

## Wet-end coating with microfibrillated cellulose

Per Svending

### **Abstract**

Microfibrillated cellulose (MFC) produced in the mineral co-grinding process has been established for industrial use in filler increase applications. This concept is based on the combination of MFC and filler having lower cost than the fiber it replaces, with the aim of reducing overall papermaking cost.

Availability of MFC in industrial quantities has triggered interest in trying to use it in paper coatings. However, the ability of MFC to hold water and its poor rheological properties represent a major challenge for use in conventional coating.

Our paper will focus on recent development work on the novel concept of applying a coating, consisting of only mineral and MFC, at the paper machine wet-end, on top of a base web. This point of application suits the “poor” rheology of MFC very well as it helps minimizing penetration of the coating into the still low solids base sheet. Application at the wet-end also allows use of existing water removal equipment to drain the mineral/MFC composite before it is pressed and dried along with the normal paper or board. We will report on recent pilot paper machine trials using this “FiberLean on Top” concept. We will also describe how the ability of the mineral/MFC coating to generate good optical and physical coverage as well as a micro-porous coating structure fits with end-use markets demands.