PULP & PAPER MAKING FROM KEKABU; EFFECT OF ACTIVE ALKALI, TEMPERATURE AND TIME ON PULP & PAPER PROPERTIES.

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ABSTRACT

Response surface methodology (RSM) was used to study the effect of soda AQ pulping variables on pulp and paper properties made from kekabu tree *(ceiba pentandra spp.)*. Active alkali (AA), pulping time (t) and pulping temperature were the variables based on the ranges of 20 to 30 %, 60 to 180 min, and 160 to 180 ^{0}C respectively. Pulp properties which are screening yield and freeness were in range of 24 to 33.9% and 548 to 670ml. Range for paper properties which are tensile index, tear index, and burst index were 30.02 to 46.91 N.m/g, 2.53 to 3.66mN.m^2/g and 2.19 to 3.19 kPa.m^2/g. Active alkali was obviously affected to pulp and paper properties. According to the quadratic regression model, combination of pulping variable was active alkali: 24.99%, pulping time: 67.68min and pulping temperature: 171.25 ^{0}C. Pulp and paper properties in optimum condition were screening yield: 31.74%, freeness; 616.51ml, tensile index: 43.78N.m/g, tear index: 3.29mN.m^2/g, and burst index; 3.03kPa.m^2/g.