STORA ENSO ANJALA MILL PM 2

MAJOR SPEED INCREASE
WITH DRYER SECTION
RUNNABILITY IMPROVEMENTS

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EV Group - The Runnability Team

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RETHINK PAPER:
Lean and Green
CUSTOMIZED TECHNOLOGY AND SERVICES TO OPTIMIZE PM RUNNABILITY, EFFICIENCY, ENERGY SAVING AND PAPER QUALITY

TECHNOLOGY AND SERVICES FOR PM WIRE-, PRESS-, AND DRYER SECTIONS

Over 1200 pcs of stabilizing components delivered nearly to 30 countries world wide with excellent results.

We deliver projects as OEM delivery to several paper machine suppliers.

We have our own highly professional Survey Team for paper machine survey services. We have done over 200 survey projects.
Established in 1872, stands by the Kymi river in the city of Kouvola, in the village of Inkeroinen.

Product areas: Book papers, Improved newsprint grades, Business papers

Two paper machines PM 2 and PM 3
STORA ENSO ANJALA MILL, PM 2

- Installed 1990 by Tampella
- Converted to produce book paper 2008
- Trim width 5.28 m, max. speed 1365 m/min
- Total capacity: 155,000 mt/y
PROBLEMS AT STORA ENSO ANJALA MILL PM 2

- More web breaks over 1200 m/min speed
- Sheet fluttering $\rightarrow$ sheet creasing, wrinkles
- Sheet release from contact unstable
- Steam of dryers #4 and #10 had to be closed
SHEET FLUTTERING AND SHEET CREEASING

PROBLEM:

SHEET DOES NOT RELEASE FROM CONTACT AND FOLLOWS THE CYLINDER

→ CREEASING
→ WEB BREAKS
HOW TO KEEP UP EXCELLENT RUNNABILITY AND EFFICIENCY AT DRYING SECTION:

- KEEP UP EXCELLENT RUNNABILITY
- KEEP FABRICS AND CYLINDERS CLEAN
- REDUCE ENERGY CONSUMPTION
HOW TO KEEP UP EXCELLENT RUNNABILITY AND EFFICIENCY AT DRYING SECTION:

- Survey and analysis of production line
- Tailored rebuilds as web stabilizers, section upgrades, optimized machine layout
- Clean fabrics and cylinder surfaces
- Maintenance
**STEP 1:**
OPTIMIZATION OF DOUBLE FELTED SECTION – 4th dryer section

- Machine geometry modification
- 8 units of EVdf Web Stabilizers

**STEP 2:**
OPTIMIZATION OF SINGLE FELTED SECTION – 1st and the 2nd dryer groups

- 6 units of EV EasyOne stabilizing concepts
EV EASYONE™ CONCEPT FOR SINGLE FELTED SECTION

- High release vacuum zone
- Ensures optimal sheet release from upper cylinder
- Eliminates sheet flutter, creasing and paper defects
- Reduced draw in the dryer section
NEW STABILIZING CONCEPT FOR SINGLE FELTED SECTION IN STORA ENSO ANJALA PM 2

- 6 pcs EVsf3 stabilizers
- compressor capacity 110 Mm3/min (1 bar)
- air flow at flange 0.9 m3/s (1500 Pa)
NEW STABILIZING CONCEPT FOR SINGLE FELTED SECTION IN STORA ENSO ANJALA PM 2

WITH A HIGH RELEASE VACUUM AS 2000 Pa, SHEET RELEASE CAN BE OPTIMIZED UP TO SPEED OF 1500-1600 m/min
RESULTS AT STORA ENSO ANJALA PM 2

AFTER OPTIMIZATION OF DOUBLE FELTED SECTION:

✓ Speed up from 1250 m/min → 1300 m/min
✓ Runnability clearly improved
✓ No wrinkles

AFTER OPTIMIZATION OF SINGLE FELTED SECTION:

✓ New speed 1365 m/min → Increased by 9 %!
✓ Runnability even better
✓ No sheet fluttering
✓ Less draw
✓ Increased steam pressure, no closed cylinders
RESULTS AT STORA ENSO ANJALA PM 2

✓ REMARKABLE IMPROVED RUNNABILITY

✓ INCREASED SPEED ENABLES ADDITIONAL PRODUCTION

✓ MORE EFFICIENT DRYING

✓ IMPROVED PAPER QUALITY
"The problems because of poor runnability are eliminated after the web stabilizing projects in single and double felted sections. We have now more stable sheet run, and the drying section runnability enables also higher speed."

Antti Outinen, Production Manager, Stora Enso Anjala PM2
We can help you to improve your PM productivity.

THANK YOU!