1997 International Mechanical Pulping Conference
June 9-13, 1997, Stockholm, Sweden

Mechanical Pulp in Paperboard
Packaging ......................... .9
Hans Tomas

Energy Aspects on Mechanical Pulp,
Chemical Pulp and Recycled Fibres .......................... 17
Johan Nygaard

Tomorrow’s Challenges for Mechanical
Pulp .................................. 29
Hans Höglund

Alkaline Peroxide Mechanical Pulping and
its Application for Newsprint ............................... 37
Eric Chao Xu, Su-Wen Wang, Bo Lui,
Yang-qiang Wang, Hong-bing Li, Lei Shi,
Jing-Xue Hong, Tao Nie

Washing of Board-Grade Spruce CTMP
to Low Resin Content ......................... 49
Eva Karlsson, Peter Bräuer, Johannes Kappel

Experience with Peroxide Bleaching of
High-Freeness CTMP .............................. 57
Peter Bräuer, Peter Kittel, Johannes Kappel

Use of New Oxidizing Agents (Peroxide
Peroxide Perborate Activated Peroxide) in the
Refiner - A Route to High
Brightness Pulp ......................... 63
C. Leduc, M.M. Sain, C. Daneault,
R. Lanouette, J. L. Valade

Evaporation as a CTMP Mill Kidney ........ 73
Björn Legnerfält, Olof Hallgren,
Anna Nygren

Measurement of the Power Distribution in
a Single Disc Refiner ......................... 83
Per A. Gradin, Jan-Erik Berg,
Staffan Nyström, Ola Johansson

Modelling of Mechanical Thrust in TMP
Refiners .............................. 87
Alf J. Isaksson, Alexander Horch,
Bruce J. Allison, Anders Karlström,
Lennart Nilsson

A Theoretical Model for a
TMP-Refiner ......................... 95
Esko Härkönen, Seppo Routtu,
Ari Routtu, Ola Johansson

Optimizing the Refining Conditions with
On-Line Controls ......................... 103
Juha Kortelainen, Harri Nystedt, Jouni Parta

Improved Quality Control and Process
Design in Production of Mechanical Pulp
by the Use of Factor Analysis ......................... 111
Olof Ferritsius, Riitta Ferritsius

Quality control of High Consistency
Refiners .............................. 127
B.C. Strand

The Alteration of the Wood Fibres in
Refining .............................. 137
Kjell Arve Kure

Objectives and Constraints for Pressure
Screen Fractionation .......................... 151
Ross F. Wakelin

Role of Mainline Screening Accept and
Refined Reject in Fibre Roughening in
LWC Papers .............................. 159
Ilkka Nurminen, Jan Sundholm

Fibre Fractionation - A Way to Improve
Paper Quality .............................. 167
Christer Sandberg, Lennart Nilsson,
Airi Nikko

Efficient Paper Machine Operation with
Tailormade Mechanical Pulps - The
Kaipola Perspective .............................. 173
Esa Viljakainen, Mikko Huhtanen,
Annikki Heikkurinen

On the Generation of Structural Damage
in Wood by Cyclic Compressive
Loading .............................. 183
R. Thiruvengadaswamy, D. Ouellet

Behaviour of Spruce Sapwood in
Mechanical Loading .............................. 199
T. Björkqvist, P. Lautala, E. Saharinen,
H. Paulapuro, K. Kodskenhely, B. Lönnberg

Compression Behaviour of Wood in
Relation to Mechanical Pulping ......................... 207
Lennart Salmén, Jean Francois Dumail,
Andreas Uhmeier
Influence of Seasonal Wood Variation on TMP Properties, Bleach Consumption and Newsprint Runnability ..................213
Jukka Tyrväinen

Experiences of Classifying Spruce for Tailormade Mechanical Pulps for Printing Papers ....................227
Mikael Wahlgren, Lennart Karlsson

Tree and Fibre Selection for Optimal TMP Quality ..................231
Stuart R. Corson

Evaluation of Refiner Disc Speed, Plate Design and Consistency on High Pressure/Low Residence (RTS) TMP Pulps ..................241
Marc Sabourin, Eric Xu, Ron Musselman

The TMP System at Perlen using the RTS Process ..................251
Hans Jörg Aregger

A Two-Stage Refining Process to Save Energy for Mechanical Pulps ........257
Lars-Åke Hammar, Myat Htun, Börje Svensson

The Effect on Pulp Properties of Ion Exchange in Wood Prior to Refining ..................263
Catharina Ottestam, Birger Sjögren

Commercialization of Biopulping: New Technology for Papermaking ........271
Gary M. Scott, Masood Akhtar, Michael J. Lentz, T. Kent Kirk

Use of Alkaline Peroxide Mechanical Pulps (APP) in Printing Papers and Boards ..................281
Michel Petit-Concli, Christian de Choudens

Fibre Characteristics of Various Mechanical Pulp Grades ..................297
Philip André Remé, Torbjörn Helle, Per Olav Johnsen

Interaction of Pulp Quality and Papermaking - Effects on Sheet Structure and Linting ..................309

Mechanical Pulp Properties and Paper Machine Performance ..................323
Albrecht Meinecke, Volker Schmidt Rohr

LWC Paper from PGW and TMP Pulps with Gap Formers ..................331
Heikki Liimatainen, Pekka Haikkala, Olli Touvinen

The Dual Demand on Fibres in SC-Papers ..................337
Hans-Erik Höydahl, Göran Dahlqvist
Crack Characterisation of Cell Walls Subjected to Radial Compression .345
Anna Bergander, Lennart Salmén

The Impact of Fibre Geometry, Fibre Splitting and Fibrillation on the Light Scattering .................349
Knut Roar Braaten

Light Scattering of Mechanical Pulps, the Effect of some Physical Factors when making Handsheets .355
Ellen Granvin

Effect of Fibre Properties on Sheet Surface Roughening ........361
Tiina Hallamaa, Annikki Heikkurinen

Numerical and Experimental Simulations of Initial Defibration Processes .......365
S. Holmberg, H. Peterson

The Effect of Screw Press Pretreatment in CTMP Pulping Process ............371
Lars Johansosn, Rune Simonson, Frank F. Peng, Thomas Granfeldt

Hot-shot: Rapid Heat-Aging of Mechanical Pulps .........................377
Jorma Koskinen, Martti Salerma, Ingegard Forsskål

Fuzzy Control of Thermo-Mechanical Pulping ..................381
Jaakko Myllyneva, Kauko Leiviskä, Juha Kortelainen, Harri Nystedt

Development and Characterization of Pressure Groundwood Pulp Fractions ..........385
Kathrin Mörseburg

A New Pulping Method using Slow Compression and Shear ...............391
Annika Söderlund

Sorting Pulpwood by X-ray Scanning ........................................395
Wang Xinli, Olle Hagman, Stig Grundberg

Modelling Extrusion Pulping .................401
A.P.H. Westenbroek, G.J. van Roekel, G.W. Weickert, K.R. Westerterp

The Surface Chemistry of PGW Pulp Fibre Fractions ..................407
Krista Koljonen, Per Stenius, Johanna Buchert