Relate fibre network strength determined by rheological measurement to the refining result of late- and earlywood fibres

In papermaking refining of pulp fibres is one of the most important process operations since it determines the final properties of the paper sheet to a large extent. The mechanical energy that is transferred during refining causes internal and external defibrillation, fibre shortening and creates fines.

Low consistency refining is done at a pulp consistency of approximately 3% and the refining action can be considered as treatment of fibre flocs. The properties of the flocs depend upon the fibres and its characteristics. Thin flexible earlywood fibres have different floc characteristic than flocs of stiff thick-walled latewood fibres.

The objective in this work is to relate the floc strength and floc characteristics of early and latewood fibres to its behaviour in the refining process. The floc characteristics may also be changed by use of de-flocculant and flocculant agents.

The work will be performed in co-operation with the supplier company GL&V.

Kontaktperson:
Marie Bäckström, telefon 08-67 67 352
e-post: marie.backstrom@innventia.com