of violator like it is 100% apple juice, no added sugar, no added colour and preservatives.

**(Refer Slide Time: 18:55)**

## Packaging Design Consideration

**Design considerations**

- Form and function
- Stack ability
- **Display**
- Finishes
- Load
- Material
- Environmental issues
- Convenience

**Ask Questions**




What should the image represent?  
Image can represent-

- The appeal to the appetite
- The product itself
- Depict the target consumer
- Provide credibility with celebrity image

What would be the alignment of the font?  
Center/ left

What would be the hierarchy of the information?  
\*Hierarchy can be created with typography, but the limit should be three.

However, the typo, image and layout of the package Vary from context to culture.

The content created is only for academic purposes. 104

Designer also should ask questions like, what should the image represent, image can represent the appeal of the appetite like in this package, it is showing. The product itself with the help of transparency, we can achieve this, depict the target consumer who is it for, so here in this package it is clear, provide credibility with celebrity image. What would be the alignment of the fonts?

Like, it is centrally aligned or left aligned or right aligned etc. what would be the hierarchy of the information? The hierarchy can be created with the typography but the limit should be 3. For example, in this case, 1, 2 and 3 different kind of fonts had been used however; the typo, image and layout of the package vary from context to culture.

**(Refer Slide Time: 20:12)**



## Packaging Design Consideration

**Design considerations**

- Form and function
- Stack ability
- Display
- **Finishes**
- Load
- Material
- Environmental issues
- Convenience

**To remember**

- Good package design can influence buyers decision
- Package, made up of high quality material and finishes, reflects good quality products
- Hence selection of manufacturing process is also important to achieve high quality finish.


The content created is only for academic purposes.

Next thing to be considered is finish, so designer should remember good package design can influence buyer's decision, package made up of high quality material and finishes that reflects good quality products hence, selection of manufacturing process is also important to achieve high quality and finish. In this particular case, the good quality material, the texture of the material, good graphics is giving a perception of good quality product.

In this case, the golden box is giving the; and also the golden box and the finish of the product giving the perception of good product.

**(Refer Slide Time: 21:05)**

**Packaging Design Consideration**

Design considerations	Ask Questions
<ul style="list-style-type: none"><li>• Form and function</li><li>• Stack ability</li><li>• Display</li><li>• Finishes</li><li>• <b>Load</b></li><li>• Material</li><li>• Environmental issues</li><li>• Convenience</li></ul>	<p>How much is the weight of the product? Package should not get distorted by the weight of the product. Package should take all the load to protect the product.</p> <p>Hence structural strength of the package is very important.</p> <p>Structural strength can be achieved by</p> <ol style="list-style-type: none"><li>1. Folding paper*</li><li>2. Literally strong material</li><li>3. Using right cushioning material and thickness</li></ol>  <p><small>The content created is only for academic purposes.</small></p>

Designer also should consider the load, how much is the weight of the product, package should not get distorted by the weight of the product, package should take all the load to protect the product, hence structural strength of the package is very important and structural strength can be achieved by folding paper literally using strong material, using right cushioning material and thickness.

When we are using paper especially, folded papers, we are actually prestressing the paper, so that it can take a load later.

**(Refer Slide Time: 21:52)**



**Packaging Design Consideration**

**polypropylene  
biaxially oriented polypropylene**

<p>Design considerations</p> <ul style="list-style-type: none"> <li>• Form and function</li> <li>• Stack ability</li> <li>• Display</li> <li>• Finishes</li> <li>• Load</li> <li>• <b>Material</b></li> <li>• Environmental issues</li> <li>• Convenience</li> </ul>	<p>Ask Questions</p> <p>How will it react with the content of the package?</p> <p>What is the state of the content?</p> <p>How to take out of the package?</p> <p>Primary or secondary package?</p>	  
--	---	--





The content created is only for academic purposes.

107



Now, we will discuss the materials, designer should ask questions how will it react with the content of the package, what is the state of the content, how to take out the package; primary or secondary package etc. most widely used material for packaging is polypropylene. Polypropylene is a greener solution than PVC because of its reduced emission and is lighter than other materials.

It is ideally suited for packaging of products that will be shipped a longer distance or used multiple times. Polypropylene packaging is a little softer and lighter than PVC but offers excellent durability and structural integrity. In case of ready to eat products also polypropylene used because it can be microwaved and it is food grade. A common application for polypropylene is as biaxially oriented polypropylene that is BOPP.

These BOPP sheets are used to make a wide variety of materials including clear bags, when polypropylene is biaxially oriented; it becomes crystal clear and serves as an excellent packaging material for artistic and retail products.

**(Refer Slide Time: 23:32)**

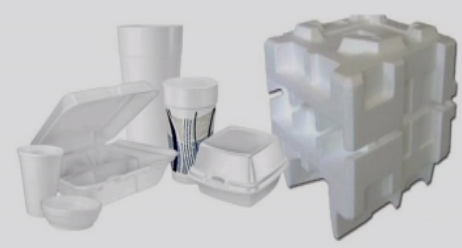
**Packaging Design Consideration** **high impact polystyrene**

<p>Design considerations</p> <ul style="list-style-type: none"> <li>• Form and function</li> <li>• Stack ability</li> <li>• Display</li> <li>• Finishes</li> <li>• Load</li> <li>• <b>Material</b></li> <li>• Environmental issues</li> <li>• Convenience</li> </ul>	<p>Ask Questions</p> <p>How will it react with the content of the package?</p> <p>What is the state of the content?</p> <p>How to take out of the package?</p> <p>Primary or secondary package?</p>	
		
<small>The content created is only for academic purposes.</small> <span style="float: right;"><small>108</small></span>		

Another good material for packaging is high impact polystyrene also called HIPS; HIPS and other polystyrene products are well suited for food packaging and widely used in the fast food industry, it is cost effective to produce, can be recycled and therefore minimizes the effect on the environment.

**(Refer Slide Time: 23:58)**

**Packaging Design Consideration** **foamed polystyrene**

<p>Design considerations</p> <ul style="list-style-type: none"> <li>• Form and function</li> <li>• Stack ability</li> <li>• Display</li> <li>• Finishes</li> <li>• Load</li> <li>• <b>Material</b></li> <li>• Environmental issues</li> <li>• Convenience</li> </ul>	<p>Ask Questions</p> <p>How will it react with the content of the package?</p> <p>What is the state of the content?</p> <p>How to take out of the package?</p>	
<small>The content created is only for academic purposes.</small> <span style="float: right;"><small>109</small></span>		

EPS is another material; the full form is expanded polystyrene. EPS has shock absorbing properties, making it ideal for storing and transporting fragile item such as wines, chemicals, electronic equipment and pharmaceuticals products. Its thermal insulation and moisture resistant properties are perfect for packaging cooked food as well as perishable item such as seafood, fruit and vegetables.

**(Refer Slide Time: 24:33)**

**Packaging Design Consideration**

expanded polyethylene  
expanded polypropylene

Design considerations

- Form and function
- Stack ability
- Display
- Finishes
- Load
- **Material**
- Environmental issues
- Convenience


Ask Questions

How will it react with the content of the package?

What is the state of the content?

How to take out of the package?

Primary or secondary package?



The content created is only for academic purposes.

110

Another good cushioning material is expanded polyethylene; expanded and also expanded polypropylene because it gives thermal conductivity, recyclability, cushioning, flexibility, durability, buoyancy, odour less, light weight, no dusting, nonabrasive, cost efficient, high load bearing capacity and also cfc free.

**(Refer Slide Time: 25:06)**

**Packaging Design Consideration**

molded fiber

Design considerations

- Form and function
- Stack ability
- Display
- Finishes
- Load
- **Material**
- Environmental issues
- Convenience

Ask Questions

How will it react with the content of the package?

What is the state of the content?

How to take out of the package?

Primary or secondary package?



The content created is only for academic purposes.


111

Moulded fiber is another packaging material typically, made from recycled paper board and or newsprint paper, it is used for protective packaging or for food service trays and beverage carrier.

**(Refer Slide Time: 25:26)**

**Packaging Design Consideration** pressed paperboard

Design considerations	Ask Questions
• Form and function	How will it react with the content of the package?
• Stack ability	What is the state of the content?
• Display	How to take out of the package?
• Finishes	Primary or secondary package?
• Load	
• <b>Material</b>	
• Environmental issues	
• Convenience	



The content created is only for academic purposes.


112

Another good material and widely used material for packaging is pressed paper board. Usually, the mat up to 170 GSM is termed as paper, ever which is paperboard. Soap and laundry detergent packaging, cookie and cracker packaging, paper goods packaging, cake mix packaging, cereal boxes, other dry food packaging are done with pressed paper board.

**(Refer Slide Time: 26:03)**

**Packaging Design Consideration** aluminium

Design considerations	Ask Questions
• Form and function	How will it react with the content of the package?
• Stack ability	What is the state of the content?
• Display	How to take out of the package?
• Finishes	Primary or secondary package?
• Load	
• <b>Material</b>	
• Environmental issues	
• Convenience	



The content created is only for academic purposes.

113


Another good material for packaging is aluminium. Aluminium's ability to form any shape and its protective qualities have made it the most versatile packaging material in the world, in addition a key benefit is that aluminium foil, aluminium cans and other aluminium packaging materials can be fully recycled and reused and infinite numbers of times.

**(Refer Slide Time: 26:34)**

**glass**

## Packaging Design Consideration

Design considerations	Ask Questions
<ul style="list-style-type: none"> <li>• Form and function</li> <li>• Stack ability</li> <li>• Display</li> <li>• Finishes</li> <li>• Load</li> <li>• <b>Material</b></li> <li>• Environmental issues</li> <li>• Convenience</li> </ul>	<ul style="list-style-type: none"> <li>How will it react with the content of the package?</li> <li>What is the state of the content?</li> <li>How to take out of the package?</li> <li>Primary or secondary package?</li> </ul>



The content created is only for academic purposes.

114

Another good material for packaging is glass; the impermeable nature of glass makes it a safe form of protective packaging. In addition to being an excellent barrier against the external environment, glass containers do not interact with or alter the taste, odour or composition of the products they contain. Glass packaging provides optimum long term conservation of the original qualities and virtues of food and beverages.

And because of that most of the time pickles and jams are stored in glass containers, glass not only protects but also enhances a product's quality, the transparency of colourless or coloured glass display the content and reveals the quality allowing the consumer to appreciate the product.

**(Refer Slide Time: 27:38)**

## Packaging Design Consideration

Design considerations	Ask Questions
<ul style="list-style-type: none"> <li>• Form and function</li> <li>• Stack ability</li> <li>• Display</li> <li>• Finishes</li> <li>• Load</li> <li>• <b>Material</b></li> <li>• <b>Environmental issues</b></li> <li>• Convenience</li> </ul>	<ul style="list-style-type: none"> <li>Is the material good for environment?</li> <li>Is the material biodegradable?</li> <li>What will user do with it after use?</li> </ul>

The content created is only for academic purposes.

Next design consideration is environmental issues, designer always should ask, is the material good for environment, is the materials biodegradable, what will user do with it after the use?

**(Refer Slide Time: 27:56)**

The slide is titled "Packaging Design Consideration" and is divided into two columns: "Design considerations" and "Ask Questions".

Design considerations	Ask Questions
• Form and function	Can the package be opened easily and, if necessary, effectively closed for further use?
• Stack ability	Could a dispensing device (such as a pouring spout, etc.) be used effectively?
• Display	
• Finishes	Can the consumer measure out the correct quantity conveniently?
• Load	
• Material	
• Environmental issues	
• Convenience	

Below the text, there are three images illustrating packaging designs: a circular tin of "CHERRY BLOSSOM BOOT POLISH", a yellow honey pouch with a built-in pouring spout, and a medicine box with a bottle that has a cap designed to be used as a measuring device. Red lines and arrows highlight these specific design features.

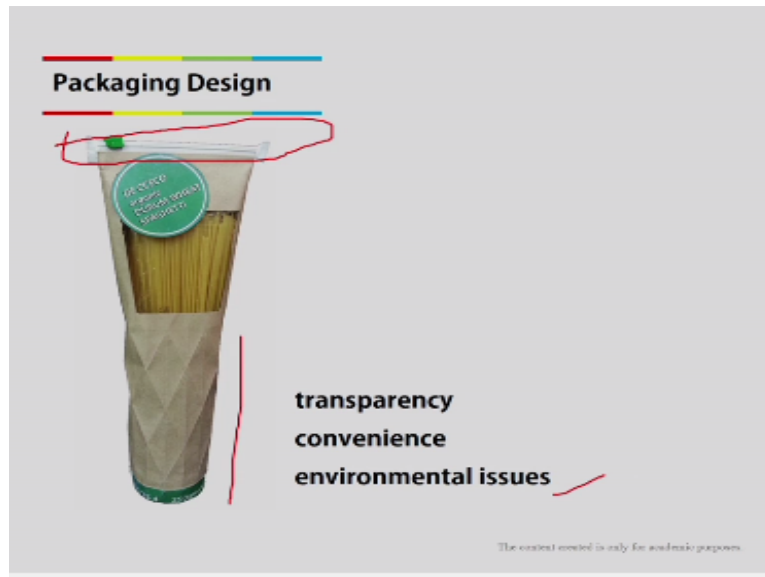
The content created is only for academic purposes.

Last but not least, the design consideration is convenience; designer should ask can the package be opened easily and if necessary effectively closed for further use, so in this particular product cherry blossom boot polish, the clip has designed in such a way that if you rotate the can, the can be easily opened, designer should ask could a dispensing device such as a pouring spout etc. be used effectively.

For example, when we are purchasing oil in pouches, we have to pour it in the plastic container at the time, we need funnel or other means, can design gives convenience or can design gives the liberty to the user in such a way that in the bottle itself that there is no spillage of the liquid, so in this particular kind of design, you can see the recent product of Dabur honey, there is no liquid when you squeeze outside the package, very nicely liquid comes out.

Designer also should ask, can the consumer measure out correct quantity conveniently, in most of the medicine boxes you can see the cap of the product, cap of the medicine box itself is used as the measuring device.

**(Refer Slide Time: 29:47)**



Let us see some of the case studies, this is one design designed by my students in packaging design course, so the key words here are transparency. With the help of transparency, package gives the liberty to the user to see the quality of the product and another keyword is convenience; after opening once, user can again seal it for further use. Next keyword is environmental issues; the material used for this particular design is environment friendly.

**(Refer Slide Time: 30:34)**



For this particular packaging design case, the keywords are good material, form and function and environmental issues. The material used is an (( )) (30:43) material and going with the tea package and also the form is given in such a way that this is exactly this eye form of the basket used, while tea plucking and the material; the bamboo material is also environment friendly.

**(Refer Slide Time: 31:06)**



In this tea packaging cases also, the material is paper and environment friendly, the form is given in such a way that it can be stacked in particular way and gives denotative effect and it gives good stack ability.

**(Refer Slide Time: 31:27)**



In this particular packaging design, the display and the graphics given in such a way that it looked like a family and it looked like from the same brand but the difference in colour gives the perception of the difference in taste and also the material used in this particular case is environment friendly and the silver ribbon used giving the perception of premium quality, so here in this course we tried to cover most of the aspects of product design innovation.

If I missed some of the points or I could not to discuss it properly, please write to us, if you think that some of the topic also should be covered, we will try to include it, thank you.