



Building Leadership Excellence



PERMI FOR IMPROVED MACHINE RUNNABILITY AND UNIFORM PAPER GLOSS

ACA Systems Ltd.



Heikki Mustalahti
ACA Systems Ltd.
Finland



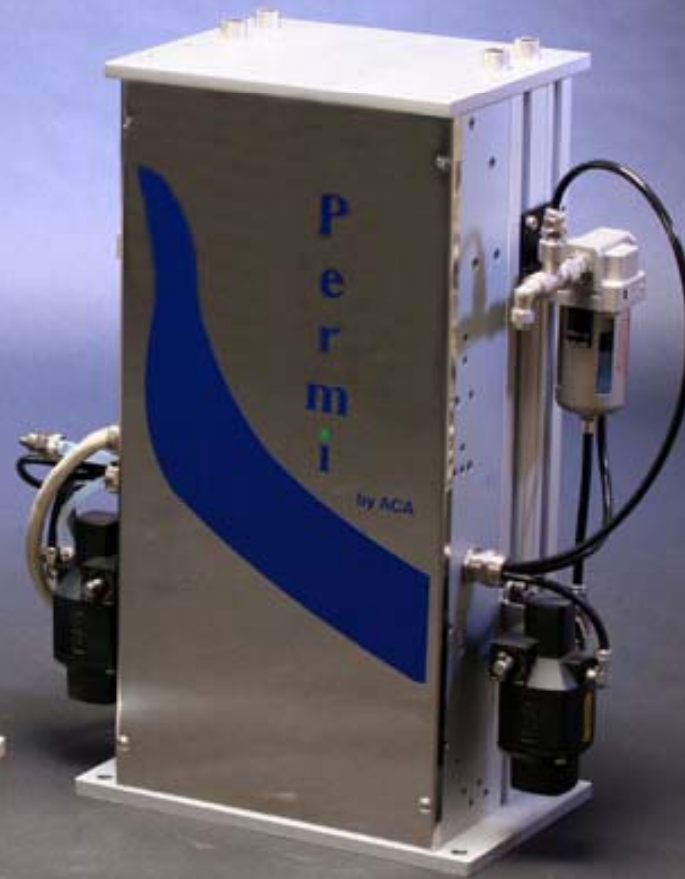
May 1-4
PaperCon 2011
Northern Kentucky Convention Center

RETHINK PAPER:
Lean and Green



Production Manager Seppo Karine Stora Enso Imatra PM 1:

With the fast porosity measurement one is able to make profit!



TAPPI

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Permi makes possible to analyze structures of papers

- The monitoring of several paper grades can accurately and reliably be measured with only one linear calibration.
- The very fast machine direction measurement enables a new kind of control of paper and paperboard processes

Advantages:

Makes possible to stabilize structure of papers

Improved runnability

Improved opacity

Makes possible to increase speed of paper machine

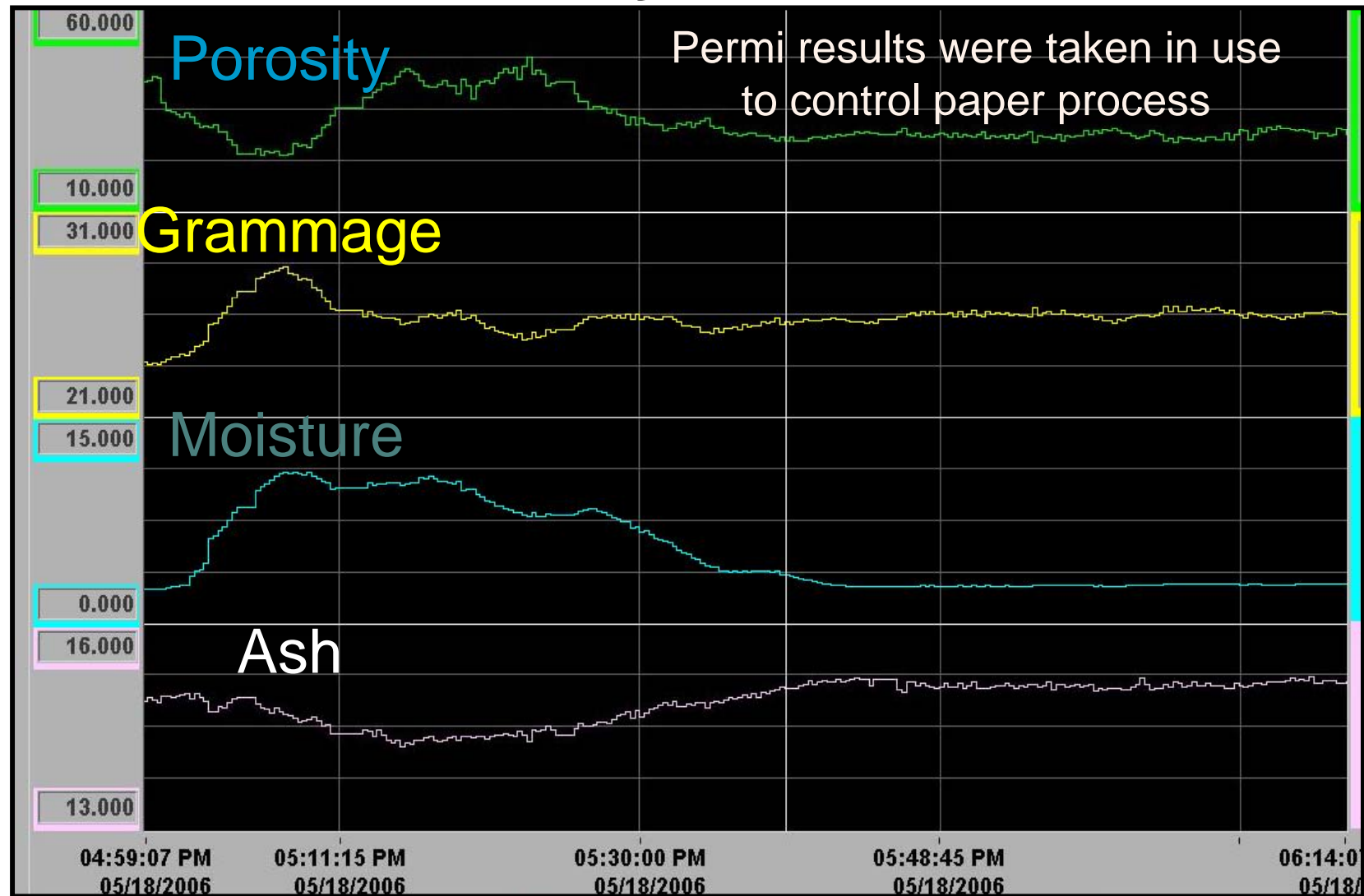


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Paper Process and Refining Controlled by Permi Results

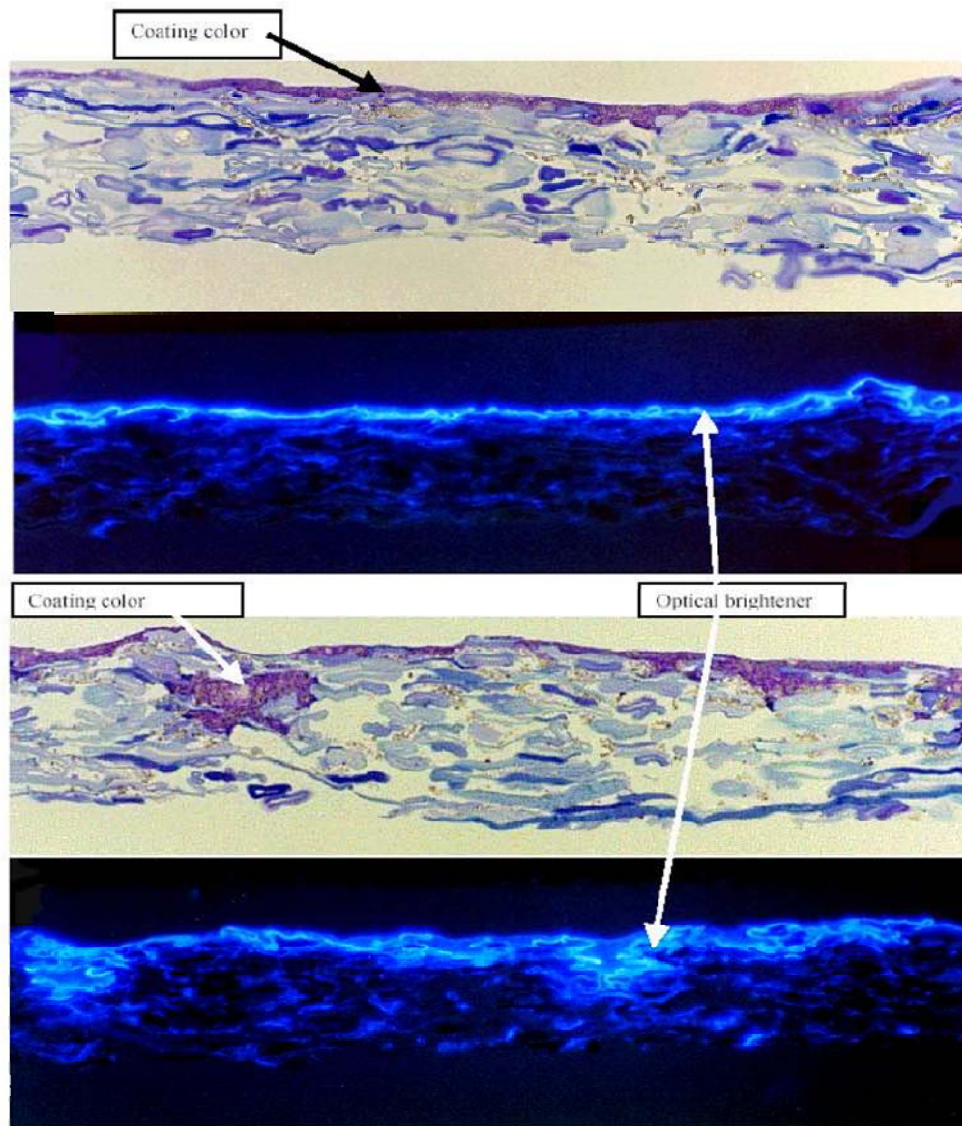


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Porosity and Coating Coverage



Dense sheet – small penetration of coating color and good coating coverage and gloss.

Porous sheet – deep penetration of coating color and poor coating coverage and gloss. Misting problems in film coating.

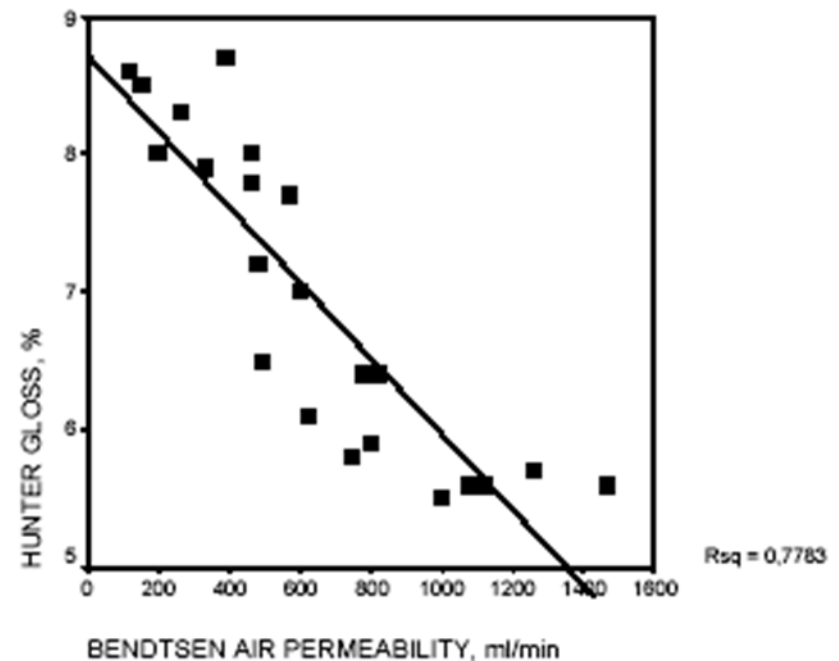
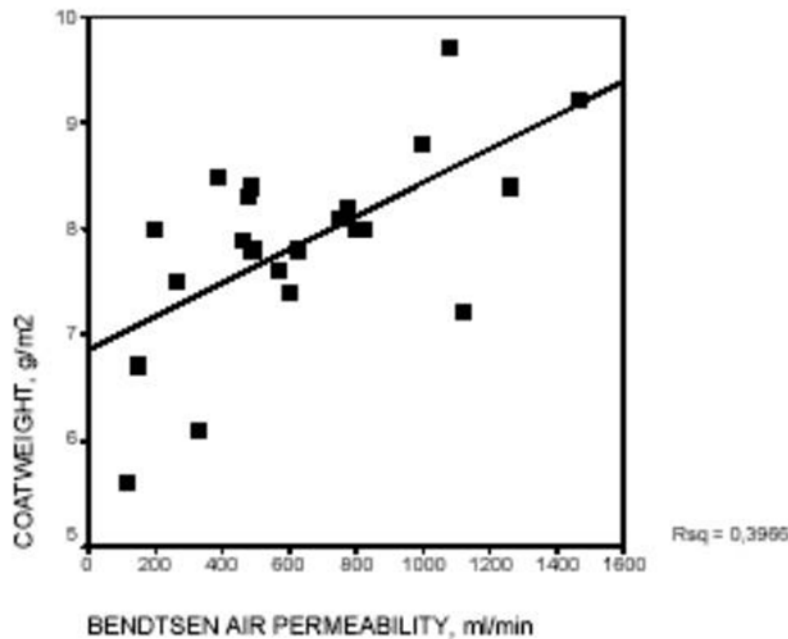
Forsström et al. TAPPI Coating Conference, 2002
<http://www.kol.fi/news/link12004/link12004s4.html>

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Coat Weight and Gloss vs. Porosity in Coating

Due to pressure penetration coat weight increases as porosity increases and gloss decreases. In blade coating gloss increases, when coat weight increases.



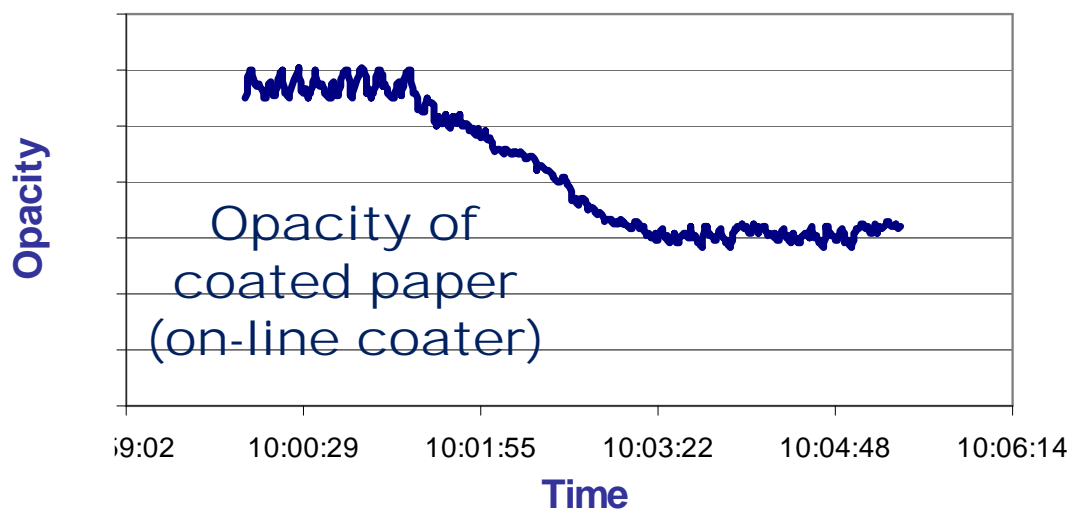
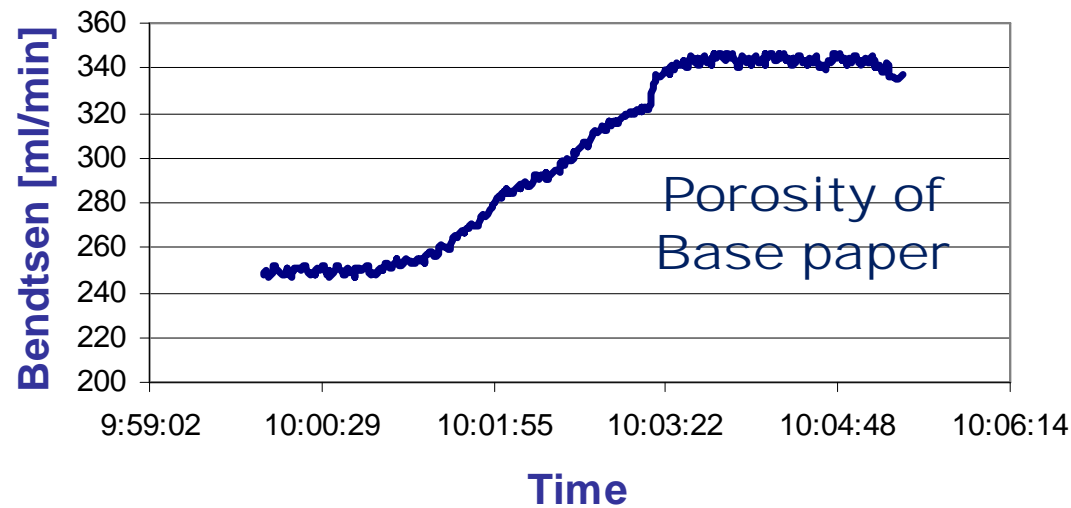
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Porosity versus Opacity





Thank you!

"Know the structure of your paper in order to better run your machine!"



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