

Modern Technology of Pulp, Paper and Paper Conversion Industries

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The paper conversion sectors are assuming increasingly important place in the life of every nation. Conversion technology is being evolved continuously for having better conversion, handling, transportation, preservation and usage of materials. Paper and Pulp industry plays a vital role towards conversion. Pulping is a process of delignification removing lignin from wood while leaving cellulose fibres intact. Pulp and paper can be produced from many resources like; Eta Reed, bamboo, bagasse, elephant grass, etc. Growing population and increased demand of paper products has created raw material shortage all over the world especially in developing countries. Consequently agricultural residues and farm wastes are the only hope for further pulp papermaking in these countries. However, technology is evolving that holds promise for using waste or recycled paper and, in some cases, even plastics to make an array of high performance composite products that are in themselves potentially recyclable. Pulp and paper industry is one of the largest industries in India today, which consumes huge quantity of water. As the product does not contain any water most of the water used in the process reappears as waste. Therefore the waste water is used in crop irrigation which will solve both problems i.e. industrial waste solution and irrigation. The Indian paper industry has close linkages with economic growth as higher industrial output leads to increased demand for industrial paper for packaging, increased marketing spend benefits the newsprint and value added segments, and increased education and office activities increase demand for writing and printing paper. It is estimated that there is an economic growth of 8.5% for India which will benefit the demand for paper.

The major contents of the book are dry process hard boards from recycled newsprint paper fibres, abrasive kraft base paper from sun hemp (*Crotalaria jauncia*), production of soda semi chemical pulp from *Sesbania sesban* (Linn.) Merr., high yield pulps from eta reed, the influence of clay addition on flotation deinking, alternative uses for waste/paper in wood based composite products, deinking of flexo graphic newsprint: use of ultra filtration to close the water loop etc. This book also consists of alkaline pulping chemistry, manufacturers, suppliers of plant & machinery and allied products, manufacturers and suppliers of raw materials, imported pulp manufacturers & suppliers imported pulp, Indian agents for imported pulp etc.

In view of the close linkage between paper and conversion industry we have tried to come out with this unique book containing relevant and useful information in both these industries. We have tried to make it most exhaustive first giving details, then presenting and dividing in different chapter to understand better. Thus we have tried to fill the vacuum that existed fill now. This book will be useful for paper chemists as well as conversion industries.

1. Dry-Process Hard-Boards From Recycled Newsprint Paper Fibers
2. Abrasive Kraft Base Paper from Sun Hemp (*Crotolaria Jauncia*)
3. Production of Soda Semi-Chemical Pulp from *Sesbania Sesban* (Linn.) Merr.
4. High Yield Pulps from Eta Reed
5. The Influence of Clay Addition on Flotation Deinking
6. Alternative Uses for Waste/Paper in Wood-Based Composite Products
7. Deinking of Flexo-Graphic Newsprint: Use of Ultrafiltration to Close the Water Loop
8. Utilization of Lime
9. Recent Developments in Paper Drying
10. Pulp and Paper Making From Agricultural Residues and Agro-Wastes
11. High Yield Pulps from Bamboo
12. Semichemical Pulping of Bagasse
13. Modified Pulping Process for Newsprint Grade Pulps from Bagasse
14. Delignification of Bagasse Pulps using Oxygen and Alkali
15. Production of Kraft Paper from Elephant Grass
16. Water Hyacinth (*Eichhornia Crassipes*) for Papers & Boards
17. *Urena Lobata* Linn. : A New Fibre Crop for Pulp & Paper
18. AQ Additive Copulping of Hard Wood and Soft Wood
19. Improved Penetration of Pulping Reagents into wood
20. The use of Polysac-Charide Derivatives for Better Yields in Paper Manufacture
21. *Gemelina Arborea* (Gamari) Pulping Alone and Mixed with Bamboo
22. Beloit "Converflo" Headbox Concept & Development
23. Grinding of M.G. Cylinder in Position
24. Pulping Equipment for Agricultural Residues
25. Paper Machine Design for non-Wood Fibres
26. Design of Concentrator Systems for Indian Raw Material
27. Standardisation of Pulp Mill Effluent for Irrigation Purposes
28. Effluent Treatment of Newsprint Mill by Using Coal ASH
29. Sludge Characteristics and Disposal Alternatives for the Pulp and Paper Industry
30. Quantification of Plastic in Pulp Slurries
31. Smelters for Chemical Recovery
32. Environmentally Sound Alternatives for Upgrading Mixed Office Waste
33. Drying of Paper
34. Brightness and Opacity of Paper
35. Paper Machine-Forming Section
36. Corrugated Containers
37. Ranking of Papers by in Plane Tear Strength and Elmendors Tear Strength
38. Boxboard
39. Alkaline Pulping Chemistry
40. Manufacturers, Suppliers of Plant & Machinery and Allied Products
41. Manufacturers and Suppliers of Raw Materials
42. Imported Pulp Manufacturers & Suppliers Imported Pulp
43. Indian Agents for Imported Pulp

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