Handbook on Modern Packaging Industries (2nd Revised Edition)

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Packaging is a means of ensuring the safe delivery of a product to the ultimate consumer in a sound condition at the minimal overall cost. Packaging not only differentiates one brand from another but also, at times, gives a preview of the product being sold. Although it is a subject of recent technological origin, the art of packaging is a sold as the primitative humans. Packaging is the science, art, and technology of enclosing or protecting products for distribution, storage, sale, and use, also refers to the process of design, evaluation, and production of packages and can be described as a coordinated system of preparing goods for transport, warehousing, logistics, sale, and end use. Packaging contains, protects, preserves, transports, informs, and sells. In many countries it is fully integrated into government, business, institutional, industrial, and personal use. The continual technological growth systems have undergone significant changes in recent years. A lot of packaging process has been streamlined to give a more scientific and rational approach. The role of packaging continues from the coordinated system of preparing goods to the end use. It has become a big tool for launching new specific products in different shapes and sizes. The packaging industrial growth has led to greater specialization and sophistication from the point of view of health (in the case of packaged foods and medicines) and environment friendliness of packing material. The demands on the packaging industry are challenging, given the increasing environmental awareness among communities. The packaging industry is growing at the rate of 22 to 25 per cent per annum thus is to play a unique role in preserving the wealth or value created by many industries.

This book describes the techniques and process behind packaging of different specific products which are used in our day to day life. The specific products include cereal, spices, edible oils, drinking water, chocolate and confectionery, fruits and vegetables, marine products and many more. Some of the vital contents of the book are adhesives for packaging industries, factors affecting adhesion, tin plate containers for foods, pharmaceuticals and cosmetics, tin plate usage in packaging, packaging of cereals and cereal products, trends in packaging of spices and spice products, packaging of edible oils, vanaspati and ghee, metal containers for food packaging, packaging aspects of sugar and chocolate confectionery, packaging for irradiated foods, packing of meat & meat products in tin containers etc.
This book is an invaluable resource for all its readers, entrepreneurs, scientists, existing industries, technical institution, etc in the field of packaging.

Classification
(a) Loss of water or solvent
(b) Loss of Heat
Theories of adhesion
a. Mechanical Interlocking
b. Electrostatic Interaction
c. Diffusion Theory
d. Absorption Theory
Factors affecting adhesion
Spreading
Roughness
Porosity
Diffusion
Rheology
Thickness
Pressure
Starch
Degradation Products of Starch
Comparison between starch and Sodium Silicate
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Basic urethane chemistry
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Natural Rubber
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Lacquering
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Slitting
Component/end manufacture on presses
Ancillary operations
Manufacture of Assembly Lines
Slitting
Notching

Folding
Forming
Locking
Soldering/Cementing
Flanging
End seaming
Ancillary operations (if any)
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Flattened Cans
Process Control
Blackplate Containers
Tinplate Closures

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Manufacturing Process

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Soft surface with high resistance to friction
Porous structure
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Propylene (PP) Woven Sacks
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About NIIR

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