

Flocculation of fibres suspension through a planar contraction

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Abstract

The flow of fibre suspensions are of interest in the pulp and paper industry. During the paper forming process, at the start of the paper machine, a dilute fibre suspension flows through a headbox. The fluid passes through flow distributors and turbulence generators designed to produce high turbulence intensity, the utility of this part is to dislocate the fibre network into the flocs. The flow subsequently passes through a planar contraction that accelerates the fluid to a high speed and creates a thin planar jet. The flocs formed after the turbulence generator then undergo an acceleration during contraction. In this paper we analyse the elongation of flocs with simplified theoretical approach.