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Optimization of Time Process of Pulping Recycle Fines and OCC on the Quality of Medium Paper

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A B S T R A C T

This research aims to optimize the pulping time for recycling fines (RF) and old corrugated containers (OCC) in order to improve the quality of medium paper. The quality of medium paper is tested based on strength proper-ty parameters such as circumferential compressive strength, tensile strength, crack strength and testing is carried out on optical property parameters. The ex-perimental method was carried out by varying the time intervals for pulping re-cycle fines (RF) and old corrugated containers (OCC) for 4 minutes, 8 minutes, 12 minutes which were then used in the raw material mixture for making medi-um paper. The research results show that the pulping time for recycling fines and old corrugated containers has a significant effect on the quality of medium paper. It was found that the optimal pulping time interval was 4 minutes with a recycled fines raw material composition of 5% and an OCC of 95% which re-sulted in a strength properties value for medium paper of 9.74 N.m/g for a ring crush value of 30.53 N. m2/g for the tensile strength value, and 20.53 kg/cm2 for the bursting strength value. Apart from that, analysis from an economic per-spective shows that the use of recycle fines and optimal processing of recycle fines pulping time can reduce production costs significantly by USD 12.59 / Tp by minimizing losses in terms of raw materials and energy. Thus, this research can increase process efficiency and the results can be applied in the medium paper making industry to increase product competitiveness and product effi-ciency in a sustainable manner.

Keywords: *Medium Paper; OCC; Recycle Fines; Strength Properties; Pulping Time*