

DIP Technology for Cost Effective Printing and Writing Paper Manufacturing

Jukka Heimonen¹, Jouni Kaartoluoma¹ and NK Jain²

Costs for paper making have been increasing globally. However, as the final products' price trends show, markets have not enabled to compensate the increased cost structure. Operational costs for a specific furnish system consist of fiber raw material, electricity, chemical, steam, fresh water, white water and effluent treatment, waste and reject treatment, labor, and maintenance. Share and total sum of these costs vary geographically due to the availability of utilities and also depending on the legislation (taxes, environmental permits). In many areas, the availability of proper raw material, fresh water and electricity is limited, which affects also the cost of utility and makes the cost structure volatile. As well as industrial challenges also the competition is global. In India and in other regions local strengths and weaknesses must be recognized and the local strategies for sustainable business development must be found.

Depending on the paper grade, furnish costs can be up to 50...70% of the total variable manufacturing costs. Thus, the stock preparation plant which value is a fairly small fraction of the total papermaking line investment, is responsible for a major share of manufacturing costs. The conceptual and operational decisions made at stock preparation have also a major effect on PM runnability and total mill efficiency.

In this paper will be reviewed the tools to reduce DIP production costs for different printing and writing paper grades. Special attention is put on conceptual options and the latest development in different unit processes, especially highlighting the factors affecting system energy consumption and yield.