

Soda-Anthraquinone pulp from Malaysian cultivated Kenaf for linerboard production

ABSTRACT

The goal of this study was to prepare soda- anthraquinone pulp from kenaf whole stem and to compare the resultant core and bast pulps for linerboard production. Pulping was done under mild cooking conditions (active alkali 12-15%) with a cooking time of 30-90 min and a temperature of 160°C. During the pulping process, kappa numbers ranged from 56.0 to 20.6, while total yields varied from 58.4 to 54.2% with a rejection rate of 2.3 to 0.1%. Based on the quality of pulp produced, kappa numbers 49.4 and 25.4 was selected as symbolic of high and low pulps respectively. The results of the study revealed significant difference between the properties of core, whole stem (KHK and KLK), and bast pulps. Core pulps with low freeness and high drainage time the study found produced sheets with greater density, tensile index, burst index and RCT, with lower light scattering coefficient and tear index than bast pulp. Whole stem pulps showed properties between those of core and bast pulps. Moreover, KLK with high drainage time produced papers with significantly higher strength properties than KHK.

Keyword: Malaysian cultivated kenaf; Soda AQ-Pulp; Whole fiber; Linerboard; Fiber bonding