

Lumen Loading of Bleached Pulps by In-Situ Precipitation of Filler

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ABSTRACT

The in-situ precipitation method has been used to precipitate sodium alumino-silicate as filler on the fibres using papermaker's alum and sodium silicate. The filler was produced in two ways; first in absence of fibres and second in presence of fibres i.e. in-situ loading of filler. The fresh filler produced in absence of fibre was then added to the pulp slurry. Comparison of various pulp and paper properties was made for direct loading of market filler, fresh filler loading and filler prepared in-situ with fibres. In-situ lumen loading technology provided paper with significant improvement in various properties of paper as compared to fillers directly added to the stock. Bulk and stiffness of the hand sheets prepared with in-situ precipitation were much higher than those of sheets prepared with fillers directly added to the pulp. There is no appreciable increase in brightness and whiteness of paper with in-situ precipitation. In-situ filler loaded pulps showed higher filler retention value as compared with directly filler loaded pulps.