

Papermaking Science and Technology

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Book 8

Papermaking Part 1, Stock Preparation and Wet End

Second Edition

Totally updated version

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Papermaking Part 1

Hannu Paulapuro



Papermaking Part 1:

Papermaking Hannu Paulapuro, Suomen Paperi-Insinöörien Yhdistys, 2000 *Papermaking, Part 1* Hannu Paulapuro, 1999 **Papermaking Science and Technology** Hannu Paulapuro, 2007 *Stock Preparation and Wet End* Technical Association of the Pulp and Paper Industry, 2000 **Papermaking Science and Technology** Hannu Paulapuro, 2000 **Papermaking**, 2007 **Springer Handbook of Wood Science and Technology** Peter Niemz, Alfred Teischinger, Dick Sandberg, 2023-04-01 This handbook provides an overview on wood science and technology of unparalleled comprehensiveness and international validity It describes the fundamental wood biology chemistry and physics as well as structure property relations of wood and wood based materials The different aspects and steps of wood processing are presented in detail from both a fundamental technological perspective and their realisation in industrial contexts The discussed industrial processes extend beyond sawmilling and the manufacturing of adhesively bonded wood products to the processing of the various wood based materials including pulp and paper natural fibre materials and aspects of bio refinery Core concepts of wood applications quality and life cycle assessment of this important natural resource are presented The book concludes with a useful compilation of fundamental material parameters and data as well as a glossary of terms in accordance with the most important industry standards Written and edited by a truly international team of experts from academia research institutes and industry thoroughly reviewed by external colleagues this handbook is well attuned to educational demands as well as providing a summary of state of the art research trends and industrial requirements It is an invaluable resource for all professionals in research and development and engineers in practise in the field of wood science and technology **Biotechnology for Pulp and Paper Processing** Pratima Bajpai, 2018-02-14 The book provides the most up to date information available on various biotechnological processes useful in the pulp and paper industry The first edition was published in 2011 covering a specific biotechnological process or technique discussing the advantages limitations and prospects of the most important and popular processes used in the industry Many new developments have taken place in the last five years warranting a second edition on this topic The new edition contains about 35% new material covering topics in Laccase application in fibreboard biotechnology in forestry pectinases in papermaking stickies control with pectinase products from hemicelluloses value added products from biorefinery lignin use of enzymes in mechanical pulping **Pulp and Paper Industry** Pratima Bajpai, 2017-02-25 Pulp and Paper Industry Emerging Waste Water Treatment Technologies is the first book which comprehensively reviews this topic Over the past decade pulp and paper companies have continued to focus on minimizing fresh water use and effluent discharges as part of their move towards sustainable operating practices Three stages basic conservation water reuse and water recycling provide a systematic approach to water resource management Implementing these stages requires increased financial investment and better utilization of water resources The ultimate goal for pulp and paper companies is to have effluent free factories with no negative environmental impact The

traditional water treatment technologies that are used in paper mills are not able to remove recalcitrant contaminants Therefore advanced water treatment technologies are being included in industrial wastewater treatment chains aiming to either improve water biodegradability or its final quality This book discusses various measures being adopted by the pulp and paper industry to reduce water consumption and treatment techniques to treat wastewater to recover it for reuse The book also examines the emerging technologies for treatment of effluents and presents examples of full scale installations Provides thorough and in depth coverage of advanced treatment technologies which will benefit the industry personnel pulp manufacturers researchers and advanced students Presents new treatment strategies to improve water reuse and fulfill the legislation in force regarding wastewater discharge Presents viable solutions for pulp and paper manufacturers in terms of wastewater treatment Presents examples of full scale installations to help motivate mill personnel to incorporate new technologies

Value Addition to Pulp and Paper Industry Wastes Pratima Bajpai,2025-11-03 Value Addition to Pulp and Paper Industry Wastes Towards a Sustainable Circular Economy examines different types of wastes generated in pulp and paper mills and provides sustainable routes for the production of high value added products This book will assess methods to increase the pulp and paper sectors circularity Through conventional and integrated biorefinery technology this book examines the ample variety and quantity of waste generated from pulp and paper mills which can be converted into wealth It will also focus on technology that is used to convert pulp and paper industry wastes into value added products Evaluates strategies for improving the circularity of the pulp and paper industries Highlights technology to transform the wastes from pulp and paper industries to value added products Discusses conventional and integrated biorefinery technology

Environmentally Benign Pulping Pratima Bajpai,2023-02-05 This book provides the most up to date and comprehensive information on the state of the art techniques and aspects involved in environment friendly pulping technologies Traditional chemical and semi chemical pulping processes are not environmentally friendly Therefore it has become important to look for alternative approaches to mitigate wastewater emissions in the paper industry by making more stringent regulations to improve environmental conservation In response to this problem new raw materials need to be explored to replace traditional choices and also new pulping processes need to be developed based on less polluting more easily recovered reagents This book presents new and emerging deep eutectic solvents for lignocellulosic biomass pretreatment and discusses the effects of deep eutectic solvents on biomass pretreatment and the production of value added products It also introduces biotechnological methods of pulping Biotechnological processes help to make manufacturing processes cleaner and more efficient by reducing toxic chemical pollution and greenhouse gas emissions Given its scope this book is of interest to applied chemists foresters chemical engineers wood scientists along with engineers and researchers involved in the pulp and paper industry as a valuable reference

The Art of Paper-making Alexander Watt,1890 *Paper-making* George Carruthers,1947

Environmentally Friendly Production of Pulp and Paper Pratima Bajpai,2011-03-21 Implementing

Cleaner Production in the pulp and paper industry The large and still growing pulp and paper industry is a capital and resource intensive industry that contributes to many environmental problems including global warming human toxicity ecotoxicity photochemical oxidation acidification nitrification and solid wastes This important reference for professionals in the pulp and paper industry details how to improve manufacturing processes that not only cut down on the emission of pollutants but also increase productivity and decrease costs Environmentally Friendly Production of Pulp and Paper guides professionals in the pulp and paper industry to implement the internationally recognized process of Cleaner Production CP It provides updated information on CP measures in Raw material storage and preparation Pulping processes Kraft Sulphite and Mechanical Bleaching recovery and papermaking Emission treatment and recycled fiber processing In addition the book includes a discussion on recent cleaner technologies and their implementation status and benefits in the pulp and paper industry Covering every aspect of pulping and papermaking essential to the subject of reducing pollution this is a must have for paper and bioprocess engineers environmental engineers and corporations in the forest products industry

Reading List on Papermaking Materials ,1921 Papermaking, Part 1 Hannu Paulapuro,1999 **Green Chemistry and Sustainability in Pulp and Paper Industry** Pratima Bajpai,2015-06-23 This book features in depth and thorough coverage of Minimum Impact Mill Technologies which can meet the environmental challenges of the pulp and paper industry and also discusses Mills and Fiberlines that encompass State of the Art technology and management practices The minimum impact mill does not mean zero effluent nor is it exclusive to one bleaching concept It is a much bigger concept which means that significant progress must be made in the following areas Water Management Internal Chemical Management Energy Management Control and Discharge of Non Process Elements and Removal of Hazardous Pollutants At the moment there is no bleached kraft pulp mill operating with zero effluent With the rise in environmental awareness due to the lobbying by environmental organizations and with increased government regulation there is now a trend towards sustainability in the pulp and paper industry Sustainable pulp and paper manufacturing requires a holistic view of the manufacturing process During the last decade there have been revolutionary technical developments in pulping bleaching and chemical recovery technology These developments have made it possible to further reduce loads in effluents and airborne emissions Thus there has been a strong progress towards minimum impact mills in the pulp and paper industry The minimum impact mill is a holistic manufacturing concept that encompasses environmental management systems compliance with environmental laws and regulations and manufacturing technologies

Chemistry of Pulp and Paper Making Edwin Sutermeister,1929

The Manufacture of Pulp and Paper Joint Textbook Committee of the Paper Industry,1929 **The Art of Paper-making** Alexander Watt (F.R.S.A.),1921

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Papermaking Part 1 Introduction

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