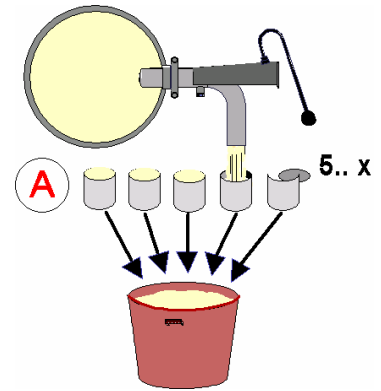


PULP CONSISTENCY ANALYSIS LABORATORY

A. TAKING SAMPLES

Take a sample from "a long distance" as a long-time sample for example 5...10 sec. , which means you get a big amount of it (10...20 l). Or take more samples, (5...10) approximately 0.3... 0.5 l.

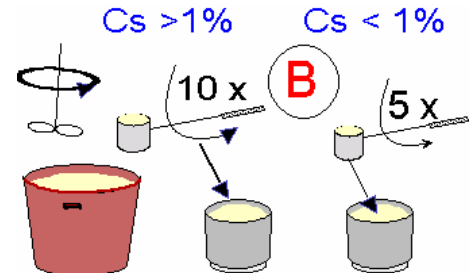
Before fall of the sample into the sample receptacle, let it flow over the receptacle for couple of minutes. The sample taking takes best place , when the receptacle gets 5 - 10 times through the sampling flow (approx. 0.3... 0.5 litres per time) . It will be emptied at regular intervals into bigger receptacle. During the sample taking the sample must not sprinkle over the receptacle. As a result of that segregation will occur and the sample is not representative.



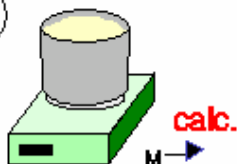
During the sample taking, the output of transmitter should be enough accurate, constant.

B.

The sample batch, which is put through a laboratory conditioning, must be suitable for small amount. The conditioning of the sample takes approximately 30 min., which means that we need to take only one part of the whole batch. This batch is taken "picking" in several batches with 0.2 litres receptacle. Before every single "picking", the whole batch has to be blended/mixed carefully. The "picking amount" depends on consistency. Over 1% consistency 10 times and weak/watery 5 times??



B.1

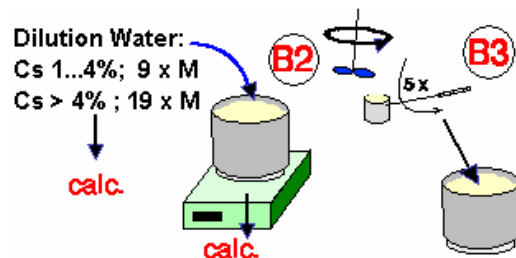


B.1.

In order to in the later phase (E) the work should be quicklier, must the strong stocks diluted into under 1%. The requested amount of water must be added into strong stocks. In this phase will the undiluted batch be measured, which was chosen in B -phase. This way the calculations will succeed in future.

B.2.

The dilution water will be added. The quantity/amount of dilution water is approximative, but it must be adequate/sufficient. The weighing of the sample must be done carefully and the result is taken for calculation.

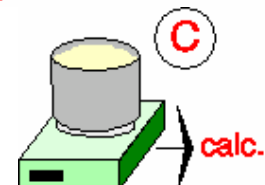


B.3.

Because the amount of stock is supplemented/has grown in the previous phase, we shall take only part of it into further treatment. Sample taking will be done during careful mixing five times "picking".

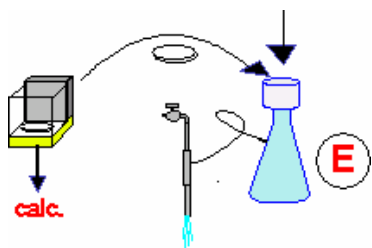
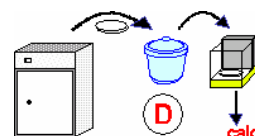
C.

Weighting of the sample batch and giving result for calculation.



D. WEIGHTING OF FILTER PAPER

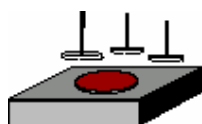
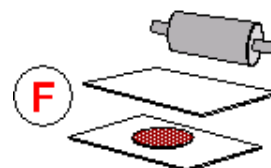
In this phase the filter papers are dried in the oven (105 °C), cooled in an exicator and weighted. The result of the weighting will be written behind the filter paper. The paper weights about 1000 mg, so the scales must be analysis scales/weighter. This phase can be done in before hand using several papers. The paper will be set into Buchner- hopper the text showing down and wetted. Because then the paper will set tightly into the bottom of the hopper.



E.
In phase C. weighted, under 1% sample, will be poured out/dumped carefully into Buchner- hopper, below of which is approximately 2 litres bottle. The water shower/flushing pump is connected into the bottle. This way we reach almost 1 bar underpressure. It makes the infiltration quicklier. Notice that fibres can not get inside the bottle.

As a result "cake" is developed ?, which will taken into drying.

F.
Predrying will be done pressing the "cake" between two blotting boards.



G.
In the efficient phase of drying, the "cake" is predried about in 160 °C between the board and press. It takes 10 - 15 min. time (more if the "cake" is strong). You have to observe/control this phase, so that the "cake" does not burn. The Annealing/ Outlet of steam is released with the

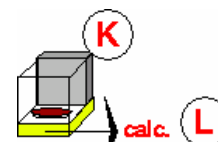
dense/compact net in board and the holes in the weights. The weights are preheated over the same board.

H.
The success of drying is made sure during 15 min. oven procedure/processing in 105 °C. In this phase the adsorbion water, of which part of the capillary water is about 3%.



J.
After drying, the sample will be cooled down in the exicator, which has silica gel crystals. (Do not cool it down in free environment !). If the sample would be weighted hot, should the error caused by air buoyancy appear in the measurement.

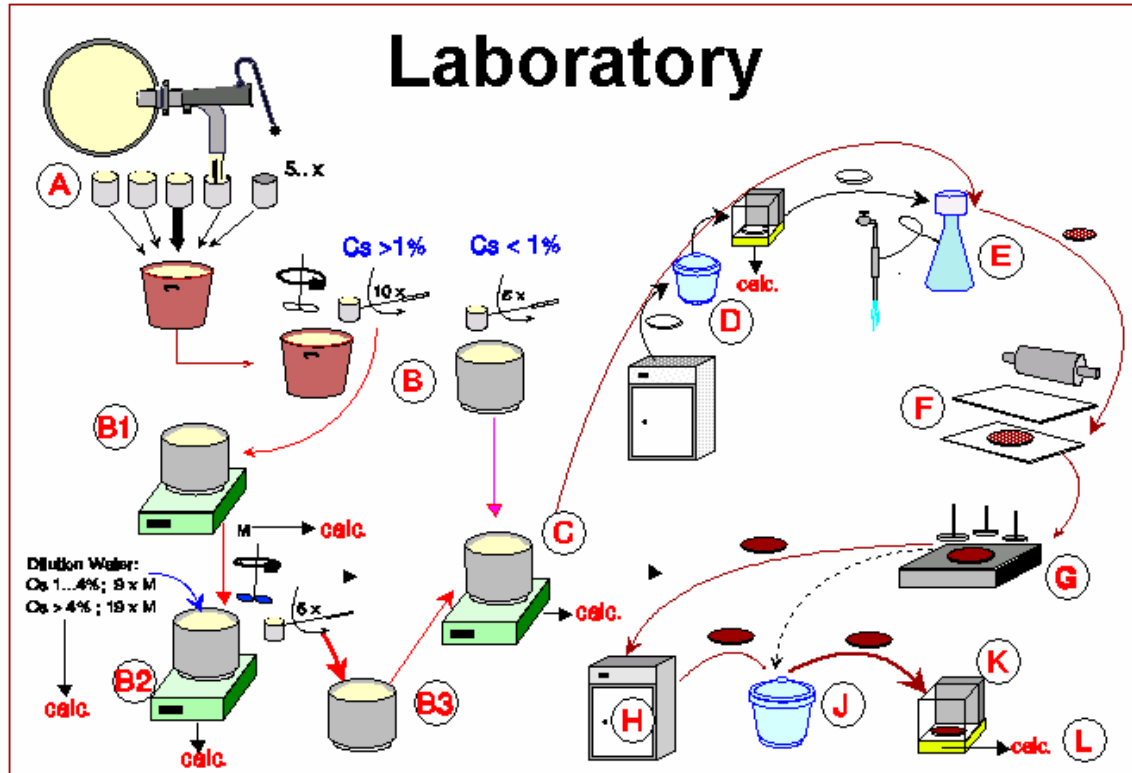
K.
Fully dried and cooled "cake" will be weighted in a not-draught space with the accuracy scales.



L.

The calculation of the consistency will be made. In the calculation we will take into account the weight of the basic sample (B1), diluted sample (B2), weight of filter paper (D) and the weight of the "cake" (K).

Calculation $100 * (K - D) / C * (B1/B2)$.



Standards:

- TAPPI T 221 om-85 Ash in wood and pulp
- TAPPI T 240 om-88 Consistency (concentration) of pulp suspensions
- SCAN-C17:64 Consistency (concentration) of pulp suspensions
- SCAN-M1:64 Consistency (concentration) of pulp suspensions
- SCAN-C6:62 Ash in wood and pulp