Rheological properties of a Microfibrillated Cellulose Suspension

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In this work a novel laboratory-scale pipe rheometer is utilized in rheological characterization of concentrated MFC and cellulose suspension. The method is based on a combination of pulsed ultrasound velocity profiling (UVP) and pressure difference measurement (PD).

The rheological properties of the suspensions are described in terms of viscosity and pressure loss. The results are compared to rotational rheometer results. It is demonstrated that well controlled pipe flow environment together with UVP-PD technique is efficient in characterizing the rheological flow behavior of complex slurries.