

## Research News

### Pulping and Bleaching Activities

**Agrotechnology & Food Sciences Group is an organisation for fundamental and applied scientific research. The research department Fibre and Paper Technology is actively involved in pulping and bleaching research with a wide range of raw materials, including wood, non-wood and recycled fibres.**

#### Pulping Technology

The department has flexible facilities for mechanical and chemical pulping research under a wide range of process conditions. A 12" refiner is available for continuous pressurised TMP, CTMP, APMP experiments for paper and board applications. The atmospheric 12" refiner is used for low-consistency refining and other RMP experiments. The Clextral BC45 twin screw extruder is excellent for the (chemi-) mechanical processing of various fibre raw materials. The reduction of the fibre length of softwood pulps to make pulps with hardwood-like specifications is an example on work to change the fibre characteristics. Chemical pulping is performed in a 20 l reactor vessel while a flow-through reactor is used for alkaline and solvent pulping experiments. A novel chemi-mechanical opening process has been developed to produce non-fibrillated elementary fibres from flax and hemp for non-wovens.

#### Bleaching Technology

Oxidative and reductive bleaching sequences are investigated using elemental chlorine free (ECF) and total chlorine free (TCF) bleaching sequences. Experiments with chlorine dioxide, hypochlorite, oxygen, ozone, hydrogen peroxide, peracids,

hydrosulfite and enzymes are done on a routine basis. A Quantum Mark V Laboratory Mixer/Reactor is used to duplicate any plant's mixing and bleaching tower processes. Some of the bleaching sequences, (i.e. hydrogen peroxide, hydrosulfite) are also carried out in the refiner or extruder.

#### Test facilities

The institute has all common facilities for chemical, physical and optical testing of fibres, paper and board.

#### Information

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Quantum Mark V Laboratory Mixer and Reactor



Fibre processing in a continuous pressurized 12" Andritz-Sprout-Baur refiner.