CHANGES IN THE HUMIDITY OF SPRUCE CHIPS DURING STORAGE AND THEIR IMPACT ON ALKALI CONSUMPTION IN IMPREGNATION STEP OF PULP PRODUCTION

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Wood, as the basic raw material processed by the pulp and paper industry, is a very complex system in terms of its structure and morphology. In addition to the fibres, which can be quantified as a fraction of dry matter, it also contains bound water found in the cell walls and free water in the pores of the wood. During the production of chips, the wood has to go through several processing operations - debarking, chopping and sorting. After sorting the chips, they will be stored. However, too long storage of wood chips can lead to damage such as fungal stains, brittleness, water loss and high acidity. The acid in large quantities causes wood damage by attacking cellulose molecules. This can result in a loss of yield and strength when the wood is pulped. In addition, old chips can consume more than twice the amount of sodium hydroxide in the sulfate batch compared to fresh chips.

Thus, the work focuses on the comparison of fresh wood chips and relatively old wood chips in terms of dry matter, moisture content, basic density and pH. The analysed chips will first be sorted on a laboratory sorter, from which the fraction of the larger acceptance will be used for further analyzes.

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