

골판지 고지섬유의 단섬유분의 물리화학적처리에 관한 연구
- 골판지 고지의 물리화학적 처리에 의한 강도향상 제 4보 -

이종훈¹ · 서영범¹ · 최찬호¹ · 전 양¹ · 이학래² · 신종호³

Influence of chemical and mechanical treatments of screened short fibers from OCC
on paper forming and strength properties

Jong Hoon Lee¹ · Yung B. Seo¹ · Chanho Choi¹ · Yang Jeon¹
Hak Lae Lee² · Jong Ho Shin³

ABSTRACT

Recycled fibers usually give slow drainage in the paper forming zone on papermachine, which limit the application of more refining to the fibers for improving paper strength and formation. To use recycled fibers, especially, OCC, more effectively, developing very efficient handling technique of short fibers and fines is inevitable. We tried to make hard flocs of fractionated short fibers and fines, which were the main cause of slow drainage, by adding excessive amount of retention aid on them. This technique was proved to increase drainage with no difference in strength properties, compared to the conventional technique of adding the same amount of polymers to the whole furnish in the lab test. The bonding capability of short fibers and fines in Korean OCC were very poor to be considered as 'fillers' in paper products. Various chemical treatment on the short fibers and fines of the Korean OCC did not improve their bonding and optical properties. One of the reasons of no improvement in their properties was thought to be their high amount of ashes (over 30% in the fractionated samples).

*1 충남대학교 농과대학 임산공학과 (Dept. of Forest Product, College of Agriculture, Chungnam National University, Yousung-Gu, Taejeon, 305-764, Korea)

*2 서울대학교 농업생명과학대학 임산공학과 (Dept. of Forest Product, College of Agriculture and Life Sciences, Seoul National University, Suwon, 441-744, Korea)

*3 한국화학연구소 펄프제지 연구센터 (Pulp and Paper Research Center, KRICT, P.O.Box 107, Yusung, Daejeon, 305-606, Korea)

♣ 주저자 : e-mail: ybseo@hanbat.chungnam.ac.kr