

Core board machine & Recycling plant at sale in Coreenso Varkaus mill, Finland

- Coreenso has closed down The Varkaus core board machine and the waste recycling plant and has decided to sell them without production limitations to certain geographical areas, incl. Asia.
- The recycling plant is from 1997 and the board machine basicly 1989 with major reconstruction in 2004
- **Exclusive Sales Agent for this project is:
Nordic Ventures Pte. Ltd., Singapore**
- Please contact Mr Pekka Hemmi for technical or price information and visit arrangements:
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Varkaus recycling plant

Basics of design

Varkaus recycling plant has been design to handle multi material packages like liquid packages (e.g. TetraPak) and wrappings (kraft fiber). The idea was to utilize all components as further material or energy (see fig 1). ***Therefore the line has some extra benefits compared to conventinal OCC line*** liike

- Large scale of raw material grades (liquid packages,wrappings,OCC, mixed waste etc)
- High separation rate of fiber and reject (plastick/aluminium , impurities)
- Clean and high dry content (over 70%) reject for futher processng (gasifying, inceneration)
- Because of modern fine screening the sticky removal rate is high

The capacity of the line

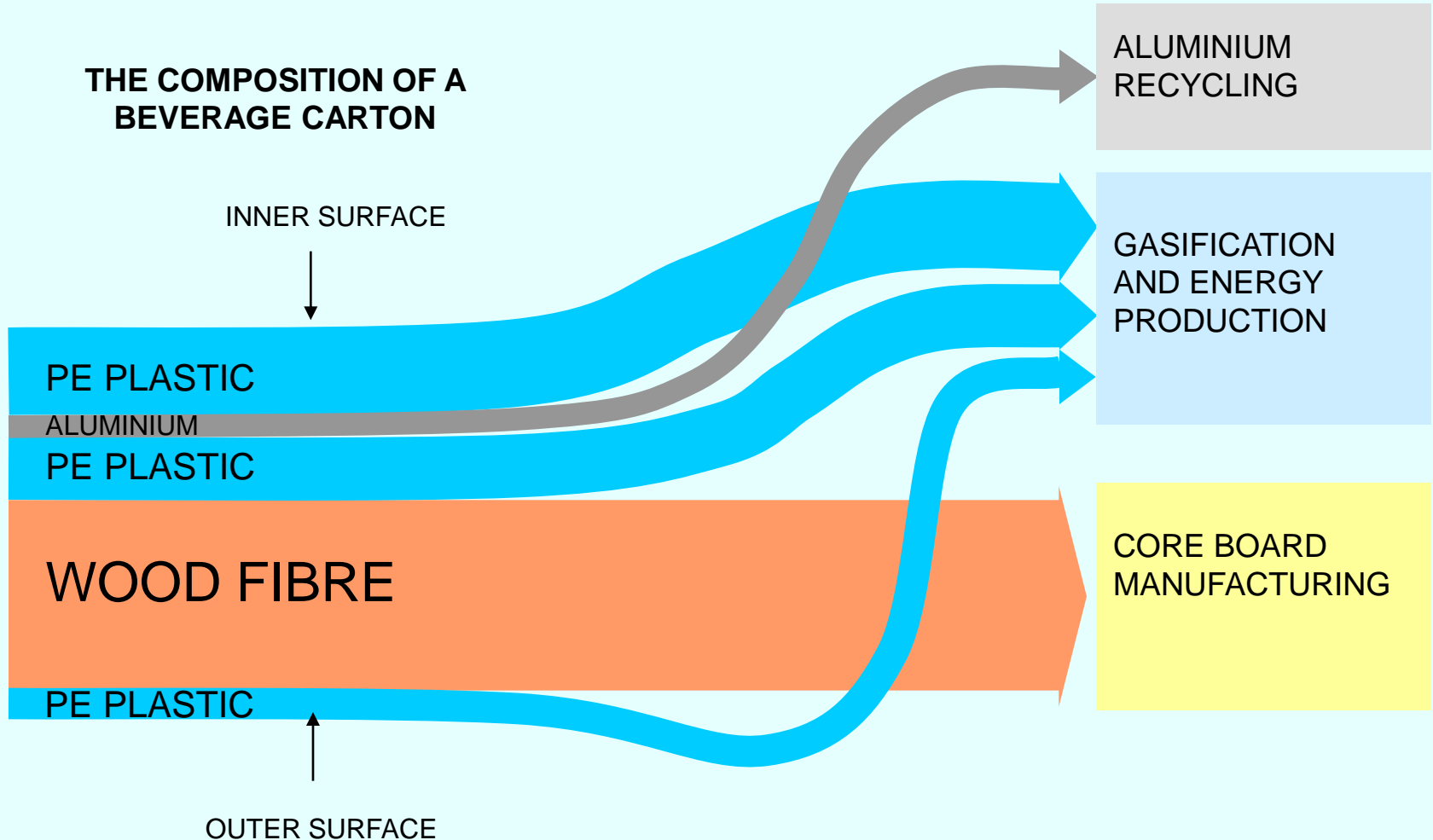
Infeed raw material : 440 t/d

Fiber screening : 300 t/d

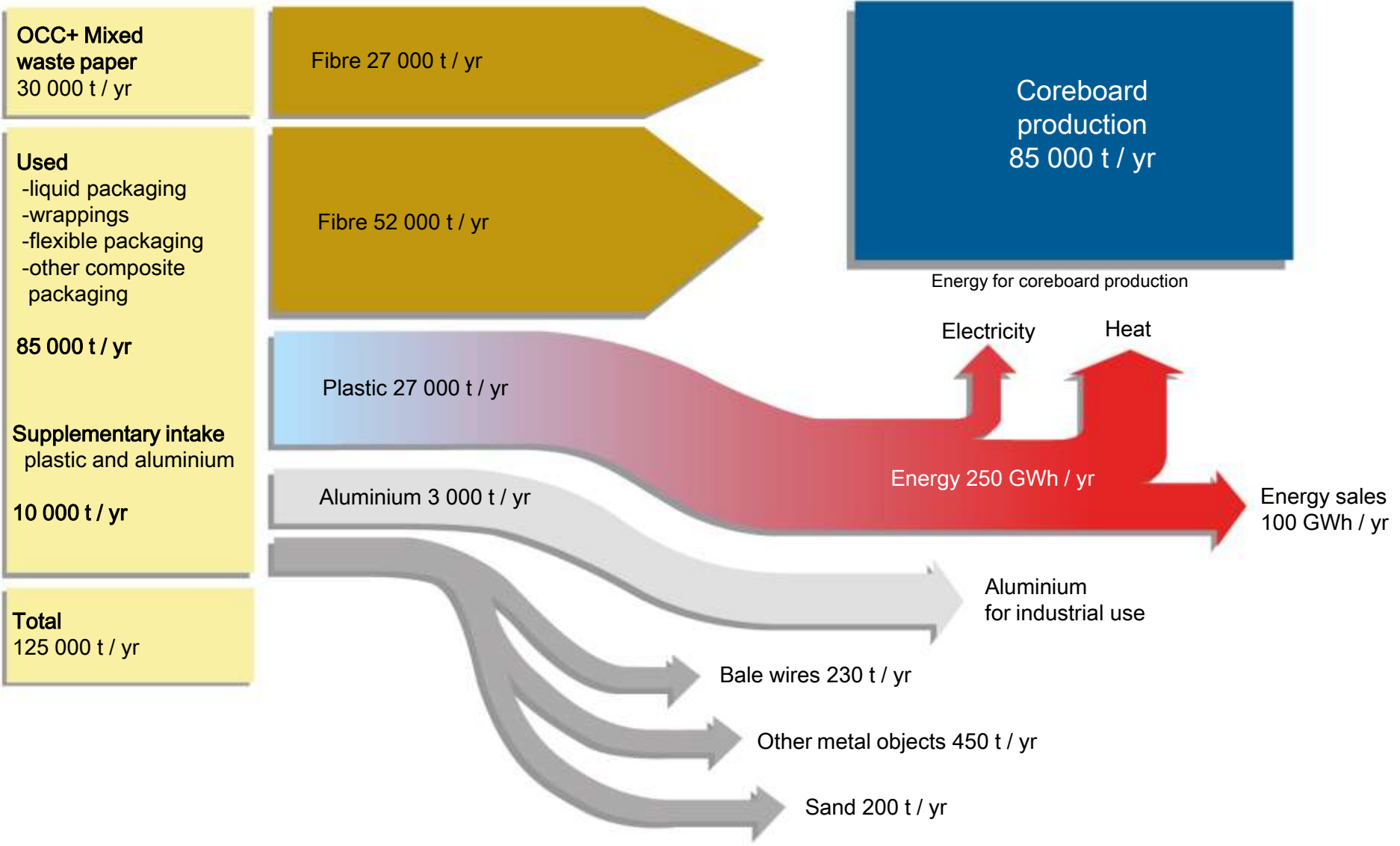
Annual raw material flow, fig2

RECYCLING PRINCIPLE OF USED BEVERAGE CARTONS

THE COMPOSITION OF A BEVERAGE CARTON

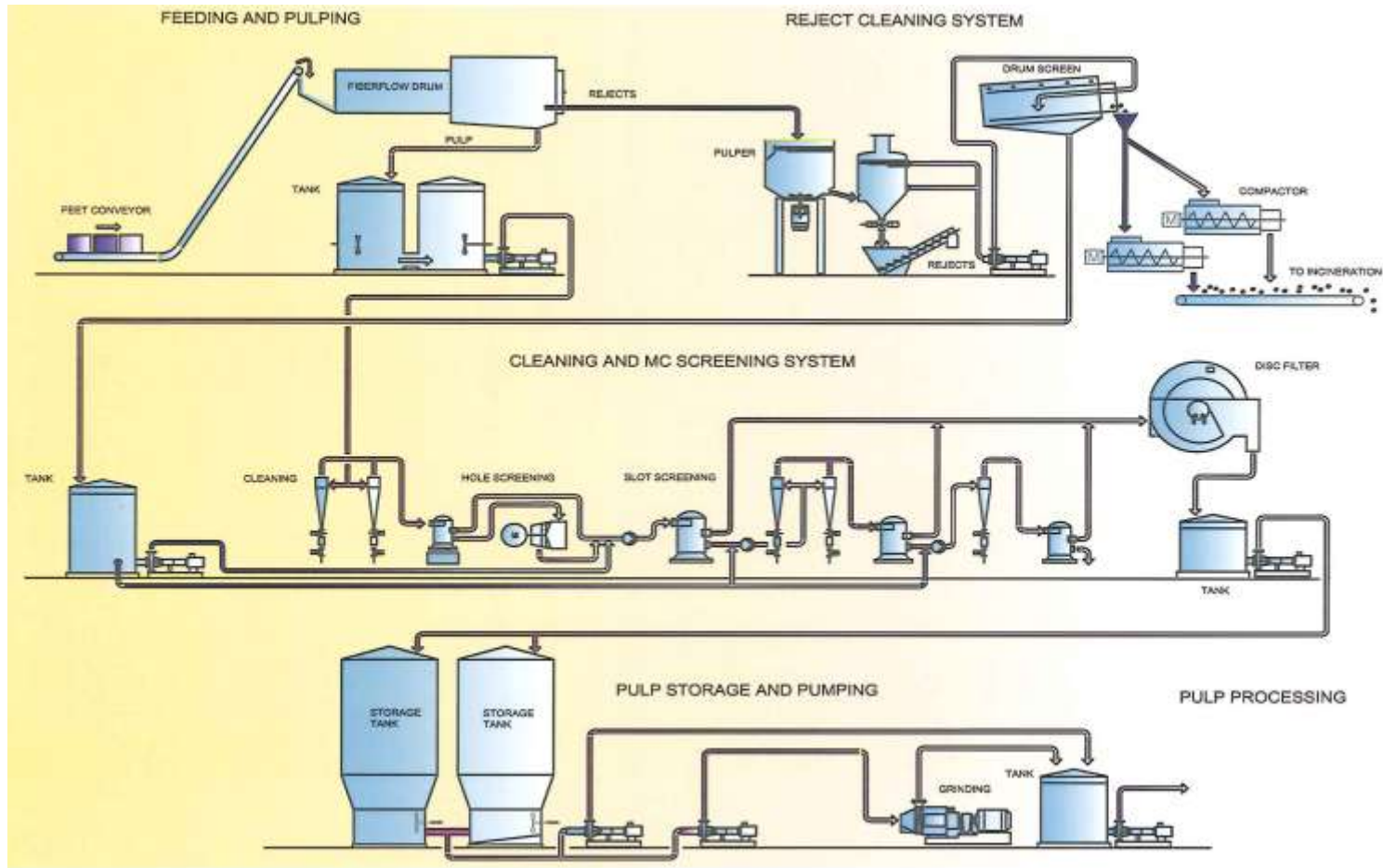


VARKAUS RECYCLING



Recycling Plant

Plant construction and commissioning 1995-1997



Feeding and pulping

Feeding conveyor

- The raw material 440 t/d
- Width 1,5 m
- Length 36,6 m

Fiberlow-drum FF350 ext

- Diameter 3,5 m
- Length 30 m
- Capacity
 - fibre min. 70 %
 - reject max. 30 %
- A.Ahlström Oy, 1995



Cleaning and MC screening

Screening

- Fiber capacity 300t /d
- Consistency 2,5%
- Flakes 3-6%

Coarse screening:

- Cyclone
 - DR 400/15, 2 pc
 - Voith Sulzer, year 1995
- 1A Omniscreen OS4-LR
 - Hole screening 1.4mm
 - Voith Sulzer
- 1B Fibersorter FS1B
 - Hole screening 2,6mm
 - Escher-Wyss, year 1995



Cleaning and MC screening

Fine screening:

- 2A Moduscreen F50
 - Slot screening, 0.18mm / 3.25m³
 - Andritz Oy, year 2009
- 2B Omniscreen OS8-BR
 - Slot screening, 0.25mm / 1.42m³
 - Voith Sulzer, year 1995
- 2C Omniscreen OS4-BR
 - Slot screening, 0.25 / 0.81m³
 - Voith Sulzer, year 1995



Cleaning and MC screening

- Disc filter Akse-F300/ 05-04
 - Disc 8kpl
 - Speed 11.8 rpm
 - Andreas Kufferath, year 1995



Reject cleaning system

- Reject capacity 150t /vrk
- Pulper ST4C-A
 - Diameter 3,5 m
 - Vat 16m³
 - Voith sulzer, year 1997
- Drum screen STR9R
 - Diameter 2,5 m
 - Length 4,9m
 - Screening 12mm/3.73m³
 - Max.capacity 260t / vrk
 - Voith sulzer, year 1997



Reject cleaning system

- Flas drum (Junko-mat):
 - Diameter 2,4 m
 - Feed hopper volume 5m³
 - Voith sulzer, year 1997
- Screw Screenex SX 60:
 - Feed hopper volume 3m³
 - Length 6m
 - Spiral d=0,53x5,88m, angle 25°
 - Voith sulzer, year 1997

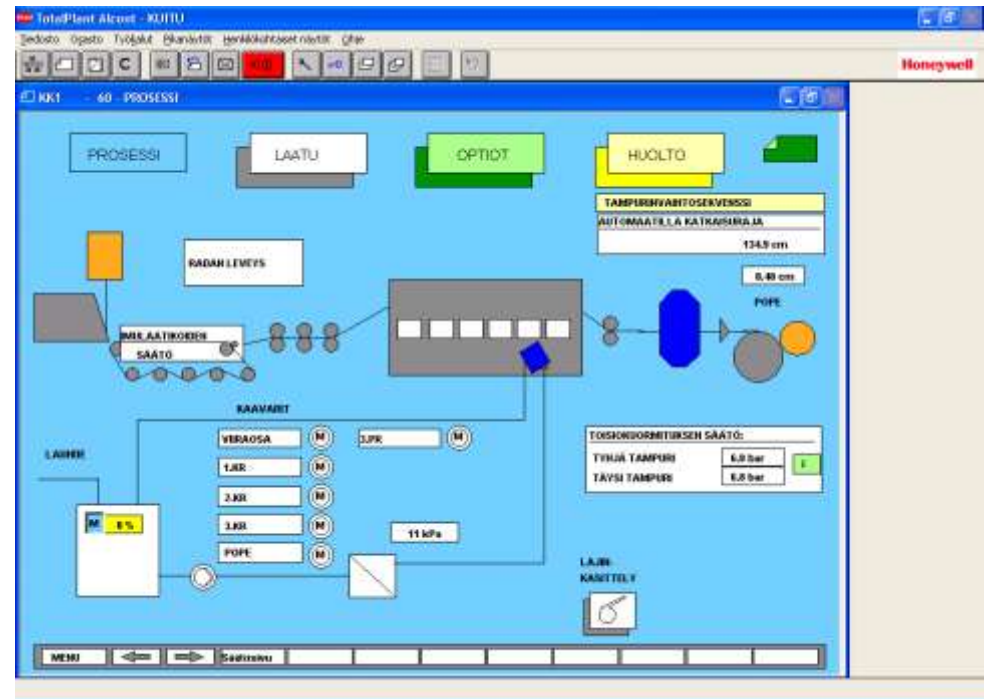


Other Equipment

- Pumps 22 pce
- Blowers 11 pce
- Hydraulic plant units 2 pce
- Tanks 12 pce
- Conveyors 12 pce
- Sorter and cleaner 10 pce
- Press 2 pce
- Gears 1 pce
- Mixers 8 pce
- Other equipments 6 pce

Varkaus Core Board Machine CM1

- Machine width: 2900 mm
- Min. accepted trim: 2650 mm
- Substances: 200-600g/m²
- Speed (max.) : 100...300 m/min
- Main reconstruction : 2004
- Capacity 2008 : 100,000 t



CM1, Headbox

- Alflow-R
- Slice width: 3150 mm
- Slice 35-65mm
- flow-rate on wire: 363 l/s
- Temp. Max. 50C°
- by-pass flow 10%
- Press 0.6 mvp
- Consistency 1-5%
- Slice control



CM1, wire section

- Constructed 1989
- Wire width: 3300 mm
- Dryness 20%
- Rag roll
- Last reconstruction 2008
 - 5-ceramic list Vacubox
 - 11-ceramic list Vacubox
- Suction roll: Modernization 2006



CM1, Press-section

- 3 roll-press
- 1.st press-section (Double felt)
 $F=70\text{kN/m}$
- 2.nd press-section (Double felt), $F=100\text{kN/m}$
- 3.th press-section (Single felt)
 $F=120\text{kN/m}$



CM1, Paper threading

- 1 pce blow pipe
- 1 pce Metso tailshooter
- 6 pce plates



CM1, drying section

- 46 steam heated drying cylinders (diam. 1500mm)
- 1.st drying group:
 - 5 cylinders (10.5bar)
- 2.ndt drying group:
 - 9 cylinders (10.5bar)
- 3.rd drying group:
 - 32 cylinders (10.5bar)



CM1, Pulper and Calender

- Pulper: Tampella SD 33/1B
(1989)
Consistency 4%
Net volume 14m³
- Calender: (1970)
Kuesters roll
Osc. +/-10mm



CM1, QCS Scanner

- Measurement box SM1200 (1994)
- Basis Weight
- Caliber measurement
- QCS Video screens
- Modernization 2008



CM1, Machine reel handling

- Reeling section: (Ahlstrom Karhula 1970)
Wittler roll
- Machine reel transport system: (Quattroll 2004)
Diameter max 3000mm
Reel storage 4 pce
Automatic reel return



CM1, Winder

- Quatroll QDW-T2960
- Constructed 2004
- Max. Speed 1500 m/min
- 58 pcs Blades
- Min. roll width 50mm
- Automatic wew width (Dienes werke)
- Automatic core feeding
- Hot melt glue



CM1, Core system

- Cutter: Corelink CL3090 (1996)
- 4 pce conveyors (Kuljetinrauma Oy)
- Automatic core feeding



CM1, Rollhandling and packing

- Jetting heads for hotmelt (2004)
- Broke Roll Splitter JRS (1996)
- LabelRobot Motoman-UP130 XRC (2004)
- Strapping machine (Swingmaster 2004)
- Packing Robot (2004)
- Sorting machine (2004)
- Stretch film wrapping machine (Swingmaster 2004)
- Roll conveyors (2004)



CM1, Stock section

- 2 pce refiners (Sunds Defibrator JC-03)
- Starch System:
Silos, mixers, screws, pumps
and classifiers



CM1, Other Equipment

- Pumps 65 pce
- Blowers 13 pce
- Rolls 120 pce
- Gears 49 pce
- Hydraulic Plant Units 4 pce
- Tanks 26 pce
- Mixers 13 pce
- Conveyors 25 pce
- Classifiers 9 pce
- Refiners 2 pce
- Central creasing 1 pce
- Creasing Proportional 1pce



Missing process machines

Stock preparation plant:

- ✓ Dewatering equipment (Voith Sulzer)
- ✓ Raw material shredder (Roxon)
- ✓ Refiner (JC03, Jylhävaara), one exists
- ✓ DCS (Alcont, Honeywell)
- ✓ (Reject baling and wrapping system)

Board machine:

- ✓ 2 refiners (JC03)
- ✓ Machine screen (Tampella)
- ✓ 2 stock pumps (Ahstrom)
- ✓ Web cross cutting device , dry end (xx)